Marriott Library Renovation
University of Utah
Salt Lake City, Utah

DFCM PROJECT NUMBER: 02032750
UNIVERSITY OF UTAH PROJECT NUMBER: 0086-10750

PROGRAM AND EXISTING BUILDING EVALUATION
JUNE, 2002

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Architectural Facilities Program
MARRIOTT LIBRARY RENOVATION
University of Utah
Salt Lake City, Utah
DFCM Project No. 02032750
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University of Utah
Review Signatures

We have reviewed the program and warrant that it adequately represents our request for a facility to fulfill our mission and programmatic needs. All appropriate parties in the agency have reviewed it for completeness and accuracy.

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Division of Facilities Construction & Management, State of Utah
Review Signatures

We have reviewed the program, jointly prepared with agency, for completeness and accuracy. These signatures do not necessarily represent an endorsement for the need of this requested space at this time.

Date

Lyle R. Knudsen
Program Director, DFCM

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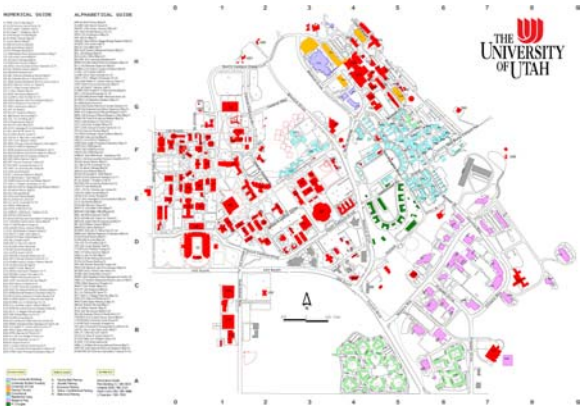


Executive Summary

1.1 INTRODUCTION

In June 2001, the programming team began a renovation study of the University of Utah's original Marriott Library, built in 1967. This study includes an existing building evaluation, a space needs analysis, and recommended concepts for renovation. While the initial focus of the study was on the original 1967 building, it became clear in the course of the programming and planning process that the integration of activities housed in the recent 1996 addition would be key to efficient planning and a successful project. As such, this report proposes an overall concept plan for the entire library facility.

The program team comprised of Hardy Holzman Pfeiffer Associates (HHPA) and Cooper Roberts Simonsen Architects (CRSA), met with members of the Marriott Library building committee, library staff, Facilities Planning staff, and other University stakeholders. Through the summer of 2001, a series of workshops were conducted addressing the vision and goals for the project; the current uses and organization of the library were quantified and mapped on existing plans; proposed space needs were identified through a range of staff interviews and summarized in program matrices; options were explored for re-organizing library activities and evaluated both from a functional and cost standpoint; the systems and infrastructure of the existing facility were reviewed and issues identified; repairs and upgrades to building systems were outlined; the current status of technology in the library was reviewed and a plan for the future of technology in the library was outlined; cost models were developed to determine priorities and shape an overall project budget. In 2002, a review of recommended concept planning was finalized; issues related to future planning were identified; detailed room data sheets were developed with library staff; and a final budget and schedule for implementation were developed.

A key aspect of the planning and programming work was that all recommended spaces would be housed within the existing area of the current facility; i.e. no new addition would be proposed. Issues of collection growth and needs for larger user stations to accommodate new technologies would need to be addressed within the available area through defining planning priorities and creating planning efficiencies.

1.2 PHILOSOPHY OF PROJECT

The vision for the renovated Marriott Library is to recognize the role of *Library as Place* at the center of the University of Utah campus. The library building serves as a home for a community of learners and their materials, a refuge for commuting and residential students, and as a collaborative and scholarly environment for faculty, staff, and members of the greater community.

Planning

- Work within the existing building footprint to unite the 1996 addition with the 1967 original building through architectural design.
- Create a safe, efficient facility through which users may navigate independently.
- Arrange the collections in a climate-controlled, secure, accessible, and space efficient manner.
- Maximize collection growth space within the current footprint.
- Locate service points and gather most needed functions in a readily understandable pattern.
- Create open floor plans with visual access to the services provided.
- Eliminate barriers to disabled people.
- Incorporate principles of "green" architecture to create a healthy and forward-looking facility while ensuring an appropriate environment for the preservation of books and other materials by addressing issues of energy efficiency, recycled and replenishable resources, and flexible design.
- Use the tools for designing a "green" facility including the Utah State Environmental Design Guidelines and the U.S. Green Building Council LEED System (www.usgbc.org), though LEED certification is not thought to be economically feasible.

Technology

- Create an Electronic Education Center with reservable computer labs.
- Provide locations for technology-rich information services for students, faculty, and staff.
- Provide an Information Commons uniting technology, reference services, and research assistance to create a collaborative learning environment.
- Ensure that the facility is as hospitable to technology as can be afforded.

Library Environments

- Create collaborative work environments both for and among staff and users.
- Improve staff work environments.
- Create a variety of study environments:
  - Comfortable meeting and gathering spaces
  - Inquiry, consultation and conversation spaces
  - Group study rooms
  - High technology zones
  - Quiet zones
- Respond to user requests to provide a café.
- Provide a portion of the building to accommodate 24-hour service.
- Provide user study spaces within the collections.

Infrastructure

- Create a flexible facility that responds to current and future needs.
- Provide the mechanical and electrical infrastructure to serve the technology-rich environments.
- Address fire protection and life safety issues.
- Address structural and seismic issues.

1.3 SUMMARY OF EXISTING FACILITIES AND PROGRAM

History and Location

The University of Utah J. Willard Marriott Library is the largest and most significant state-supported library in Utah and one of the top 100 research libraries in the United States. The Marriott Library was designed by Lorenzo S. Young and Partners Architects and dedicated in 1967. The original five-story structure opened to house 1.5 million volumes and seat 2,700 readers, but was soon crowded by an ever increasing University population and ever growing collection.

In 1996 an addition to the original library opened to the public. The two-story, underground addition wraps the north, east, and south sides of the 1967 building. Significantly increasing library stack and reading space, the addition has also served as an area for the Marriott Library to update its use of information technology by providing for new student computers and a faculty technology training facility. The addition now serves as an outdoor plaza that links President's Circle and central campus to the new Utah Museum of Fine Arts and the south side of main campus.

The Marriott Library is located on the southwest quadrant of the University of Utah campus and has a central location at the junction of two main campus grids. It is surrounded by the Student Union building at the north, the Student Services and University Bookstore buildings at the northwest, the Rice-Eccles Stadium at the southwest, the Social and Behavioral Science and the Fine Arts complex at the south, the Utah Museum of Fine Arts (UMFA), the College of Business Complex at the southeast, and the Orson Spencer Hall at the east. The library building is oriented 34 degrees east of south and is located at the east edge of the campus's north-south grid. It is also sited north of South Campus Drive with visitor

parking, university shuttles, UTA buses, and light rail accessible immediately west of the library.

Entrances

The primary entrance to the Marriott Library is at the northwest corner of the building on the first floor where 60% of the users enter the building. This entry is not readily visible from the adjacent parking lot or the north-south pedestrian circulation spine. Although enhancing this entry is not a part of this program, it is something that should be considered along with future improvement to the campus or the Marriott Library. The secondary entrance to the library on the third floor is on the east side of the building and was the main entrance prior to the 1996 addition. This entry is apparent from the plaza, but not prominent enough to announce the entry from the adjacent pedestrian paths. A more inviting entry for a library of this size is appropriate.

Circulation

Upon entering the library on the first floor there is a triangular shaped lobby with the options to proceed to the Multimedia Center to the left; a corridor straight ahead to a group study room, classroom, and ultimately the collection through a door at the end of this corridor; or Government Documents to the right. Neither the organization of the first floor or the five floors above is apparent from this point. As a user moves up through the library, each floor has a slightly different organization of structure resulting in a confusing circulation system. Circulation between the 1996 addition and the 1967 original building is particularly problematic due to poor sightlines, physical barriers, layers of glass doors, abrupt material changes, and inconsistent lighting.

Program

The existing Marriott Library occupies an estimated floor area of 495,358 gross square feet. Based on the analysis of existing floor plans, the resulting net assignable area is estimated to be 366,281 square feet. The net assignable area includes area for interior partitions and circulation within a department. Conversely, 129,077 square feet is attributed to un-assignable space. This typically consists of floor space occupied for public circulation, as public lobbies, as mechanical and electrical space and exterior wall thickness.

The existing program contains six primary divisions as identified in the Section 3.2, Existing Space Planning, consisting of

- Public Services 273,507 asf
- Special Collections 46,280 asf
- Library Computing 15,107 asf
- Technical Services 11,113 asf
- Administration 8,855 asf
- Support Spaces 11,419 asf

Exterior Architectural Conditions

The original building is primarily a concrete structure and includes concrete poured-in-place foundations, structural steel columns, and waffle slab floor plates which were designed as lift slab construction but have been noted by the contractor for the project as cast-in-place. The building has a pre-cast exterior panel system on the fourth and fifth levels and an exterior glass curtain wall on the third floor. The exterior building systems show some signs of wear, although primarily damage is minor and occur outside the realm of public circulation. Exterior concrete on the Marriott Library is generally not showing signs of wear. However, the primary area for immediate investigation is the system of attachment of the pre-cast exterior panel system that face levels four and five. Until the panel connections are identified and seismic

stabilization is addressed, these panels should be considered a life safety hazard. The second area of immediate investigation is at the roof deck covering the loading dock. This area has experienced a great deal of water penetration and therefore surface rust is visible on the underside of the slab. The deck however, has been coated to prevent further water penetration.

The exterior use of stone is limited to railing caps on the second and third levels. The stone has weathered poorly and in many locations the resulting deterioration is allowing water to penetrate the pre-cast concrete railings and panels on which it sits. It is recommended that the stone be replaced with an impervious material.

Extensive sealant failure at the Marriott Library should be addressed with a thorough inspection and subsequent repair. While sealant failure has not yet led to visible water penetration some vulnerable locations, at the exterior of the first, fourth, and fifth levels are at greater risk of immediate damage. Additionally, further inspection and repair is recommended to windows and spandrel glass panels on the second and third levels.

Interior Architectural Conditions

At the interior of the building, the grand lobby, stairs, and the adjacent atrium are considered as the highest on the preservation scale. The quality and condition of the materials in these spaces, mostly marble, terrazzo, and veneered wood panels is worth retaining and/or reusing. The finishes in most rooms have not changed since the building was dedicated. While a few selected rooms and spaces have been remodeled, changes typically include the addition or removal of secondary walls, upgrading of finishes (typically the addition of carpet, cabinetry, and wall finishes) and replacement to the original dropped ceiling system. These rooms are not considered contributory to the level of building quality and are expected to be significantly altered and improved during renovation.

The original lay-in acoustic ceiling remains throughout a majority of public spaces in the building. This ceiling is in good condition, but is a non-standard design module. This ceiling does not meet current standards of seismic stabilization, and with the expectation that significant mechanical renovations will occur on all five levels it is recommended that this ceiling be replaced.

Five elevators currently serve the original building and are original to the 1967 building. The elevator equipment is in acceptable condition considering its age and the quality of maintenance performed. A life span of 40 to 50 years is considered acceptable for this type of elevator, which will limit their continued good function to another 10 to 15 years.

Life Safety

The original building was constructed under the 1964 Uniform Building Code (UBC), and the library was subsequently expanded using the 1994 UBC. During the 1996 expansion the entire library was provided with a sprinkler system upgrade, effectively providing total sprinkler coverage. Based on the construction classification of the existing building as Type I, it is the understanding of the programming team that no separation between the original 1967 facility and the 1996 addition is required. The building is viewed as one structure from the standpoint of allowable area, height, as well as the number of stories. Assuming that the building will remain fully sprinklered, the overall height of the building is in compliance with previous codes as well as the 2000 International Building Code (IBC.)

It is significant to note that the original occupancy assumptions are not positively known at this time, but it is likely that the use of the original building was viewed as a B-2 occupancy (1964 UBC), and that the expansion was classified as a B or A-3 occupancy (1994 UBC). At this time, it is our understanding that the occupant loads on Levels 2 and 3 exceed 1,000, while the load on Level 4 will not likely exceed 500 occupants per the intended program.

Currently the building has been provided with a limited fire detection and alarm system. No specific additional requirements will result from the proposed renovation. It is important to note, however, that an automatic sprinkler system is required throughout the building as a result of the presence of an Atrium and the nature of the assembly occupancy. In addition, note that currently there is no smoke control system for the existing atrium. An exhaust system will be required if the atrium is connected to any other space that could be connected by more than two floors vertically. Depending on the configuration of adjacent spaces, additional exhaust on each level may be required. In addition to the mechanical systems, the smoke control system will have to be provided with standby power (emergency generator.) The control system will have to be interfaced with the existing fire alarm panels, and a fire fighter's control panel will have to be added at an agreed upon location.

Asbestos containing material (ACM) has been identified within the building, including piping insulation in vertical chases, floor tiles, and mastic throughout the building. All ACM will need to be removed, abated, or encapsulated as a part of the renovation.

Structural

An evaluation of the existing building's structure was conducted, analyzing the seismic resistance and capacity of the structure in accordance with FEMA 310/356 guidelines. The purpose of the evaluation was to identify the primary weakness of the structure, explore possible methods of retro-fitting the structure to improve expected seismic performance, and recommend methods of retrofit that are cost effective and meet the performance and rehabilitation objectives of the University.

The building lies very near the Salt Lake City segment of the Wasatch Fault, resulting in the expectations for very large ground motions associated with the characteristic earthquake for this fault. The anticipated seismic motion for the site is not unlike that experienced during recent earthquakes in California. The structure's seismic force resisting system consists of a limited amount of concrete shear walls that are insufficient in size and number to provide the strength to resist the motion of the anticipated earthquake. Most of these walls are located at stair and elevator shafts. The detailing of the building's primary structure appears to be that of a concrete "lift slab", a method of construction that is no longer common practice. Although the record drawings and details for the building indicate that the structure was designed and constructed as a "lift slab", a contractor involved in the construction of the original Marriott Library – Mr. Le R. Beauregard – has indicated that the floor slabs were cast-in-place. Because of the detailing of this system, most of the primary column to floor connections have inadequate seismic capacity. In a seismic event, the slab to column connections may fail, which may in turn lead to progressive collapse of portions – if not all – of the structure.

Other items needing attention in terms of seismic safety are: exterior precast panels, interior and exterior cladding, interior walls, library stacks, light fixtures, as well as mechanical and electrical equipment.

Mechanical and Plumbing

The original building has had some mechanical upgrades within the past 30 years. Most recently as part of the addition/expansion the central chilled water plant and the central heating water plant functions for the building were replaced with new ones. Additionally the air-handling units serving the original portion of the building were fitted with new chilled water coils, new steam humidification injectors, new filter bank system and new direct digital controls. In a 1998-1999 retrofit, the existing ceiling supply air plenum (Airson) distribution system was modified with a conventional ducted diffuser system to provide conditioned air more directly to the building spaces. As part of the 1998-1999 retrofit work, a wet pipe fire sprinkler fire protection system was installed to provide fire protection for the entire building. Presently, the building's occupants point out issues of comfort complaints, particularly concerning temperature and low airflow, issues of dust accumulation, and concerns of non-constant temperature and humidity conditions.

The existing plumbing system has been in use for 30 years and has reached the end of its useful life. The existing fixtures in the original building appear to be original and have reached the end of their useful life. They should be replaced and upgraded to meet ADA requirements. The waste piping is original within the building. Some of the piping will require replacement due to wear, and past leaks.

Electrical

An analysis of the electrical system for the original Marriott Library reveals that the backbone or distribution system for user-available (120 volt) power has remained essentially unchanged since its installation. Power for today's user is available in short supply throughout the library. In an attempt to satisfy the appetite for computers, a few selected areas have moderate amounts of power available as a result of various remodels and equipment additions. These remodels and additions took place before and after the expansion of 1995-1996. The incoming service to the building was upgraded during the expansion and some selected loads (HVAC and elevators) were re-fed from the new service, but the distribution system was not changed. The upgraded service, while a great improvement over the original, is only partially adequate for the projected hi-tech user of today and the future. This problem can be corrected by installing new equipment throughout the library to supply user-available (120 volt) power to each floor.

The lighting throughout the library is switched using color-coded circuit breakers in electrical panels located on each floor. Generally these panels are located in easily accessible areas. However, there are panels in some locations that violate current electrical codes, and may be corrected with new equipment.

Technology

The library today contains significant areas dedicated to technology including (1) the multimedia center (MMC) (2) the technology assisted curriculum center (TACC) (3) library computing (4) public computing facilities and (5) public network access points throughout the library. While these technology areas are heavily used, the Library Computing staff notes the lack of flexible infrastructure and the difficulty in adding to and revising cable layouts within the building whilst updating to new technologies.

1.4 PROJECT RECOMMENDATIONS: PROGRAM PLANNING

Program Development

The space needs program for the Marriott Library has re-allocated current program areas and uses to create a more technologically rich, user focused, organized, and efficient library. A program of 367,272 net assignable square feet has been established to be housed within an overall floor area of 494,063. Approximately 126,791 square feet is dedicated to core functions such as restrooms, public circulation, stairs, elevators, electrical and data hub rooms, and walls.

Of the six primary program divisions (Public Services, Special Collections, Library Computing, Technical Services, Administration, and Support), areas devoted to Public Services and Special Collections have increased in order to allow for improved reading seating, integration of technology, the Information Commons, and access to materials. Areas devoted to staff including Technical Services, Administration, Library Computing, and Support have slightly decreased in order to allocate space for these new initiatives. The recommended space allocations are:

- Public Services 275,699asf
- Special Collections 54,464 asf
- Library Computing 12,850 asf
- Technical Services 9,150 asf
- Administration 6,390 asf
- Support Spaces 8,719 asf

A new 24-hour zone has been programmed to improve user access to the library's technologies including a new wired café and student multi-use space, the information commons, and possible 24-hour access to selected reserved computer labs in the Electronic Education Center.

Integrated Planning

The recommended renovation plan for the Marriott Library integrates the first three floors of the building into a series of student focused spaces and clarifies the linkages between the original 1967 building and the 1996 addition. While the original scope of the programming effort was to look only at the original building, some work is now recommended in the 1996 addition in order to integrate the functionality of the entire library. Overall, the first floor includes a new multi-use student space and a new cluster of reserved computer labs (the Electronic Education Center) to enhance the current Multi-media Center and existing classroom labs; the second floor includes a new Information Commons and reference center (located in the 1967 building) with close ties to the existing TACC in the 1996 addition; and the third floor – with its entry off the upper plaza – renovates the current Atrium Reading Room and establishes a new Great Reading Room on the west side of the building. These three floors form the heart of the renovated facility and its significant upgrade of user spaces.

Throughout, access ways have been cleared of obstructions to provide clear visual links to and through these new areas. The entrance lobby on the first floor is reorganized to provide visual clarity and ease of access to the second floor. The north/south pathways on the first and second floors provide open views out the windows to the south and central help desks in similar positions on each floor. The third floor opens up the view from the entrance through to the west, assisting in basic building orientation. The central stair and elevators are renovated as the central node of the building with a new glass enclosure with hold-open doors that facilitate vertical transportation as well as reinforcing connections to the 1996 addition.

Modest planning improvements are integrated with new infrastructure on the fourth and fifth levels. The fourth level now accommodates library technical services staff, and the fifth level is re-organized for special collections to enhance existing and new reading rooms, as well as accommodating library administration and other staff groups.

Collection Growth and Accommodation

Working within the existing building footprint, accommodating an increase in the quality and quantity of user spaces, and incorporating code-mandated ADA access issues, leads to the need to create new efficiencies in housing the collection. The goal of this study is to provide the same amount of shelving as currently exists in the building (i.e. an equivalent number of shelving sections) which, according to the evaluation of shelving capacity conducted in August 2001, is 71% utilized. Assuming that a maximum 80% utilization of shelving is best for management of a circulating collection, the current number of shelving sections allow for approximately 12% growth of the current general collection. Current utilization of the special collections shelving, however, does not allow for future growth.

Recommendations for housing a comparable number of shelving sections in a reduced, more efficient, area include the conversion of current shelving on the first floor of the addition to compact shelving to house Government Documents (1000+ double faced sections) as well as approximately a third (2300+ double faced sections) of the general collection. Some modest additions to the collection areas are also proposed for the second floor of the addition. Publicly accessible shelving on the second, third, and fourth floors of the original building are re-planned according to ADA minimum standards.

As of 2001, the library housed approximately 2.5 million volumes and titles. Assuming a potential for 12% growth, the capacity of the proposed shelving is approximately 2.8 million volumes and titles. At a growth rate of 3% per year, the shelving will be at capacity in four years.

Strategies for accommodating future growth include "weeding" of the collection that may involve a greater reliance on electronic formats and discarding paper materials which are available electronically or which have little anticipated future use. To accommodate limited additional growth, some portions of the collection will be removed – most likely materials that have not been requested or checked out in the past decade. Other options include the provision of off-site storage, further use of compact shelving, and the possibility of construction of an automatic retrieval system (ARS). An ARS with a footprint of 7,000 square feet could potentially house up to 1 million volumes. The Long Range Development Plan does not provide or recommend additional square footage of building in this area of campus. Funding for further expansion of collection storage, however, is not within the current facility budget.

Special Collections Planning

The concept plan recommends maintaining special collections on the fifth floor of the original building, with a re-organization of the current public and staff areas to create the opportunities for new special reading areas at that level as well as space for additional library staff. A portion of the collection, the Middle East collection, moves to the fourth floor and is integrated into the overall stack area on that level. No significant increase in collection capacity for special collections has been included in this plan; if the acquisition of new Special Collections mandates increased collection area it may be necessary to move a portion of the current collection (manuscripts) off-site, however considerable off site space is currently occupied by manuscripts and other collection material. An environmentally controlled vault for the rarest materials, approximately 10,000 volumes, is needed to support the mission of Special Collection.

Alternate Planning Options

Three other organizational alternatives were developed and evaluated, as described in Planning Options B, C, and D plans included in the appendix. In each, a substantially greater amount of re-planning and renovation work is needed in the 1996 addition, and as a result these options were not selected for further consideration as the costs were prohibitive within the current budget.

Planning Option B, the entire first floor of the addition is devoted to compact shelving, moving the Multimedia Center and integrating it with the Information Commons and Cyber Living Room on the second and third floors. In this option, Special Collections is substantially renovated on the fifth level of the original building.

In Planning Option C, a more dramatic re-organization is proposed, with Special Collections re-locating to the first floor of the addition. On the first floor, Special Collections can then take advantage of the potential for compact shelving and would be housed in a more secure location within the building. In this option, new environmental control systems would need to replace the existing HVAC system to respond to temperature and humidity criteria and needs in this area. This option also proposes renovating the area currently occupied by the Multimedia Center as the student multi-use area, taking advantage of the natural light, and integrating the Information Commons, the TACC, and the Electronic Education Center all on the second floor. Levels 3, 4, and 5 of the original building are re-planned and renovated for general collections and staff.

Planning Option D also includes the student multi-use area on the first level of the addition, and renovates the first level of the original building for the Information Commons, making this space easily accessible from the library's main entrance. In this option the Electronic Education Center also moves to a desirable location near the TACC in the addition on the second level. Special Collections is shown occupying all the remaining second floor of the addition (Special Collections could also be housed on the first floor in a similar configuration). Again, an enhanced environmental control system would need to be installed for special collections in this area.

While aspects of each of these options are highly desirable, the cost of renovating recently constructed space is prohibitively expensive within the framework of the current project.

1.5 PROJECT RECOMMENDATIONS: BUILDING INFRASTRUCTURE

As noted in the building evaluation, the infrastructure of the existing Marriott Library needs to be upgraded to allow it to function in the 21st century. These upgrades include seismic strengthening, improved mechanical and electrical systems, enhanced capacities for technology, life safety improvements, and repair of existing interior and exterior conditions. The Marriott Library is ranked by the State of Utah as a valuable asset both because of its collection and the building itself. The recommendation is to implement infrastructure improvements as part of the overall renovation project resulting in a more secure environment for both its inhabitants and its collection.

Structural

As described in the building evaluation, the existing structural system places the building at significant risk during a major seismic event. To improve the performance of the structure, and reduce the likelihood of loss of life and building collapse, the addition of a seismic strengthening system is strongly recommended.

Among the methods of retrofitting the structure to improve seismic performance, the following retrofit systems were studied:

- Conventional Braced Frames
- Unbonded Braced Frames or Eccentric Braced Frames
- Carbon Fiber or Fiberglass Concrete Reinforcement
- Concrete Shear Walls
- Encapsulation and Strengthening of Existing Concrete
- Seismic Base Isolation

One solution would be the addition of concrete shear walls in key areas of the building, generally at interior structural bays. However, a difficulty with this solution is the need to close multiple floors of the building simultaneously to implement the structural work, making it difficult for the library to maintain on-going operations during renovation. The addition of new shear walls throughout the interior would also limit future flexibility and work against the clear and open planning goals.

The most effective method in terms of cost and serviceability to the facility appears to be a system of unbonded (bucking restrained) braces or a series of eccentric braced frames. This methodology is compatible with the University's needs to remain in operation during construction, minimizing the disturbance to other building systems, and providing a remedy for the seismic inadequacies of the building. The unbonded braced frame system includes a steel brace encased by a larger steel jacket and grout. Such a frame has the ability to absorb large amounts of energy, compressing and stretching the steel brace without buckling. Installation of these frames would also require new footings to anchor these frames.

To improve the connection of the existing concrete floors to the existing steel columns it is recommended to encapsulate the existing columns with reinforced concrete. The reinforced concrete encapsulation would provide a positive bearing surface for the concrete floors. As an alternative, the existing columns may be filled with concrete and steel haunches may be connected with through-bolts. These haunches would then provide the necessary positive bearing surface for the concrete floors.

The existing floor construction is a waffle slab system with post-tensioned reinforcing. Openings in the existing slab must be kept to a minimum and performed with care; one opening is recommended in the third floor to assist in the visual and possible access connection between this level and the information commons.

Mechanical and Plumbing

The mechanical systems serving the library need to be upgraded and modified to: provide a reliable system capable of serving the library building for another 30 years; to be capable of providing a relative constant environmental condition (temperature and humidity) for occupant comfort and document preservation; to provide for ease in the monitoring and manipulating of the system's set point conditions; to provide flexibility in the distribution systems in order to be capable of responding to space function changes that will occur over time; to be energy efficient and to have the installed mechanical system meet current code requirements especially for life safety and seismic restraint.

The required year round indoor design condition for the library is to be 70 to 72 deg. F at 30 % +/- 5% relative humidity. The indoor temperature and humidity levels are to be maintained to provide, as near as possible, a constant year round temperature and relative humidity environment throughout the library. The computer machine room is to be maintained at 68 deg. F. and 40% - 45% relative humidity.

The plumbing system is to be upgraded since it has reached the end of its useful life. The existing domestic water piping systems are to be replaced with a new copper based system. This new plumbing system will need to meet ADA requirements.

With respect to drainage it is also recommended to implement a secondary roof drain system at the roofs.

Note as well that the proposed café would serve pre-prepared foods and would have no cooking requirements. Therefore, water, sewer, and vents would have to be extended to this area. Since no cooking would be involved, no exhaust would be required.

Modifications to the existing fire protection system will be required due to changes in wall and ceiling locations as determined by the new program. A gaseous suppression system should be considered for the protection of the Special Collection Vault and Computer Server Room in the Data Center.

Electrical

New equipment with increased power availability will require that additions be made to the electrical service entering the building. The additions, while necessary to support the increased user-available power, will require additional space but will also assist in minimizing the disruptions during the phased construction.

In addition, augmenting the emergency power in order to support the appropriate backup systems and life safety elements is required. Additional cabling is needed to provide for future needs throughout the library building.

Technology

A research library without fast, 24/7, high bandwidth Internet access is not a library for the 21st century. Every information system for users and every processing system for staff depend on network and Internet access. The library's web portal, which thousands of users now access, day and night, from locations around the globe is only slightly less significant in the library's overall mission than is the library building itself. Even tasks as straightforward as locating titles in the book and journal collections are dependent on the Web-based catalog. With the network and Internet's centrality to all library functions, effective technology infrastructure is a, if not the, top priority.

The library today contains significant areas dedicated to technology including (1) the Multimedia Center (MMC) (2) the Technology Assisted Curriculum Center (TACC) (3) Library Computing (4) public

computing facilities and (5) public network access points throughout the library. While these technology areas are heavily used, the Library Computing staff notes the lack of flexible infrastructure and the difficulty in adding to and revising cable layouts within the building whilst updating to new technologies.

Many of the technology rooms, which currently fall short of the campus standards, should be improved to provide capacity to integrate new technologies into the building.

The Data Center is not sufficiently protected from power outage, mechanical equipment outage or network outage and enhancement of these functions is incorporated as part of the Data Center move through inclusion of a second MDF room and engineered redundancy in mechanical and electrical systems.

In areas where network cabling systems are to be revised during remodelling, the opportunity to extend the life of the cable infrastructure by preparing for high bandwidth applications such as media distribution over the network and VoIP (Voice over IP, telephony over the computer network) applications is included.

Flexible network cabling containment systems are recommended throughout, and low profile access floor is included in areas where layout flexibility is required such as the Café, Student Multi-Use and the Information Commons, and in areas where technology will continue to develop at a fast pace such as the reserved computer labs, the multimedia classrooms, and the Electronic Education Center.

Wireless networking holds much promise, but it will act in conjunction with and not replace the cabling system in the foreseeable future. Development of the current wireless access pilot program into a building wide wireless network overlay is included in the work as an aide to usability and to reduce the burden of moves adds and changes in some of the technology rich environments.

Life Safety

It has been assumed that where significant modifications to the existing building are required, such modifications will be required to comply with the 2000 Edition of the International Building Code (IBC). In general it is recommended for the design team to pursue the non-separated mixed-use approach for classification of occupancy to minimize the required fire barriers. With respect to the modifications that may be required as a result of increased occupant loads all primary exit enclosures should lead directly to the exterior of the building. This will require either a degree of enclosure to the grand stair, or adding dedicated exit stairs. However enclosing the grand stair would have a negative impact on library circulation and user orientation.

Additionally, a smoke control system will be required if the atrium is open to the remaining portions of the building. Automatic initiation of the smoke control system in the atrium will be required, and due to the existing configuration of detection devices as well as the additional requirement for voice evacuation, it may be appropriate to provide full automatic detection throughout.

Based on the standard of care, all doors in rated systems should be examined for integrity and listing. Hardware needs to be upgraded as well as signage and lighting in exiting aisles.

Repair of Existing Conditions

In addition to addressing issues related to the repair and the reusability of exterior and interior materials as described in section 1.3, with respect to the interior roof levels it is recommended to waterproof the floors and sheet metal pans in the fan rooms on the penthouse level. Installation of a moisture barrier membrane type coating in the penthouse is also recommended, along with a textured surface for traffic-bearing areas. Also recommended is removal of all detected moisture trapped roofing, and more specifically to replace the roofing assembly at roof level two (see Section 3.4.1).

In order to meet code, railings and handrails at the enclosed stair towers, and the grand lobby stair will need modification or replacement.

Interior furniture is primarily original to the building and is at the end of its useful life. Failure is evident primarily in chairs and benches, but wear is evident in all furnishings. For example, the stacks through out the library have received heavy wear and are showing signs of missing pieces and broken parts. Current stacks do not meet life safety requirements for overturning, and consequently future stacks need to be well attached to the floor plate to prevent overturning.

With respect to elevators, currently none are code compliant within the original Marriott Library but since each elevator is "grand-fathered," no immediate change is required. Thus if an elevator, hoist way, or system is to remain untouched during renovation then no upgrades are required. Furthermore, a complete life cycle evaluation is recommended for all elevators as they are, at a minimum, within a decade of their expected life span. If these elevators are not replaced in their entirety during this renovation it is recommended that the cab enclosures, and door mechanisms for cab and shaft doors be renovated with materials that will better handle the extensive wear they experience.

In addition to the already mentioned, the exterior of the building needs to be cleaned. Stone caps at the exterior railings on Level 2 need to be replaced as well as the spandrel glass at Levels 2 and 3.

1.6 PROJECT IMPLEMENTATION: COST AND SCHEDULE

Cost Summary

The total project cost is estimated to be $56,999,915, which includes some limited modifications to the 1996 addition. This summary outlines the seven primary divisions of spending as follows:

Construction Costs:	$38,251,840
Furnishings and Equipment:	$ 8,182,400
EEC Classrooms/computer center relocation:	$ 1,000,000
Data Cabling/ Connections:	$ 300,000
Design Costs:	$ 4,452,165
Moving:	$ 1,320,000
Other Costs:	$ 1,198,400
Project Contingency:	$ 2,295,110
Total	$56,999,915

These costs reflect the renovation priorities of life safety improvements, technology enhancements, the creation of significant new spaces for users, and overall building systems upgrades.

Project Schedule

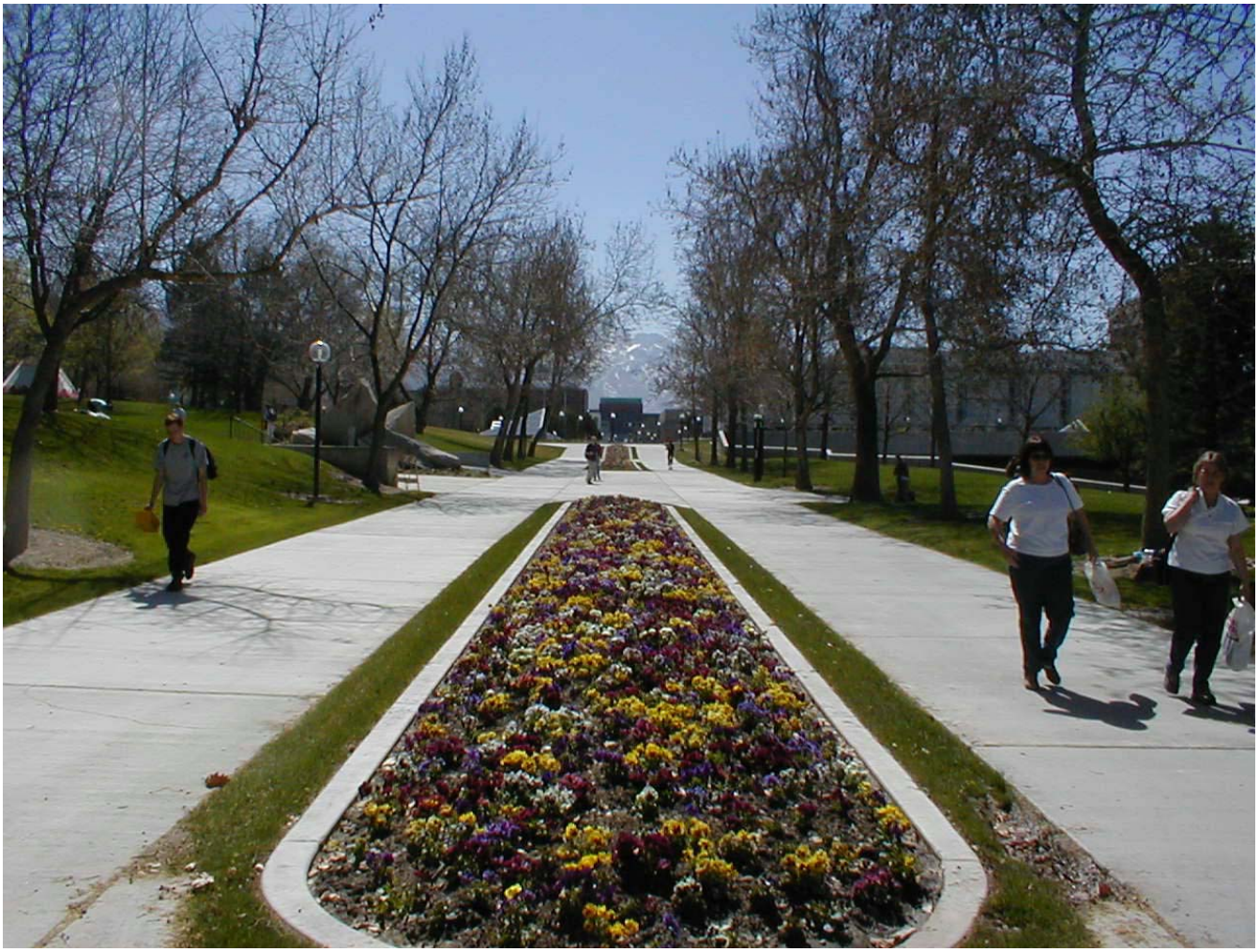
Phasing of the project is necessary to keep the Marriott Library in operation during construction. Design phases (schematic design through construction documents including client review) are expected to require a 17-month period. The bid and renovation phases of the project are anticipated to occur over a 36-month period, assuming a phased scenario, with substantial completion and move-in at the end of 2006.

2

Site Analysis

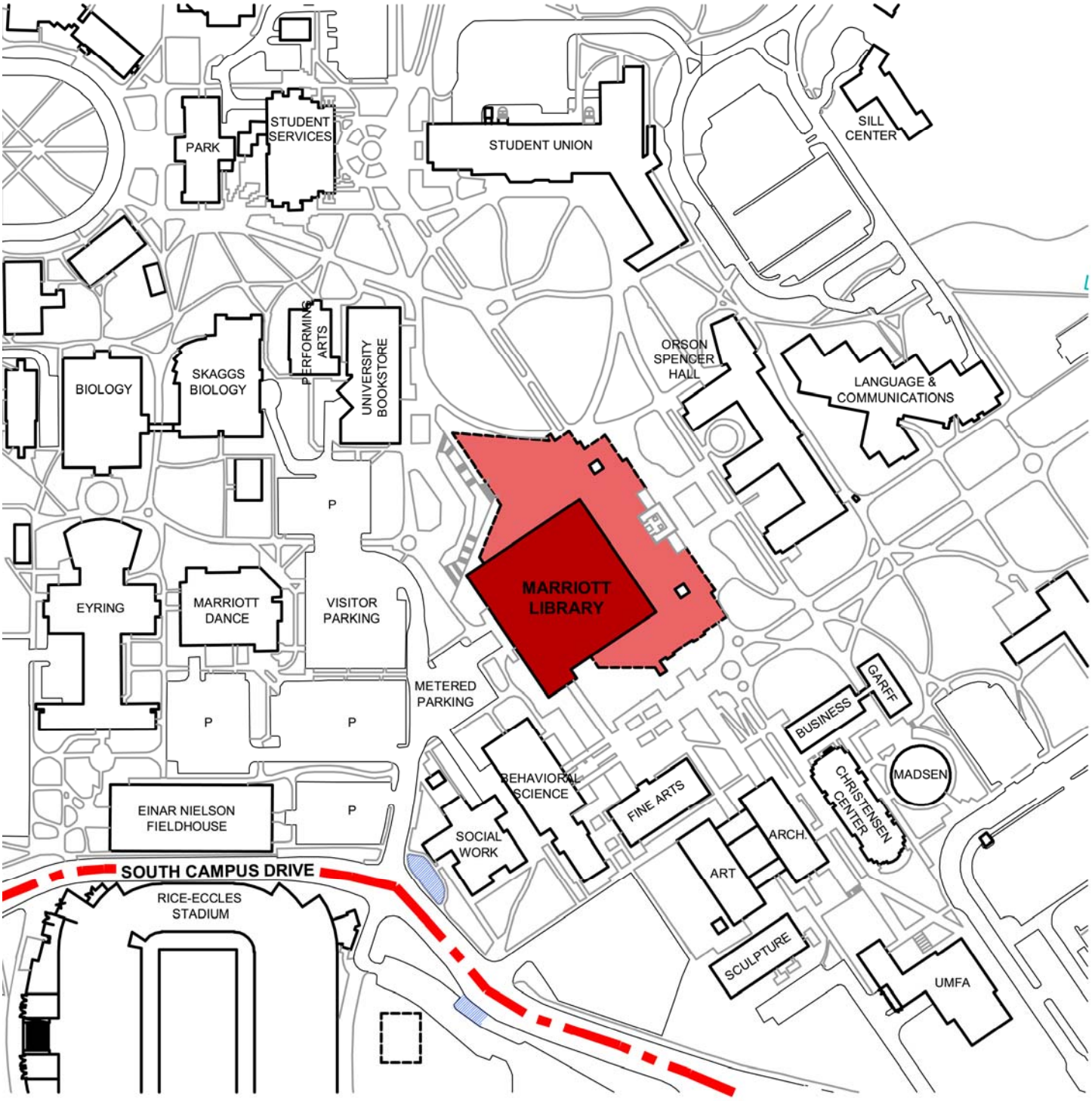
2 Site Analysis

2.1 SITE LOCATION



Marriott Library beyond at the right

The Marriott Library is located on the southwest quadrant of the University of Utah campus and has a central location at the junction of two main campus grids. It is surrounded by the Student Union building at the north, the Student Services and University Bookstore buildings at the northwest, the Rice-Eccles stadium at the southwest, the Behavioral Science and the Fine Arts complex at the south, the Utah Museum of Fine Arts (UMFA) at the southeast, and the Orson Spencer Hall at the east. The library building is oriented 34 degrees east of south and is located at the east edge of the campus's north-south grid. It is also sited north of South Campus Drive with visitor parking, university shuttles, UTA buses, and light rail accessible immediately west of the library.


PARK
STUDENT SERVICES
STUDENT UNION
SILL CENTER
BIOLOGY
SKAGGS BIOLOGY
PERFORMING ARTS
UNIVERSITY BOOKSTORE
ORSON SPENCER HALL
LANGUAGE & COMMUNICATIONS
P
MARRIOTT LIBRARY
EYRING
MARRIOTT DANCE
VISITOR PARKING
METERED PARKING
P
P
P
BUSINESS
GARFF
BEHAVIORAL SCIENCE
FINE ARTS
MADSEN
CHRISTENSEN CENTER
EINAR NIELSON FIELDHOUSE
SOCIAL WORK
ARCH.
ART
SOUTH CAMPUS DRIVE
RICE-ECCLES STADIUM
SCULPTURE
UMFA
UTA BUS/ UNIVERSITY SHUTTLE STOP
TRAX LIGHT RAIL LINE
N
0
150'
300'
SITE LOCATION

2.2 EXISTING SITE CIRCULATION

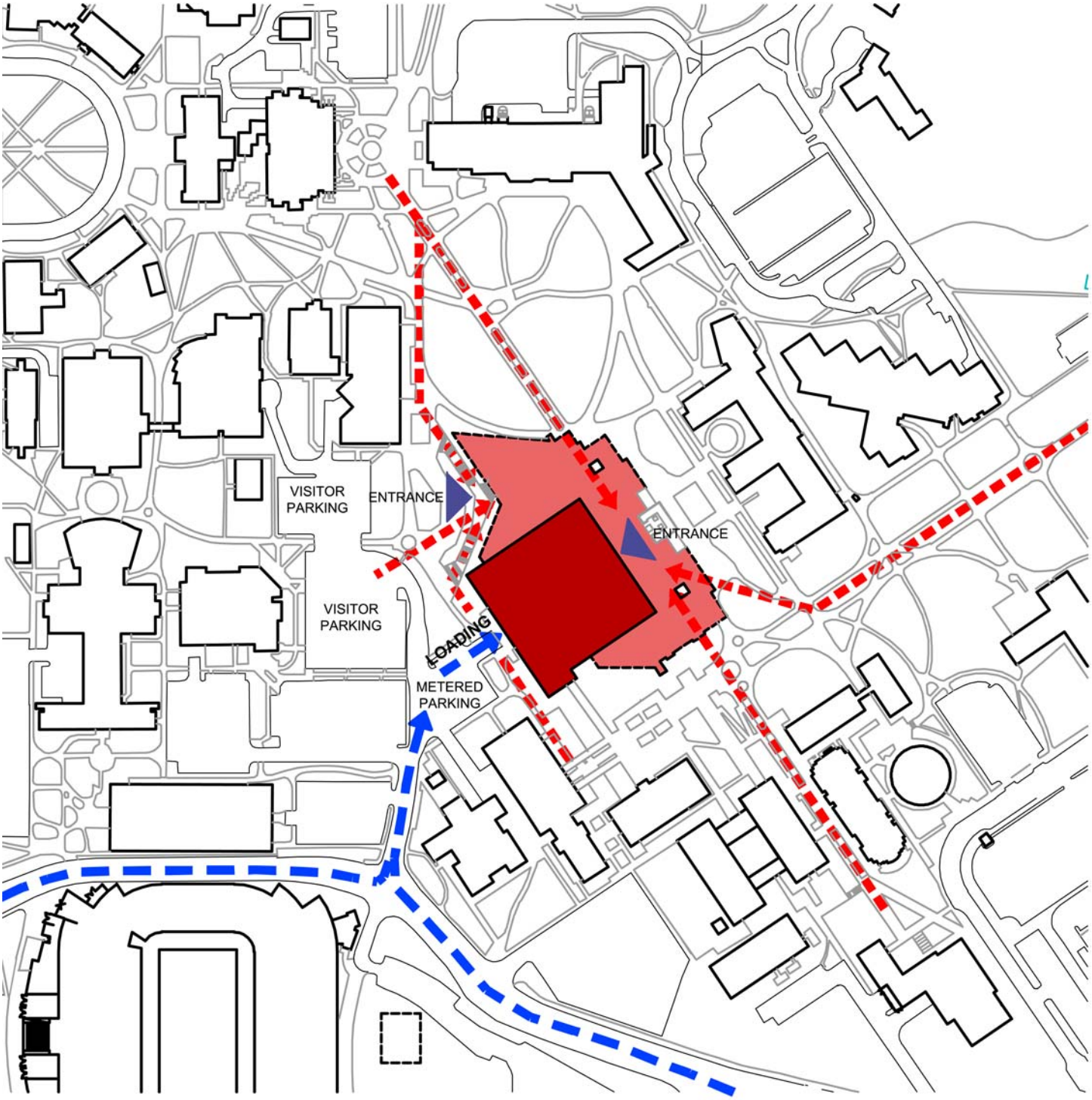
Visitor Parking

Vehicular circulation occurs south of the library along South Campus Drive with an access route leading to visitor parking lots and a metered parking lot to the west adjacent to the loading dock. Accordingly, a centralized location has been provided for delivery and loading access at the southwest perimeter of the library's ground floor level.

Northwest First Floor Entrance

Northeast Third Floor Entrance

The primary entrance to the library is at the northwest corner of the building. It is accessible from adjacent parking lots and pedestrian paths leading to the library. A secondary eastern entrance (currently handling 40% of library traffic) occurs at the third level. An adjacent plaza is highly visible along a northwest and southeast pedestrian path and along other neighboring pedestrian paths.


VISITOR PARKING
ENTRANCE
ENTRANCE
VISITOR PARKING
LOADING
METERED PARKING
MAIN ENTRY
PEDESTRIAN CIRCULATION
VEHICULAR CIRCULATION
N
0
150'
300'
SITE CIRCULATION

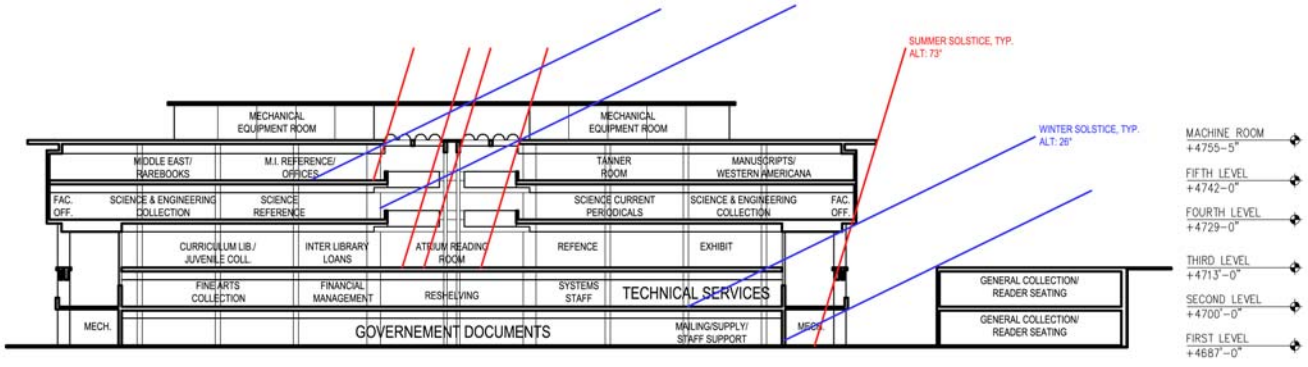
2.3 EXISTING SITE CONDITIONS

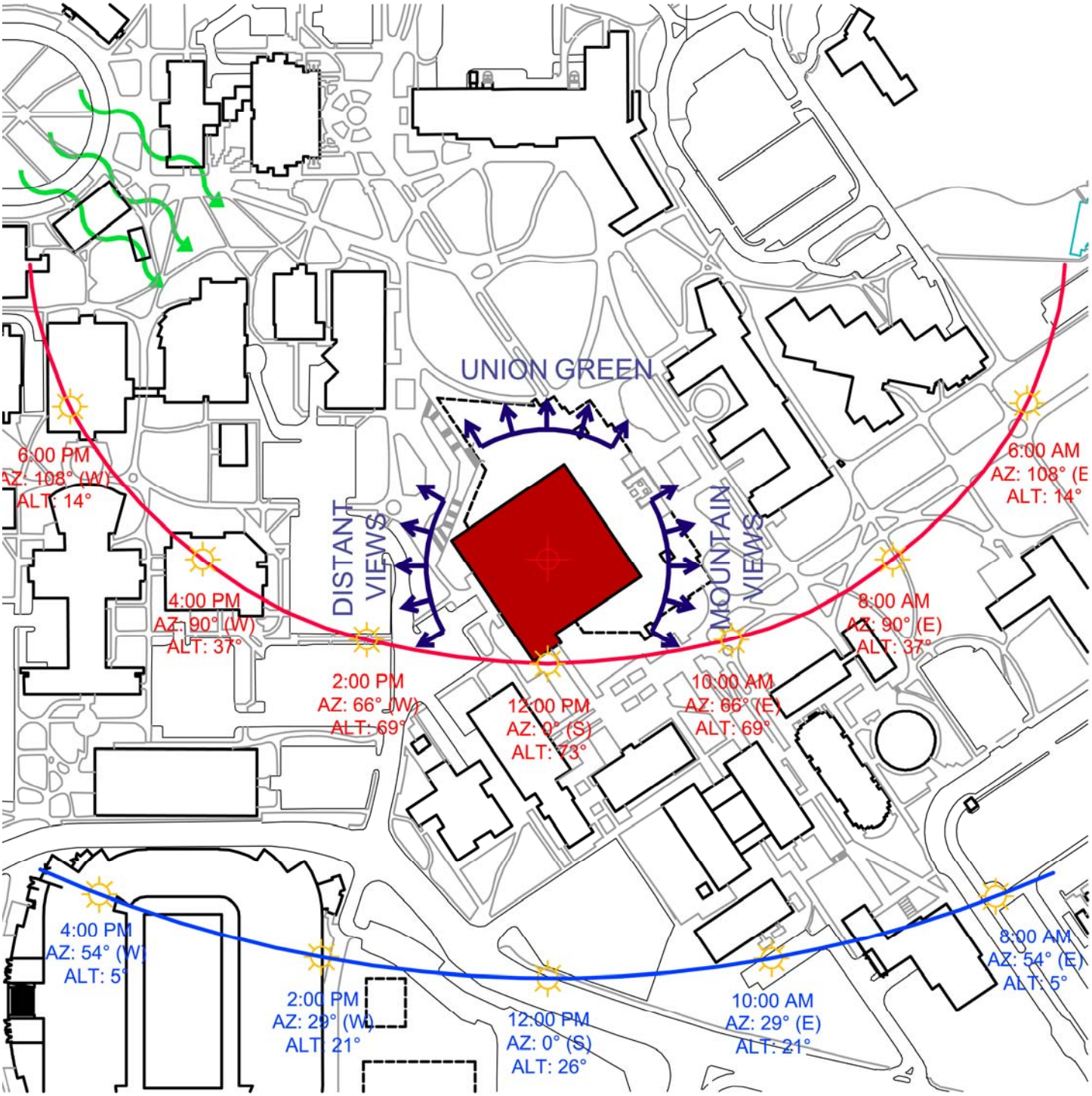
2.3.1 Views

Open green spaces, pedestrian paths, and parking lots surround Marriott Library. Consequently library visitors can enjoy views toward the foothills of the Wasatch Mountains at the east and distant views over the Salt Lake Valley toward the west. At the immediate north visitors may enjoy views toward the Union Green. Currently the Marriott Library is afforded views primarily from Level 3 and limited views from Level 2 on the westside. Views on Level 4 and 5 are limited to small vertical openings between the massive concrete panel system.

2.3.2 Sun Path Analysis

The library's relationship to the campus grid creates beneficial opportunities for solar exposure. The sun path diagram illustrates that at noon both the southeast and southwest elevations are exposed typically to sunlight. In addition the summer solstice path indicates that all exterior wall surfaces of the library receive sunlight at some point throughout the day. However, the winter solstice path illustrates that only the southeast and southwest elevations are exposed predominantly to sunlight throughout the day. From an architectural standpoint the building employs strategies to minimize direct sunlight during summer through the use of roof overhangs and wall set backs at the first, second, and third levels. The atrium volume is sized to take advantage of natural lighting opportunities throughout the year.





SUN PATH, VIEW, AND WIND DIRECTION ANALYSIS

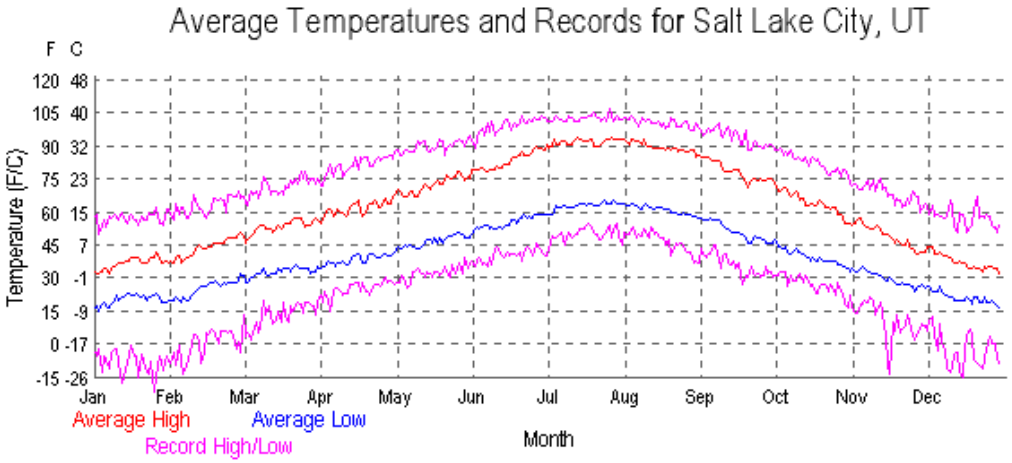
2.3.3 Climate

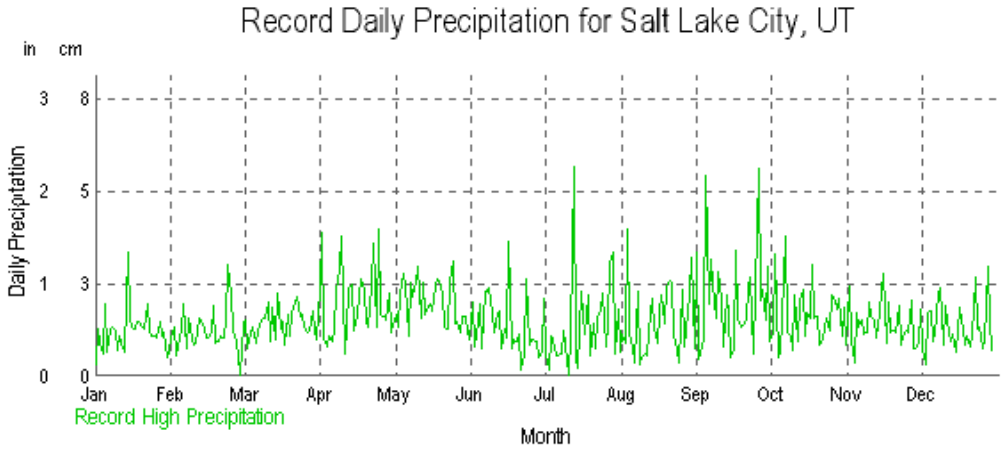
The local climate in Salt Lake City is multi-faceted with regard to temperature, precipitation, snow, wind and cloud cover. Average high temperatures range from 92 degrees (F) in July to 36 degrees (F) in January. In comparison the average low temperatures average between 64 degrees (F) in July to 19 degrees (F) in January. Salt Lake City experiences precipitation regularly on a monthly basis. April tends to have the most rainfall at 2.12 inches and July has less precipitation at an .81-inch average. In consequence cloud cover coincides with precipitation patterns and tends to happen in higher frequency between the months of November and April.

Nearly six months of the year between November and April significant quantities of snow fall in Salt Lake City. The highest frequency occurs in December where levels average 12.09 inches. However during a four-month period between June and September there are typically no traces of snow.

Breezes are constant and average 9.5 miles per hour on an annual basis. The prevailing winds are northwest to southeast and canyon breezes occur during the summer.

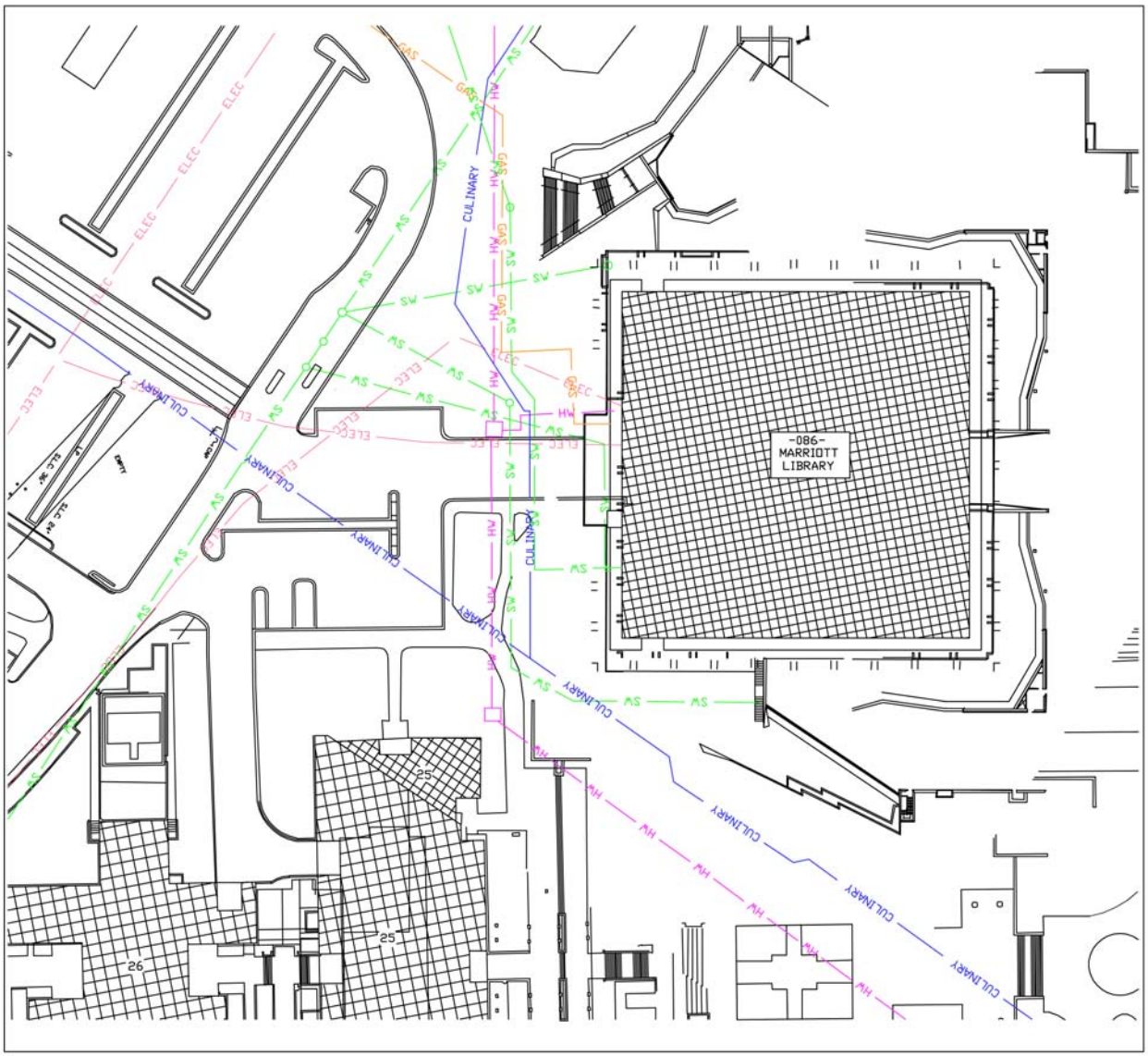
Monthly Averages												
	Jan.	Feb.	March	April	May	June	July	August	Sept.	Oct.	Nov.	Dec.
High Temperature (C / F)	2 / 36	6 / 44	11 / 52	16 / 61	22 / 72	28 / 83	33 / 92	32 / 89	26 / 79	19 / 66	10 / 51	3 / 38
Low Temperature (C / F)	-7 / 19	-4 / 25	-0 / 31	3 / 38	8 / 46	13 / 55	18 / 64	17 / 62	11 / 51	5 / 40	-1 / 31	-6 / 22
Precipitation (mm / in)	28 / 1.11	31 / 1.23	49 / 1.91	54 / 2.12	46 / 1.8	24 / 0.93	21 / 0.81	22 / 0.86	33 / 1.28	37 / 1.44	33 / 1.29	36 / 1.4
Snow (cm / in)	32 / 12.6	21.8 / 8.58	21.8 / 8.58	6.9 / 2.72	TRACE	0 / 0	0 / 0	0 / 0	0 / 0	TRACE	11.9 / 4.69	30.7 / 12.09
Wind Speed (km/h / mph)	13 / 8	14 / 9	17 / 10	17 / 11	17 / 10	16 / 10	17 / 10	17 / 10	16 / 10	15 / 9	14 / 9	13 / 8
Wind Direction	S	S	S	S	S	S	S	S	S	S	S	S
Cloud Cover (out of 8)	6.1	5.7	5.5	5.3	4.8	3.5	3.0	3.1	3.1	3.8	5.5	6.0


Average Temperatures and Records for Salt Lake City, UT
F C
120 48
105 40
90 32
75 23
60 15
45 7
30 -1
15 -9
0 -17
-15 -26
Temperature (F/C)
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
Average High
Average Low
Record High/Low
Month


Record Daily Precipitation for Salt Lake City, UT
in cm
3 8
2 5
1 3
0 0
Daily Precipitation
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
Record High Precipitation
Month

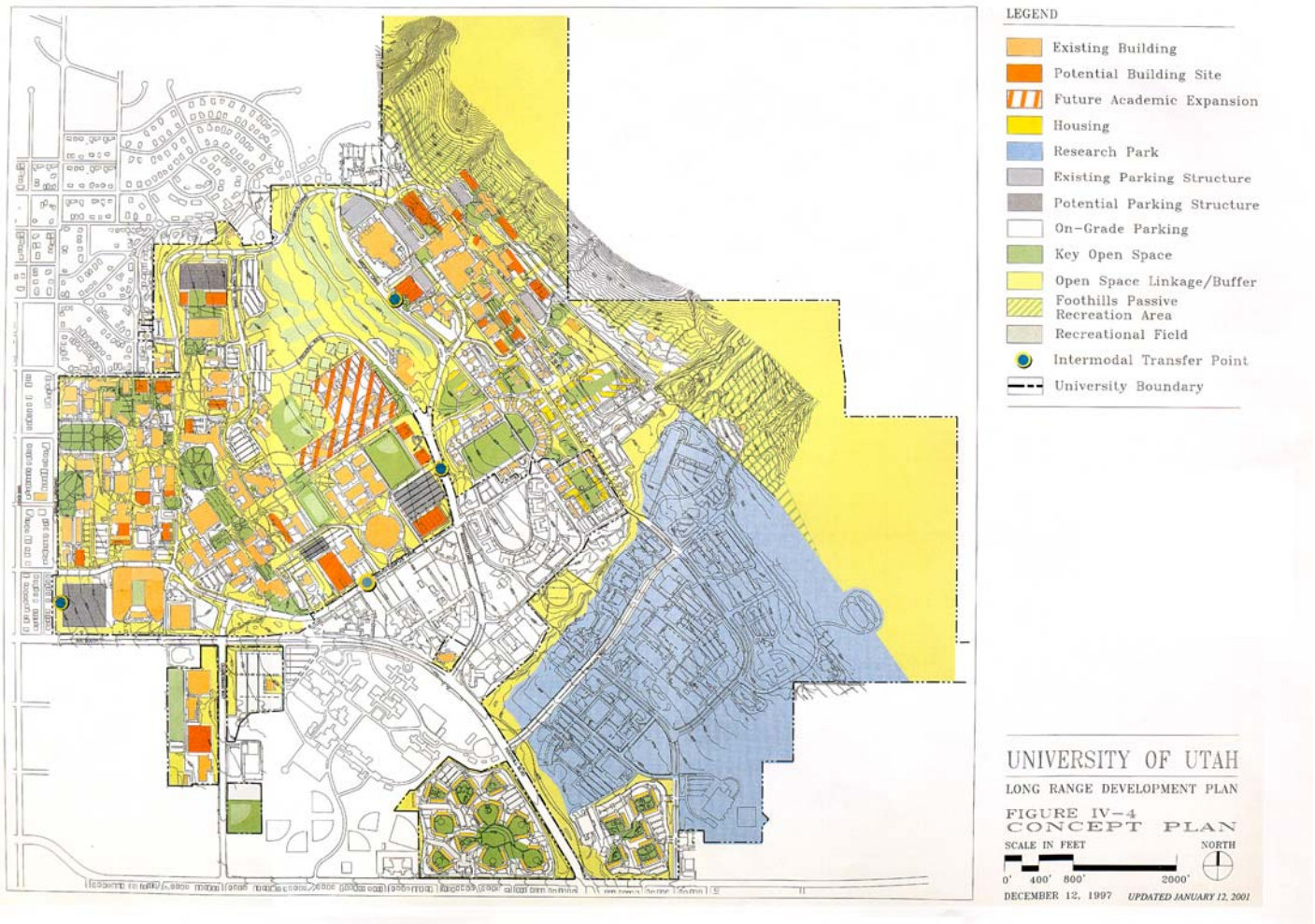
2.4 EXISTING SITE UTILITIES

The following diagram illustrates typical utility runs through the campus and the related points of connection to the library building. A purple 'HW' line type represents the high temperature water supply lines. An orange 'GAS' line type represents the gas supply line, which is currently shut off. A red 'ELEC' line type represents electrical supply. A green 'SW' line type represents storm water disposal lines. A blue 'CULINARY' line type represents culinary disposal lines.



2.5 PROPOSED SITE CONSIDERATIONS

2.5.1 University Long Range Development Plan Criteria



The renovation of the Marriott Library is focused on the building interior and therefore does not create any conflicts with the University Long-Range Development plan. Although site development is not a part of this project scope, in our workshops with the library and facilities staff it was noted that landscape improvement to the eastern plaza above the 1996 construction should be part of future library improvements. In addition, exterior enhancements to the first floor main entry, the original second level west entry (currently closed), and loading dock access should be addressed.

2.5.2 Access and Parking

Refer to section 2.2 for access and parking information. No modifications are being made to the existing conditions.

2.5.3 Service Access

Refer to section 2.2 for service access information. No modifications are being made to the existing conditions.

2.5.4 Emergency Access

There is existing emergency vehicle access to both entries and the loading dock.

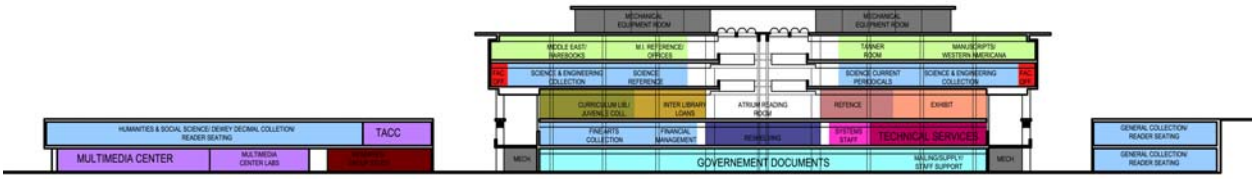
3

Existing Facility Building Analysis

3 Existing Facility Building Analysis 35

3.1 ARCHITECTURAL PLANNING ISSUES

3.1.1 Building Form and Massing



EXISTING SECTION

The J. Willard Marriott Library sits at the center of the University of Utah campus. The original building contains approximately 300,000 square feet on five floors (excludes mechanical area and circulation links). The building, dedicated in 1967, received a substantial addition in 1996 that comprises another 210,000 square feet wrapping the perimeter of the original building and covered by outdoor plaza on the north, east and south.

The building's design is in a style prevalent in the 1950's and 1960's and includes concrete "poured-in-place" foundations walls, structural steel columns and cast-in-place waffle floor plates with a precast exterior panel system and exterior glass curtain wall on the third floor.

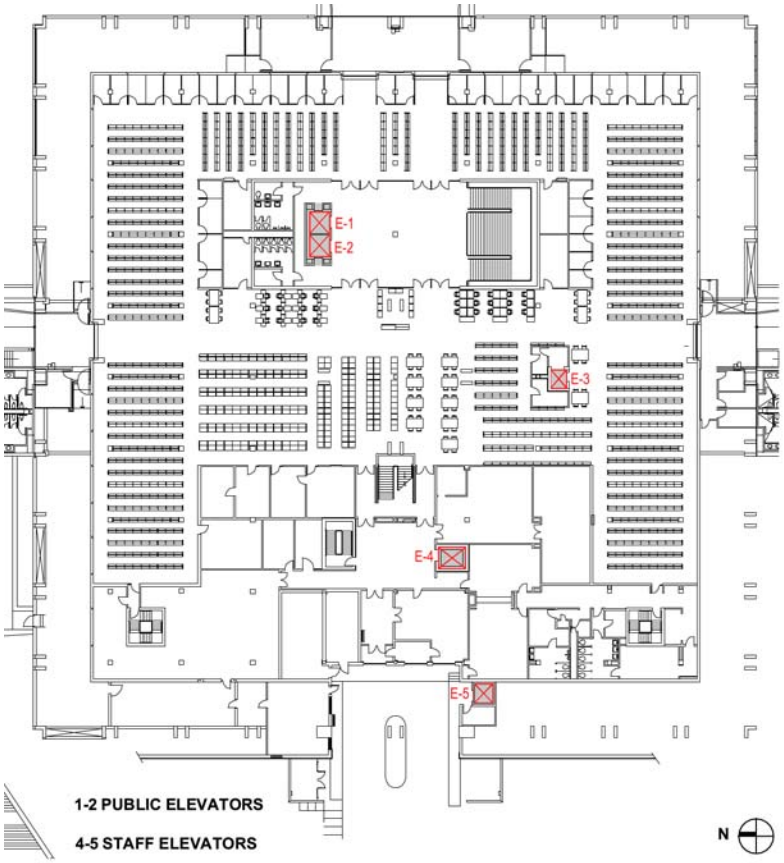
3.1.2 External Circulation

Level 3 East Entrance

Level 1 West Entrance

Marriott Library originally had two main entrances, the Level Two west entrance and the Level Three east entrance. A secondary entrance served library staff on Level One off of the Loading Dock. With the construction of the addition the west entrance in the original building was closed and two stairways were removed. A new west entrance into the 1996 Marriott Library Addition was created at the northwest corner adjacent to the campus Bookstore and this entrance joins the original Level Three entrance as the two primary means of public access. Today two secondary entrances serve library staff, the Level One entrance off of the loading dock and a secondary exit on the southwest corner of Level Two.

3.1.3 Internal Circulation



The primary means of vertical circulation for the public is contained within the Grand Lobby and Stair that runs the height of the building from Level One to Level Five and contains a marble encased stair tower and a set of elevators. A set of secondary exit towers, serving all five levels, are located near the exterior corners on the west side of the building. The southwest stair tower exits at Level Two (leads to the ground level) and the northwest stair tower exits onto the exterior deck at Level Two. Two symmetrical stair towers on the east originally served only Levels Two and Three, although the northeast tower has been removed or assumed to be used for storage; the southeast tower is currently used for storage.

Staff circulation is reserved for a set of elevators and a stair tower to the south and west of the Atrium. A small elevator serves only Levels One through Level Three and a primary staff elevator serves all levels.

The primary means of vertical circulation create one central core flanked by offices, meeting rooms and staff space on all five levels. This core will need to be maintained throughout the course of building renovation. It is recommended that the Grand Lobby and adjacent stair remain to the east.

3.1.4 Existing Floor Plan Analysis

Comparison of 1967 and 2001 Plans and Changes:

When completed and occupied in 1967, the Marriott Library contained approximately 49,280 gross exterior square feet (g.e.s.f.) on each of the first three levels and 71,290 g.e.s.f. on Level Four and Level Five, for a total building area of 290,420 g.e.s.f. The original library contained a total of 478 rooms and additional stack areas.

Today the building has grown to include space once at the exterior perimeter of Levels One and Two. This space has been used to house additional mechanical services (at the first level) and to make connections to the 1996 Marriott Library addition at both levels. The total building area at the time of the survey was approximately 302,000 g.e.s.f. expanding the original library by 11,580 g.e.s.f. Today the library has 494 rooms and additional stack areas.

The 3% increase of rooms does not convey the extent of minor changes to interior spaces over the past 35 years. Early changes indicate that small spaces were joined together to form larger blocks of space. Recent changes though have begun to significantly remove stack area, particularly on the Levels Two, Three and Four.

3.1.5 Personnel Interaction

The Marriott Library is host to a diverse staff population that encompasses approximately forty departments. In looking at the existing floor plan with specific attention to the use-distribution of these departments, patterns of both successful and unsuccessful clustering are evident.

Although the second floor location for Technical Services may not be ideal, the departmental arrangement with the inclusion of Acquisitions, Collections Development, and members of Financial Management serves as a good example of personnel interaction. Therefore it is recommended to maintain these adjacencies in a similar capacity in the proposed renovation.

However, due to library growth over the years and a process of piece meal acquisition of spaces without facility wide rearrangement has led to the fragmentation of personnel interaction amongst departments. As a result, most departments are distributed across one or many floors like Science Reference and several departments are split between floors like Library Computing, Reference, and Special Collections.

In addition, due to the fragmented placement of staff space, there are not adequate support spaces. Within the entire facility, there are no conference rooms dedicated to staff interaction. The staff currently uses classrooms, their offices, or the administration conference room for meetings. The staff support space that does exist is poorly located. For instance, the first level staff area which includes a lounge, lockers, and snack area, is under utilized because of its remote location.

In looking at the overall present staff arrangement, there is a clear need to reorganize staff along with their related support spaces. The proposed program includes staff meeting spaces and organizes the staff into clusters that can benefit from departmental adjacencies.

3.1.6 Building Security

The following recommendations with regard to security serve to point out issues that should be considered and addressed as part of the renovation of the Marriott Library. The issues related to security fall into categories of personal safety, damage to property, loss of property, and additional recommended measures to supplement the existing security presence.

Personal safety is a concern as a consequence of the building size and the difficulty in supervising all areas of the library simultaneously. Remote areas of the building and areas where the visual access is blocked by the stacks are of particular concern. The stacks on the first and second levels of the addition, and at the fourth level of the original building create pockets of space that are difficult to supervise. To increase safety for library users and staff we recommend increased security patrols, strategically positioned service points adjacent to stack areas, and the use of security cameras for remote areas.

Vandalism and misuse to the holdings, equipment, and building is a significant problem in libraries. Books, magazines, tapes, compact disks, etc. are susceptible to damage and therefore must be treated with care and used appropriately. The libraries technical equipment such as computers, scanners, printers, and copiers are also susceptible to damage and misuse. Damage to the holdings and equipment can best be mitigated through policy and supervision. Damage to the building and furniture is a consequence of a highly used facility, but vandalism does occur in hidden areas such as restrooms and secluded reading areas. The first line of defense begins with the building materials, which need to be durable. The second line of defense is through the regular maintenance of the building which keeps the quality of the environment respectable. Security cameras should be considered for areas with materials and equipment of value.

The loss of property, primarily the holdings, is the third security issue. Obviously there is an economic impact for collection replacement, but there are also irreplaceable holdings. To mitigate this problem security points should be introduced/augmented at points of public entry and exiting. Presently two primary entrances exist and are monitored with a security alarm and circulation staff, however there is no gate mechanism triggered by the alarm to prevent a person from continuing on after an alarm has sounded. Security can be enhanced at these points with either introducing a locking gate or placing a library or security personnel between the alarm system and the exit door. With regard to staff entrances, there is no security monitoring system at the loading dock and the secondary staff entrance at the southwest of the building. The library may wish to consider adding a monitoring system to the staff entrances. All entries and exits should have security cameras for safety and monitoring purposes.

A security specialist should be consulted and a security plan developed in the design process.

3.1.7 Occupancy, Codes, Regulations, and Safety

The original building was constructed from 1967-1969 under the 1964 Uniform Building Code (UBC), and the library was subsequently expanded from 1994-1996 using the 1994 UBC. During the 1996 expansion the entire library was provided with a sprinkler system upgrade, effectively providing total sprinkler coverage. Based on the construction classification of the existing building as Type I, it is the understanding of the programming team that no separation between the original 1967 facility and the 1996 addition is required. The building is viewed as one structure from the standpoint of allowable area, height, as well as the number of stories. Assuming that the building will remain fully sprinklered, the overall height of the building is in compliance with previous codes as well as the 2000 IBC. It is unknown what, if any, seismic upgrades to the existing system would be required per NFPA and local amendments.

It is significant to note that the original occupancy assumptions are not positively known at this time, but it is likely that the use of the original building was viewed as a B-2 occupancy (1964 UBC), and that the expansion was classified as a B or A-3 occupancy (1994 UBC).

Currently the building has been provided with a limited fire detection and alarm system. As a result of the presence of an Atrium and the nature of the assembly occupancy, an automatic sprinkler system is required throughout the building. In addition, currently there is no smoke control system for the existing atrium. An exhaust system will be required if the atrium is connected to any other space that could be connected by more than two floors vertically. Depending on the configuration of adjacent spaces, additional exhaust on each level may be required. In addition to the mechanical systems, the smoke control system will have to be provided with standby power (emergency generator.) The control system will have to be interfaced with the existing fire alarm panels, and a fire fighter's control panel will have to be added at an agreed upon location.

Subsequent to the 1996 expansion, two interior stairs between the 2nd and 3rd levels were removed, altering interior circulation, but not necessarily resulting in a reduction of legal exit width from the building. In addition, the primary vertical enclosures serving the tower do not discharge to the exterior of the building, creating significant exiting challenges on the east side of the Library, where the opportunity to exit is limited in part as a result of the terrain and building configuration. Similar issues exist for the Grand Stair, and so some form of mitigation will be required in order to use this stair for egress.

Asbestos containing material (ACM) has been identified within the building, including piping insulation in vertical chases, floor tiles, and mastic throughout the building. All ACM will need to be removed, abated, or encapsulated as a part of the renovation.

For additional information refer to section 7.4 for the code analysis.

3.1.8 Accessibility

A. Standards

The following Americans with Disabilities Act facility review of the Marriott Library was based on information provided in the Americans with Disabilities Act Guidelines (ADAAG). The International Building Code also contains accessibility requirements are enforceable by local building inspectors. It is our goal to ensure compliance with ADA guidelines.

B. Survey Summary

Stacks:
Card catalogues and magazine displays must have a minimum width of 36" with display space between 18" and 54" above the floor. Stacks are required to have a minimum aisle width of 36" with no minimum and no maximum height restrictions.

Restrooms:
Due to the extensive renovations expected to occur with in the original Marriott Library detailed reviews of the restrooms were not done. However, the following general deficiencies found were:

A. Incorrect signs
B. Insufficient pull of push side clearance on entrance or interior doors
C. Lavatory pipes not insulated
D. Round lavatory hardware
E. Limited accessible stalls
F. Insufficient maneuvering space
G. Grab bars deficiencies

Interior Doors/Rooms:
Doors to offices and interior rooms currently have round handles that should be replaced and doors equipped with lever hardware. Signs on doors must also include Braille. "Private" signs or signs directing individuals to a central reception will alleviate intrusive visitors.

Water Fountains:
Water fountains that are incorrectly mounted become hazards to those using canes and individuals in wheelchairs. If not mounted exactly at 27" above the floor to the bottom of the fountain, they do not provide the required knee clearance for those using wheelchairs. No original water fountains meet the 27" bottom mounting height and all exceed the spout height limit of 36" above the floor.

Telephones:
There are no signs at telephones within the grand lobby of each floor directing hearing impaired or handicapped users to accessible or text telephones (TDD). A sign must be mounted at each telephone bank consisting of two or more telephones, but in general signage is recommended at each public telephone.

Elevators:
Elevators in the private realm of the Marriott Library meet ADA's minimum requirements for elevators. The two public elevators meet all other accessibility requirements except for floor numbers on both right and left elevator jambs. Currently only one side is numbered.

C. Recommendations

Minimum upgrades include bringing stack spacing, restrooms, door pulls, drinking fountains, and telephones into compliance with the Americans with Disabilities Act Guidelines (ADAAG). A thorough check of signage systems, including at exits, elevators, public restrooms, is also necessary.

3.2 EXISTING SPACE PLANNING

3.2.1 Space Use Analysis

The Marriott Library currently supports a diverse array of departments and services that facilitate the use of its resources and assist in its overall operation, and although it has undergone different renovation stages, its different elements function as one whole. Based on information provided by the University of Utah, the plans have been diagramed in section 3.2.4 to illustrate the existing space use and the distribution of those departments within the library.

LEVEL 1

The northwest entry that is accessed from the surface parking lots serves as the main entry. From this point visitors enter into a triangular-shaped lobby with a circulation desk area and may enter the multimedia center (MMC) at the left or access Reserves, Group Study, and Government Documents. The multimedia center consists of media and technology classrooms, a computer lab, and seminar rooms. The MMC houses a multimedia collection (videos, compact disks, tapes, records) and staff workstations. Adjacent to the multimedia center library users may access a large group study room that has been furnished with table seating. In addition, a reserves collection and the Gould auditorium (featuring many lecture series) are accessible from this lobby space.

Library users may also access five other types of collections on the first level. For instance on the east and south wings of the 1996 addition, space was provided to house part of the general collection and an oversize collection. Adjacent to these collections users will find areas for reading at table, lounge, and carrel type seating.

The centrally located and original portion of the library building also contains the Government Document's collection along with a microfilm and microfiche collection. Microfilm and microfiche readers are available next to a main help desk. From the library's central stair and elevators, users may access the government document's collection and the adjacent staff and general faculty offices.

The loading area is also used as a staff entrance. The mailing and supply departments are initially encountered along with other administrative staff spaces. The staff has been provided with restroom and dressing room facilities, and a lounge with vending space. This space is not currently well utilized because of its remote location and poor atmosphere. Opposite these spaces, and as indicated by the plans there is additional space dedicated for mechanical and electrical uses that surround the perimeter of the original library building at this level.

LEVEL 2

Library users may arrive at the second level by utilizing the stair or elevators located at the central core, or from a stair connecting from the first level at the northwest entrance. The second level continues with the general collection and reader seating within the 1996 expansion. A technology assisted curriculum center (TACC) is the only non-collection use within the northern wing; it provides instructional technology-oriented services to faculty members.

Except for the fine arts collection and the fine arts classroom, the central portion of the second level primarily contains spaces for staff use. The reshelving department has a centralized location and is surrounded by a Technical Services division to the south, and the Financial Management, Preservation and Binding, and Fine Arts staff offices at the north. Technical Services has staff offices and workstation spaces on this level for Monographic Cataloging, Catalog Record Maintenance, Serials, and Acquisitions and Receiving. General Administration also has staff offices and workstation space for Collection Development and Financial Management. In addition Library

Computing has System's/Network offices and staff spaces, the main data center, MMC server room, and switching closets. The plans illustrate a vast amount of unassigned space surrounding the reshelving area.

LEVEL 3

The third level has the smallest floor plate yet is as diverse with uses as the other levels. Library visitors enter the library on this level past a small book drop and check out desk. This was the main entry prior to the 1996 addition. To the left and to the right of the entry are exhibit space and a copy center that handles large copying/printing services. At the center of the space, past the central core, users may enjoy a general seating area that is part of an atrium connecting levels three through five. A help desk for the reference collection along with its departmental offices to the south surrounds the atrium reading room. The main circulation desk area is located to the west and the enclosed Curriculum Library and the Juvenile Collection are located to its north.

The staff departments found on this floor includes Circulation, Reference, Collection Development, general Administration Staff, Interlibrary Loans, and Instruction. The majority of these staff spaces are accessible from the atrium reading room.

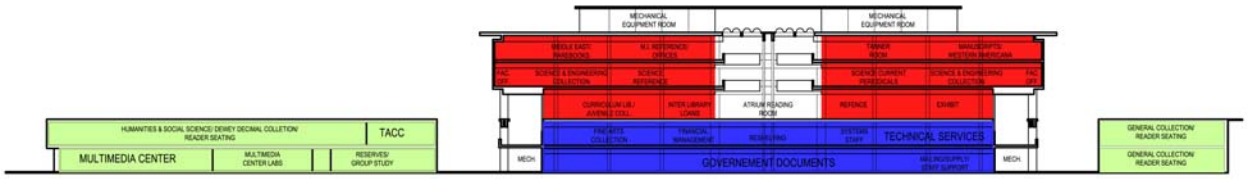
LEVEL 4

Sixty percent of the fourth level is occupied by the Science and Engineering Collection, the Science Map Collection, Science reference and current periodicals, and the general seating area. Small faculty areas typically surround the perimeter of the building within the precast-panel enclosed areas. Westward of the atrium opening are multiple staff spaces of the library computing division that includes the following departments: Micro-computing, Computing Help Desk, Integrated Library System, and Digital Technologies. The offices for Science and Engineering reference also occur west of the atrium. Both Science and Engineering along with the Reference department have two offices north and south of the library core.

LEVEL 5

The fifth level is primarily dedicated to Special Collections, which contains manuscripts, historical photographs, the working records of the university and other rare and unusual items. This level has limited public access to several of its collections. Departments include volumes for Western Americana, Middle East Library, Manuscripts, Architectural manuscripts, the Multimedia Archives, Rare Books and the rare books vault. The public has access to the Tanner Reading Room located south of the atrium opening. A book arts studio is also accessible east of the central stair and is used primarily by staff. The special collections maps area along with small classrooms and the Eccles Room are accessed west of the atrium. Offices and staff spaces typically occur intermittently at both the interior core and along the perimeter depending on the type of collection within proximity. Some Middle East, Rare Books, Manuscripts, and Western Americana collection offices are also located adjacent to the main core at each quadrant of the building.

3.2.2 Functional Relationships



The following analysis focuses on some of the current functional problems of the library and is based on information derived from the floor plan diagrams in section 3.2.4 of this report.

As suggested by the diagram above, the library building has three major identifiable zones. For instance the top three floors of the central portion of the library define a zone (illustrated in red) that is linked by the atrium space while the lower two levels (illustrated in blue) are disconnected from above. The third zone is the 1996 addition portion (illustrated in green) where weak circulation links to the central building effectively isolate it. In general this library suffers from differing circulation patterns on all levels and also does not take advantage of the possible points of connection between the original building and the 1996 addition. For example, the lower three levels of the library are organized with a myriad of departments and collection space and do not maintain clear and consistent circulation paths. Consequently this results in inconsistent layouts with regard to the library services and collection.

The library is also organized with multiple spaces of the same department that in some cases occur on different levels. Ultimately, the benefits of consolidating departments onto one level may offer new opportunities to clarify and enhance public circulation and also allow for more efficient space planning. The first level has an opportunity for such improvements because the multimedia center presently does not integrate some of the support staff of the library computing division. With some reconfiguration, the information technologies staff could provide additional support to some of the center's typical functions. The first level staff area (lounge/lockers/snack area) also adds to the problem of inefficient space use and affect the mailing and supply department's spatial organization.

The second level is perhaps the most problematic. Because of the area reserved for closed staff and departments and organization of the present adjacencies, this level's circulation is especially inconsistent and consequently creates much unassigned space. With the placement of the Reshelving department in the center of the floor level, dead end circulation paths have been created. The third level has similar issues but most prominent is the fact that the main circulation desk is not readily accessible upon entering the library. Other service desks on this level also have varying appearance and inconsistent heights. On the fourth level the Science Reference Desk in not readily visible and the staff is spread throughout the floor. The fifth level while defined primarily by special collections spaces could benefit from the reorganization of office and staff workstation space.

The library will also benefit by improving the collection layout and by increasing floor area allocated to collaborative study and work space. With regard to the collection, the reorganization of stacks in the collection areas will improve the quality of reading areas by allowing for new adjacencies to glazing and larger reading areas. At the first level (and the second level) the general collection's current layout contributes to minimizing naturally illuminated reader seating because the stack layout occasionally has table seating between the double-faced sections. And as mentioned previously, while the first level only offers two small seminar rooms at the multimedia center and an adjacent large group study room, the library should dedicate more floor area to small group study rooms to allow library users with more collaborative study space.

3.2.3 Existing Space Summary

Existing Areas	Units	Unit Area	Sub Total	Total Area	Reader Seats	DF Sections	Notes
1 PUBLIC SERVICES				**273,507**	**2,401**	**8,296**	
1.3 Reference				**13,339**	**14**	**200**	
Reader Seats (research comp.)				71			
Research Computers	14		71		14		
Group Study				2,679			
General Space	1	2679	2,679				
Help Desk				988			
Help Desk	1	141	141				
Ready Reference Supply	1	244	244				
Ref. Area	1	126	126				
Mail Support	1	95	95				
Room 313	1	120	120				
General Area	1	262	262				
Reference Collection				2,688			
Collection	200		2,688			200	
Reference offices				2,831			total area includes SF for all offices
Head Reference Librarian Office	1	399	399				
Reference Web Services Librarian	1						
Humanitites Librarian	1						
Humanitites Librarian	1						
Information Service Supervisor	1						
Education & Library Science Librarian	1						
Social Science Librarian	1						
Web Specialist	1						
Business Librarian	1						
Social Science Librarian	1						
Humanitites Librarian	1						
Staff Spaces				4,082			total area includes unknown staff SF
Full Time	1						
Part Time	1						
meeting space	1						
General Reference Area			4,082				
1.4 Multimedia Center & Labs				**21,365**	**513**		
General Seating				8,828			SF is for seating & circulation.
Carrel Seating	222				222		
Carrels with T.V.s and V.C.R.s	29				29		
Carrels with typewriters	3				3		
Table seating with video editing equip.	4				4		
Computer seating @ built-in counter	12				12		
Multimedia Collection				2,232			
Collection	1	2,232	2232				
Equip/ Lounge	1		976	976			
Labs & Classrooms				5,643			
Mac. Lab	1	1424	1424		35		
PC Lab	1	1506	1506		53		
Classrooms	4		2,713		155		
Conference Rooms	2	315	630	630			
Staff Workstations				1,807			SF includes circulation
Interim Head, Librarian	1						
MMC/Media Sr. Specialist	1						
Manager EMCB & Union Labs	1						
MMC Night Supervisor	1						
Media Sr. Specialist	1						
MMC Facilities Manager	1						
General Circulation				1,249			

Existing Areas	Units	Unit Area	Sub Total	Total Area	Reader Seats	DF Sections	Notes
1.6 General Seating				**63,112**	**1,779**		Seat count is for public areas only
First Floor (New Section)			21,723				SF is for seating & circulation.
Table Seating	144				144		
Lounge Seating	75				75		
Carrel Seating	287				287		
Second Floor (New Section)			24,824				SF includes circulation
Table Seating	88				88		
Lounge Seating	39				39		
Carrel Seating	661				661		
(stand-at) study carrels w/ computers	8				8		
built-in counter seaing	30				30		
Third Floor (Atrium Space)			2,735				SF is for Atrium Space only
Table Seating	28				28		
Carrel Seating	27				27		36 Carrels in storage (outside balc.)
Carrel Seating w/ Computer	13				13		
Lounge Seating	26				26		
Computer table Seating	12				12		
(stand-at) tables w/ computers	8				8		
Fourth Floor (Science & Eng.Total)			8,585				
Table Seating	116				116		
Carrel Seating	109				109		
Carrel Seating w/ Computer	15				15		
Lounge Seating	12				12		
Faculty Offices							
4th Floor Offices	55	61.6	3,388		55		
1st Floor Offices	19	76	1,444		19		
1st Floor Offices	4	57	228		4		
1st Floor Offices	3	61.6	185		3		
1.7 General Collection				**99,169**		**6,779**	
Humanities & Social Science A-HF	1696	15	25,265			1696	
Humanities & Social Science HG-PZ	2431	15	36,615			2431	
Oversize	116	8	947			116	116 Single Faced Sections
Dewey Decimal	405	17	6,864			405	
Current Periodicals	84	17	1,452			84	
Science Current Periodicals	68	16	1,113			68	
Science & Engineering Q-Z	1979	14	26,913			1979	
1.8 Science & Engineering Reference				**8,035**		**70**	
Help Desk				611			
General Area	2	151	302				
Locked Case	1	118	118				
Work Room	1	191	191				
Collection				5,379			
Science Map Collection	58		4,024				58 Single Faced Sections
Maps Reshelve/Sorting			185				
Science Reference	70		837			70	
Chem. Abstracts	30		333				
Offices				1,501			
Library Specialist (2 people)	2	144	288				
Life Sciences Reference Librarian	1	207	207				
Science Librarian	1	297	297				
Science Office	1	186	186				
Science Office	1	152	152				
Science & Engineering Dept. (Perimeter)	2	61.6	123				
Science Office	1	89	89				
Science Reference	1	81	81				
Storage	1	78	78				
Staff Spaces				544			
Meeting Room	1	252	252				
Classroom	1	292	292				

Existing Areas	Units	Unit Area	Sub Total	Total Area	Reader Seats	DF Sections	Notes
1.9 Government Documents/Mircroforms				**29,196**	**67**	**935**	
Help Desk							
Collection				16,882			
Print Collection	935		14,076			935	
Microfilm	76		1,671				76 Single Faced Sections
Microfiche	76		1,135				76 Single Faced Sections
General Seating				9,630			SF includes circulation
Computer Stations	15				15		
Microfilm Readers	12				12		
Table Seating	40				40		
Offices				1,908			total area includes SF for all offices
Head Librarian	1						
Senior Library Specialist	1						
Govt. Information Librarian	1						
Librarian	1						
Acquisitions Librarian	1						
Library Specialist	1						
Patent & Trademark Librarian	1						
Senior Library Specialist	1						
Access Librarian	1						
Staff Spaces				776			
Workroom	1	348	348				
Meeting/Work/Storage Room	1	428	428				
1.10 Fine Arts				**7,729**	**28**	**130**	
Help Desk							
Collection				6,019			
Reference	45		3,415			45	
Closed Stacks	85		2,604			85	
General Seating				949			
Lounge Seating	18				18		
Computer Seating	10				10		
Fine Arts Classroom	1	949	949				
Offices				761			
Small Offices	2	98	196				
Med Sized Offices	2	144.5	289				
Large Sized Office	1	276	276				
1.11 Circulation				**2,512**			
Help Desk				567			
1st Floor Circ. Desk	1	471	471				
Check-in	1	96	96				
Offices				384			
Head of Circulation (Manager)	1	247	247				
Office	1	137	137				
Staff Workstations				1,561			Total area includes SF for all workstations
Night Services Coordinator	1						
Holds/Recall Technician	1						
Library Specialist	1						
Circulation Supervisor	1						
Saturday Lead Person	1						
Billing Clerk	1						
Staff Spaces							

1.12 Interlibrary Loans				**1,453**			
Help Desk							
Offices							
Interlibrary Loans Head	1						
Staff Workstations				1,181			
Borrowing & Tech. Coordinator	1						
Shipping & Receiving Coordinator	1						
UTAD Coordinator	1						
Staff Work Stations	4		1,181				Includes Circulation
Staff Spaces				272			
ILL Workroom	1	272	272				
1.13 Reserves				**2,391**		**45**	
Reserves Stacks and General Space	45	1617	1,617			45	
Reserves Computers	5	6	30				
Staff Work Stations	3		542				
Processing Clerk	1						
Processing Specialist	1						
library Specialist	1						
General Reserve Head Office	1	178	178				
Cashier Space	1	24	24				
1.14 Curriculum Library & Juvenile Collection				**5,098**		**137**	
Help Desk							
Seating				2,316			
Curriculum	1	957	957				Includes general circulation
Juvenile	1	1359	1,359				lincludes general circulation
Collection				2,307			
Curriculum Collection	40		824			40	
Juvenile Collection	97		1,483			97	
Offices				163			
Curriculum Head Librarian	1	163	163				
Staff Spaces				312			
Work Room (2 full time)	2	156	312				
1.15 Instruction				**2,568**			
General Spaces				1,618			
Instruction Classroom			1,022				
Classroom Seating	29						
Instructor Seat	1						
Inst. Lib. (1st Floor)	1	210	210				
Inst. Lib. (1st Floor)	1	386	386				
Offices				950			
Head Inst. Office	1	205	205				
Instruct. Office	1	272	272				
Instruct. Office	1	171	171				
Instruct. Office	1	302	302				
Work Stations	4			see above			
1.16 TACC				**3,132**			Total area includes SF for all workstations
Staff Workstations				3,132			Includes general circulation
T.A.C.C. Head	1						
Computer Technician	1						
Computer Professional	1						
Administrative Assistant	1						
Coordinator/Programer	1						
Research & Development Analyst	1						
Tech. Assisted Course Librarian	1						
1.17 Gould Auditorium				**3,985**			
Auditorium	1	3498					
Kitchen							
Storage							
1.18 Exhibit (3rd floor)	1	7265		**7,265**			
1.19 Copy Center				**3,158**			
Copy Center Office	1	575	575				
General Area	1	2355	2,355				
Copy Center Storage	3	76	228				

Existing Areas	Units	Unit Area	Sub Total	Total Area	Reader Seats	DF Sections	Notes
2 SPECIAL COLLECTIONS				**46,280**	**81**	**1875**	
2.1 Public Spaces				**3,767**			
Tanner Room	1	2120	2,120				
Large Classroom	1	639	639				
Small Classroom	1	180	180				
Eccles	1	828	828				
2.2 Middle East (open collection)				**8,908**	**81**	**575**	
Help Desk							
Reader Seats							
Table Seating	60				60		
Carrel Seating	15				15		
Carrel Seating w/ Computer	3				3		
Lounge Seating	3				3		
Collection				8,355			
Open Collection	543		7,941			543	
Reference Collection	32		414			32	
Offices				553			
Head Librarian Office	1	215	215				
Library Specialist Office	1	169	169				
Assistant Librarian Office	1	169	169				
2.3 Manuscripts				**4,998**		**196**	
Architectural Manuscripts	27		885			27	27 Single Faced Sections
Manuscripts Collection	169		3,367			169	169 Single Faced Sections
Curator Office	1	272	272				
Archivist Office	1	140	140				
Manu. Office	1	184	184				
Staff Workstations/Office	3	50	150				
2.4 Multimedia Archives				**2,424**		**140**	
Collection				2,223			
Film Tape	35		611			35	all SFS
Unproccessed	35		525			35	all SFS
Exhibit Mat.	18		281			18	all SFS
Processed	52		806			52	all SFS
Offices				201			
Head Multimedia Archives Office	1	201	201				
A/V/ Associate Archivist	1						
Senior Library Specialist	1						
Archivist	1						
2.5 Rare Books				**8,883**		**382**	
Collection				5,665			
Middle East Rare	42		911			42	(14 SFS)
Rare Books	177		2,452			177	(8 SFS)
Oversize	118		1,363			118	all SFS
Rare Vault	45		939			45	all SFS
Book Arts Studio				2,832			
Book Arts Office	1	201	201				
Book Arts Studio Manager	1	128	128				
Book Arts Studio	1	2503	2,503				
Offices				386			
Head Curator, Rare Books Office	1	242	242				
Rare Books Associate Curator	1	144	144				

Existing Areas	Units	Unit Area	Sub Total	Total Area	Reader Seats	DF Sections	Notes
2.6 Western Americana				**10,546**		**582**	
Collection				10,277			
Western Americana Collection	238		4,386			238	
Western Americana Serials	59		987			59	
Western Americana Maps	6		1,007				6 Single Faced Sections
Clipping & Vertical Files	48		987			48	
Western Gov. Docs.	36		292			36	
Gift	36		469			36	
University Printed Archives	165		2,149			165	
Offices				269			
Gift's Head Specialist Office	1						
W.A. Head librarian	1	269	269				
W.A. Monographs, Senior Specialist	1						
W.A. Archives, Senior Specialist	1						
W.A. Maps, Specialist	1						
Newspaper Clippings, Senior Specialist	1						
2.7 Preservation/Binding				**6,142**			Total area includes SF for all workstations
Work Areas				5,995			
Preservation Room	1	3801	3,801				
Binding Room	1	1693	1,693				
Treatment Rooms	2	198	396				
Graphic Arts Room	1	105	105				
Offices				147			
Head Pres. Binding office	1	147	147				
Associate Conservator	1						
Workstations							
Commercial Binding Assistant	1						
library Specialist	1						
Supervisor	1						
Receptionist/Binding Technician	1						
2.8 Archives & Records Management							Located in Bldg. 213
Staff Workstations							
Head Office	1						
Historical Archivist	1						
Records Center Specialist	1						
Assistant Head	1						
Records Center Technician	1						
Archives Processor Specialist	1						
2.9 Administrative Offices				**612**			
Program Manager	1	307	307				
Reference Librarian	1	305	305				

Existing Areas	Units	Unit Area	Sub Total	Total Area	Reader Seats	DF Sections	Notes
3 LIBRARY COMPUTING				**15,107**			
3.1 Computing Help Desk				**2,065**			Total area includes SF for all workstations
Help Desk							
Offices				306			
Head Help Desk Office	1		306				
Staff Workstations							
Computer Professional	1						
Help Desk Supervisor	1						
Help Desk Specialist	1						
Computer Professional	1						
Staff Spaces				1,759			
General Area			1,529				
Storage	1	230	230				
3.2 Microcomputing				**2,747**			
Offices				280			
Microcomputing Head Office	1	280	280				
Staff Workstations				1,430			
Microcomputing Offices	3	62	186				
Microcomputing Cubicles (1st Level)	4		679				
Computer Technician	1						
Microcomputing Specialist	1						
Computer Labs, Mac Systems	1						
Microcomputing Specialist	1						
Microcomputing Development Specialist	1						
MacIntosh Systems Specialist	1						
Computer Labs, PC Systems	1						
Computer Technician	1						
Microcomputing Specialist	1						
Computer Technician	1						
Staff & Public Systems, Manager	1						
Microcomputing Specialist	1						
Web Design	1	565	565				
Staff Spaces				1,037			
Microcomputing General Area	1	825	825				
Computer Parts	1	90	90				
Streaming A/V	1	122	122				
3.3 Digital Technologies				**1,982**			Total area includes SF for all workstations
Offices				494			
Digital Tech. Head Office	1	185	185				
Digital Tech. Office	1	309	309				
Staff Workstations							
Senior Programer/Analyst	1						
Computer Professional	1						
Digital Projects Librarian	1						
Computer Programmer	1						
Computer Professional	1						
Staff Spaces				1,488			
Digital Tech. General Area	1	676	676				
Digitization Center	1	466	466				
Storage	1	161	161				
Horizon Cat. Sys.	1	185	185				
3.4 Integrated Library System				**824**			Total area includes SF for all workstations
Staff Workstations				824			
Head Integrated Library System	1						
Computer Professional	1						

Existing Areas	Units	Unit Area	Sub Total	Total Area	Reader Seats	DF Sections	Notes
3.5 Systems/Network				**3,399**			
Data Center				**1,272**			
Computer Room	1	1272	1,272				
Distribution				**637**			
MCC Server Room	1	637	637				
Switching Closets							
Offices				**271**			
Head Sys. Office	1	137	137				
Systems Office	1	134	134				
Staff Spaces				**1,219**			
General Systems Area	1	839	839				
Meeting Room	1	380	380				
3.6 Computer Shop	1	1027	1,027	**1,027**			
3.7 Common Areas				**3,063**			
Staff Area	1	1766	1,766				
Café/Vending	1	122	122				
Computer Storage	1	185	185				
Office	1	325	325				
Staff Offices (1st Floor)	1	665	665				

Existing Areas	Units	Unit Area	Sub Total	Total Area	Reader Seats	DF Sections	Notes
4 TECHNICAL SERVICES				**11,113**			
4.1 Catalog Records Maintenance				**4,824**			Total area includes SF for all Off. & work sta.
Offices							
Catalog Records Maintenance Head	1						
Staff Workstations							
Senior Library Specialist	1						
Catalog Specialist	1						
Library Specialist	1						
Catalog Record Specialist	1						
Library Specialist	1						
Catalog Specialist	1						
Cat. Record/Subject Author Specialist	1						
Storage Support Technician	1						
Senior Library Specialist	1						
Catalog Specialist	1						
Library Specialist	1						
Storage Coordinator	1						
1 Full Time Staff	1						
General Area	1	4683	4,683				
Catalog (4th floor)			141				
4.2 Monographic Cataloging				**2,936**			Total area includes SF for all workstations
Offices				346			
Mono. Cataloging Head Office	1	210	210				
Orig. Cataloging Head Office	1	136	136				
Staff Work Stations							
Cataloging Sr. Specialist	1						
Special Formats Copy Cataloger	1						
Music Cataloger Librarian	1						
Science Cataloger Librarian	1						
Humanities/Fine Arts Cataloger Librarian	1						
Electronic Formats Cataloger	1						
Staff Spaces				2,590			
General Area	1	2518	2,518				
Rare Books Closet	1	72	72				
4.3 Serials				**3,051**			Total area includes SF for all workstations
Offices				465			
Head of Serials Office	1	153	153				
Serials Check-In Dept.	1	312	312				
Staff Work Stations							
Serials Check-In	1						
Library Specialist	1						
Serials Record Management	2						
Serials Binding	1						
Serials Records Maintenance	1						
Serials Cataloger Librarian	1						
Staff Spaces				2,586			
Serials General Area	1	2,561	2,561				
Support Closet	1	25	25				
4.4 Common Areas			0	**0**			
4.5 Maps Office (4th floor)	1	302	302	**302**			

Existing Areas	Units	Unit Area	Sub Total	Total Area	Reader Seats	DF Sections	Notes
5 GENERAL ADMINISTRATION				**8,855**			
5.1 Administration				**1,521**			
Director	1	418	418				
Administrative Assistant	2	175	350				
Executive Secretary	1	375	375				
Admin. Recept.	1	378	378				
5.2 Assistant Directors				**878**			
Public Services	1	292	292				
Library Computing, Tech. Services	1	309	309				
Special Collections	1	277	277				
5.3 Collection Development				**2,001**			Total area includes SF for all workstations
Offices				765			
Head Collection's Development	1	162	162				
Collection's Manager Librarian	1	167	167				
Collection Development Office	1	229	229				
Collection Development Office (4th flr.)	1	207	207				
Staff Workstations & Staff Space				1,236			
Electronic Resources Librarian	1						
Coordinator of Library Selectors	1						
Sr. Library Specialist	1						
Collections Specialist	1						
5.4 Development				**194**			
Director Office	1	194	194				
5.5 Financial Management				**1,050**			
Offices				673			
Head Financial Management	1	213	213				
Associate Accountant Office	1	121	121				
Admin. Assist. Office	1	113	113				
Building Operator	1	113	113				
Office	1	113	113				
Support				377			
Safe	1	74	74				
Meeting Space	1	303	303				
5.6 Acquisitions				**1,742**			Total area includes SF for all workstations
Acquisitions/Receiving Staff Work Stations				1,742			
CSO Coordinator Sr. Specialist	1						
Library Specialist	4						
Senior Library Specialist	1						
Acquisitions Rec/Acctg Sr. Spec.	1						
Sr. Library Specialist	1						
File/Copy							
Storage							
5.7 Human Resources				**725**			
Offices				725			
Head Human Resources	1	207	207				
Human Resources Specialist	1	147	147				
Protection Services	1	371	371				
Staff Workstations							
Project Coordinator	1						
Protection Services	1						

EXISTING FACILITY BUILDING ANALYSIS

Existing Areas	Units	Unit Area	Sub Total	Total Area	Reader Seats	DF Sections	Notes
5.8 Common Areas				**537**			
Conference Room	1	537	537				
5.9 Duplication/Cashier							
Staff Workstations							
Supervisor	1						
Duplication Specialist	1						
Cashier	1						
5.10 Staff offices	3	69		**207**			Total area includes SF for all offices
Facilities Coordinator	1						
Building Operator	1						
Computer Technician	1						
6 SUPPORT				**11,419**			
6.1 Mailing				**768**			
Staff Workstations				640			Includes Circulation
Coordinator	1						
Mail Handler	1						
Storage	1	128		128			
6.2 Supply				**2,716**			
Temp. Off-loading	1	778	778				
Buyer II	1						
Supply Assistant	1						
Office	1	138	138				
Purchasing	1	914	914				
Back Area	1	886	886				
6.3 Building Management				**917**			
Carpenter Workshop			526				
Facilities Storage			240				
Bldg. Superintendent Office			151				
6.4 Reshelving				**3,199**			
Offices				310			
Head Stacks Office	1	183	183				
Office	1	127	127				
Staff Spaces				339			
Storage	1	170	170				
Kitchen	1	169	169				
General Space				2,550			
General Space	1	2550	2,550				
6.5 Staff Areas				**3,293**			
Lounge	1	698	698				
Vending	1	495	495				
Lockers	1	70	70				
Staff Dressing Room (M)	1	191	191				
Staff Dressing Room (W)	1	395	395				
Toilets/General Area	1	1444	1444				
6.6 Custodial				**526**			
Offices							
Custodian Work Room			526				
Storage							

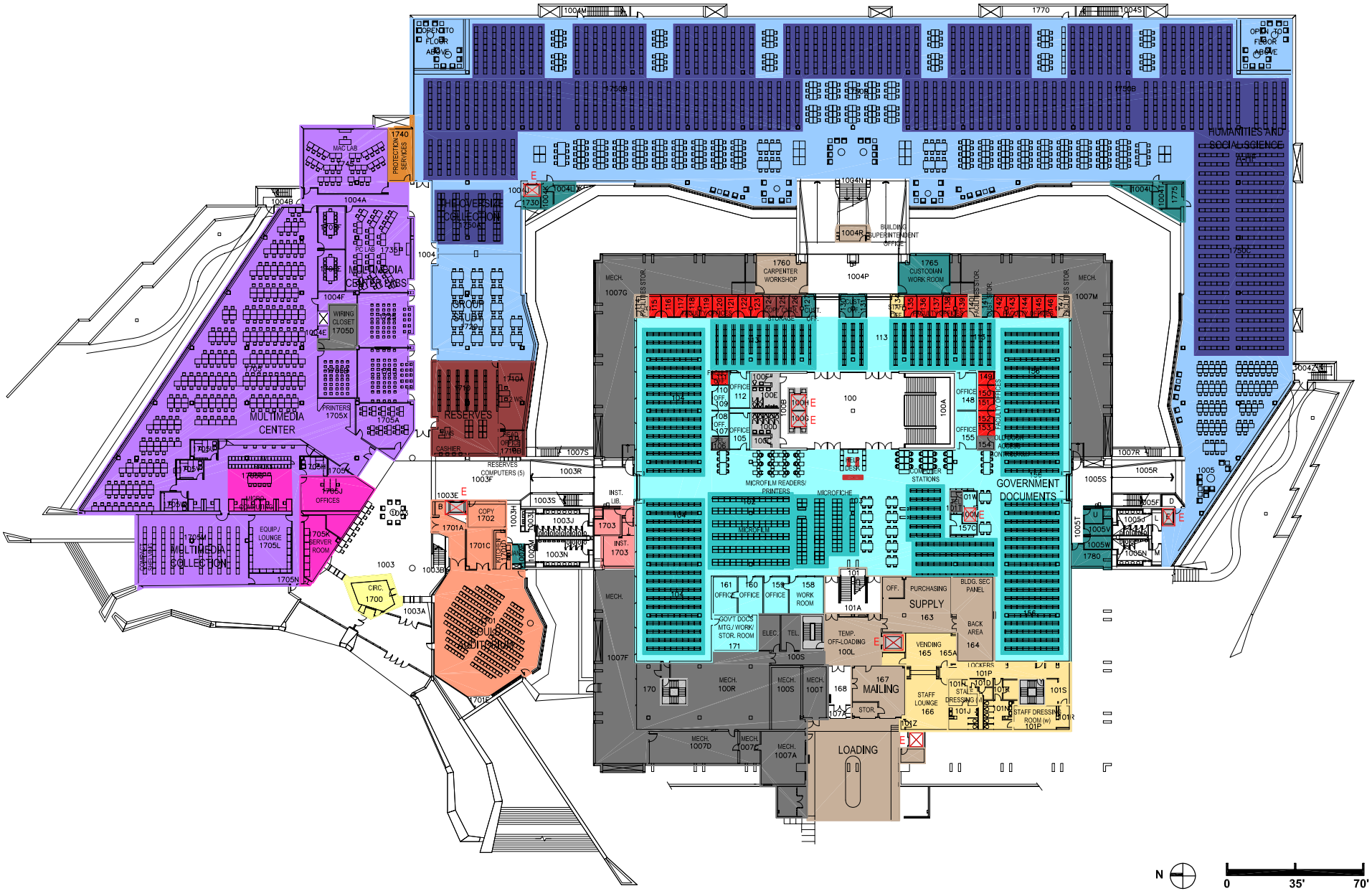
EXISTING PROGRAM SUMMARY

	Total Area		Reader Seats	DF Sections
	Exist		Exist	Exist
1 PUBLIC SERVICES	273,507		2,401	8,296
2 SPECIAL COLLECTIONS	46,280		81	1875
3 LIBRARY COMPUTING	15,107			
4 TECHNICAL SERVICES	11,113			
5 ADMINISTRATION	8,855			
6 SUPPORT	11,419			
TOTAL ASSIGNABLE	366,281	*	2,482	10,171
EFFICIENCY FACTOR	1.35			
TOTAL GROSS AREA	495,358			

* Total existing assignable area includes intradepartment circulation
Refer to the Proposed program summary in section 4.2 for the staff quantity.

Column Heading Key:
DF Sections = Double Faced Sections

3.2.4 Existing Plans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MULTIMEDIA COLLECTION
RESERVES
GROUP STUDY
OVERSIZE COLLECTION
HUMANITIES AND SOCIAL SCIENCE
GOVERNMENT DOCUMENTS
SUPPLY
MAILING
LOADING
CIRC.
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COPY
1702
INST. LIB.
1703
1760 CARPENTER WORKSHOP
1765 CUSTODIAN WORK ROOM
1740 PROTECTION SERVICES
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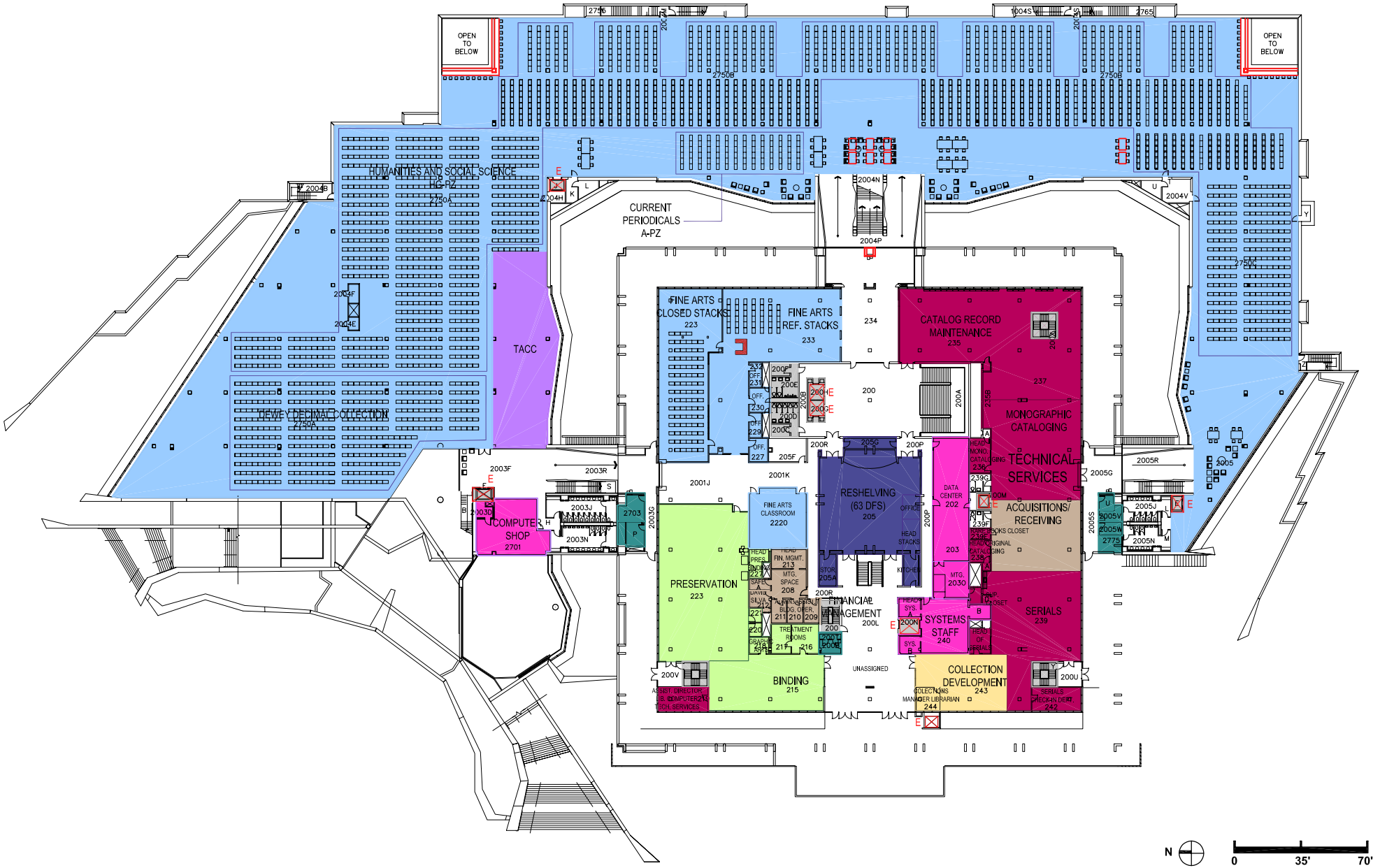
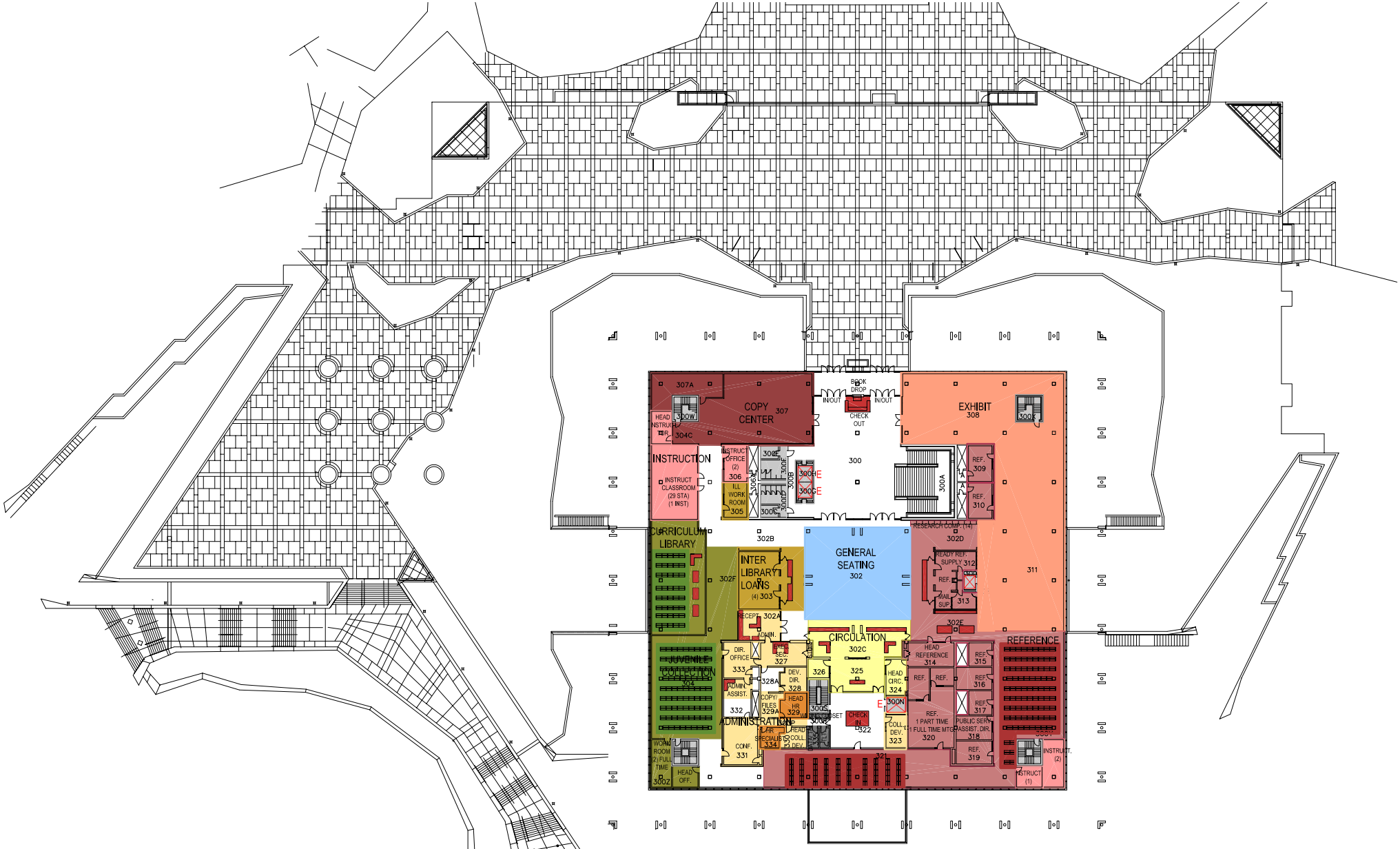


MARRIOTT LIBRARY RENOVATION
SALT LAKE CITY, UTAH

HHPA / COOPER ROBERTS SIMONSEN ARCHITECTS

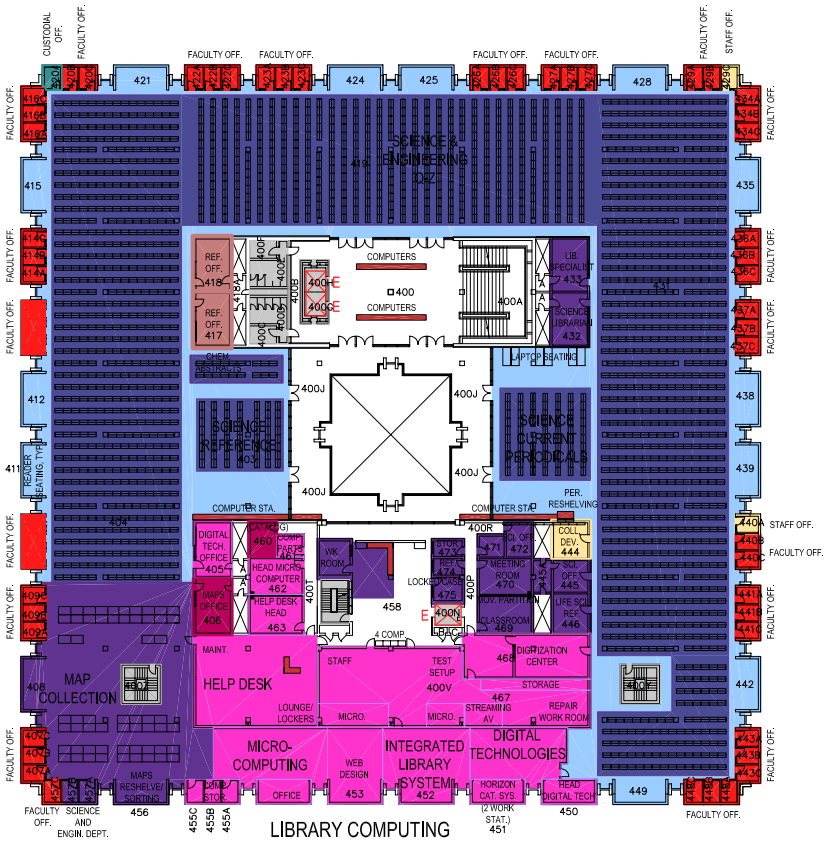
LEVEL 2
EXISTING CONDITIONS ANALYSIS
JUNE, 2002

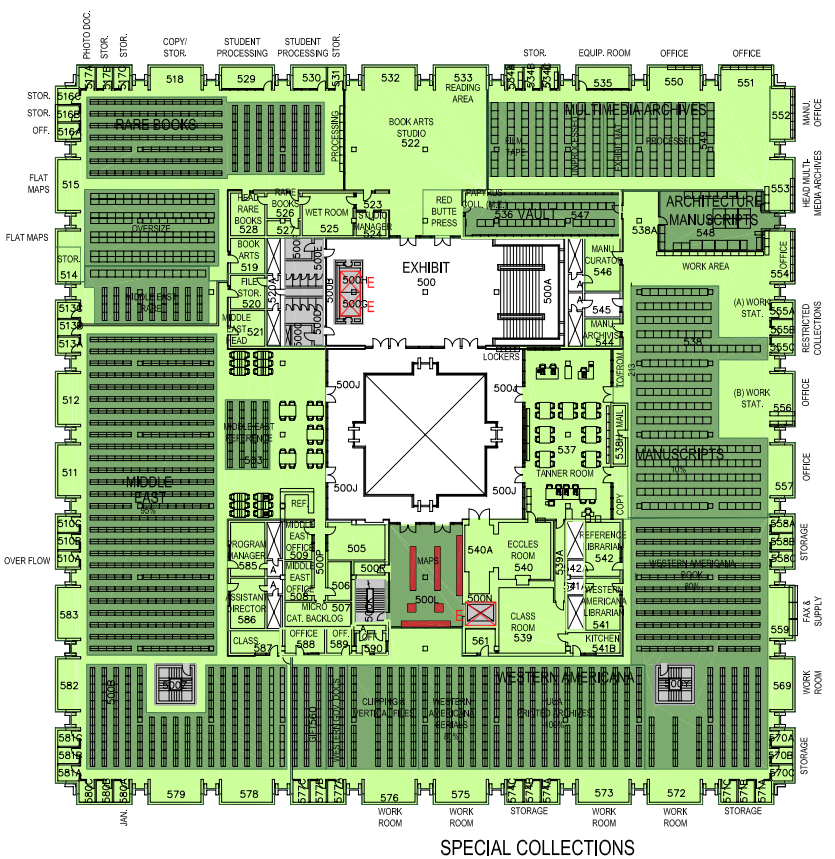


MARRIOTT LIBRARY RENOVATION
SALT LAKE CITY, UTAH

HHPA / COOPER ROBERTS SIMONSEN ARCHITECTS

LEVEL 3
EXISTING CONDITIONS ANALYSIS
JUNE, 2002





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MARRIOTT LIBRARY RENOVATION
SALT LAKE CITY, UTAH

HHPA / COOPER ROBERTS SIMONSEN ARCHITECTS

LEVEL 4 & 5
EXISTING CONDITIONS ANALYSIS
JUNE, 2002

3.3 SURVEY OF EXISTING CONDITIONS

3.3.1 Summary of Exterior Elements

A building survey was initially completed to detail the amounts, types and conditions of materials at the Marriott Library. The survey consisted of a series of visits to document and investigate current conditions, discussions with building maintenance staff and review of past building reports. Photos have been included to show the general condition of materials and are detailed in Section 3.4.1.

In general the Marriott Library has weathered its thirty-three year history well. The building is primarily a concrete structure and includes concrete "poured-in-place" foundations, structural steel columns and cast-in-place waffle floor plates with a precast exterior panel system and exterior glass curtain wall on the third floor. The exterior building systems show some signs of wear, although damage is minor and occur outside the realm of public circulation.

Exterior concrete on the Marriott Library is generally not showing signs of wear. However, there are several conditions which require attention and even destructive exploration to determine extent of damage and an approach to restoration and seismic stabilization. The primary area for immediate investigation is the method of attachment for the precast exterior panel system which face Levels Four and Five. Until the panel connections are identified and seismic stabilization addressed these panels should be considered a life safety hazard. Precast exterior panels on the roof have been replaced and panels on the west elevation have been further secured.

The second area of immediate investigation is at the roof deck covering the loading dock. This area has experienced a great deal of water penetration and surface rust is visible on the underside of the slab. The deck has been coated to prevent further water penetration.

The exterior use of stone is limited to railing caps on Levels Two and Three. The stone has weathered poorly and in many locations the resultant deterioration is allowing water to penetrate the precast concrete railings and panels on which it sits. It is recommended that the stone be replaced with an impervious material.

Extensive sealant failure at the Marriott Library should be addressed with a thorough inspection and repair. While sealant failure has not yet led to visible water penetration due to the protected condition of most vertical surfaces some more vulnerable locations, at the exterior of Level One, Four and Five, are at greater risk of immediate damage.

The last condition of repair that should be addressed is the condition of windows and spandrel glass panels on Levels Two and Three. Current failure of glazing beads at both locations is causing windowpane and panel slippage within their frames. While this condition does not put building occupants at danger, further damage may result which will have an effect on the building's mechanical system. Further inspection and repair is recommended.

3.3.2 Summary of Interior Elements

A building survey was completed to detail the amounts, types and conditions of materials. This consisted of a series of visits to document and investigate current conditions. Specific material condition is specifically documented in Section 3.4.2.

Visits determined the need for a preservation zone in the Marriott Library to highlight the conditions of materials and the importance of certain areas and finishes within the library that should be considered for retention beyond the next building renovation. The Grand Lobby and Stairs and the adjacent Atrium are considered as the highest on the preservation scale. The quality and condition of the materials in these spaces, mostly marble, terrazzo, and veneered wood panels is worth retaining and/or reusing.

The secondary level of preservation zoning includes all of the veneered wood panels that line public spaces on all five levels and a portion of Level Three administration. While these spaces are most likely to change, it is suggested that veneered wood panels be removed, refinished and reused.

The finishes in most rooms have not changed since the building was dedicated. While a few selected rooms and spaces have been remodeled, changes typically include the addition or removal of secondary walls, upgrading of finishes (typically the addition of carpet, cabinetry, and wall finishes) and replacement to the original drop ceiling system. These rooms are not considered contributory to the level of building quality and are expected to be significantly altered during renovation.

The original lay-in acoustic ceiling remains throughout a majority of public spaces in the building. This ceiling is in good condition, but is a non-standard design module of 4'4" grid rather than the typical 4'. This ceiling does not meet current standards of seismic stabilization. With the expectation that significant mechanical renovations will occur on all five levels it is recommended that this ceiling be replaced. In private areas and offices the typical ceiling is suspended plaster or gypsum board, typically covered with glued on 1' acoustic tiles. With the renovations expected in these areas, along with the mechanical upgrades, the existing ceiling is expected to be replaced with a system compatible with that to be installed in the public areas.

3.3.3 Preservation Rankings

This preservation ranking system is intended to reflect the differing importance of various interior areas within the Marriott Library. While a majority of interior spaces of the Marriott Library were designed primarily to be functional and durable there is one area within the building and one extensive use of materials that recommend themselves for restoration and preservation. In addition there are areas which should be considered at high risk of water damage due to systems failure. The following zones are defined as followed:

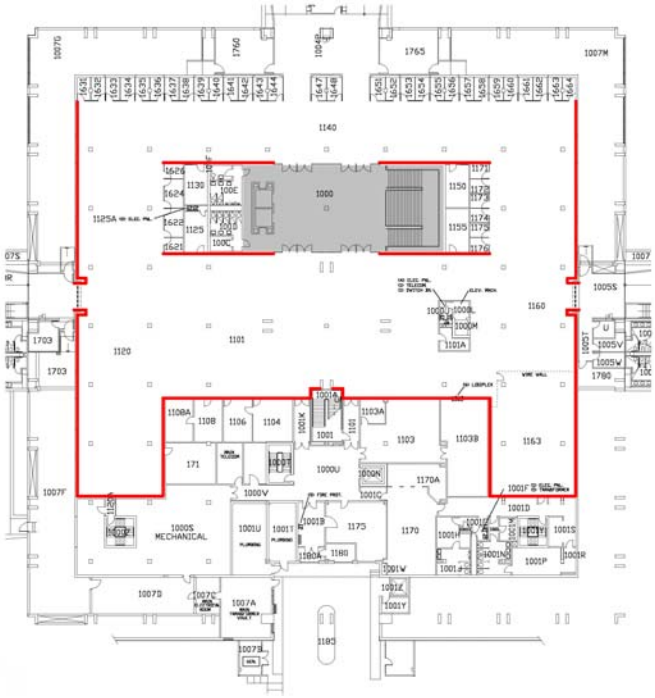
Preservation Zone I: (illustrated in gray)
public or ceremonial areas exhibiting the highest degree of detail and material quality

The character and quality of this zone has been generally maintained and requires continued preservation and cleaning. Some renovations to these areas have altered the original appearance, and/or quality materials removed and not replaced. Where deviations have taken place, it is a high priority that the original conditions be restored and maintained. This zone includes the Grand Lobby and Stair, the Atrium, the Eccles Room and the Katherine W. Dumke Fine Arts and Architecture Library.

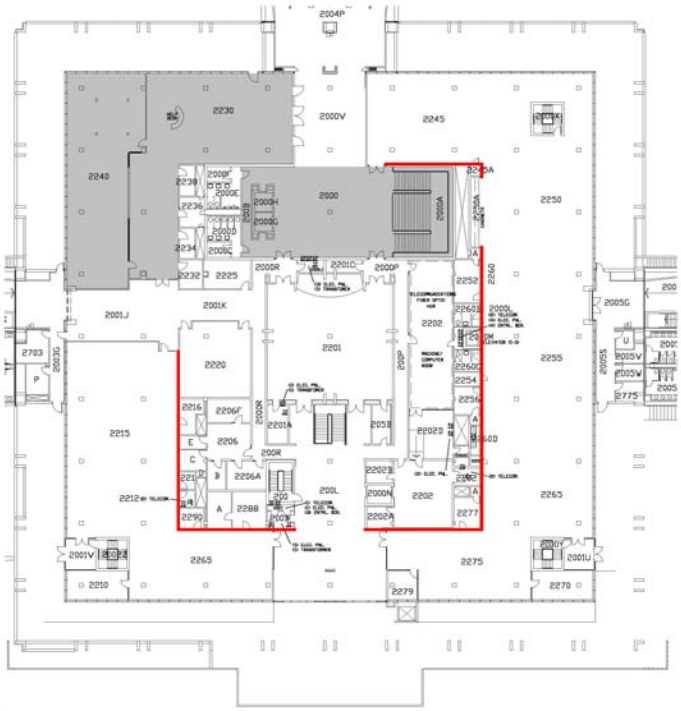
Preservation Zone II: (illustrated in red for 'wood' and blue for 'marble')
areas that contain materials considered desirable for restoration and reuse
The quality of existing materials in these areas currently adds significantly to the overall character of the building. The condition of these materials varies, but most could be refinished and reused. This zone includes the wood panels used extensively throughout the public areas of the building and within administration area.

Impact Zone:
areas currently at risk of water damage due to aging materials and/or improper penetrations

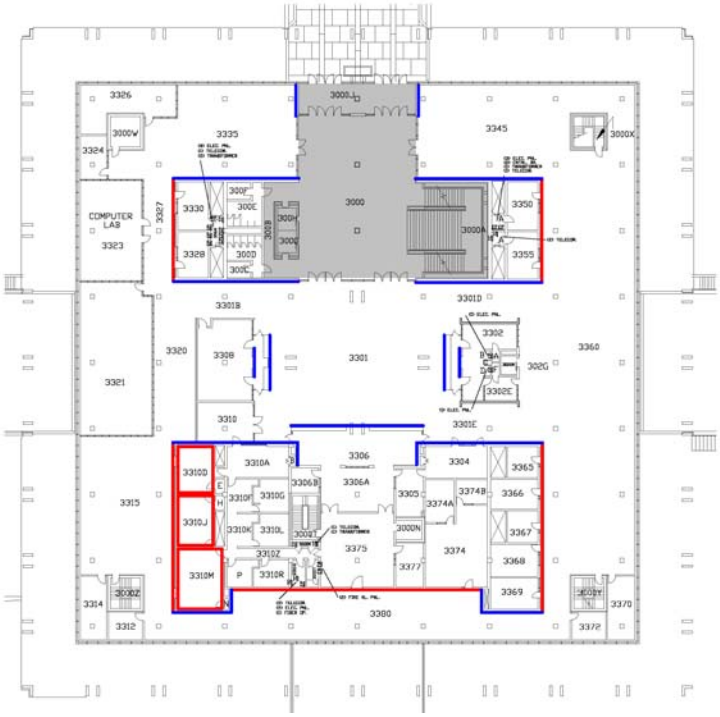
This area is currently limited to areas that have been noted by building operations and maintenance staff as highly prone to reoccurring or impending problems. The condition of failing materials and equipment were not always readily visible, but the severity of problems or risk associated with potential problems is worth noting. This zone includes the areas of roof penetrations, roof drains and traps on Level Five and a penetration through the Level One south wall in the gated area of Government Documents made during the Marriott Library addition for a sprinkler power and control supply.



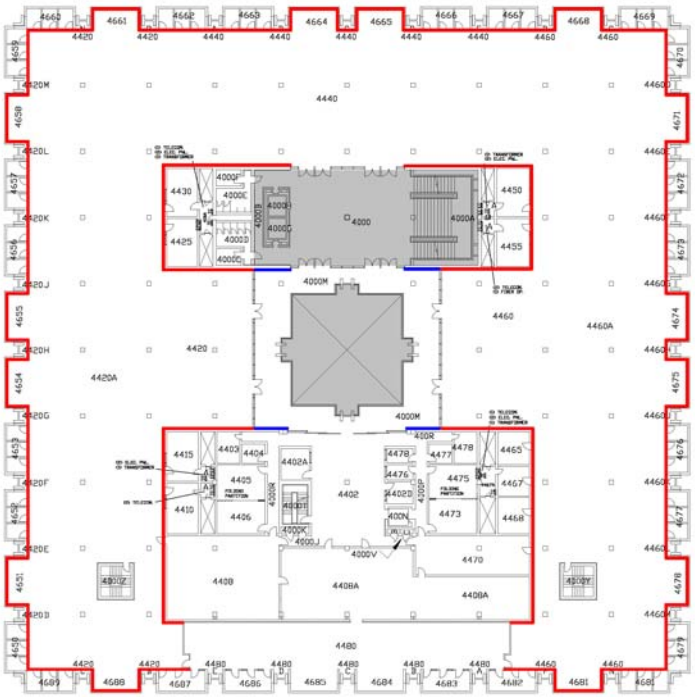
Level One



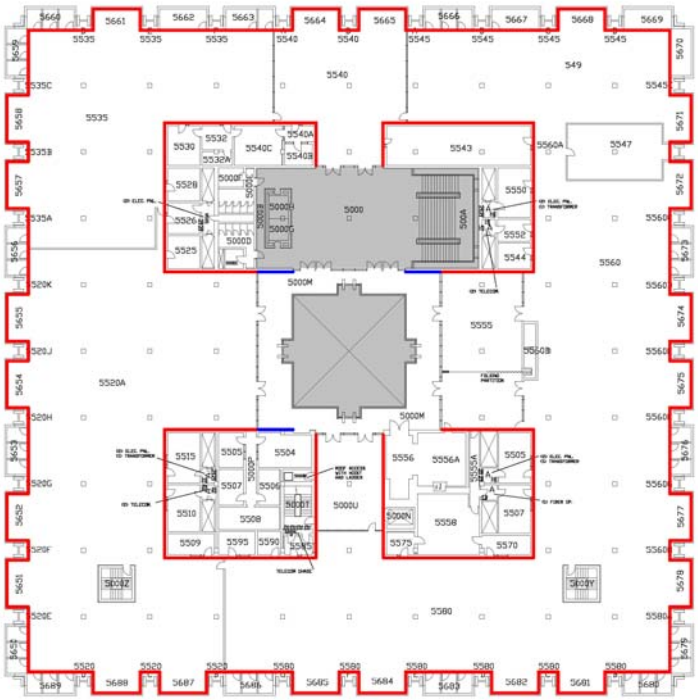
Level Two



Level Three



Level Four



Level Five

3.3.4 Elevators

A. Survey Summary

Five elevators, three of which serve all five levels and two with limited service, currently serve the Marriott Library. All elevators are original to the 1967 building. The elevator equipment is in acceptable condition considering its age and the quality of maintenance being performed. A life span of 40 to 50 years is considered acceptable for this type of elevator, which will limit their continued good function for another 10 to 15 years.

B. Equipment Evaluation

1. Life Cycle Analysis

An initial life cycle analysis of the existing apparatus would suggest the present control system components have not exceeded their net useful life. A complete life cycle analysis and thorough safety evaluation is recommended if the existing elevator equipment is expected to be retained. This will allow for a complete evaluation of the machine rooms, hoist way and pit, car equipment, and operating signal equipment by a qualified professional.

2. Current Equipment Status

Of the five elevators in the Marriott Library two are within the public realm and are located adjacent to each other within the main grand lobby and stairway and serve all five floors. A five level staff elevator is located on the west side of the atrium. A staff elevator serving the first three floors is located on the south side of the building. A service elevator located on the loading dock serves outside levels one and two and is currently little used and could be removed.

3. Codes & Standards

Presently all existing elevators do not meet the latest code in the three areas listed below. Although "grand-fathered," these deficiencies should be corrected due to the associated safety liability issues. All of the elevators have been upgraded to meet minimal requirements regarding communications.

- **Firefighter and medical personnel use**

Currently only one public elevator is connected to the building's emergency power system. Further upgrades will require hoist way lighting and smoke detectors be connected to the building emergency power system. In elevators equipped with emergency power, venting will be required to be added to machine rooms and connected to emergency power.

Currently only the staff service elevator in the original building is equipped to handle an emergency medical stretcher (24" x 76"). Signage on the main public elevators should indicate usage of the staff service elevator to handle emergency medical personnel and equipment. The hoist way should also carry a sign of the star of life.

- **Emergency lighting in cars**

The one public elevator connected to emergency power may currently have 90 minute emergency lighting to meet current code, but it would be the only elevator so equipped.

- **Signage**

All elevators should be labeled to meet current code. This signage will include the exterior of each elevator be labeled with a sign reading IN FIRE EMERGENCY, DO NOT USE ELEVATOR, USE EXIT STAIR, Braille and raised characters on hoist way jamb at 60" above the floor, and call buttons be centered at 42" above the floor. The public elevators meet a number of these criteria but the remaining three do not.

4. Americans with Disabilities Act

The "ADA" is a Civil Rights act passed by the United States Congress and is enforced by the Department of Justice. It prohibits discrimination against the disabled in employment, state and local government services, public transportation, public accommodations and telecommunications.

ADA is a federal "compliance" law whereby an individual may file a lawsuit if he/she believes grounds for discrimination exist or are about to occur as a result of a lack of action. The ADA is not a local or state building code. Enforcement is currently triggered by inspection following a civil action filed by an offended party rather than a local or sub-code official's inspection of conditions in a building.

A general survey of the Marriott Library's vertical circulation elements indicates that efforts have been made to bring elevators within the public realm of the building up to code. All other elevators do not meet current code standards. To meet the code a thorough elevator inspection would include checking compliance for requirements regarding: cab enclosure, car operating panels, car signals and communications, car and corridor entrances, corridor fixtures and operating function.

C. Conclusions and Recommendations

Currently no elevator within the original Marriott Library meets current code, but each elevator is "grand-fathered," requiring no immediate change. If an elevator, hoist way or system is to remain untouched during renovation no upgrades are required.

A complete life cycle evaluation is recommended for all elevators as they are, at a minimum, within a decade of their expected life span. If these elevators are not replaced in their entirety during this renovation it is recommended that the cab enclosures, and door mechanisms for cab and shaft doors be renovated with materials that will better handle the extensive wear they experience.

3.3.5 Structural Summary

Many of the buildings along the Wasatch Front were designed and built at a time when seismic resistant design and construction were virtually non-existent. Because of this, many older buildings are particularly vulnerable to earthquake damage. The University of Utah's Marriott Library is no exception.

Modern methods of analysis in conjunction with the most recently available seismic information for Utah indicate that the Marriott Library Building does not have the capacity to remain intact and safe during a moderate to large seismic event. In some cases the basic structure has only a fraction of the capacity needed to safely withstand the forces of a moderate or major earthquake. In the event of an earthquake, the lives of the occupants of the building would be in serious jeopardy.

Issues of life safety must be considered and weighted. The current architectural and structural recommendation is to complete the renovation of the original Marriott Library, which will significantly reduce the likelihood of the loss of life and building collapse. The Marriott Library is ranked by the State of Utah as a valuable asset because of its collection and the building as a structure.

The Marriott Library was designed with a structural system similar to "lift-slab" technology. In general terms the building has a forest of steel columns that support concrete floor slabs that were instead cast-in-place. The floor is connected at each column by a series of welds at each column to steel plates embedded in the concrete floor slabs. While these welds are sufficient to hold the floors slabs in place under typical gravity loads, a significant seismic event imposes forces on these welds that they were not designed to handle. When this occurs, the welds will likely fail and the slabs could successively drop onto the floor slab below. To prevent this type of failure from occurring during the construction of the Marriott Library a series of shear walls were constructed between floors, primarily at the stair towers. This series of walls will help the Marriott library in resisting lateral forces during an earthquake, but are significantly undersized and they too will likely fail very quickly in the event of significant seismic activity.

To improve the expected seismic performance of the building, the addition of a seismic strengthening system is recommended. The typical solution would be to add new concrete shear walls to the building. The new shear walls would be located at interior bays of the structure. One problem with this structural solution is that multiple floors of the Marriott Library would have to be closed simultaneously to complete the needed changes, preventing the Library's plan to remain operational during renovation. In addition, this work significantly impacts both the mechanical and electrical systems in the building, and increases costs. The shear walls in acting as structural stiffeners would need to be placed in each quadrant of the building, which consequently reduces circulation, reduces layout flexibility, and compartmentalizes each floor plate.

To alleviate the intrusive nature of the first proposed seismic solution the most effective system keeps the major seismic upgrade to the building perimeter. By adding a series of braced frames at the building's exterior, the Marriott Library gains a system compatible with the University's needs to remain in operation during construction, while minimizing disturbance to other building systems, and providing a remedy for the seismic inadequacies of the original building. The most effective bracing system appears to be either unbonded braced frames or eccentric braced frames.

In addition to new braced frames, steps would need to be taken to ensure that other parts of the building that are currently susceptible to damage are repaired or modified. Chief among these is the column to floor connections. The current connection is deemed inadequate and could fail in an earthquake, leading to collapse of the floor slabs. To remedy this each column could be encased in reinforced concrete, serving to prevent the possibility of sucessive floor collapse. Among other items that require immediate attention in terms of seismic safety are: exterior stone panels, interior and exterior cladding, interior walls, library stacks, light fixtures, mechanical and electrical equipment, and any other feature of the building that could endanger life should it fall during an earthquake.

3.3.6 Mechanical Summary

The mechanical systems serving the library need to be upgraded and modified to: provide a reliable system capable of serving the library building for another 30 years, to be capable of providing a relative constant environmental condition (temperature and humidity) for occupant comfort and document preservation, to provide for ease in the monitoring and manipulating of the system's set point conditions, to provide flexibility in the distribution systems in order to be capable of responding to space function changes that will occur over time, to be energy efficient and to have the installed mechanical system meet current code requirements especially for life safety and seismic restraint.

The plumbing systems are to be upgraded to new. The existing plumbing system has been in use for 30 years and has reached the end of its useful life. The existing domestic water piping systems are to be replaced with a new copper based system. The new system needs to meet ADA requirements.
Modifications to the existing fire protection system will be required due to changes in wall and ceiling locations for the new program. A gaseous suppression system should be considered for the protection of the Special Collection Vault and Computer Server Room in the Data Center.

3.3.7 Electrical Summary

An analysis of the electrical system for the original Marriott Library reveals that the backbone or distribution system for user-available (120 volt) power has remained essentially unchanged since its installation. Power for today's user is available in short supply throughout the library. In an attempt to satisfy the appetite for computers a few selected areas have moderate amounts of power available as a result of various remodels and equipment additions. These remodels and additions took place before and after the expansion of 1995-1996. The incoming service to the building was upgraded during the expansion and some selected loads (HVAC and elevators) were re-fed from the new service, but the distribution system was not changed. The upgraded service, while a great improvement over the original, is only partially adequate for today’s projected high tech user as well as future users. This problem can be corrected by installing new equipment throughout the library to supply user-available (120 volt) power to each floor.

The lighting throughout the library is switched using color-coded circuit breakers in electrical panels located on each floor. Generally these panels are located in easily accessible areas. There are panels in some locations that violate current electrical codes, corrected with new equipment. The new equipment for increased power availability will require that additions be made to the electrical service entering the building. The additions, while necessary to support the increased user-available power, will require additional space but will also assist in minimizing the disruptions during the phased construction. Finally, augmenting the emergency power in order to support the appropriate backup systems and life safety elements is required.

3.4 MATERIALS ANALYSIS AND RECOMMENDATION

3.4.1 Exterior Materials

a. Concrete

Concrete is the primary building material at the Marriott Library. In most cases it is holding up well and requires nothing more than general cleaning.

Precast concrete panels that form the primary exterior finish of the building are suspended by clips from the concrete floors. Following a roof penthouse panel support anchorage failure and a panel falling onto the roof surface these panels were replaced with lightweight precast panels. Panels at Levels Four and Five are original and appear to be in good condition with the exception of some minor corner chipping. Level One west elevation panels have received the greatest wear and weathering. While these panels have been additionally secured by large metal brackets at their lower edge, many are cracked, chipped and spalling.



The cast concrete cornice and soffits, and cast concrete railings generally appear to be in good condition with minimal wear. The only area weathering poorly is the cast concrete railing at the southwest corner Level Two. Problems stem from a deterioration and failure of the stone railing caps.


The area that has weathered the most poorly is the concrete slab over the loading dock and making up the Level Two west deck. This area has recently been coated with a waterproof sealer/paint, but not before severe water penetration has seriously deteriorated metal within the slab and electrical service on the underside. Rust and surface spalling are apparent on the underside of the slab. It is recommended that this area be investigated to find the extent of damage and failing materials removed and replaced.

b. Brick

Brick is the primary exterior material at Level Two. It is protected from weathering and is in excellent condition. The only damage that has occurred is at exterior hose bibs. In these locations hard water staining is evident. Due to maintenance issues the user has requested the hose bibs be removed, the surface area cleaned, and the area patched to match original conditions.

c. Stone

The large portions of the granite (specified on original drawings, but appears to be marble) railing cap on both the second and third levels is deteriorating due to water penetration and in many cases has failed. While pieces that have broken or split have not become dislodged, water is now penetrating through the stone caps and has begun to affect the precast concrete railings on which they sit. While there is currently no significant damage to the railings it is recommended that the railing caps be repaired and replaced.

Two sets of marble panels flank the old Level Two west entry, the Level Three east entry, and are also located on the south and north elevations. These panels appear to be in good condition, although in some cases the glazing bead has become loose.

d. Mortar

Mortar was used in the original construction as the setting or bedding material for units of stone and brick. The original mortar exposed in joints between bricks and block remains intact in excellent condition.

e. Plaster

Plaster was used to coat areas of exposed concrete. These surfaces are usually removed from weathering and are in good condition.

f. Metals

Exterior metals include, in addition to overhead doors, aluminum entry doors and exterior windows, railings, drains, and louvers covering recessed lighting. These elements in general have held up well and do not appear to need repair or replacement. The only metal damage apparent is at aluminum back plates that trim the void between the precast concrete panels on Levels Four and Five. In a number of locations there appears to be a failure in the epoxy adhesive. In some locations the plates are loose and in one location a plate has fallen from the building and not been replaced. It is recommended that each plate be inspected and repaired sympathetic with the original installation.

g. Skylights

Four new skylights have been installed in the atrium area. These units appear to be in excellent condition.

h. Windows

Aluminum frame windows and spandrel glass panels on Levels Two and Three are beginning to show signs of failure. Currently about 5% of all units have either glazing bead failure and/or glass units have shifted in their frames. These windows need further inspection and repair. No apparent damage or significant wear to double-pane aluminum frame windows at Levels Four and Five. These windows were planned to be operable have been fixed shut, for safety and heating and cooling reasons this is desirable.

i. Doors and Hardware

Doors at Level Three east entrance have received considerable wear, although seem structurally sound. Doors at Level Three west exit onto outdoor deck have been fixed shut, as have all but one exit door at the Level Two west entrance.

j. Roofing

A roofing inspection was completed at the Marriott Library revealing a number of areas of damage and potential sites for leakage. The Marriott Library can be defined as having four separate roof levels. Level 1 is a single level at the perimeter of the roof. Level 2 is elevated about 18" to 24" above Level 1 and is in the center of the building. Levels 3 and 4 straddle part of Level 2 and protect the air handling rooms and are elevated above Levels 1 and 2. These roofs are rectangular and run north and south. These observations will include conditions of the interior of the ceiling within Level 5.

Interior Condition

The ceiling on Level Five shows signs of numerous leaks. The age of the leaks and their precise locations could not be determined. Renovation to the mechanical system occurred within the past three years and old stained tiles were not replaced with new when reinstalled. Staff was able to pin point the locations of the most recent leaks, in the Tanner Reading Room, a staff office in the northwest quadrant, and within the Rare Books Collection.

Interior of Penthouses

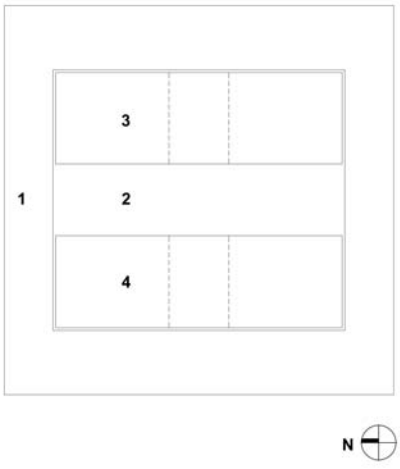
Within the four penthouses, located over the four quadrants of the Marriott Library, the floor area within and outside of the air-handling units have not been waterproofed and there are numerous potentials for leakage. Within each of the eight air-handling units a sheet metal pan collects overflow. Sump pumps have been installed to compensate for the pressure differential within the air-handling units and outside at the drain locations. Sheet metal collection pans have been applied with sealant to limit moisture loss.

Exterior Roof Conditions

Roof Level 1

MARRIOTT LIBRARY ROOF LEVELS:

1. PERIMETER
2. PENTHOUSE DECK
3. EAST PENTHOUSE ROOF
4. WEST PENTHOUSE ROOF



The roofing in this area was reported to have been installed three to four years ago. No moisture was identified in the roofing assembly where checked. There are conditions that need attention however.

- Currently there are no secondary (emergency) drains.
- Roof blisters were observed in various locations and are believed to be loose cap sheets resulting from poor attachment and not moisture.
- The three-course over lap joints in the perimeter parapets need a new application of aluminum roof coating. Flashing needs to be recoated to prolong the life of this junction.
- Ponding water stains can be observed at the southeast corner of Level 1.

Roof Level 2

This roofing assembly was reported to consist of a sloped insulation layer, perlite cap board, aluminum coated smooth surface built-up roof, and in selected areas a white granulated SBS cap-sheet. Moisture was detected in many areas surrounding the cooling equipment found on this roof.

A number of other failures have occurred with materials:

- Different base flashing materials has been used at equipment curbs.
- Sheet metal curbs have a lot of plastic cement troweled over the cap. New caps should be used to seal off these curbs.
- At the curb separating Levels 1 and 2 some of the newer I-beam post caps are not performing as designed. Open joints in the sheet metal are allowing moisture to penetrate the caps. Immediate replacement and repair is recommended.

Roof Levels 3 and 4

These Penthouse roofs have the same shape and construction. Roof cores show that the substrate's perimeter edge (overhangs) are concrete construction, while the fields have a wood substrate. Moisture was detected at the perimeter of the roofs in three locations.

RECOMMENDATIONS

At each roof level deficiencies were observed. Some are minor conditions and some need immediate attention. The conditions were as followed:

Interior

The floors and sheet metal pans in the fan rooms on the floors above Level Five need to be waterproofed. Installation of a moisture barrier membrane type coating in the penthouse area is recommended. A textured surface in recommended for traffic-bearing surfaces.

Exterior Roofs

Roof Level 1

No moisture was identified in this roof assembly, however preventative maintenance is recommended, including:

- Repair blistering cap sheet
- Provide secondary (emergency) roof drains.
- Install aluminum roof coating over all three-course applications.

Roof Level 2

Because moisture was identified in this level and because the old roof extends under all the newer SBS cap sheet, it is recommended that it be removed to the substrate and replaced. Special attention to the following conditions should be made:

- New sloped insulation to drains
- Provide secondary (emergency) roof drainage.
- New equipment curb caps and flashing.
- New equipment screen “I-beam” sheet metal caps.
- New roofing assembly.
- New counter flashing.

Roof Levels 3 and 4

- Remove all detected moisture trapped roofing and replace with like roofing materials as directed by warranting roofing manufacturer.
- Repair roof blisters.

k. Sealant

There is extensive failure of the exterior sealant throughout the Marriott Library. The primary location of sealant failure is at the outermost perimeter of the building that receives the most sun and weather exposure, specifically at panel joints on the fourth and fifth floors and at the first level of the west elevation. Currently there are sections of sealant missing, hanging from joints, or visibly separated from surrounding material. No significant damage is visible, but it is important to prevent water penetration behind the cast concrete panels. It is recommended that all joints be inspected, failing material removed and replaced.

3.4.2 Interior Materials

a. Concrete

Concrete is the primary building material at the Marriott Library but is typically only visible at first level mechanical rooms. Here concrete floors have been painted, in some areas where heavy wear or sporadic standing water occurs the paint is chipping and peeling. These floors should be stripped and the coating replaced with a more durable finish.

Concrete block walls are visible in support area of the library. These have been painted and are wearing well with no visible damage.

b. Stone

Travertine marble panels have been used throughout the interior of the Marriott Library. Their primary location is in the Grand Lobby and Stair, the Atrium and intermittently at the second and third levels at the exterior wall.

The condition of these panels is generally good to excellent, although they have received heaviest wear on the third level. Most damage is minor and the result of normal wear and tear. In the atrium where marble panels face the circulation and other desks they have received the heaviest damage, mostly at their lower edges (photo above right).

Marble panels throughout the Marriott Library should be preserved. Where panels will be removed due to renovation plans, salvage and store the stone for reinstallation. A thorough, professional cleaning of the panels in the Grand Lobby and Stair and the Atrium is recommended.

Throughout Level Three marble sills have been used at the perimeter of the building and show no signs of wear. Terrazzo floors used in the Grand Lobby on all five floors and the atrium have worn well. In the Special Collections Tanner Room the marble floor and column covering have worn well, but this material does not match marble used throughout the library. If the Tanner Room is relocated the surface material is not recommended for salvage or reuse.

c. Brick

Brick on the interior of the building has performed as per the original design. Brick on the interior of exterior walls is connected, not a veneer.

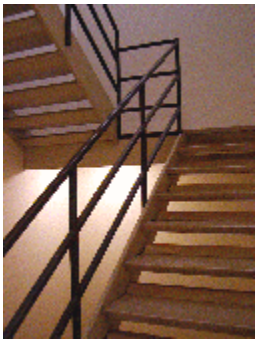
d. Tile

2"x2" ceramic tile flooring, base and wall covering are used in all of the restrooms in the Marriott Library. The material continues to perform as per the original design.

e. Metal

Non-structural interior metals occur throughout the building and include the following: railings, balustrades, grilles, doors, windows, metal-framed curtain walls, hardware and signage. Metal types include aluminum, used for railings, balustrades, grilles, windows, doors; cast bronze or brass, used for signage; and ferrous (iron-containing) metal, used for hollow metal doors and frames.

Railings: In remaining enclosed stair towers railings and integral handrails currently do not meet code. Both excessive spacing between railings and non-continuous handrails exist. Railings will be modified or replaced so that they are code compliant.



Balustrades: Decorative railings line the grand lobby stair between the first and second floors at the old west entrance and ring the atrium at levels four and five. These railings are in good condition, but do not meet current code due to excessive opening sizes. Balustrades will be modified or replaced so that they are code compliant.

Doors and Frames: Metal doors and windows occur throughout the building. Interior doors and frames are in good condition throughout the building.

f. Wood

On all floors, there are walls finished with veneered wood panels. These panels add to the overall character of the Marriott Library and are recommended for preservation. While the condition of these panels varies considerably, the possibility exists to refinish and reuse this material.

On the third floor, wood panels have been used as part of the system of metal storefronts. These panels, usually installed at the lowest level, have received heavy wear and either need to be restored or replaced.

g. Glass

Two types of glass are prevalent at the Marriott Library. Clear glass has been used as glazing on aluminum storefront system in public areas and obscure glass has been used at offices and carrels. Only one broken panel was noted in the entire building, but glazing that has broken seems to have been replaced with a like product.

h. Finishes

Paint and vinyl coatings in the Marriott Library appear to have worn well and received adequate maintenance. There were no noticeable problems of significant wear and can be retained.

Corner guards have been added to columns that receive the heaviest wear. In one location in the library sisal wall covering has been added to the lower portion of the wall, with some places topped with wood trim. Areas of heavy use, especially narrow areas that experience high book car traffic should be considered for additional wall coverings that will protect the lower wall area.

i. Specialties

Extensive use of the pulls has worn through the metal finish revealing the original surface below.

Round door hardware is evident at many exit doors and should be replaced with panic hardware.

j. Interior Furniture and Fixtures

Interior furniture is primarily original to the building and is at the end of its useful life. Failure is evident primarily in chairs and benches, but wear is evident in all furnishings.

Throughout the Marriott Library staff offices have wall-mounted metal shelving systems. These appear to be in good condition and are heavily used. It is unclear if all of the systems are compatible, but if these units are to remain units removed from renovated spaces should be reserved for continued use and as replacement parts.

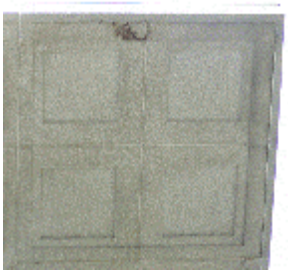
Stacks throughout the Marriott Library have received heavy wear and are showing signs of missing pieces and broken parts. Current stacks do not meet life safety requirements for overturning. In some cases stacks have been ganged together at their top edge, in others they have been attached to the drop ceiling, but future stacks need to be well attached to the floor plate to prevent overturning.

3.5 DETAILED ARCHITECTURAL SURVEY

3.5.1 Exterior Materials

(a) Exterior Damage Survey

Code: ***Description***: Location: Grid: Condition: Comments:	EX-000 Caulk failure West elevation, Level 1 1K CK – caulking missing, damaged or non-existent Brackets added in 1990's to secure precast exterior concrete panels visible.	
Code: ***Description***: Location: Grid: Condition: Comments:	EX-000 Caulk failure Lower side, Level 4 7L CK – caulking missing, damaged or non-existent	
Code: ***Description***: Location: Grid: Condition: Comments:	EX-001 Precast exterior concrete panels West elevation, Level 1 1K CR – cracked, EX – exfoliating or spalling	
Code: ***Description***: Location: Grid: Condition: Comments:	EX-001 Precast exterior concrete panels South elevation, Level 4 7L CR – cracked, EX – exfoliating or spalling	

Code: ***Description***: Location: Grid: Condition: Comments:	EX-001 Precast exterior concrete panels West elevation, Level 1 1L CR – cracked, EX – exfoliating or spalling Water damage due to damaged railing cap.	
Code: ***Description***: Location: Grid: Condition: Comments:	EX-002 Soffit panel Underside of roof at SW corner 1L ST – Significant staining; may be an indicator of roofing failure	
Code: ***Description***: Location: Grid: Condition: Comments:	EX-003 Poured concrete deck (Old) west entrance plaza/Loading dock 1-2, F-H CR – cracked, EX – exfoliating or spalling, ST – significant staining, indicator of rusted connections Deck above has been water proofed to prevent further damage.	
Code: ***Description***: Location: Grid: Condition: Comments:	EX-003 Poured concrete deck (Old) west entrance plaza/Loading dock 1-2, F-H CR – cracked, EX – exfoliating or spalling, ST – significant staining, indicator of rusted connections Deck above has been water proofed to prevent further damage.	

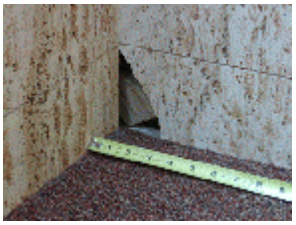
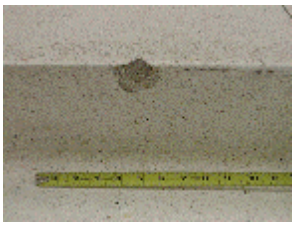
Code: ***Description***: Location: Grid: Condition: Comments:	EX-004 Curtain Wall Level 2 spandrel glass 2E BT – bent, damaged or failed glazing bead Seen at seven additional locations on west elevation	
Code: ***Description***: Location: Grid: Condition: Comments:	EX-004 Curtain Wall Level 2 window 2C Glass has shifted in curtain wall Seen at several locations on west elevation	
Code: ***Description***: Location: Grid: Condition: Comments:	EX-005 Plastered concrete Column head, below Level 4 J2 CR – cracked	
Code: ***Description***: Location: Grid: Condition: Comments:	EX-006 Brick wall Level 2, west elevation 2C ST – significant staining	

Code: ***Description***: Location: Grid: Condition: Comments:	EX-007 Marble Railing Cap Level 2, southwest corner 1L CR - cracked replace railing cap with a less porous material	
Code: ***Description***: Location: Grid: Condition: Comments:	EX-008 Metal Trim Level 4, east elevation 12I-J Trim has fallen from building into atrium area, locate and replace	
Code: ***Description***: Location: Grid: Condition: Comments:	EX-008 Metal Trim Level 3, south elevation 6-7L MT – metal damage, failing trim	
Code: ***Description***: Location: Grid: Condition: Comments:	EX-009 Signage Level 3, east elevation 12G Temporary Paper Signage	

Code: ***Description***: Location: Grid: Condition: Comments:	EX-010 Marble Panel Level 3, west elevation 2F Glazing bead failure	
Code: ***Description***: Location: Grid: Condition: Comments:	EX-011 Concrete beam Level 1, Loading Dock 1G BR – broken concrete Damage due to vehicle impact.	
Code: ***Description***: Location: Grid: Condition: Comments:	EX-012 Handrail Level 1, Loading Dock 2H non-code compliant handrail	
Code: ***Description***: Location: Grid: Condition: Comments:	EX-013 Handrail, Ramp Level 1, Loading Dock 2F non-code compliant handrail, non-accessible ramp	

b. Interior Room Survey

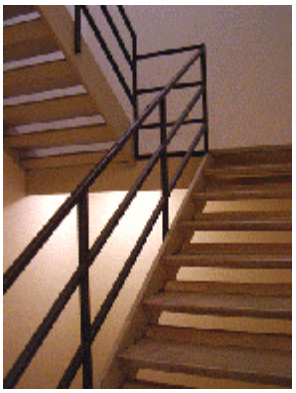
Element: ***Code:*** Location: Condition: Comments:	W-0 Unfinished concrete Level 1, Gov. Doc. Closed stack area Caulked core drilled hole There has been reoccurent water leakage through exterior wall. Recent caulking has temporarily remedied problem, but long-term solution involves investigating sprinkler boxes at exterior wall.	
Element: ***Code:*** Location: Condition: Comments:	W-3 Marble – travertine Level 3, Grand Lobby Entry Vestibule BR – broken Pieces missing	
Element: ***Code:*** Location: Condition: Comments:	W-3 Marble – travertine Level 3, Grand Lobby Entry Vestibule BR – broken	
Element: ***Code:*** Location: Condition: Comments:	W-3 Marble – travertine 302, west wall, circulation counter BR – broken Worn travertine at counter toe kick	

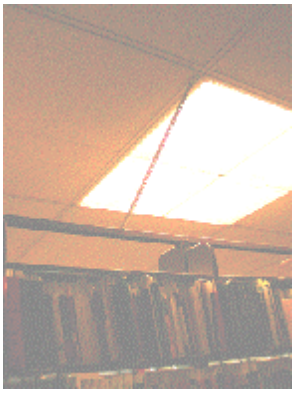
Element: ***Code:*** Location: Condition: Comments:	W-3 Marble – travertine 302, west wall, circulation counter BR – broken	
Element: ***Code:*** Location: Condition: Comments:	W-3 Marble – travertine 302, west wall, circulation counter BR – broken	
Element: ***Code:*** Location: Condition: Comments:	W-3 Marble – travertine 200, Grand Lobby Marble panel removed and not replaced	
Element: ***Code:*** Location: Condition: Comments:	W-3 Marble – travertine 400, Grand Lobby Book matched marble panels	
Element: ***Code:*** Location: Condition: Comments:	F-3 Terrazzo stair tread 400A CR – cracked, chipped	

Element: ***Code:*** Location: Condition: Comments:	F-2 Marble – Tanner Room 537 special marble type	
Element: ***Code:*** Location: Condition: Comments:	P-3 Sink 300C, Women's Accessible Restroom non-code compliant Sink drain and supplies not wrapped. In addition, no handrail behind toilet.	
Element: Code: Location: Condition: Comments:	P-3 Sink 400D non-code compliant Sink drain and supplies not wrapped. Non-lever handles.	
Element: ***Code:*** Location: Condition: Comments:	E-3 Outlet – additional boxes or plug strips 307 additional outlets strung across floor to serve copiers	

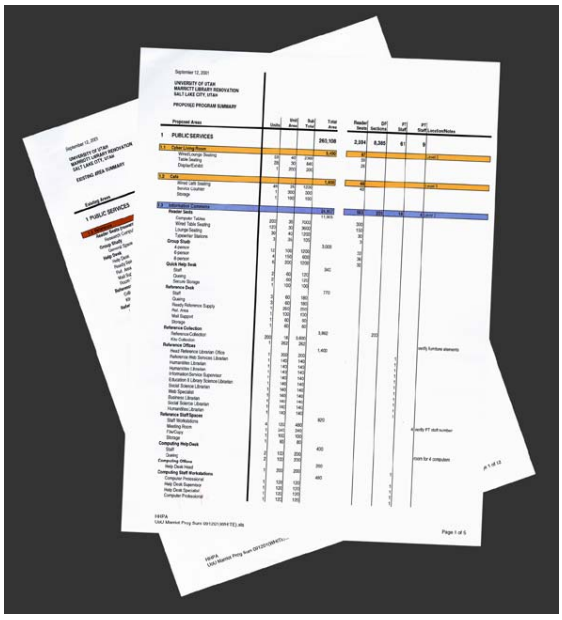
Element: ***Code:*** Location: Condition: Comments:	E-4 Wiring 304 wiring strung below wood veneered panel in many locations wiring has been added ad hoc, drilling through toe kick has damaged wood.	
Element: ***Code:*** Location: Condition: Comments:	E-4 Wiring 302D, east wall secondary plug strip	
Element: ***Code:*** Location: Condition: Comments:	W-5 Inadequate electrical and cabling service 302, west wall, circulation desk	
Element: ***Code:*** Location: Condition: Comments:	W-11 Wood veneered panels 321 O – Other, panels scuffed and scratched	
Element: ***Code:*** Location: Condition: Comments:	W-11 Wood veneered panels 419 BR – broken Very limited extreme damage to veneered wood panels includes corner breakage.	

Element: ***Code:*** Location: Condition: Comments:	W-9 Plastered column 311 corner guard	
Element: ***Code:*** Location: Condition: Comments:	W-15 Metal frame, glass panel 429C GL – glass cracked, broken or non-matching	
Element: ***Code:*** Location: Condition: Comments:	P-7 Fire Extinguisher Cabinet 431 poor signage, limited access cabinet	
Element: ***Code:*** Location: Condition: Comments:	D-5 Metal frame, wood veneer door 300Z panic hardware present	

Element:	D-5	
Code:	Metal frame, wood veneer door	
Location:	458	
Condition:	no panic hardware present	
Comments:		
Element:	SP-7	
Code:	Handrail, balustrade metal	
Location:	300S	
Condition:	non-code compliant handrail and balustrade	
Comments:		
Element:	SP-7	
Code:	Handrail, balustrade metal	
Location:	500J	
Condition:	non-code compliant balustrade	
Comments:		
Element:	SP-7	
Code:	Handrail, balustrade metal	
Location:	100, Grand Lobby	
Condition:	non-code compliant balustrade	
Comments:		

Element: ***Code:*** Location: Condition: Comments:	D-7 Door hardware 500J MT – metal damage, wear	
Element: ***Code:*** Location: Condition: Comments:	MS-5 Skylight Atrium Excessive solar gain	
Element: ***Code:*** Location: Condition: Comments:	E-5 Elevator Cab 100H worn surfaces	
Element: ***Code:*** Location: Condition: Comments:	SP-8 Stacks, movable 235 stack bracing to non-structural ceiling grid	
Element: ***Code:*** Location: Condition: Comments:	SP-8 Stacks, movable 156, Gov. Docs. Closed stacks metal grate attached to stacks for security	

Element: ***Code:*** Location: Condition: Comments:	SP-8 Stacks, movable 156, Gov. Docs. Closed stacks metal grate attached to stacks for security	
Element: ***Code:*** Location: Condition: Comments:	SP-8 Stacks, movable 156, Gov. Docs. Closed stacks metal grate bolted to floor	
Element: ***Code:*** Location: Condition: Comments:	L-2 Incandescent Pendant Fixture 305 good	


UNIVERSITY OF UTAH
MARRIOTT LIBRARY RENOVATION
SALT LAKE CITY, UTAH
PROPOSED PROGRAM SUMMARY
1 PUBLIC SERVICES
1.1 Cyber Living Room
1.2 Cafe
1.3 Information Commons
Reader Seats
Computer Tables
Wired Table Seating
Lounge Seating
Soft Seating Stations
Group Study
4-person
8-person
8-person
Quiet Study Area
Staff
Closing
Secure Storage
Reference Desk
Staff
Seating
Quarterly Reference Supply
Ref. Area
Mail Support
Storage
Reference Collection
Reference Collection
Rare Collection
Reference Offices
Head Reference Librarian Office
Reference Web Services Librarian
Humanities Librarian
Humanities Librarian
Information Service Supervisor
Education & Library Science Librarian
Social Science Librarian
Web Specialist
Business Librarian
Science Librarian
Humanities Librarian
Reference Staff Spaces
Staff Workstations
Meeting Room
Lounge
Storage
Computing Help Desk
Staff
Seating
Computing Help Desk Office
Help Desk Head
Computing Staff Workstations
Computer Professional
Help Desk Supervisor
Help Desk Specialist
Computer Professional
Page 1 of 5

4

Program

4 Program

4.1 PROGRAM COMPONENTS

PROGRAM SUMMARY

The renovated Marriott Library will re-allocate program areas and their location to create a more technology rich, user focused, organized, and efficient library. The area requirements of the program were developed and tested by HHPA and CRSA in consultation with Marriott Library and University of Utah representatives.

The proposed program contains six primary divisions (identified in the section 4.2 space summary) that consist of spaces for Public Services, Special Collections, Library Computing, Technical Services, Administration, and additional support. The proposed program states a need for 367,272 net assignable square feet within a gross area of 494,063 square feet.

The library will function as a hub or crossroads bringing together various resources, technologies and expertise for accessing information. In order to be successful, the library must become an inviting gathering place for collaborative work and consultation. With their particular knowledge base and technical expertise, librarians and information technology specialists will work together to guide and assist faculty and students. New help, circulation, and reference desks for user assistance will be available in centralized locations at new circulation nodes. In addition new instructional and consultation spaces are required and more space will be devoted to computer stations.

The key elements to be provided for library users include the following of each program category:

CAFÉ, STUDENT MULTI-USE ROOM, AND INFORMATION COMMONS (24 hour zone)

The new 24 hour zone will improve user access to the library's expanded technologically dedicated spaces. Among the new spaces are a café and student multi-use room that will allow users to enjoy comfortable seating for relaxed reading and studying; in addition those spaces will encourage opportunities for recreational reading. The café's environment will provide a setting for informal meeting, the enjoyment of light snacks and drinks, and will encourage opportunities for recreational activities. The student multi-use room will have network access providing users with areas to eat, drink, or take a study break without leaving the wired library.

The information commons will infuse the library with new energy by improving access to computer and wired workstations that integrate research of print and electronic resources with use of standard software applications like e-mail and word processing. New Help and Reference desks, along with group study spaces, a copy center/room will be accessible on a 24 hour basis. Students may also check-out reserved books, reference material, or electronic media from the Reserves Collection.

ELECTRONIC EDUCATION CENTER (optional 24 hour zone)

The space dedicated to instruction will more than double with dedicated large computer/training reserved computer labs with a seating capacity of 30 to 60 students each. The reserved computer labs should have potential for future retrofitting with video conferencing equipment for distance learning capabilities.

SERVICE POINTS AND READER SEATING

Reference/ Circulation/ Information Desks

These desks will be highly visible and should provide visual access to adjacent services such as: classrooms, copy/print rooms, group study, and the collection stacks.

Lounge Seating

Lounge seating will double in total area. It will be provided within the stacks areas and should be well integrated with other types of seating.

Wired Carrels/ Tables

More wired workstations are to be provided, some with dedicated computers, and a number with power/data ports for the use of laptop computers to access the University network.

Reading Rooms/ Reader areas

New reading rooms and reader areas will allow users to read, study, or conduct individual research in locations typically adjacent to glazed areas that take advantage of natural light and distant views. A new "grand" reading room has been planned for the third floor to provide a special study environment. Users may also access adjacent group study rooms for collaborative study next to the third level atrium reading room. The fourth and fifth levels may also make use of the existing alcoves for reader seating.

USER SPACES

Group Study Rooms

With collaborative study and research becoming the norm there is an increased need for private acoustically contained areas dedicated to group study. Three sizes of group study rooms are to be provided: small rooms for groups of 4, medium sized rooms for groups of 6, and large rooms for groups of 8. These rooms can be reserved and could also be utilized as break-out rooms for additional instruction and discussion after classes held in the larger classrooms. These rooms are to have power/data connections, and glazed partitions for staff surveillance.

Copy/Print Rooms

Currently there is an existing Copy Center on the third level that services the entire library, however it has a location that does not facilitate user convenience for printing and photocopying services. Smaller copy/print rooms are to be located on all levels containing the General Collection will assist in decentralizing this function. A new and smaller staffed copy center for specialized and large quantity photocopying will be provided adjacent to the Information Commons. The new copy center should have self-copy stations as well. Additional printers should also be interspersed throughout the open user areas.

Core Facilities

The existing restroom facilities require renovation for enhanced user safety and equal ADA access. These will remain located in a central area and be grouped with public elevators. The main public central stair and elevators will remain facing onto the same circulation path.

STAFF SPACES

An anticipated head count has been identified within the six divisions of the proposed program for library staff: 218 full-time and 62 part-time. In comparison to the existing location of staff spaces, the departments will be reunited and zoned to create a distinct staff vs. collection zone. In addition, staff will have access to a dedicated entrance at the first level loading area with an elevator that services all five levels. In general staff areas must be flexible to accommodate changing emphases and supporting tools, materials, and personnel.

The information technologies staff will be relocated in relation to the Electronic Education Center's instructional reserved computer labs. Staff areas for Government Documents will be consolidated into one common staff area. Reference, Micro Computing/ Help Desk, and Reserves staff will be relocated to support the Information Commons. Fine Arts offices primarily remain in existing locations. The Tech. Services, Reshelve, and Science and Engineering Reference departments will have immediate adjacencies and potentially on another level the Admin., Finance, Human Resources, Coll. Dev., and Circ. could be clustered as well. Special Collections may be relocated and staff offices should remain in close proximity to their collection area of focus.

COLLECTION

A primary goal in addressing the collection is to increase shelving aisle widths to be ADA compliant. At present, the shelving in the 1996 addition meets the minimum standards for ADA access (3'-0" aisles vs. 3'-6" recommended). The shelving in the 1967 building has aisle spacing of 2'-4"; removing a range of shelving in each bay and re-spacing the shelving would allow for a 3'-3" aisle space within the existing bays.

In order to compensate for the added area needed to house collection in the original building due to ADA requirements, as well as provide enhanced space for public services and seating, and maintain the same amount of shelving in the overall building (an equivalent number of double-faced sections), it is necessary to house a portion of the collection in compact shelving. The proposed program provides compact shelving on the first floor for nearly the entire Government Documents collection, as well as approximately one-third of the general collection.

The existing amount of collection shelving is currently at approximately 71% of capacity, holding approximately 2.5 million volumes and titles. Assuming that a maximum capacity of 80% is desirable in order to allow for flexibility of collection management (returning books to shelves, etc.), this would allow for an approximate growth of 12% to a total of 2.8 volumes.

At the current annual acquisition rate of 65,000 to 70,000 volumes per year, the available space of the existing shelves for growth will be utilized in four years. At that time consideration will need to be given to other collection storage options, including off-site storage, additional compact shelving on the first floor of the existing library, or possibly the construction of an adjacent Automatic Retrieval System (ARS).

The stacks areas are to be easily located off the major circulation paths in the library. Easy access is to be provided to the centralized main public elevators. Stacks are to be organized in a clear and consistent pattern, with catalog numbers in proper sequence. Stacks are to be protected from fluctuation in UV light transmission. The temperature must remain consistent to protect the volumes, with humidity to be regulated. Stacks are to be bolted to the floors and/or seismically braced at the top to prevent overturning and need to meet current applicable codes. A mixed variety of seating is to be interspersed and/or adjacent to the stacks areas, and consultation counters and re-shelving areas are to be provided. In addition, the Current Periodicals area will have a dedicated seating area associated with it.

SUPPORT

In addition to the program elements listed above, a number of support spaces must be provided in the renovated building, including:

Loading/Receiving/Mailing

The location of the existing Loading and Receiving area is to be maintained as will the Mail and Supply departments. This will be the primary receiving area for the library. From within Mail/Supply access will be provided to a staff elevator that services all levels.

Recycle/Waste Disposal

Recycle and waste disposal will be accommodated in the existing loading dock area. Access to staff areas via an elevator will be provided.

Janitor Closets

A minimum of one janitor closet with service sink is to be provided on each floor, preferably in a central location adjacent to core facilities (restrooms, elevator, etc.)

Mech./Elec./Telecom/Elevator rooms

Refer to Appendix items for planning concepts and requirements for these areas. Note that individual room data sheets have not been provided for these areas, as they are not part of the programmed assignable square footage of the building.

See section **4.4 – Concept Program Adjacencies and Plans** for over overall building floor plans.

See section **5 – Room Data Sheets** for requirements of all program elements.

4.2 SPACE SUMMARY

	Proposed Areas	Units	Unit Area	Sub Total	Total Area	Reader Seats	DF Sections	FT Staff	PT Staff	Location/Notes
1	**PUBLIC SERVICES**				**275,699**	**3,033**	**8,296**	**83**	**13**	
1.1	**Student Multi-Use**				**1,310**	**32**				
	Wired Lounge Seating	20	40	800		20				
	Table Seating	12	30	360		12				
	Display/Exhibit	1	150	150						
1.2	**Café**				**1,300**	**40**				
	Wired Café Seating	40	25	1000		40				
	Service Counter	1	200	200						
	Storage	1	100	100						
1.3	**Information Commons**				**24,837**	**473**	**200**	**20**	**4**	
	Reader Seats				11,905					
	Computer Tables	200	35	7000		200				
	Wired Table Seating	120	30	3600		120				
	Lounge Seating	30	40	1200		30				
	Typewriter Stations	3	35	105		3				
	Group Study				3,000					
	4-person	12	100	1200		48				
	6-person	4	150	600		24				
	8-person	6	200	1200		48				
	Quick Help Desk				240					
	Staff	2	60	120						
	Queing	2	60	120						
	Reference Desk				540					
	Staff	3	120	360						
	Queuing	3	60	180						
	Reference Collection				3,862		200			
	Reference Collection	200	18	3,600						
	Kito Collection	1	262	262						
	Reference Offices				1,360					
	Head Reference Librarian Office	1	160	160				1		
	Reference Web Services Librarian	1	120	120				1		
	Humanities Librarian	1	120	120				1		
	Humanities Librarian	1	120	120				1		
	Information Service Supervisor	1	120	120				1		
	Education & Library Science Librarian	1	120	120				1		
	Social Science Librarian	1	120	120				1		
	Web Specialist	1	120	120				1		
	Business Librarian	1	120	120				1		
	Social Science Librarian	1	120	120				1		
	Humanities Librarian	1	120	120				1		
	Reference Staff Spaces				660					
	Staff Workstations	2	110	220					4	
	Meeting Room	1	240	240						
	File/Copy	1	120	120						
	Storage	1	80	80						

	Proposed Areas	Units	Unit Area	Sub Total	Total Area	Reader Seats	DF Sections	FT Staff	PT Staff	Location/Notes
	Computing Help Desk / Copy Center				1,980					
	General Area/Queuing	1	1000	1,000						
	Staff	2	100	200						
	Copy Center Office	2	120	240				2		
	Copy Center Storage	3	180	540						
	Computing Offices				160					
	Help Desk Head	1	160	160				1		
	Computing Staff Workstations				550					
	Computer Professional	1	110	110				1		
	Help Desk Supervisor	1	110	110				1		
	Help Desk Specialist	1	110	110				1		
	Computer Professional	2	110	220				1		
	Computing Staff Spaces				580					
	Scanning	1	160	160				2		
	Workbench	2	80	160						
	File/Copy	1	100	100						
	Storage	1	80	80						
	Secure Storage	1	80	80						
1.4	**Electronic Education Center/ MMC**				**36,525**	**850**		**16**	**4**	
	Help Desk				440					
	Information Counter	1	200	200						
	Staff	2	60	120						
	Queuing	2	60	120						
	Labs & Classrooms				13,600					
	Small Reserved Lab	7	1600	11,200		280				
	Large Reserved Lab	1	2400	2,400		60				
	Library Instruction Staff				1,120					
	Head Inst. Office	1	160	160				1		
	Instruct. Office	6	120	720				6	2	
	Part-time Staff Workstations	3	80	240				3	2	
	MMC General Seating				8,828					SF is for seating & circulation.
	Carrel Seating	222				222				
	Carrels with T.V.s and V.C.R.s	29				29				
	Table seating with video editing equip.	4				4				
	Computer seating @ built-in counter	12				12				
	Service Counter									
	MMC Multimedia Collection				2,232					
	Collection	1	2,232	2232						
	MMC Equip/ Lounge	1		976	976					
	MMC Labs & Classrooms				5,643					
	Mac. Lab	1	1424	1424		35				
	PC Lab	1	1506	1506		53				
	Classrooms	4		2,713		155				
	MMC Conference Rooms	2	315	630	630					
	MMC Staff Workstations				1,807					SF includes circulation
	Interim Head, Librarian	1						1		
	MMC/Media Sr. Specialist	1						1		
	Day/Weekend Supervisor	1						1		
	MMC Night Supervisor	1						1		
	Media Sr. Specialist	1						1		
	MMC Facilities Manager	1						1		
	Microcomputing Workstations	4								
	MMC General Circulation				1,249					

	Proposed Areas	Units	Unit Area	Sub Total	Total Area	Reader Seats	DF Sections	FT Staff	PT Staff	Location/Notes
1.5	**Atrium / Reading Room**				**8,925**	**257**				
	Table Seating	175	35	6125		175				
	Lounge Seating	50	40	2000		50				
	4 Person Group Study	4	100	400		16				
	8 Person Group Study	2	200	400		16				
1.6	**General Seating**				**36,900**	**1,200**				
	Humanities/Social Science/Science				34,400					
	Table Seating	430	30	12900		430				
	Lounge Seating	150	40	6000		150				
	Carrel Seating	500	30	15000		500				
	Standing Computer Counter	20	25	500		20				
	Group Study				2,500					
	4 Person Group Study	8	100	800		32				
	6 Person Group Study	6	150	900		36				
	8 Person Group Study	4	200	800		32				
1.7	**General Collection**				**107,718**		**6,779**			
	Humanities & Social Science A-HF	1696	18	30,528			1696			
	Humanities & Social Science HG-PZ	2431	18	43,758			2431			
	Oversize	116	18	2,088			116			116 Single Faced Units
	Dewey Decimal	405	12	4,860			405			
	Current Periodicals	84	18	1,512			84			
	Science Current Periodicals	68	18	1,224			68			
	Science & Engineering Q-Z	1979	12	23,748			1979			
1.8	**Science & Engineering Reference**				**6,130**	**24**	**70**	**5**	**2**	
	Help Desk				360					
	Staff	2	60	120					2	
	Queuing	2	60	120						
	Locked Case	1	120	120						
	Collection				1,200					
	Science Reference Collection	70	12	840			70			
	Chem. Abstracts	30	12	360						
	Maps				3,070					
	Science Map Collection	58	35	2,030						62 units, 3 high stacks
	Maps Reshelve/Sorting	1	200	200						
	Maps Reader Seating	24	35	840		24				
	Offices				920					
	Head Librarian	1	160	160				1		
	Library Specialist	2	120	240				2		
	Life Sciences Reference Librarian	1	120	120				1		
	Science Librarian	2	120	240				1		
	Part-time Staff Workstations	2	80	160						
	Staff Spaces				580					
	Meeting Room	1	240	240						
	Work Room	1	180	180						
	File/Copy	1	80	80						
	Storage	1	80	80						

	Proposed Areas	Units	Unit Area	Sub Total	Total Area	Reader Seats	DF Sections	FT Staff	PT Staff	Location/Notes
1.9	**Government Documents/Mircroforms**				**24,652**	**43**	**935**	**11**		
	Help Desk				240					
	Staff	2	60	120						
	Queuing	2	60	120						
	Collection				14,222					
	Print Collection	935	12	11,220			935			10% of collection secured/locked
	Microfilm	76	24	1,786						76 Single Faced Sections
	Microfiche	76	16	1,216						76 Single Faced Sections
	General Seating				8,310					
	Computer Stations	15				15				
	Microfilm Readers	8				8				
	Table Seating	20				20				
	Offices				1,200					
	Head Librarian	1	160	160				1		
	Senior Library Specialist	1	120	120				1		
	Govt. Information Librarian	1	120	120				1		
	Librarian	1	120	120				1		
	Acquisitions Librarian	1	120	120				1		
	Library Specialist	1	120	120				1		
	Patent & Trademark Librarian	1	120	120				1		
	Staff Wrokstations	4	80	320				4		
	Staff Spaces				680					
	Workroom	1	240	240						
	Meeting Room	1	240	240						
	File/Copy	1	120	120						
	Storage	1	80	80						
1.10	**Fine Arts**				**7,729**	**58**	**130**	**2**		
	Help Desk									
	Staff									
	Queuing									
	Collection				6,019					
	Reference	45		3,415			45			
	Closed Stacks	85		2,604			85			
	General Seating				949					
	Lounge Seating	18				18				w/ FA Reference above
	Computer Seating	10				10				w/ FA Reference above
	Fine Arts Classroom	1	949	949		30				
	Offices				761			2		
	Small Offices	2	98	196						
	Med Sized Offices	2	144.5	289						
	Large Sized Office	1	276	276						

Proposed Areas	Units	Unit Area	Sub Total	Total Area	Reader Seats	DF Sections	FT Staff	PT Staff	Location/Notes
1.11 Circulation				**2,000**			**7**		
Help Desk				680					East & West entries
Staff	4	60	240						
Queuing	4	60	240						
Securtiy Check point	2	50	100						
Check-in	2	50	100						
Offices				280					
Circulation Head	1	160	160				1		
Circulation Supervisor	1	120	120						
Staff Workstations				660					
Night Services Coordinator	1	110	110				1		
Holds/Recall Technician	1	110	110				1		
Library Specialist	1	110	110				1		
Librarian	1	110	110				1		
Saturday Lead Person	1	110	110				1		
Billing Clerk	1	110	110				1		
Staff Spaces				380					
Meeting/Work Room	1	180	180						
File/Copy	1	120	120						
Storage	1	80	80						
1.12 Interlibrary Loans				**1,480**			**8**	**3**	
Help Desk				280					
Staff	2	60	120						
Queuing	2	60	120						
Secure Storage	1	40	40						
Offices				160					
Interlibrary Loans Head	1	160	160				1		
Staff Workstations				600					
Staff	4	110	440				4		
Part-time Workstations	2	80	160					2	
Staff Spaces				440					
Work Room	1	280	280					1	
File/Copy	1	100	100						
Storage	1	60	60						
1.13 Reserves				**2,220**		**45**	**4**		
Help Desk				800					
Staff	4	60	240						
Queuing	4	60	240						
Cashier	1	120	120						
Reserves Computers	5	40	200						
Collection				810					
Stacks	45	18	810			45			
Staff Spaces				610					
General Reserve Head Office	1	160	160				1		
Staff Work Stations	3	110	330				3		
Work Area	1	120	120						

Proposed Areas	Units	Unit Area	Sub Total	Total Area	Reader Seats	DF Sections	FT Staff	PT Staff	Location/Notes
1.14 Curriculum Library & Juvenile Collection				**4,846**	**48**	**137**	**3**		
Help Desk				120					
Staff	1	60	60						
Queuing	1	60	60						
Seating				1,440					
Curriculum	24	30	720		24				
Juvenile	24	30	720		24				
Collection				2,786					
Curriculum Collection	40	26	1,040			40			
Juvenile Collection	97	18	1,746			97			
Offices				160					
Curriculum Head Librarian	1	160	160				1		
Staff Spaces				340					
Staff Workstations	2	110	220				2		
File/Storage	1	120	120						
1.15 TACC				**3,132**			**7**		
Staff Workstations				3,132			7		
T.A.C.C. Head	1								
Computer Technician	1								
Computer Professional	1								
Administrative Assistant	1								
Coordinator/Programer	1								
Research & Development Analyst	1								
Tech. Assisted Course Librarian	1								
1.16 Gould Auditorium				**4,515**					
Auditorium	1	4515	4,515						
Kitchen									
Storage									
General Circulation									
1.17 Copy / Print				**1,000**					
Copy / Print Rooms	5	160	800						Distributed on all levels
Paper Storage	5	40	200						Distributed on all levels
1.18 Faculty Study				**480**	**8**				
Faculty Study Suites	8	60	480		8				(2) open office rooms w/book lockers

	Proposed Areas	Units	Unit Area	Sub Total	Total Area	Reader Seats	DF Sections	FT Staff	PT Staff	Location/Notes
2	**SPECIAL COLLECTIONS**				**54,464**	**221**	**1922**	**30**		
2.1	**Public Spaces**				**9,130**	**183**				
	Tanner Room					150				
	Public Reception	1	250	250						
	Reference/Technical Support	1	1250	1,250						
	Quiet Reading Room	1	5000	5,000						
	Digital Tech. Support Office	1	300	300						
	Large Classroom	1	650	650		25				
	8 Person Group Study	1	200	200		8				
	Eccles	1	830	830						
	Exhibit	1	650	650						
2.2	**Middle East Collection**				**12,330**	**38**	**575**	**3**		
	Reader Seats				1,220					
	Table Seating	30	30	900		30				
	Lounge Seating	8	40	320		8				
	Collection				10,350					
	Open Collection	543	18	9,774			543			
	Reference Collection	32	18	576			32			
	Offices				400					
	Head Librarian Office	1	160	160				1		
	Library Specialist Office	1	120	120				1		
	Assistant Librarian Office	1	120	120				1		
	Staff Spaces				360					
	Staff Workstations	2	80	160						
	File/Copy	1	80	80						
	Storage	1	120	120						
2.3	**Manuscripts**				**1,262**		**196**	**6**		card access secured
	Architectural Manuscripts	27	21	57			27			SFS - 90% of Collection in Bldg 213
	Manuscripts Collection	169	21	355			169			SFS - 90% of Collection in Bldg 213
	Offices				850					
	Curator Office	1	160	160				1		
	Archivist Office	2	120	240				1		
	Manu. Office	1	120	120				1		
	Staff workstations	3	110	330				3		
2.4	**Multimedia Archives**				**3,700**		**140**	**4**		
	Collection				2,940					card access secured
	Film Tape	35	21	735			35			all SFS
	Unproccessed	35	21	735			35			all SFS
	Exhibit Mat.	18	21	378			18			all SFS
	Processed	52	21	1,092			52			all SFS
	Offices				760					
	Head Multimedia Archives Office	1	160	160				1		
	A/V/ Associate Archivist	1	120	120				1		
	Senior Library Specialist	1	120	120				1		
	Archivist	1	120	120				1		
	Staff Workstation	3	80	240						
2.5	**Rare Books**				**12,050**		**447**	**4**		
	Collection				8,730					card access secured
	Middle East Rare	42	18	756			42			14 Single Faced Sections
	Rare Books	177	18	3,186			177			8 Single Faced Sections
	Oversize	118	21	2,478			118			all Single Faced Sections
	Rare Vault	110	21	2,310			110			all Single Faced Sections
	Book Arts Studio				3,040					
	Book Arts Office	1	120	120				1		
	Book Arts Studio Manager	1	120	120				1		
	Book Arts Studio	1	2800	2,800						
	Offices				280					
	Head Curator, Rare Books Office	1	160	160				1		
	Rare Books Associate Curator	1	120	120				1		

	Proposed Areas	Units	Unit Area	Sub Total	Total Area	Reader Seats	DF Sections	FT Staff	PT Staff	Location/Notes
2.6	**Western Americana**				**11,912**		**564**	**6**		
	Collection				11,152					card access secured
	Western Americana Collection	238	18	4,284			238			
	Western Americana Serials	59	18	1,062			59			
	Western Americana Maps	6		1,000						6 Single Faced Sections
	Clipping & Vertical Files	48	18	864			48			
	Western Gov. Docs.	36	18	648			36			
	Gift	18	18	324			18			18 DFS in Bldg 213
	University Printed Archives	165	18	2,970			165			
	Offices				760					
	W.A. Head Librarian	1	160	160				1		
	Reference Librarian	1	120	120				1		
	W.A. Monographs, Senior Specialist	1	120	120				1		
	W.A. Archives, Senior Specialist	1	120	120				1		
	W.A. Maps, Specialist	1	120	120				1		
	Newspaper Clippings, Senior Specialist	1	120	120				1		
2.7	**Preservation/Binding**				**3,660**			**5**		
	Work Areas				2,050					
	Preservation Lab	1	1400	1,400						
	Treatment Room	1	250	250						
	Shop	1	200	200						
	Materials	1	200	200						
	Offices				560					
	Head Pres. Binding office	1	160	160				1		
	Associate Conservator	2	100	200				1		
	Library Specialist	1	100	100						
	Supervisor	1	100	100						
	Workstations				900					
	Preservation Workstations	12	50	600				1		
	Binding Workstations	3	100	300				1		
	Staff Spaces				150					
	Workroom	1	150	150				1		
2.8	**Archives & Records Management**							**6**		Bldg. 213
	Staff Workstations	6						6		
2.9	**Administrative Offices**				**320**			**2**		
	Assistant Director	1	180	180				1		
	Associate Head									w/Western Americana
	Program Manager	1	140	140				1		
2.10	**Gifts**				**100**			**1**		
	Book Sale Area	1	100	100				1		

3	**LIBRARY COMPUTING**				**12,850**			**34**	**4**	
3.0	**Library Computing - Assistant Dir.**	1	180		**180**			**1**		
3.1	**Microcomputing**				**3,620**			**15**	**2**	
	Offices				720					
	Microcomputing, Head Office	1	180	180				1		
	Mac Systems Labs, Head Office	1	180	180				1		
	PC Systems Labs, Head Office	1	180	180				1		
	Staff & Public Systems, Manager	1	180	180				1		
	Staff Workstations				1,960					
	Computer Technician	3	150	450				3		
	Microcomputing Specialist	4	150	600				4		
	Computer Labs, Mac Systems	1	150	150				1		
	Microcomputing Development Specialist	1	150	150				1		
	MacIntosh Systems Specialist	1	150	150				1		
	Computer Labs, PC Systems	1	150	150				1		
	Streaming AV Station	1	150	150						
	Part time Assistants	2	80	160					2	
	Staff Spaces				940					
	Computer Repair	1	200	200						
	Parts Storage	2	200	400						
	Meeting Room	1	240	240						
	File/Copy	1	100	100						
3.2	**Digital Technologies**				**1,620**			**7**	**2**	
	Offices				180					
	Digital Tech Head	1	180	180				1		
	Staff Workstations				1,060					
	Senior Programer/Analyst	1	150	150				1		
	Computer Professional	1	150	150				1		
	Digital Projects Librarian	1	150	150				1		
	Computer Programmer	1	150	150				1		
	Computer Professional	1	150	150				1		
	1 Full Time	1	150	150				1		
	Part time Assistants	2	80	160					2	
	Staff Spaces				380					
	Digitization Center	2	110	220						
	File/Copy	1	80	80						
	Storage	1	80	80						
3.3	**Integrated Library System**				**480**			**2**		
	Head Integrated Library System	1	180	180				1		
	Computer Professional	2	150	300				1		
3.4	**Systems/Network**				**5,650**			**9**		
	Data Center				2,760					Card Access Secured
	Switch	1	400	400						
	Servers	1	1800	1,800						
	UPS	2	100	200						
	Work Area	2	80	160						
	HVAC	2	100	200						
	Distribution				1,220					
	MMC Server Room	1	800	800						
	Switching Closets	14	30	420						
	Offices				1,110					
	Head Sys. Office	1	180	180				1		
	Head of Networking	1	180	180				1		
	Office	3	150	450				3		
	Staff Workstations	2	150	300				4		
	Staff Spaces				560					
	Work Room	1	240	240						
	File/Storage	1	100	100						
	Meeting Room	1	120	120						
	Book Library	1	100	100						
3.5	**Common Areas**				**1,300**					
	Central Storage	1	800	800						
	Break Room	1	300	300						
	Central Files	1	200	200						

4	**TECHNICAL SERVICES**				**9,150**			**29**	**10**	
4.1	**Catalog Records Maintenance**				**4,550**			**14**	**7**	
	Offices				160					
	Catalog Records Maintenance Head	1	160	160				1		
	Staff Workstations				1,430					
	Senior Library Specialist	1	110	110				1		
	Catalog Specialist	1	110	110				1		
	Library Specialist	1	110	110				1		
	Catalog Record Specialist	1	110	110				1		
	Library Specialist	1	110	110				1		
	Catalog Specialist	1	110	110				1		
	Cat. Record/Subject Author Specialist	1	110	110				1		
	Storage Support Technician	1	110	110				1		
	Senior Library Specialist	1	110	110				1		
	Catalog Specialist	1	110	110				1		
	Library Specialist	1	110	110				1		
	Storage Coordinator	1	110	110				1		
	1 FT Staff Member	1	110	110				1		
	Staff Spaces				2,960					
	Marking Tables	7	80	560					7	
	Marking Stacks	12	21	252						
	Delivery/Staging Area	1	300	300						
	Processing	1	300	300						
	Label Table	1	240	240						
	Book Truck Storage	1	200	200						
	Catologing Material Stacks	48	21	1,008						
	File/Copy/Storage	1	100	100						
4.2	**Monographic Cataloging**				**1,740**			**6**		
	Offices				320					
	Mono. Catalog Head	1	160	160						
	Orig. Catalog Head	1	160	160						
	Staff Workstations				710					
	Science/Map Cataloger Librarian	1	160	160				1		locate with Map Collection
	Cataloging Sr. Specialist	1	110	110				1		
	Special Formats Copy Cataloger	1	110	110				1		
	Music Cataloger Librarian	1	110	110				1		
	Humanities/Fine Arts Cataloger Librarian	1	110	110				1		
	Electronic Formats Cataloger	1	110	110				1		
	Staff Spaces				710					
	Delivery/Staging Area	1	200	200						
	Stacks	10	21	210						
	Rare Books Closet	1	80	80						
	File/Copy	1	100	100						
	Storage	1	120	120						
4.3	**Serials**				**1,980**			**9**	**3**	
	Offices				460					
	Head of Serials	1	160	160				1		
	Serials Check-In	1	300	300						
	Staff Work Stations				1,120					
	Serials Cataloger Librarian	1	110	110				1		
	Serials Accounting	1	110	110				1		
	Library Specialist	1	110	110				1		
	Serials Record Management	2	110	220				2		
	Serials Binding	1	110	110				1		
	Serials Records Maintenance	1	110	110				1		
	UALC Project Staff	1	110	110				1		
	PT Workstations	3	80	240					3	
	Staff Spaces				400					
	Delivery/Staging Area	1	200	200						
	File/Copy	1	100	100						
	Storage	1	100	100						
4.4	**Common Areas**				**880**					
	Meeting/Work Rooms	2	240	480						
	Central Storage	1	400	400						

	Proposed Areas	Units	Unit Area	Sub Total	Total Area	Reader Seats	DF Sections	FT Staff	PT Staff	Location/Notes
5	**GENERAL ADMINISTRATION**				**6,390**			**32**		
5.1	**Administration**				**670**			**3**		
	Director	1	230	230				1		
	Administrative Assistant	1	120	120				1		
	Executive Secretary	1	120	120				1		
	Admin. Recept.	1	100	100						
	Recept Queuing and Waiting	1	100	100						
5.2	**Assistant Directors**				**180**			**1**		
	Public Services	1	180	180				1		
	Library Computing, Tech. Services	1								with Library Computing
	Special Collections	1								with Special Collections
5.3	**Collection Development**				**1,300**			**3**	**2**	
	Offices				640					
	Head Collection Development	1	160	160				1		
	Librarian Offices	3	120	360				1		
	Collection Development Office	1	120	120				1		
	Staff Workstations				220					
	Workstations	2	110	220					2	
	Staff Spaces				440					
	Meeting/Workroom	1	240	240						
	File/Copy	1	100	100						
	Storage	1	100	100						
5.4	**Development**				**280**			**2**		
	Director Office	1	160	160				1		
	Development Specialist	1	120	120				1		
5.5	**Financial Management**				**860**			**4**		
	Offices				540					
	Head Financial Management	1	180	180				1		
	Associate Accountant Office	1	120	120				1		
	Admin. Assist. Office	1	120	120				1		
	Building Operator	1	120	120				1		
	Staff Spaces				320					
	Safe Room	1	80	80						
	Meeting Room	1	240	240						
5.6	**Acquisitions**				**1,100**			**9**		
	Offices				920					
	CSO Coordinator Sr. Specialist	1	160	160				1		
	Library Specialist	4	110	440				4		
	Senior Library Specialist	1	110	110				1		
	Acquisitions Rec/Acctg Sr. Spec.	1	110	110				1		
	Staff Workstations	2	50	100				2		
	Staff Spaces				180					
	File/Copy	1	100	100						
	Storage	1	80	80						
5.7	**Human Resources**				**1,000**			**7**		
	Offices				860					
	Head Human Resources	1	180	180				1		
	Human Resources Specialist	1	120	120				1		
	Staff Development Officer	1	120	120				1		
	Project Coordinator	2	120	240				2		
	Protection Services	2	100	200				2		
	Staff Spaces				140					
	File Room	1	140	140						
5.8	**Common Area**				**1,000**			**3**		
	File/Copy	1	200	200				1		
	Storage	1	100	100				1		
	Conference Room	1	700	700				1		

	Proposed Areas	Units	Unit Area	Sub Total	Total Area	Reader Seats	DF Sections	FT Staff	PT Staff	Location/Notes
6	**SUPPORT**				**8,719**			**10**	**0**	
6.1	**Mailing**				**760**			**2**		
	Coordinator	1	160	160				1		
	Mail Handler	1	160	160				1		
	Storage	1	440	440						
6.2	**Supply**				**2,760**			**2**		
	Temp. Off-loading	1	600	600						
	Buyer II Office	1	160	160				1		
	Supply Assistant	1	100	100				1		
	Purchasing	1	1,000	1,000						
	Back Area	1	900	900						
6.3	**Building Management**				**1,540**			**3**		
	Carpenter Workshop	1	520	520						
	Buiding Operator	1	140	140				1		Room 1004R
	Facilities Storage	1	600	600						
	Facilities Coordinator	1	140	140				1		Room 2701
	Computer Technician	1	140	140				1		Room 2701
6.4	**Reshelving**				**2,134**			**3**	**0**	
	Offices				400					
	Head Office	1	160	160				1		
	Office	2	120	240				2		
	Staff Spaces				440					
	Storage	1	200	200						
	Part-time Staff Area	1	240	240						
	Stacks				1,294					
	Stacks	63	18	1,134						
	Check-In	1	160	160						
6.5	**Staff Areas**				**1,000**					
	Lounge	1	800	800						
	Kitchen	1	140	140						
	Lockers	1	60	60						
6.6	**Custodial**				**525**					
	Offices									
	Custodian Work Room	5	105	525						
	Storage									

PROGRAM SUMMARY

	Total Area		Reader Seats		DF Sections		FT Staff	PT Staff
	Prop	Exist	Prop	Exist	Prop	Exist	Prop	Prop
1 PUBLIC SERVICES	**275,699**	273,507	**3,033**	2,401	**8,296**	8,296	**83**	**9**
2 SPECIAL COLLECTIONS	**54,464**	46,280	**221**	81	**1922**	1875	**30**	**0**
3 LIBRARY COMPUTING	**12,850**	15,107					**34**	**8**
4 TECHNICAL SERVICES	**9,150**	11,113					**29**	**10**
5 ADMINISTRATION	**6,390**	8,855					**32**	**0**
6 SUPPORT	**8,719**	11,419					**10**	**35**
TOTAL ASSIGNABLE	**367,272**	366,281 *	**3,254**	2,482	**10,218**	10,171	**218**	**62**
EFFICIENCY FACTOR	**1.35**	1.35						
TOTAL GROSS AREA	**494,063**	495,358						

* Total existing assignable area includes intradepartment circulation

Column Heading Key:
DF Sections = Double Faced Sections
FT Staff = Full time staff
PT Staff = Part time staff

4.3 ADJACENCIES/ RELATIONSHIPS

The adjacencies and relationships described in this section refer to planning option 'A' of section 4.4.

LEVEL 1

SPACES ALONG A NEW PUBLIC CIRCULATION AXIS and STAFF SPACES:

In comparison to the existing user circulation between the addition and the original building, efforts have been made to facilitate circulation to each wing by defining unobstructed circulation paths and creating a clearer visual link between spaces. The first level for instance establishes an internal circulation path that connects the Electronic Education Center and its reserved computer labs to the proposed Café and student multi-use spaces, I.T. Staff, and the wing that houses the General Collection. The entrance lobby on the first level is reorganized to provide visual clarity and ease of access to the second level.

The adjacent multi-use space and Café should support the E.E.C.'s activities by providing an informal and social gathering place for library users.

The information technologies staff relocates nearby to provide additional support to the E.E.C. The I.T. staff from Library Computing would unite into one common work area. Staff members that remain in their existing location are the Mail/Supply departments to take advantage of the existing loading area.

COLLECTION:

The proposed Government Document's Collection location has access from the library's central stair and elevator core and from a corridor that comes off the main entry lobby. Gov. Docs. staff remains adjacent to the collection and a new Government Document's Help Desk provides assistance to library users. To allow for the rededication of space to other uses it is recommended that the Government Document's Collection and that part of the General Collection incorporate compact shelving. The stacks should be positioned to allow natural daylight at reader seating. A new area dedicated to the storage of less frequently used volumes is proposed on the first level next to the Mail/Supply and Library Computing staff areas. This closed collection does not accommodate reader seating and incorporates compact shelving.

LEVEL 2

SPACES ALONG NEW PUBLIC CIRCULATION AXIS and STAFF SPACES:

The second level defines a clear and unobstructed circulation path to connect the general collection, Fine Arts collection, and the Information Commons together. The new Information Commons space incorporates the Reference and Reserves collection and features wired table, lounge, typewriter, computer table, and group study seating. New points of service include a centrally located Help Desk, an adjacent Ref. Desk and an I.T. Help Desk.

The Technology Assisted Curriculum Center (TACC) remains in its existing location along with an adjacent Computer Shop. The TACC should have a close relationship with the E.E.C. to allow for closer access to the new E.E.C. reserved labs.

Since the Fine Arts department is not anticipated to grow it remains in its current location with the exception of a Fine Arts classroom. It relocates to the adjacent central stair in order to accommodate reader seating in the Information Commons.

Both the Micro Computing Help Desk and Reference departments also relocate to support the information commons users.

COLLECTION and READER AREAS:

The General Collection remains in its current location and is supplemented with additional stacks. Reader seating could be positioned in adjacent glazed areas to take advantage of views and natural light. Reader seat locations have been identified on planning option 'A'.

LEVEL 3

PUBLIC CIRCULATION AND STAFF SPACES:

To improve and clarify circulation, a primary circulation path from the library entrance at the east to a Great Reading Room at the west is proposed. This path is defined by a new bridge that extends across an opening to the level below linking the Atrium Reading Room and the Great Reading Room located at the west side of the building.

With the exception of Interlibrary Loans there are no additional staff located on the third level. Interlibrary Loans is located adjacent to the main entrance and to the Circ. Help Desk at the east lobby.

COLLECTION and READER AREAS:

The third level accommodates part of the General Collection and the Current Periodicals Collection. Adjacent to the Current Periodicals Collection, users may access an Atrium Reading Room that accommodates lounge and table seating. Group study rooms are centrally located adjacent to the westerly mechanical shafts. A new Great Reading Room allows users to enjoy clear and distant views to the west.

LEVEL 4

PUBLIC CIRCULATION AND STAFF SPACES:

Users may access level four from the central stair and elevator core. From a centrally located Help Desk users may walk around the atrium space or proceed to main circulation aisles adjacent to the collection.

The fourth level staff space coincides with the previous Library-Computing staff location. Technical Services, Acquisitions, Reshelve, and Science Reference instead occupy this rezoned space. Staff access to an elevator and stairs is provided; in general staff dedicated elevators may be accessible via card readers to minimize public use.

Faculty study suites remain within the precast panel enclosed alcoves. At unoccupied alcoves, reader seating may be located adjacent to the stacks.

COLLECTION:

The fourth level retains part of the General Collection, Science Reference, Science Current Periodicals, and the Map Collection. In addition, the Middle East Collection is located on this level, as the administrative staff spaces introduced on the fifth level would displace it. Some of the Middle East offices relocate to support that collection.

LEVEL 5

PUBLIC CIRCULATION AND STAFF SPACES:

Users may access the fifth level from the central stair and elevator core. From an Exhibit Space users may proceed to the Book Arts Studio area, or around the atrium space to other destinations.

In similar fashion to the fourth level, the fifth level accommodates staff areas that contain several departments. These departments include: Administration, Finance, Human Resources, Collection Development, and Circulation Staff. In addition, the Preservation and Binding staff is relocated to this level. Staff access to an elevator and stairs is provided; in general staff dedicated elevators may be accessible via card readers to minimize public use.

COLLECTION and READER AREAS:

The fifth level reorganizes the Special Collection to enhance existing and new reading rooms. A larger Tanner Reading Room and vault space are accommodated. In addition, users may access the Rare Books Collection, Western Americana Collection, Multimedia Archives Collection, and the Manuscripts Collection. The public will have monitored access on this floor.

4.4 CONCEPT PROGRAM ADJACENCIES AND PLANS

The following pages and three additional options (Appendix, pages 492-504) illustrate the proposed distribution of program components on levels 1 thru 5 of both the 1967 and 1996 buildings. The Program Adjacency and Stacking Matrix describes the proposed organization of the program elements on a floor-by-floor basis. The plan diagrams outline the proposed adjacencies and inter-relationships of these elements within the existing footprint of the building.

Refer to the Main Entry triangular "arrows" as a point of reference for the primary entry and circulation paths through the public areas of the project. Along these paths, a green "asterisk" typically describes circulation nodes and decision points. These nodes coincide with points of service such as Help Desks in either a round or "L" shaped configuration.

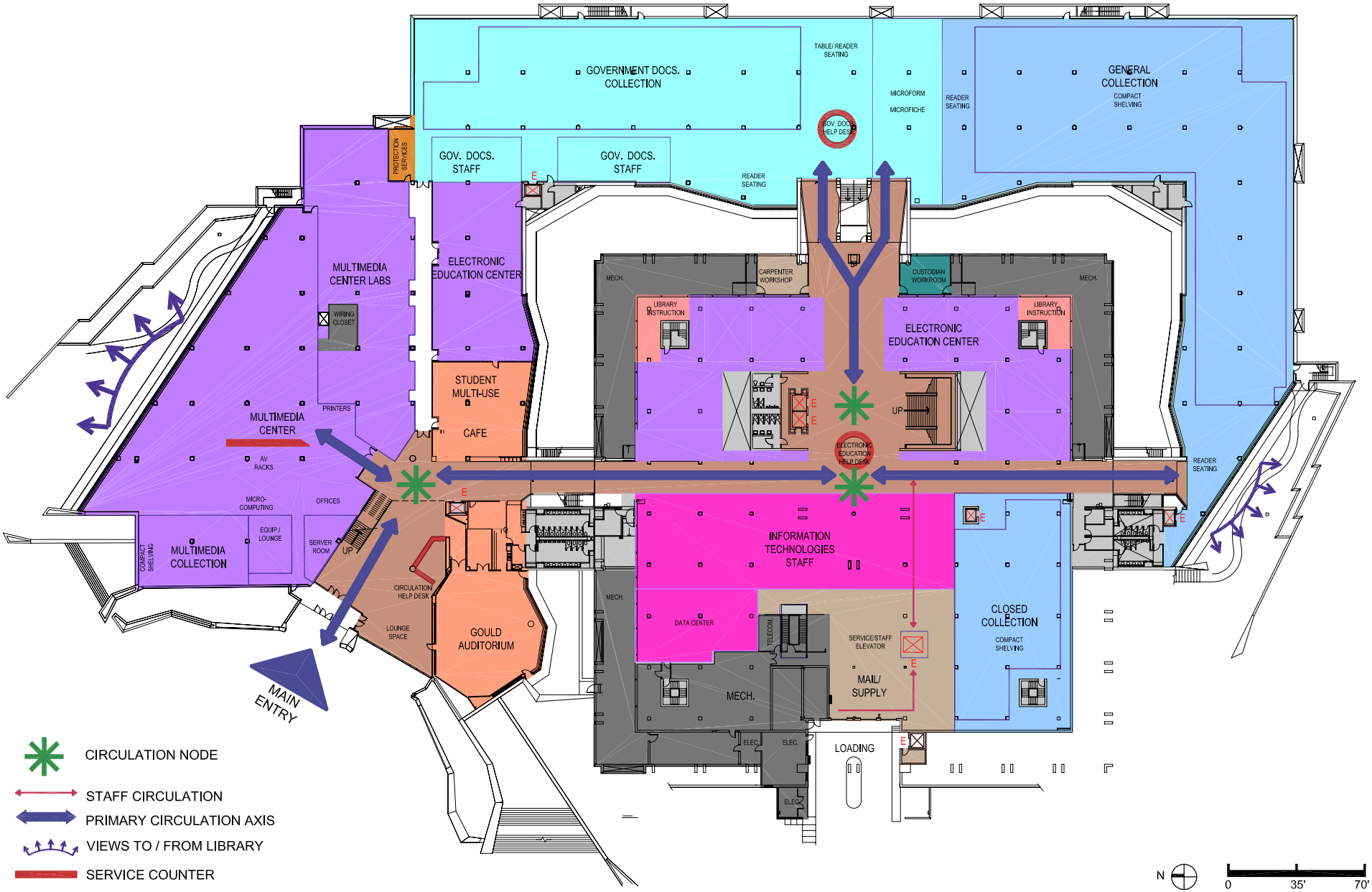
Primary staff circulation has been diagrammed with a thin red line and arrow. Staff circulation occurs in the Loading area of the first level and continues to an elevator that services five floors. For clarity, all elevators are marked with a red "E."

Natural light and views are noted at large glazed areas as in the first level's Multimedia Center, the second level's Information Commons, the third level's Great Reading Room and reader seating areas at various locations.

Recommended Stacking and Adjacencies

Location and Program Element	1967 Building	1996 Addition	# of Seats	# of DFS
	ASF	ASF		
First Floor	**39,278**	**81,127**	**1,135**	**3,319**
Circulation Help Desk		340		
General Lounge Seating		400	10	
Student Multi-use Area		1,310	32	
Café		1,300	40	
Multimedia Center		17,850	510	
Multimedia Center Server Room		800		
Electronic Education Center	15,675	3,000	340	
Library Computing/IT Staff	8,290			
Library Computing/Data Center	2,760			
Library Computing/Switching Closets	60	60		
Government Documents		24,652	43	935
Copy/Print Room		200		
General Collection	6,908	21,700		2,384
General Seating		5,000	160	
Gould Auditorium		4,515		
Building Support/Mailing	760			
Building Support/Supply	2,760			
Building Support/Building Management	1,540			
Building Support/Custodial	525			
Second Floor	**35,046**	**72,192**	**1,131**	**3,075**
Information Commons	24,837		473	200
Reserves	2,220			45
Copy/Print Room	200	200		
Fine Arts	7,729		58	130
TACC		3,132		
Library Computing Storage and Files		1,000		
Library Computing/Switching Closets	60	60		
General Collection		49,200		2,700
General Seating		18,600	600	
Third Floor	**38,271**		**655**	**797**
Circulation Help Desk	340			
Interlibrary Loans	1,480			
Atrium Reading Room	8,925		257	
Curriculum Library/Juvenile Collection	4,886		48	137
General Collection	11,880			660
General Seating	3,000		100	
General Seating/Grand Reading Room	7,500		250	
Copy/Print Room	200			
Library Computing/Switching Closets	60			

Location and Program Element	1967 Building	1996 Addition	# of Seats	# of DFS
	ASF	ASF		
Fourth Floor	**51,554**		**150**	**1,680**
Science and Engineering Reference	6,130		54	70
General Collection	18,630			1,035
General Seating	1,500		50	
Copy/Print Room	200			
Faculty Studies	480		8	
Support/Reshelving Area	2,134			
Special Collections/Middle East Collection	10,350			575
Special Collections/Middle East Reader Seats	1,220		38	
Special Collections/Middle East Staff (excl. Head)	600			
Technical Services	9,150			
Acquisitions	1,100			
Library Computing/Switching Closets	60			
Fifth Floor	**49,804**		**183**	**1,347**
Special Collections (excl. Middle East)	42,134		183	1,347
Administration (excl. Acquisitions)	5,290			
Circulation Offices	1,320			
Staff Areas (lounge, etc.)	1,000			
Library Computing/Switching Closets	60			
Total Building	**213,953**	**153,319**	**3,254**	**10,218**
Overall ASF		**367,272**	seats	dfs

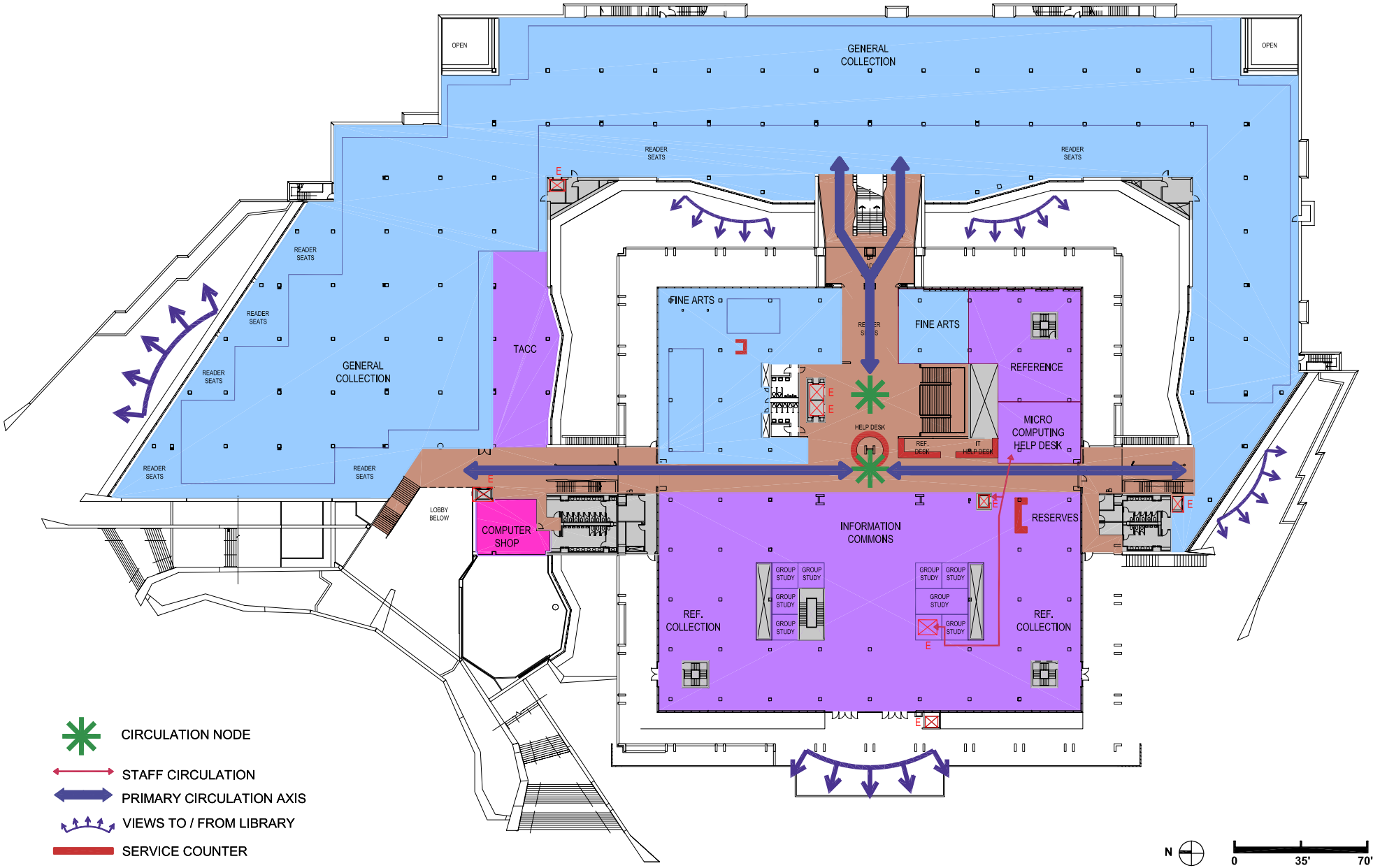


MARRIOTT LIBRARY RENOVATION
SALT LAKE CITY, UTAH

HHPA / COOPER ROBERTS SIMONSEN ARCHITECTS

PLANNING OPTION A
CONCEPTUAL ADJACENCY DIAGRAMS

LEVEL 1
JUNE, 2002

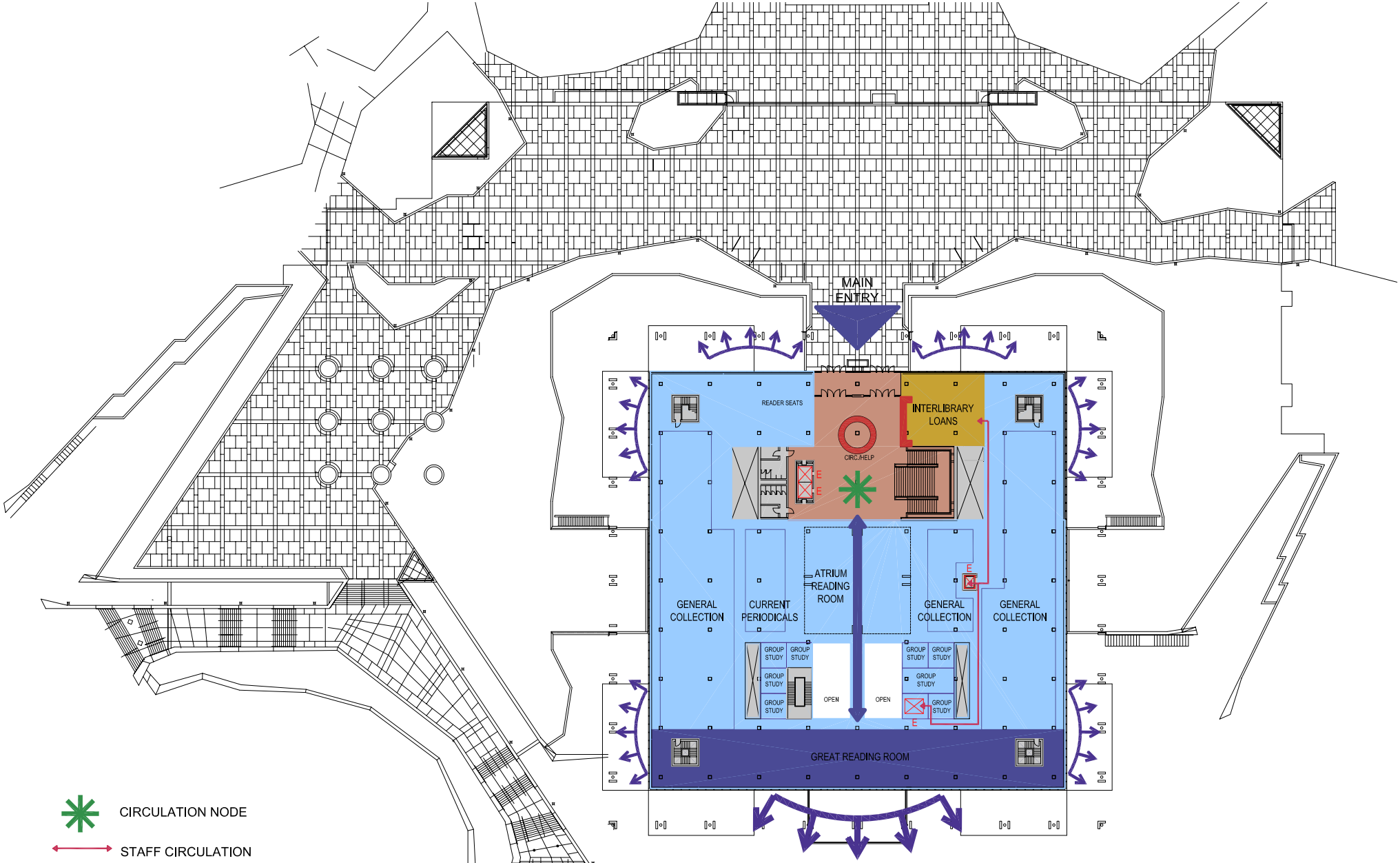


MARRIOTT LIBRARY RENOVATION
SALT LAKE CITY, UTAH

PLANNING OPTION A
CONCEPTUAL ADJACENCY DIAGRAMS

LEVEL 2
JUNE, 2002

HHPA / COOPER ROBERTS SIMONSEN ARCHITECTS

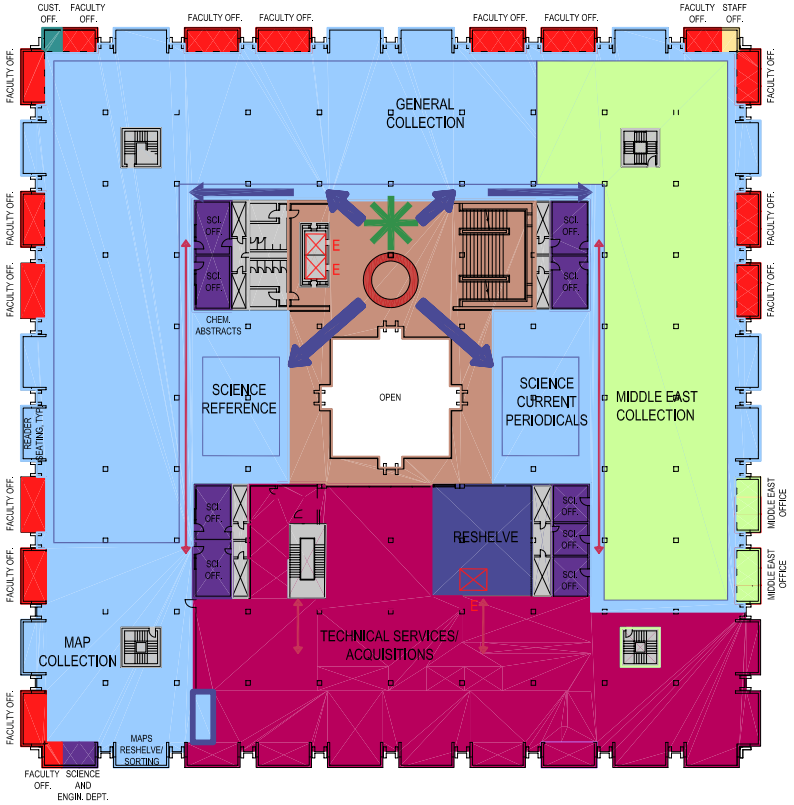


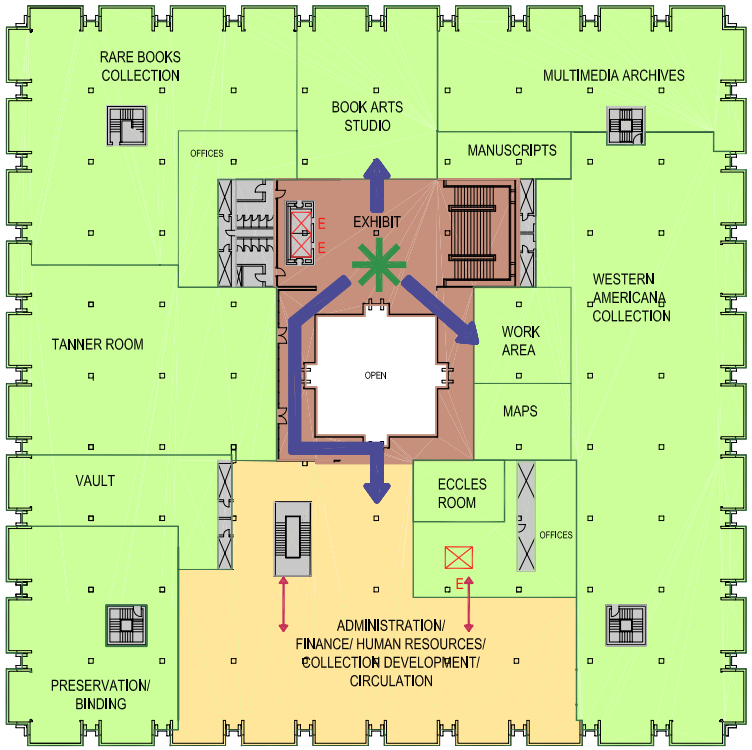
MARRIOTT LIBRARY RENOVATION
SALT LAKE CITY, UTAH

HHPA / COOPER ROBERTS SIMONSEN ARCHITECTS

PLANNING OPTION A
CONCEPTUAL ADJACENCY DIAGRAMS

LEVEL 3
JUNE, 2002





CIRCULATION NODE

STAFF CIRCULATION

PRIMARY CIRCULATION AXIS

VIEWS TO / FROM LIBRARY

SERVICE COUNTER

N

0 35' 70'

MARRIOTT LIBRARY RENOVATION
SALT LAKE CITY, UTAH

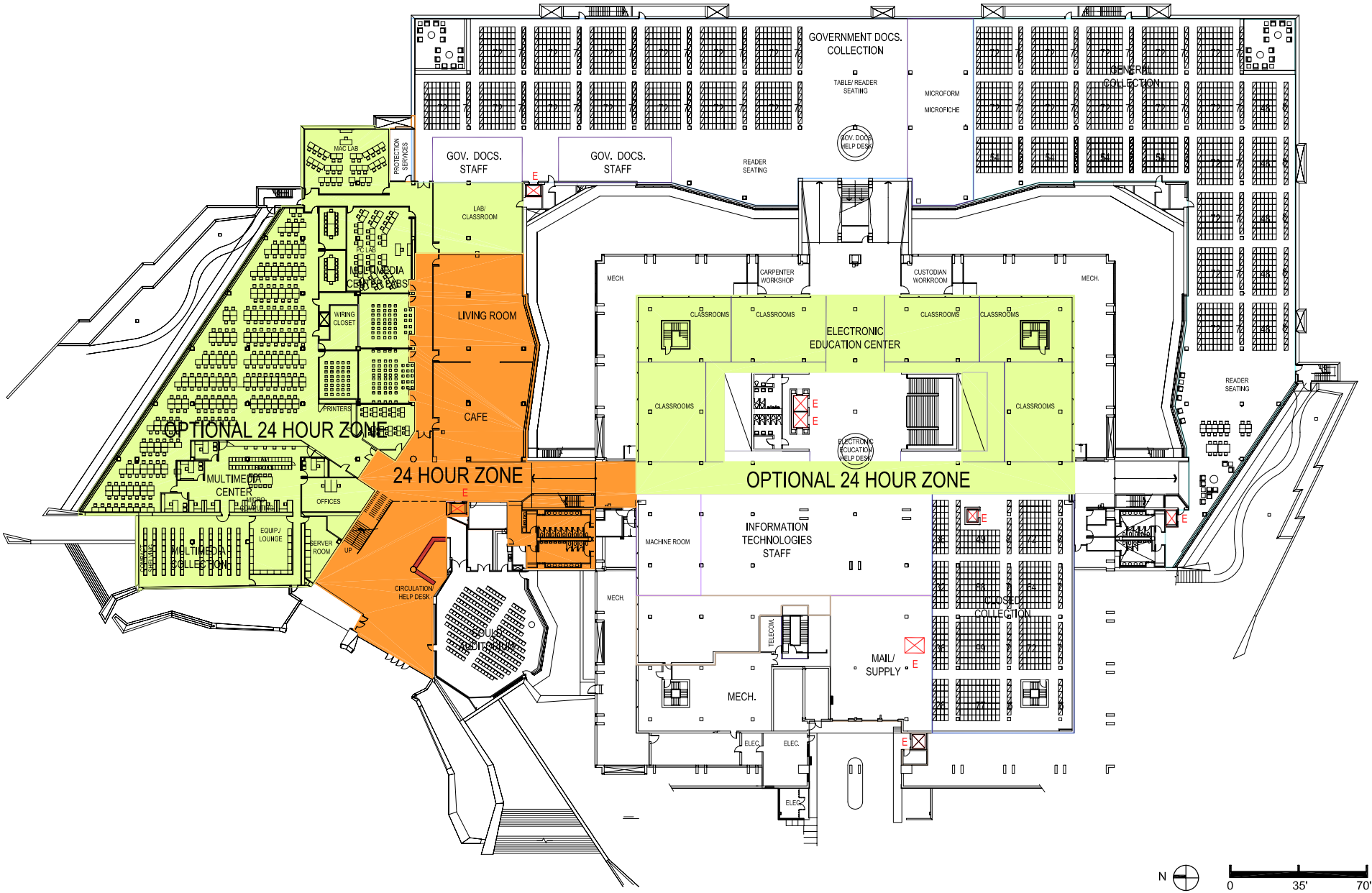
HHPA / COOPER ROBERTS SIMONSEN ARCHITECTS

PLANNING OPTION A
CONCEPTUAL ADJACENCY DIAGRAMS
LEVEL 4 & 5
JUNE, 2002

4.5 24 HOUR ZONE

The following two pages illustrate locations for both a proposed 24 hour zone and an Optional 24 hour zone.

Refer to section 4.1 for a description of spaces and their qualitative aspects.



MARRIOTT LIBRARY RENOVATION
SALT LAKE CITY, UTAH

LEVEL 1, 24-HOUR ZONE

HHPA / COOPER ROBERTS SIMONSEN ARCHITECTS

JUNE, 2002

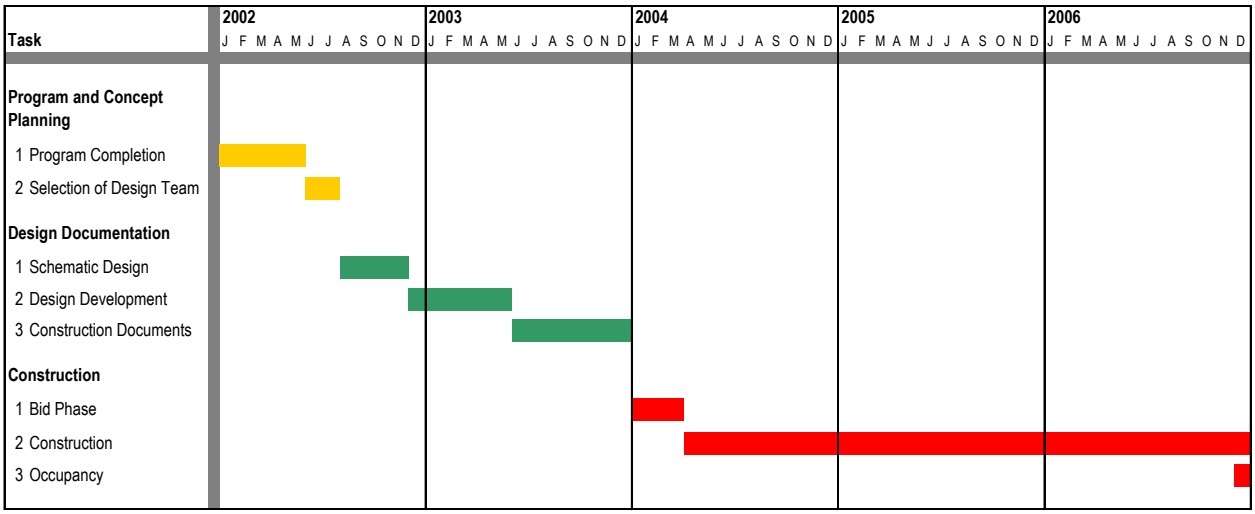
MARRIOTT LIBRARY RENOVATION
SALT LAKE CITY, UTAH

LEVEL 2, 24 -HOUR ZONE

HHPA / COOPER ROBERTS SIMONSEN ARCHITECTS

JUNE, 2002

4.6 SCHEDULE



Phasing of the project is necessary to keep the Marriott Library in operation during construction. Design phases (schematic design through construction documents including client review) are expected to require a 17-month period. The bid and renovation phases of the project are anticipated to occur over a 36-month period, assuming a phased scenario, with substantial completion and move-in at the end of 2006.

5

Room Data Sheets

1.1 STUDENT MULTI-USE

IDENTIFICATION AND SIZE	Division:	Public Services
	Capacity:	32
	Proposed ASF:	1,310 sf
		Wired Lounge Seating, 800 sf
		Table Seating, 360 sf
		Display/Exhibit, 150 sf
USE	Activities:	Comfortable seating for relaxed reading and studying; informal meeting space, display for temporary exhibits
	Access:	Area within 24 hour zone
	Frequency/Hours:	Available to all library users all hours the library is open. Hours variable, up to 7 days/week, day and evening hours.
	Adjacencies:	Café, Multi-Media Center, West Entry Lobby
	Special Requirement:	n/a
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum
	Floor Finish:	Carpet tile
	Wall Finish:	Painted gyp. board; glazed sidelight or doors
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	Sound isolation from classroom
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Floor outlets 8' on center; low profile access floor
	Shielding, Grounding:	TBD
	Network:	Cabled/wireless
MECHANICAL/ ELECTRICAL	Natural Lighting:	Preferred
	Artificial Lighting:	Indirect, general ceiling lighting, task lighting in lounge area
	HVAC Requirement:	Air-conditioned
	Electrical:	Multiple duplex located at 6' intervals at all walls
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
Lounge Seating		
Chair		20
Side Table		10
Table	2x3	6
Guest Chair		12
Built-in Bench	24" x 4'	6

1.2 CAFE

IDENTIFICATION AND SIZE	Division:	Public Services
	Capacity:	44
	Proposed ASF:	1,300 sf *Wired Café Seating, 1,000 sf* *Service Counter, 200 sf* *Storage, 100 sf*
USE	Activities:	Comfortable seating for relaxed reading and studying; lounge area for snacks, recreation, and informal meetings
	Access:	Area within 24 hour zone
	Frequency/Hours:	Available to all library users all hours the library is open. Hours variable, up to 7 days/week, day and evening hours.
	Adjacencies:	Student Multi-Use, Multi-Media Center, Main West Lobby
	Special Requirement:	n/a
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum
	Floor Finish:	Porcelain or quarry tile at service counter and main circulation path / carpet at seating areas.
	Wall Finish:	Durable; painted gyp. board; glazed sidelight or doors
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	n/a
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Floor outlets 8' on center; low profile access floor
	Shielding, Grounding:	TBD
	Network:	Cabled/wireless
MECHANICAL/ ELECTRICAL	Natural Lighting:	Preferred
	Artificial Lighting:	Indirect, general ceiling lighting, task at counter
	HVAC Requirement:	Air-conditioned
	Electrical:	Provide power at each appliance
	Security:	General
	Fire Protection:	General
	Plumbing:	Sink in countertop w/ hot and cold water, mop sink, plumbed ice maker

EQUIPMENT AND FURNISHINGS	Description	Size	Number/location
Café	Table	2'x3'	(8) 2 top
	Table	3'x5'	6.4 top
	Seats (chairs, stools, bench)		
	Base Cabinet	24"	18'
	Wall Cabinet	12"	8'
	Refrigerated Display Case	30"x60"	2
Storage Room	Shelving	18"	20'
	Refrigerator/ice maker/mop sink		

1.3.1A INFORMATION COMMONS
Reader Seats – Computer Tables

IDENTIFICATION AND SIZE	Division:	Public Services
	Capacity:	200-300
	Proposed ASF:	7,000 sf
USE	Activities:	Computer stations for general user use (internet search, word processing, reading, e-mail, creation of reports.) Stations supplied with power/data ports for use of personal laptop computers.
	Access:	Area within 24 hour zone
	Frequency/Hours:	Available to all library users during hours the library is open. Hours variable, up to 7 days/week, day and evening hours.
	Adjacencies:	Computing Help Desk, Reference Help Desk, Reserves
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	Carpet tile
	Wall Finish:	Painted gyp. board; glazed sidelight or doors
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	n/a
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Floor outlets 8' on center; low profile access floor
	Shielding, Grounding:	TBD
	Network:	Cabled/wireless
MECHANICAL/ ELECTRICAL	Natural Lighting:	Preferred
	Artificial Lighting:	Indirect, task lighting at individual work surface
	HVAC Requirement:	Building standard
	Electrical:	Power at each reader station
	Special Requirement:	Separate circuits for HVAC and electrical as needed
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
Computer Tables	varied sizes / *shapes	50
Task Chair	1.5 / computer	300

*Oval, rectangular and circular tables preferably seating six and four computer stations.

1.3.1B INFORMATION COMMONS
Reader Seats – Wired Table Seating

IDENTIFICATION AND SIZE	Division:	Public Services
	Capacity:	120-150
	Proposed ASF:	3,600 sf
USE	Activities:	Wired stations for general user use supplied with power/data ports for use of personal laptop computers
	Access:	Area within 24 hour zone
	Frequency/Hours:	Available to all library users during hours the library is open. Hours variable, up to 7 days/week, day and evening hours.
	Adjacencies:	Computing Help Desk, Reference Help Desk, Reserves
	Special Requirement:	Separate circuits for HVAC and electrical as needed
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	Carpet tile
	Wall Finish:	Painted gyp. board; glazed sidelight or doors
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	n/a
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Floor outlets 8' on center; low profile access floor
	Shielding, Grounding:	TBD
	Network:	Cabled/wireless
MECHANICAL/ ELECTRICAL	Natural Lighting:	Preferred
	Artificial Lighting:	Indirect, task lighting at individual work surface
	HVAC Requirement:	Building standard, sufficient load for equipment
	Electrical:	Power at each reader station
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
Wired Table (seat 150)	Varied sizes / *shapes	38
Task Chair		150

* Oval, rectangular and circular tables with power and network access.

1.3.1C INFORMATION COMMONS
Reader Seats – Lounge Seating

IDENTIFICATION AND SIZE	Division:	Public Services
	Capacity:	30-45
	Proposed ASF:	1,200 sf
USE	Activities:	Area for informal gathering, reading and relaxing.
	Access:	Area within 24 hour zone
	Frequency/Hours:	Available to all library users during hours the library is open. Hours variable, up to 7 days/week, day and evening hours.
	Adjacencies:	Computing Help Desk, Reference Help Desk, Reserves
	Special Requirement:	n/a
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	Carpet tile
	Wall Finish:	Painted gyp. board; glazed sidelight or doors
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	n/a
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Floor outlets 8' on center; low profile access floor
	Shielding, Grounding:	TBD
	Network:	Cabled/wireless (50% of seating group served with network outlet.)
MECHANICAL/ ELECTRICAL	Natural Lighting:	Preferred
	Artificial Lighting:	Indirect, task lighting at individual work surface
	HVAC Requirement:	Building standard, sufficient load for equipment
	Electrical:	Power at each reader station
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
Lounge Seating		
Chair		30
Side Table		15

1.3.1D INFORMATION COMMONS
Reader Seats – Typewriter Stations

IDENTIFICATION AND SIZE	Division:	Public Services
	Capacity:	3
	Proposed ASF:	105 sf
USE	Activities:	Tables with typewriters for general user use
	Access:	Area within 24 hour zone
	Frequency/Hours:	Available to all library users during hours the library is open. Hours variable, up to 7 days/week, day and evening hours.
	Adjacencies:	Computing Help Desk, Reference Help Desk, Reserves
	Special Requirement:	n/a
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	Carpet tile
	Wall Finish:	Painted gyp. board; glazed sidelight or doors
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	n/a
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Floor outlets 8' on center; low profile access floor
	Shielding, Grounding:	TBD
	Network:	Cabled/wireless
MECHANICAL/ ELECTRICAL	Natural Lighting:	Preferred
	Artificial Lighting:	Indirect, task lighting at individual work surface
	HVAC Requirement:	Building standard, sufficient load for equipment
	Electrical:	Power at each reader station
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
Table/Carrel	30"x3'	3
Chair		3

1.3.2A INFORMATION COMMONS
Group Study – 4-person

IDENTIFICATION AND SIZE	Division:	Public Services
	Capacity:	4-5
	Proposed ASF:	100 sf
USE	Activities:	Private group study, including conversation, writing on whiteboard, use of library materials, and laptop computers.
	Access:	Area within 24 hour zone
	Frequency/Hours:	Available to all library users all hours the library is open. Hours variable, up to 7 days/week, day and evening hours.
	Adjacencies:	Info. Commons Reader Seats
	Special Requirement:	n/a
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	Carpet tile
	Wall Finish:	Painted gyp. board; glazed sidelight or doors
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	Noise separation from adjacent library area
	Special Requirement:	Glazed partitions for monitoring by staff
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Floor outlets 8' on center; low profile access floor
	Shielding, Grounding:	TBD
	Network:	Cabled/wireless
MECHANICAL/ ELECTRICAL	Natural Lighting:	Not required
	Artificial Lighting:	General ceiling lighting on separate switching
	HVAC Requirement:	Building standard
	Electrical:	Duplex outlets on each wall
	Security:	Passage set on door
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
White board	4' x 6'	1
Table	4' x 4'	1
Guest Chair		4

1.3.2B INFORMATION COMMONS
Group Study – 6-person

IDENTIFICATION AND SIZE	Division:	Public Services
	Capacity:	6-7
	Proposed ASF:	150 sf
USE	Activities:	Private group study, including conversation, writing on whiteboard, use of library materials, and laptop computers.
	Access:	Area within 24 hour zone
	Frequency/Hours:	Available to all library users all hours the library is open. Hours variable, up to 7 days/week, day and evening hours.
	Adjacencies:	Info. Commons Reader Seats
	Special Requirement:	n/a
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	Carpet tile
	Wall Finish:	Painted gyp. board; glazed sidelight or doors
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	Noise separation from adjacent library area
	Special Requirement:	Glazed partitions for monitoring by staff
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Floor outlets 8' on center; low profile access floor
	Shielding, Grounding:	TBD
	Network:	Cabled/wireless
MECHANICAL/ ELECTRICAL	Natural Lighting:	Not required
	Artificial Lighting:	General ceiling lighting on separate switching
	HVAC Requirement:	Building standard
	Electrical:	Duplex outlets on each wall
	Security:	Passage set on door
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
White board	4' x 6'	1
Table	3' x 6'	1
Guest Chair		6

1.3.2C INFORMATION COMMONS
Group Study – 8-person

IDENTIFICATION AND SIZE	Division:	Public Services
	Capacity:	8-10
	Proposed ASF:	200 sf
USE	Activities:	Private group study, including conversation, writing on whiteboard, use of library materials, and laptop computers.
	Access:	Area within 24 hour zone
	Frequency/Hours:	Available to all library users all hours the library is open. Hours variable, up to 7 days/week, day and evening hours.
	Adjacencies:	Info. Commons Reader Seats
	Special Requirement:	n/a
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	Carpet tile
	Wall Finish:	Painted gyp. board; glazed sidelight or doors
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	Noise separation from adjacent library area
	Special Requirement:	Glazed partitions for monitoring by staff
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Floor outlets 8' on center; low profile access floor
	Shielding, Grounding:	TBD
	Network:	Cabled/wireless
MECHANICAL/ ELECTRICAL	Natural Lighting:	Not required
	Artificial Lighting:	General ceiling lighting on separate switching
	HVAC Requirement:	Building standard
	Electrical:	Duplex outlets on each wall
	Security:	Passage set on door
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
White board	4' x 6'	1
Table	3' x 8'	1
Guest Chair		8

1.3.3 INFORMATION COMMONS
Quick Help Desk

IDENTIFICATION AND SIZE	Division:	Public Services
	Capacity:	2
	Proposed ASF:	240 sf
USE	Activities:	Information and reference assistance
	Access:	Area within 24 hour zone; accessed by staff; library users prevented from accessing behind desk by swing gate optional.
	Frequency/Hours:	Available to all library users all hours the library is open. Hours variable, up to 7 days/week, day and evening hours.
	Adjacencies:	Computing Help Desk
	Special Requirement:	Desk with standing and sitting height counters
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum
	Floor Finish:	Carpet tile
	Wall Finish:	Paint
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	At ceiling
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Floor outlets; furniture distribution
	Shielding, Grounding:	TBD
	Network:	Cabled/wireless
MECHANICAL/ ELECTRICAL	Natural Lighting:	Not required
	Artificial Lighting:	General ceiling lighting; provide controls for all public areas
	HVAC Requirement:	Building standard
	Electrical:	Duplex outlets hardwired into fixed help/ref. desk
	Security:	n/a
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
Service counter		30'
Undercounter secure storage		10'
Chair / Stool		4

1.3.4 INFORMATION COMMONS
Reference Desk

IDENTIFICATION AND SIZE	Division:	Public Services
	Capacity:	3
	Proposed ASF:	540 sf
USE	Activities:	Information and reference assistance, under counter storage for ready reference supply.
	Access:	Area within 24 hour zone; accessed by staff; library users prevented from accessing behind desk by swing gate optional.
	Frequency/Hours:	Available to all library users all hours the library is open. Hours variable, up to 7 days/week, day and evening hours.
	Adjacencies:	On main circulation path, Information Commons Reader Seats, Computing Help Desk
	Special Requirement:	Desk with standing and sitting height counters; may be configured as more than one desk if needed.
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum
	Floor Finish:	Carpet tile
	Wall Finish:	Paint
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	At ceiling
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Floor outlets; furniture distribution
	Shielding, Grounding:	TBD
	Network:	Cabled (furniture distribution)/wireless
MECHANICAL/ ELECTRICAL	Natural Lighting:	Not required
	Artificial Lighting:	General ceiling lighting; provide controls for all public areas
	HVAC Requirement:	Building standard
	Electrical:	Duplex outlets hardwired into fixed help/ref. desk
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
Service Counter		25'
Undercounter secure storage		10'
Seating		
Stools		2
Chairs		3

1.3.5 INFORMATION COMMONS
Reference Collection

IDENTIFICATION AND SIZE	Division:	Public Services
	Capacity:	
	Proposed ASF:	3,862 sf *Reference Collection 3,600 sf* *Kito Collection, 262 sf*
USE	Activities:	Open stacks containing reference volumes; materials are removed from shelves for use at reader seating &/or photocopy room, and reshelved by staff
	Access:	Area within 24 hour zone
	Frequency/Hours:	Available to all library users all hours the library is open. Hours variable, up to 7 days/week, day and evening hours.
	Adjacencies:	Computing Help Desk, Reference Help Desk, Reserves' Copy Center
	Special Requirement:	n/a
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	Carpet tile
	Wall Finish:	n/a; no enclosure
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	n/a
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Wall/column outlets
	Shielding, Grounding:	TBD
	Network:	Cabled/wireless
MECHANICAL/	Natural Lighting:	Preferred; provide sun control for preservation of library materials
ELECTRICAL	Artificial Lighting:	Indirect lighting
	HVAC Requirement:	Building standard; part of adjacent reader seating space
	Electrical:	Duplex outlets; sufficient distribution for vacuum cleaners and other incidental uses
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS	Description	Size	Number/location
	Stacks		200 DF Sections

1.3.6A INFORMATION COMMONS
Reference Office – Head Reference Librarian

IDENTIFICATION AND SIZE	Division:	Public Services
	Capacity:	1 occupant/ 3 guests
	Proposed ASF:	160 sf
USE	Activities:	General office work
	Access:	1 full-time staff
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (office hours 8-5)
	Adjacencies:	Reference Desk, Staff Workstations, Meeting Room
	Special Requirement:	n/a
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	Carpet tile
	Wall Finish:	Painted gyp. board; glazed sidelight or door
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	Sound isolation
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Wall/column outlets
	Shielding, Grounding:	TBD
	Network:	Cabled/wireless
MECHANICAL/ ELECTRICAL	Natural Lighting:	Preferred
	Artificial Lighting:	General ceiling lighting; task lighting at work surface
	HVAC Requirement:	Building standard
	Electrical:	Duplex outlets located at no more than 8' intervals per wall
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
Worksurface	30"	17'
Desk	60"	1
Conference Table	30" dia	1
Chair		
Task		1
Guest		3
Lateral File		
2 Drawer/1 File	15"	1
2 Drawer	42"	1
3 Drawer	42"	1
Shelving	12"	12'

1.3.6B INFORMATION COMMONS
Office

IDENTIFICATION AND SIZE	Division:	Public Services
	Capacity:	1 occupant/ 1 guest
	Proposed ASF:	120 sf
USE	Activities:	General office work
	Access:	1 full-time staff
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (office hours 8-5)
	Adjacencies:	Reference Desk, Staff Workstation, Meeting Room
	Special Requirement:	n/a
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	Carpet tile
	Wall Finish:	Painted gyp. board; glazed sidelight or door
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	Sound isolation
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Wall/column outlets
	Shielding, Grounding:	TBD
	Network:	Cabled/wireless
MECHANICAL/ ELECTRICAL	Natural Lighting:	Preferred
	Artificial Lighting:	General ceiling lighting; task lighting at work surface
	HVAC Requirement:	Building standard
	Electrical:	Duplex outlets located at no more than 8' intervals per wall
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
Work surface	30"	19'
Chair		
Task		1
Guest		1
Lateral File		
2 Drawer/1 File	15"	1
2 Drawer	42"	1
Shelving	12"	10'

1.3.7A INFORMATION COMMONS
References Staff Spaces - Staff Workstation

IDENTIFICATION AND SIZE	Division:	Public Services
	Capacity:	1 occupant/ 1 guest
	Proposed ASF:	110 sf
USE	Activities:	General office work
	Access:	1 full-time staff
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (office hours 8-5)
	Adjacencies:	Reference Desk, Reference Offices, Meeting Room
	Special Requirement:	n/a
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	Carpet tile
	Wall Finish:	Systems furniture
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	n/a
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Floor outlets; furniture distribution
	Shielding, Grounding:	TBD
	Network:	Cabled (furniture distribution)/wireless
MECHANICAL/ ELECTRICAL	Natural Lighting:	Not required
	Artificial Lighting:	General ceiling lighting; task lighting at work surface
	HVAC Requirement:	Building standard
	Electrical:	Duplex outlets located at no more than 8' intervals per wall
	Security:	n/a
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
Worksurface	30"	19'
Chair		
Task		1
Guest		1
Lateral File		
2 Drawer/1 File	15"	1
2 Drawer	42"	1
Shelves	12"	10'

1.3.7B INFORMATION COMMONS
References Staff Spaces - Meeting Room

IDENTIFICATION AND SIZE	Division:	Public Services
	Capacity:	12
	Proposed ASF:	240 sf
USE	Activities:	General office work
	Access:	Accessed by staff
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (office hours 8-5)
	Adjacencies:	Reference Desk, Offices and Workstations
	Special Requirement:	n/a
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	Carpet tile
	Wall Finish:	Painted gyp. board with glazed opening / door
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	Sound isolation
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Wall/column outlets
	Shielding, Grounding:	TBD
	Network:	Cabled/wireless
MECHANICAL/ ELECTRICAL	Natural Lighting:	Not required
	Artificial Lighting:	General ceiling lighting
	HVAC Requirement:	Building standard
	Electrical:	Duplex outlets, no less than 8' apart per wall
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
Table	4' x 14'	1
Guest Chair		12
White Board	4' x 6'	1

1.3.7C INFORMATION COMMONS
References Staff Spaces - File / Copy

IDENTIFICATION AND SIZE	Division:	Public Services
	Capacity:	
	Proposed ASF:	120 sf
USE	Activities:	Staff support area containing supplies, shared copy machine, equipment (printers, scanners, etc.) and departmental files.
	Access:	Accessed by staff
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (office hours 8-5)
	Adjacencies:	Reference staff, Meeting Room
	Special Requirement:	Common area space, not fully enclosed
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	Carpet tile
	Wall Finish:	Painted gyp. board
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	n/a
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Wall/column outlets
	Shielding, Grounding:	TBD
	Network:	Cabled/wireless
MECHANICAL/ ELECTRICAL	Natural Lighting:	Not required
	Artificial Lighting:	General ceiling lighting
	HVAC Requirement:	Building standard
	Electrical:	Duplex outlets located at no more than 8' intervals per wall
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
Base Cabinet	24"	10'
Wall Cabinet	12"	10'
White Board	4' x 4'	1
Bulletin Board	3' x 4'	1
Lateral File		
4 Drawer	42"	1

1.3.7D INFORMATION COMMONS
References Staff Spaces - Storage

IDENTIFICATION AND SIZE	Division:	Public Services
	Capacity:	
	Proposed ASF:	80 sf
USE	Activities:	Equipment and materials storage
	Access:	Accessed by staff
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (office hours 8-5)
	Adjacencies:	File/Copy, Reference staff
	Special Requirement:	Common area; not fully enclosed
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	VCT
	Wall Finish:	Painted gyp. board
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	n/a
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	n/a
	Wire Management:	Wall/column outlets
	Shielding, Grounding:	TBD
	Network:	n/a
MECHANICAL/ ELECTRICAL	Natural Lighting:	Not required
	Artificial Lighting:	General ceiling lighting
	HVAC Requirement:	Building standard
	Electrical:	Duplex outlets located at no more than 10' intervals per wall
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location

1.3.8.A INFORMATION COMMONS
Computing Help Desk – General Area / Queuing and Staff

IDENTIFICATION AND SIZE	Division:	Public Services
	Capacity:	2
	Proposed ASF:	1,200 sf *General Area / Queuing 1,000 sf* *Staff, 200 sf*
USE	Activities:	Copy Center, computing assistance and cashier
	Access:	Help Desk accessed by staff only
	Frequency/Hours:	Available to all library users all hours the library is open.
	Adjacencies:	Computing offices, Storage, Info. Commons Reader Seats, Reference Staff
	Special Requirement:	Desk with standing and sitting height counters
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum
	Floor Finish:	Carpet tile
	Wall Finish:	Paint
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	At ceiling
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Floor outlets; furniture distribution
	Shielding, Grounding:	TBD
	Network:	Cabled (furniture distribution)/wireless
MECHANICAL/ ELECTRICAL	Natural Lighting:	Not required
	Artificial Lighting:	General ceiling lighting; provide controls for all public areas
	HVAC Requirement:	Building standard; design for heavy equipment – induced heat load and ozone off-gasing from equipment
	Electrical:	Heavy electrical power demands for photocopiers/printers (22 0v)) duplex outlets hardwired into fixed help desk
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS	Description	Size	Number/location
Cashier/Help Desk	Worksurface	30"	20'
	Transaction Center	12"	10'
	Undercounter Secured Storage		4'
Copy Center	Work Counter	30" x 48"	2/near copy & printing equipment

1.3.8.B INFORMATION COMMONS
Copy Center Office

IDENTIFICATION AND SIZE	Division:	Public Services
	Capacity:	1 occupant/ 1 guest
	Proposed ASF:	120 sf
USE	Activities:	General office work
	Access:	1 full-time staff
	Frequency/Hours:	Typically Mon-Fri, 7am to 9pm (office 8-5)
	Adjacencies:	Computing Help Desk, Copy Center
	Special Requirement:	n/a
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum
	Floor Finish:	Carpet tile
	Wall Finish:	Paint gyp. board; glazed sidelight or door
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	Sound isolation
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Wall / column outlets
	Shielding, Grounding:	TBD
	Network:	Cabled/wireless
MECHANICAL/ ELECTRICAL	Natural Lighting:	Preferred
	Artificial Lighting:	General ceiling lighting; task lighting at workstation
	HVAC Requirement:	Office standard
	Electrical:	Duplex outlets every 8' minimum
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
Work surface	30"	19'
Chair		
Task		1
Guest		1
Lateral File		
2 Drawer/1 File	15"	1
2 Drawer	42"	1
Shelving	12"	10'

1.3.8.C INFORMATION COMMONS
Copy Center Storage

IDENTIFICATION AND SIZE	Division:	Public Services
	Capacity:	
	Proposed ASF:	180 sf
USE	Activities:	Equipment and materials storage
	Access:	Help Desk accessed by staff only
	Frequency/Hours:	Available to all library users all hours the library is open
	Adjacencies:	Computing offices, Storage, Info. Commons Reader Seats, Reference Staff
	Special Requirement:	n/a
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum
	Floor Finish:	Carpet tile
	Wall Finish:	Paint
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	At ceiling
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Wall/column outlets
	Shielding, Grounding:	TBD
	Network:	Cabled/wireless
MECHANICAL/ ELECTRICAL	Natural Lighting:	Not required
	Artificial Lighting:	General ceiling lighting; provide controls for all public areas
	HVAC Requirement:	Building standard
	Electrical:	Duplex outlets every 10' minimum
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS	Description	Size	Number/location

1.3.9 INFORMATION COMMONS
Computing Office – Help Desk Head

IDENTIFICATION AND SIZE	Division:	Public Services
	Capacity:	1 occupant/3 guests
	Proposed ASF:	160 sf
USE	Activities:	General office work
	Access:	1 full-time staff
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (office hours 8-5)
	Adjacencies:	Computing Help Desk / Copy Center, Information Commons
	Special Requirement:	n/a
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	Carpet tile
	Wall Finish:	Painted gyp. board; glazed sidelight or door
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	Sound isolation
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Wall/column outlets
	Shielding, Grounding:	TBD
	Network:	Cabled/wireless
MECHANICAL/ ELECTRICAL	Natural Lighting:	Preferred
	Artificial Lighting:	General ceiling lighting; task lighting at work surface
	HVAC Requirement:	Building standard
	Electrical:	Duplex outlets located at no more than 10' intervals per wall
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
Worksurface	30"	17'
Desk	60"	1
Conference Table	30" dia	1
Chair		
Task		1
Guest		3
Lateral File		
2 Drawer/1 File	15"	1
2 Drawer	42"	1
3 Drawer	42"	1
Shelving	12"	12'

1.3.10 INFORMATION COMMONS
Computing Staff Workstation

IDENTIFICATION AND SIZE	Division:	Public Services
	Capacity:	1 occupant/ 1 guest
	Proposed ASF:	110 sf
USE	Activities:	General office work
	Access:	1 full-time staff
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (office hours 8-5)
	Adjacencies:	Computing Help Desk, Reference Staff
	Special Requirement:	n/a
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	Carpet tile
	Wall Finish:	Systems furniture
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	n/a
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Floor outlets / furniture distribution
	Shielding, Grounding:	TBD
	Network:	Cabled (furniture distribution)/wireless
MECHANICAL/ ELECTRICAL	Natural Lighting:	Not required
	Artificial Lighting:	General ceiling lighting; task lighting at work surface
	HVAC Requirement:	Building standard
	Electrical:	Duplex outlets located at no more than 6' intervals per wall
	Security:	n/a
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
Worksurface	30"	19'
Chair		
Task		1
Guest		1
Lateral File		
2 Drawer/1 File	15"	1
2 Drawer	42"	1
Shelves	12"	10'

1.3.11A INFORMATION COMMONS
Computing Staff Spaces - Scanning

IDENTIFICATION AND SIZE	Division:	Public Services
	Capacity:	2 occupants
	Proposed ASF:	160 sf
USE	Activities:	General office work involving OCR, tests and student faculty review compiling.
	Access:	2 full-time staff
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (office hours 8-5)
	Adjacencies:	Computing Help Desk / Copy Center
	Special Requirement:	n/a
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	Carpet tile
	Wall Finish:	Systems furniture
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	Sound isolation
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Furniture distribution
	Shielding, Grounding:	TBD
	Network:	Cabled (furniture distribution)/wireless
MECHANICAL/ ELECTRICAL	Natural Lighting:	Not required
	Artificial Lighting:	General ceiling lighting; task lighting at work surface
	HVAC Requirement:	Building standard
	Electrical:	Duplex outlets located at no more than 8' intervals per wall
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
Worksurface	30"	40'
Chair		
Task		2
Lateral File		
2 Drawer/1 File	15"	2
2 drawer	42"	2
Shelves	12"	16'

1.3.11B INFORMATION COMMONS
Computing Staff Spaces - Workbench

IDENTIFICATION AND SIZE	Division:	Public Services
	Capacity:	2
	Proposed ASF:	80 sf
USE	Activities:	Computer repair, maintenance and storage part of common area for Computing Staff
	Access:	Staff
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (office hours 8-5)
	Adjacencies:	Computing Office and Staff Workstations
	Special Requirement:	Common area space; not fully enclosed
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	VCT
	Wall Finish:	Painted gyp. board
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	n/a
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Wall/column outlets
	Shielding, Grounding:	TBD
	Network:	Cabled (5 outlets at workbench) / wireless
MECHANICAL/ ELECTRICAL	Natural Lighting:	Preferred
	Artificial Lighting:	General ceiling lighting; task lighting at workbench
	HVAC Requirement:	Building standard
	Electrical:	Powerstrip at workbench, duplex outlets at 6' per wall
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
Worksurface	36"	10'
Wall Cabinets	12"	10'
Shelving		1 DFS
Chair		
Task		2

1.3.11C INFORMATION COMMONS
Computing Staff Spaces - File/Copy

IDENTIFICATION AND SIZE	Division:	Public Services
	Capacity:	
	Proposed ASF:	100 sf
USE	Activities:	Staff support area containing supplies, shared equipment (printers, scanners, copy machines, etc.) and departmental files.
	Access:	Staff
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (office hours 8-5)
	Adjacencies:	Computing Offices and Staff Workstations, Workbench, Storage
	Special Requirement:	Common area space; not fully enclosed
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	Carpet tile
	Wall Finish:	Painted gyp. board
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	n/a
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	n/a
	Wire Management:	Wall/column outlets
	Shielding, Grounding:	TBD
	Network:	Cabled/wireless
MECHANICAL/ ELECTRICAL	Natural Lighting:	Not required
	Artificial Lighting:	General ceiling lighting; task lighting at worksurface
	HVAC Requirement:	Building standard
	Electrical:	Duplex outlets located at no more than 10' intervals per wall
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
Base Cabinet	24'"	10'
Wall Cabinet	12"	10'
White Board	4' x 6'	1
Bulletin Board	3' x 4'	1
Lateral File		
4 drawer	42"	1

1.3.11D INFORMATION COMMONS
Computing Staff - Storage

IDENTIFICATION AND SIZE	Division:	Public Services
	Capacity:	
	Proposed ASF:	80 sf
USE	Activities:	Equipment and materials storage
	Access:	Staff
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (office hours 8-5)
	Adjacencies:	Staff Workbench, File/Copy and Secure Storage
	Special Requirement:	Common area space, not fully enclosed
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	Carpet tile
	Wall Finish:	Painted gyp. board
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	n/a
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Wall/column outlets
	Shielding, Grounding:	TBD
	Network:	n/a
MECHANICAL/ ELECTRICAL	Natural Lighting:	Not required
	Artificial Lighting:	General ceiling lighting
	HVAC Requirement:	Building standard
	Electrical:	Duplex outlets located at no more than 10' intervals per wall
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
Shelving	SFS	3

1.3.11E INFORMATION COMMONS
Computing Staff Spaces - Secure Storage

IDENTIFICATION AND SIZE	Division:	Public Services
	Capacity:	
	Proposed ASF:	80 sf
USE	Activities:	Equipment and materials storage
	Access:	Staff
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (office hours 8-5)
	Adjacencies:	Computing Staff, Workbench, File/Copy and Storage
	Special Requirement:	n/a
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	Carpet tile / VCT
	Wall Finish:	Painted gyp. board
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	n/a
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Wall/column outlets
	Shielding, Grounding:	TBD
	Network:	n/a
MECHANICAL/ ELECTRICAL	Natural Lighting:	Not required
	Artificial Lighting:	General ceiling lighting
	HVAC Requirement:	Building standard
	Electrical:	Duplex outlets located at no more than 10' intervals per wall
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS	Description	Size	Number/location

1.4.1 ELECTRONIC EDUCATION CENTER
Help Desk

IDENTIFICATION AND SIZE	Division:	Public Services
	Capacity:	2
	Proposed ASF:	440 sf
USE	Activities:	Information assistance
	Access:	Accessed by staff; library users prevented from accessing behind desk by swing gate optional.
	Frequency/Hours:	Available to all library users all hours the library is open.
	Adjacencies:	Multimedia Lounge, Labs & Classrooms, Staff Workstations
	Special Requirement:	Desk with standing and sitting height counters
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum
	Floor Finish:	Carpet tile
	Wall Finish:	n/a
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	n/a
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Floor outlets; furniture distribution
	Shielding, Grounding:	TBD
	Network:	Cabled/wireless
MECHANICAL/ ELECTRICAL	Natural Lighting:	Not required
	Artificial Lighting:	General ceiling lighting; provide controls for all public areas
	HVAC Requirement:	Building standard
	Electrical:	Duplex outlets hardwired into fixed help desk
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
Service Counter	24"	36'
Standing and Seated Areas	24"	8'

1.4.2A ELECTRONIC EDUCATION CENTER
Labs & Classrooms - Small Reserved Lab

IDENTIFICATION AND SIZE	Division:	Public Services
	Capacity:	40-50
	Proposed ASF:	1,600 sf
USE	Activities:	For group training of library users in how to access and use computerized catalog, database search and other computer-based library information systems. Also used for meetings, university courses and computer instruction at computer stations.
	Access:	Public access by appointment with library staff, scheduled class or meeting
	Frequency/Hours:	Available to all library users all hours the library is open.
	Adjacencies:	MMC, EEC Help Desk, I.T. Staff
	Special Requirement:	Wired for computer instruction
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum
	Floor Finish:	Carpet tile
	Wall Finish:	Painted gyp. board
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	Sound isolation
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Floor outlets, 1 per 5 seats; low profile access floor
	Shielding, Grounding:	TBD
	Network:	Cabled/wireless
MECHANICAL/ ELECTRICAL	Natural Lighting:	Not required
	Artificial Lighting:	Fluorescent recessed ceiling lighting on dimmers; separate switching
	HVAC Requirement:	Building standard; design for heavy equipment-induced heat load
	Electrical:	Floor mount 4-plex outlet at each computer station; duplex located at 6' intervals at all walls.
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
Projection screen	TBD	
White board	TBD	
Table	2.5'x 6'	20
Task Chair		40
Base Cabinet	24"	10'
Wall Cabinet	12"	10'

1.4.2B ELECTRONIC EDUCATION CENTER
Labs & Classrooms - Large Reserved Lab

IDENTIFICATION AND SIZE	Division:	Public Services
	Capacity:	60-75
	Proposed ASF:	2,400 sf
USE	Activities:	For group training of library users in how to access and use computerized catalog, database search and other computer-based library information systems. Also used for meetings, university courses and campus instruction at computer stations.
	Access:	Public access by appointment with library staff, scheduled classes or meetings.
	Frequency/Hours:	Available to all library users all hours the library is open.
	Adjacencies:	MMC, EEC Help Desk, I.T. Staff
	Special Requirement:	Wired for computer instruction; room dividable into two (30) person classroom.
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum
	Floor Finish:	Carpet tile
	Wall Finish:	Painted gyp. board, retractable room divider
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	Sound isolation
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Floor outlets, 1 per 5 seats; low profile access floor
	Shielding, Grounding:	TBD
	Network:	Cabled/wireless
MECHANICAL/ ELECTRICAL	Natural Lighting:	Not required
	Artificial Lighting:	Fluorescent recessed ceiling lighting on dimmers; separate switching
	HVAC Requirement:	Building standard; design for heavy equipment-induced heat load
	Electrical:	Floor mount 4-plex outlet at each computer station; duplex located at 6' intervals at all walls.
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
Projection screen	TBD	
White board	TBD	
Table	2.5' x 6'	30
Task Chair		60

1.4.3A ELECTRONIC EDUCATION CENTER
Library Instructional Staff - Office

IDENTIFICATION AND SIZE	Division:	Public Services
	Capacity:	1 occupant/ 3 guests
	Proposed ASF:	160 sf
USE	Activities:	General office work
	Access:	1 full-time staff
	Frequency/Hours:	Typically Mon-Fri., 7 am to 9 pm (office hours 8-5)
	Adjacencies:	Labs & Classrooms, Help Desk, Staff Workstations
	Special Requirement:	n/a
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum
	Floor Finish:	Carpet tile
	Wall Finish:	Painted gyp. board; glazed sidelight or door
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	Sound isolation
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Floor outlets 8' on center; low profile access floor
	Shielding, Grounding:	TBD
	Network:	Cabled (4+ outlets) / wireless
MECHANICAL/ ELECTRICAL	Natural Lighting:	Preferred
	Artificial Lighting:	Indirect, general ceiling lighting; task lighting at work surface
	HVAC Requirement:	Air-conditioned, sufficient load for equipment
	Electrical:	Multiple duplex located at 6' intervals at all walls
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
Worksurface	30"	17'
Desk	60"	1
Conference Table	30" dia	1
Chair		
Task		1
Guest		3
Lateral File		
2 Drawer/1 File	15"	1
2 Drawer	42"	1
3 Drawer	42"	1
Shelving	12"	12'

1.4.3B ELECTRONIC EDUCATION CENTER
Library Instructional Staff - Office

IDENTIFICATION AND SIZE	Division:	Public Services
	Capacity:	1 occupant/ 1 guest
	Proposed ASF:	120 sf
USE	Activities:	General office work
	Access:	1 full-time staff
	Frequency/Hours:	Typically Mon- Fri, 7 am to 9 pm (office hours 8 to 5)
	Adjacencies:	Labs & Classrooms, Help Desk, Staff Workstations
	Special Requirement:	n/a
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum
	Floor Finish:	Carpet tile
	Wall Finish:	Painted gyp. board; glazed sidelight or door
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	Sound isolation
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Floor outlets 8' on center; low profile access floor
	Shielding, Grounding:	TBD
	Network:	Cabled/wireless
MECHANICAL/ ELECTRICAL	Natural Lighting:	Preferred
	Artificial Lighting:	Indirect ceiling lighting; task lighting at work surfaces
	HVAC Requirement:	Air-conditioned, sufficient load for equipment
	Electrical:	Multiple duplex located at 6' intervals at all walls
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
Work surface	30"	19'
Chair		
Task		1
Guest		1
Lateral File		
2 Drawer/1 File	15"	1
2 Drawer	42"	1
Shelving	12"	10'

1.4.3C ELECTRONIC EDUCATION CENTER
Part-Time Staff Workstations

IDENTIFICATION AND SIZE	Division:	Public Services
	Capacity:	1 occupant/ 1 guest
	Proposed ASF:	80 sf
USE	Activities:	General office work
	Access:	1 full-time staff
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (office hours 8-5)
	Adjacencies:	Offices, Meeting Room
	Special Requirement:	n/a
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	Carpet tile
	Wall Finish:	Systems furniture
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	n/a
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Furniture distribution
	Shielding, Grounding:	TBD
	Network:	Cabled (furniture distribution)/wireless
MECHANICAL/ ELECTRICAL	Natural Lighting:	Preferred
	Artificial Lighting:	General ceiling lighting, task lighting at work surface
	HVAC Requirement:	Building standard
	Electrical:	Furniture distribution, outlets at no more than every 8'
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
Work Surface	30"	19'
Chairs		
Task		1
Guest		1
Lateral File		
2 Drawer/1 File	15"	1
2 drawer	42"'	1
Shelving	12"	9'

1.4.4 ELECTRONIC EDUCATION CENTER (No Change) MMC General Seating

IDENTIFICATION AND SIZE	Division:	Public Services
	Capacity:	
	Proposed ASF:	8,828 sf
USE	Activities:	Public access to computer workstations (250).
	Access:	Public
	Frequency/Hours:	24 hour zone
	Adjacencies:	West lobby
	Special Requirement:	n/a
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum
	Floor Finish:	Carpet tile
	Wall Finish:	Painted gyp. board
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	n/a
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Wall/column outlets
	Shielding, Grounding:	TBD
	Network:	Cabled/wireless
MECHANICAL/ ELECTRICAL	Natural Lighting:	Not required
	Artificial Lighting:	Indirect lighting
	HVAC Requirement:	Air-conditioned
	Electrical:	Duplex outlets; sufficient distribution for vacuum cleaners and other incidental uses.
	Security:	General, visual access to Help Desk
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
Carrel Seating		250
Carrels with T.V.s and VCRs		29
Table seating with video editing equipment		4
Computers at standup counter		6
Help Desk		6

1.4.5 ELECTRONIC EDUCATION CENTER (No Change)
MMC Multimedia Collection

IDENTIFICATION AND SIZE	Division:	Public Services
	Capacity:	
	Proposed ASF:	2,232 sf
USE	Activities:	Closed stacks containing multimedia material
	Access:	MMC staff
	Frequency/Hours:	24 hour zone
	Adjacencies:	Multimedia Lounge, Staff Workstations
	Special Requirement:	n/a
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum
	Floor Finish:	Carpet tile
	Wall Finish:	Painted gyp. board
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	n/a
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Wall/column outlets
	Shielding, Grounding:	TBD
	Network:	Cabled/wireless
MECHANICAL/ ELECTRICAL	Natural Lighting:	Not required
	Artificial Lighting:	Indirect lighting
	HVAC Requirement:	Air-conditioned
	Electrical:	Duplex outlets; sufficient distribution for vacuum cleaners and other incidental uses.
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS	Description	Size	Number/location
	Compact shelving		existing

1.4.6 ELECTRONIC EDUCATION CENTER (No Change) MMC Equipment/Lounge

IDENTIFICATION AND SIZE	Division:	Public Services
	Capacity:	
	Proposed ASF:	976 sf
USE	Activities:	General office work
	Access:	
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (office hours 8-5)
	Adjacencies:	Multimedia Lounge
	Special Requirement:	n/a
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum
	Floor Finish:	Carpet tile
	Wall Finish:	Painted gyp. board
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	At ceiling; sound isolation
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Wall/column outlets
	Shielding, Grounding:	TBD
	Network:	Cabled/wireless
MECHANICAL/ ELECTRICAL	Natural Lighting:	Preferred
	Artificial Lighting:	General ceiling lighting
	HVAC Requirement:	Building standard
	Electrical:	Duplex outlets; sufficient distribution for vacuum cleaners and other incidental uses
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS	Description	Size	Number/location
	Shelving		Existing

1.4.7 ELECTRONIC EDUCATION CENTER (No Change)
MMC Labs & Classrooms

IDENTIFICATION AND SIZE	Division:	Public Services
	Capacity:	
	Proposed ASF:	5,643 sf Mac. Lab 1,424 sf PC Lab 1,506 sf Classroom (4) 2,713 sf
USE	Activities:	General office work
	Access:	
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (office hours 8-5)
	Adjacencies:	Multimedia Lounge
	Special Requirement:	n/a
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum
	Floor Finish:	Carpet tile
	Wall Finish:	Painted gyp. board
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	At ceiling; sound isolation
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Wall/column outlets
	Shielding, Grounding:	TBD
	Network:	Cabled/wireless
MECHANICAL/ ELECTRICAL	Natural Lighting:	Not required
	Artificial Lighting:	General ceiling lighting
	HVAC Requirement:	Building standard
	Electrical:	Duplex outlets located at no more than 10' intervals per wall
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS	Description	Size	Number/location
	Mac Lab		35 seats
	PC Lab		53 seats
	Classrooms		
	Seats		155 seats
	Tables		

1.4.8 ELECTRONIC EDUCATION CENTER (No Change)
MMC Conference Rooms

IDENTIFICATION AND SIZE	Division:	Public Services
	Capacity:	
	Proposed ASF:	630 sf
USE	Activities:	General office work
	Access:	
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (office hours 8-5)
	Adjacencies:	Multimedia Lounge
	Special Requirement:	n/a
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum
	Floor Finish:	Carpet tile
	Wall Finish:	Painted gyp. board
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	At ceiling; sound isolation
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Wall/column outlets
	Shielding, Grounding:	TBD
	Network:	Cabled/wireless
MECHANICAL/ ELECTRICAL	Natural Lighting:	Not required
	Artificial Lighting:	General ceiling lighting
	HVAC Requirement:	Building standard
	Electrical:	Duplex outlets located at no more than 10' intervals per wall
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS	Description	Size	Number/location

1.4.9 ELECTRONIC EDUCATION CENTER (No Change)
MMC Staff Workstations

IDENTIFICATION AND SIZE	Division:	Public Services
	Capacity:	6 + guests
	Proposed ASF:	1,807 sf (6 offices at 100 sf + 4 micro-computing stations)
USE	Activities:	General office work
	Access:	6 full-time staff
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (office hours 8-5)
	Adjacencies:	Multimedia Lounge
	Special Requirement:	n/a
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum
	Floor Finish:	Carpet tile
	Wall Finish:	Painted gyp. board
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	At ceiling
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Wall/column outlets
	Shielding, Grounding:	TBD
	Network:	Cabled/wireless
MECHANICAL/ ELECTRICAL	Natural Lighting:	Preferred
	Artificial Lighting:	General ceiling lighting; task lighting at work surface
	HVAC Requirement:	Building standard
	Electrical:	Duplex outlets located at no more than 10' intervals per wall
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS	Description	Size	Number/location

1.4.10 ELECTRONIC EDUCATION CENTER (No Change)
MMC General Circulation

IDENTIFICATION AND SIZE	Division:	Public Services
	Capacity:	
	Proposed ASF:	1,249
USE	Activities:	
	Access:	
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (office hours 8-5)
	Adjacencies:	Multimedia Lounge
	Special Requirement:	n/a
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum
	Floor Finish:	Carpet tile
	Wall Finish:	Painted gyp. board
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	At ceiling for workstations; sound isolation
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Wall/column outlets
	Shielding, Grounding:	TBD
	Network:	Cabled/wireless
MECHANICAL/ ELECTRICAL	Natural Lighting:	Preferred
	Artificial Lighting:	General ceiling lighting; task lighting at work surface
	HVAC Requirement:	Air-Conditioned
	Electrical:	Duplex outlets: sufficient distributions for vacuum cleaners and other incidental uses.
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location

1.5.1 ATRIUM / READING ROOM

IDENTIFICATION AND SIZE	Division:	Public Services
	Capacity:	225
	Proposed ASF:	8,125 sf
		Table seating 6,125 sf
		Lounge seating 2,000 sf
USE	Activities:	Reading and studying at tables and lounge seating. Areas for display of Browsing and New Books collection.
	Access:	Public
	Frequency/Hours:	Available to all library users all hours the library is open.
	Adjacencies:	Current Periodicals Collection, General Collection
	Special Requirement:	n/a
CHARACTERISTICS	Ceiling Height:	Per existing atrium ceiling height
	Floor Finish:	Carpet tile or existing terrazzo floor*
	Wall Finish:	Painted gyp. board/ existing stone and wood panel
	Ceiling Treatment:	Acoustic ceiling tile/ painted gyp. board/ Atrium skylight glazing
	Acoustic Treatment:	Absorptive panels as required; at ceiling
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	None
	Shielding, Grounding:	TBD
	Network:	Wireless/cabled to Atrium computer tables and lounge seating in Reading Room as floor jacks
MECHANICAL/ ELECTRICAL	Natural Lighting:	Maintain as provided by atrium skylights; provide sun control for presentation of library materials
	Artificial Lighting:	General ceiling lighting; task lighting at table seating
	HVAC Requirement:	Building standard
	Electrical:	Duplex outlets; sufficient distribution for vacuum cleaners and other incidental uses
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS	Description	Size	Number/location
	Tables	3 x 8	29 / Reading Room
	Chairs		174 / Reading Room
	Task		
	Lounge Seating		
	Chairs		50 / Atrium and Reading Room
	Side table		25 / Atrium and Reading Room
	New Books Collection		8 SFS of shelving
	Browsing Collection		8 circular distribution racks

*Atrium – Terrazo floor, Reading Room – Carpet Tile

1.5.2 ATRIUM READING ROOM
4-person Group Study

IDENTIFICATION AND SIZE	Division:	Public Services
	Capacity:	4-5
	Proposed ASF:	100 sf
USE	Activities:	Semi-private conference/meeting rooms for public use. Group study to include conversation, use of library materials and laptop computers.
	Access:	Public
	Frequency/Hours:	Available to all library users all hours the library is open.
	Adjacencies:	Current Periodicals Collection, General Collection
	Special Requirement:	n/a
CHARACTERISTICS	Ceiling Height:	9'–0" minimum
	Floor Finish:	Carpet tile)
	Wall Finish:	Painted gyp. board/ existing stone finish
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	Noise separation from adjacent library area
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	n/a
	Wire Management:	Wall/column outlets
	Shielding, Grounding:	TBD
	Network:	Cabled/wireless
MECHANICAL/ ELECTRICAL	Natural Lighting:	Not required
	Artificial Lighting:	General ceiling lighting on separate switching
	HVAC Requirement:	Air-conditioned
	Electrical:	Duplex outlets; sufficient distribution for student computer and equipment needs
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
Whiteboard	4' x 6'	1
Table	31" x 6'	1
Guest Chairs		4

1.5.3 ATRIUM READING ROOM
8-person Group Study

IDENTIFICATION AND SIZE	Division:	Public Services
	Capacity:	8-10
	Proposed ASF:	200sf
USE	Activities:	Semi-private conference/meeting rooms for public use. Group study to include conversation, use of library materials and laptop computers.
	Access:	Public
	Frequency/Hours:	Available to all library users all hours the library is open.
	Adjacencies:	Current Periodicals Collection, General Collection
	Special Requirement:	n/a
CHARACTERISTICS	Ceiling Height:	9' – 0" minimum
	Floor Finish:	Carpet tile
	Wall Finish:	Painted gyp. board/ existing stone finish
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	Noise separation for adjacent library area.
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Wall / Column outlets
	Shielding, Grounding:	TBD
	Network:	Cabled/wireless
MECHANICAL/ ELECTRICAL	Natural Lighting:	Not required
	Artificial Lighting:	General ceiling lighting on separate switching
	HVAC Requirement:	Air-conditioned
	Electrical:	Duplex outlets; sufficient distribution student computers and equipment needs.
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
Whiteboard	4' x 6'	1
Table	3' x 8'	1
Task Chairs		8

1.6.1 GENERAL SEATING
Humanities / Social Science / Science

IDENTIFICATION AND SIZE	Division:	Public Services
	Capacity:	1,100
	Proposed ASF:	34,400 sf (Levels 2,3,4) *Table seating 12,900 sf* *Lounge seating 6,000 sf* *Carrel seating 15,000 sf* *Standing computer counter 500 sf*
USE	Activities:	Reading, and studying at tables and lounge seating with power/data connections for laptop computers
	Access:	Public
	Frequency/Hours:	Available to all library users all hours the library is open.
	Adjacencies:	General Collection, on level 4 – access to exterior windows
	Special Requirement:	n/a
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum
	Floor Finish:	Carpet tile
	Wall Finish:	Painted gyp. board where applicable
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	n/a
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Floor outlets; furniture distribution
	Shielding, Grounding:	TBD
	Network:	Cabled/wireless
MECHANICAL/	Natural Lighting:	Preferred; provide sun control for preservation of library materials
ELECTRICAL	Artificial Lighting:	Indirect
	HVAC Requirement:	Air-conditioned
	Electrical:	Duplex outlets; sufficient distribution for vacuum cleaners and other incidental uses
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS	Description	Size	Number/location
	Table seating		430 reader seats
	Lounge seating		150 reader seats
	Carrel seating		500 reader seats
	Standing computer counter		20 reader seats

1.6.2A GENERAL SEATING
4-person Group Study

IDENTIFICATION AND SIZE	Division:	Public Services
	Capacity:	4-5
	Proposed ASF:	100 sf
USE	Activities:	Private group study, including conversation, use of library materials, and use of laptop computers.
	Access:	Public
	Frequency/Hours:	Available to all library users all hours the library is open.
	Adjacencies:	Distributed throughout General Collection
	Special Requirement:	n/a
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum
	Floor Finish:	Carpet tile
	Wall Finish:	Painted gyp. board; glazed sidelight or door minimum
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	Noise separation from adjacent library area
	Special Requirement:	Glazed partitions for monitoring by staff
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Floor outlets; wired carrels
	Shielding, Grounding:	TBD
	Network:	Cabled/wireless
MECHANICAL/ ELECTRICAL	Natural Lighting:	Not required
	Artificial Lighting:	General ceiling lighting on separate switching
	HVAC Requirement:	Air-conditioned
	Electrical:	Duplex outlets, sufficient for student computers and equipment needs
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
White board	4' x 6'	1
Table	3' x 6'	1
Guest Chairs		4

1.6.2B GENERAL SEATING
6-person Group Study

IDENTIFICATION AND SIZE	Division:	Public Services
	Capacity:	6-7
	Proposed ASF:	150 sf
USE	Activities:	Private group study, including conversation, use of library materials, and use of laptop computers.
	Access:	Public
	Frequency/Hours:	Available to all library users all hours the library is open.
	Adjacencies:	Distributed throughout General Collection
	Special Requirement:	n/a
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum
	Floor Finish:	Carpet tile
	Wall Finish:	Painted gyp. board; glazed sidelight or door min.
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	Noise separation from adjacent library area
	Special Requirement:	Glazed partitions for monitoring by staff
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Floor outlets; wired carrels
	Shielding, Grounding:	TBD
	Network:	Cabled/wireless
MECHANICAL/ ELECTRICAL	Natural Lighting:	Not required
	Artificial Lighting:	General ceiling lighting on separate switching
	HVAC Requirement:	Air-conditioned
	Electrical:	Duplex outlets sufficient for student computers and equipment needs.
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
White board		1
Table	3'x 8'	1
Chairs		6

1.6.2C GENERAL SEATING
8-person Group Study

IDENTIFICATION AND SIZE	Division:	Public Services
	Capacity:	8-10
	Proposed ASF:	200 sf
USE	Activities:	Private group study, including conversation, use of library materials, and use of laptop computers.
	Access:	Public
	Frequency/Hours:	Available to all library users all hours the library is open.
	Adjacencies:	Distributed throughout General Collection
	Special Requirement:	n/a
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum
	Floor Finish:	Carpet tile
	Wall Finish:	Painted gyp. board; glazed sidelight or door in minimum
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	Noise separation from adjacent library area
	Special Requirement:	Glazed partitions for monitoring by staff
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Floor outlets; wired carrels
	Shielding, Grounding:	TBD
	Network:	Cabled/wireless
MECHANICAL/ ELECTRICAL	Natural Lighting:	Not required
	Artificial Lighting:	General ceiling lighting on separate switching
	HVAC Requirement:	Building standard
	Electrical:	Duplex outlets; sufficient for student computers and equipment needs.
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
White board		1
Table	3' x 8'	1
Chairs		8

1.7 GENERAL COLLECTION

IDENTIFICATION AND SIZE	Division:	Public Services
	Capacity:	
	Proposed ASF:	107,718 sf
USE	Activities:	Open stacks containing Humanities & Social Science, Oversize, Dewey Decimal, Current Periodicals, Science Current Periodicals and Science & Engineering volumes; materials are removed from shelves for use at reader seating &/or photocopy room, and reshelved by staff.
	Access:	Public
	Frequency/Hours:	Available to all library users all hours the library is open.
	Adjacencies:	General Seating
	Special Requirement:	Some of the collection is on compact shelving at Level 1
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum
	Floor Finish:	Carpet tile
	Wall Finish:	Not applicable; no enclosure
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	n/a
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Wall/column outlets
	Shielding, Grounding:	TBD
	Network:	Cabled/wireless
MECHANICAL/ ELECTRICAL	Natural Lighting:	Not required; provide sun control for preservation of library materials
	Artificial Lighting:	Indirect lighting
	HVAC Requirement:	Air-conditioned; part of adjacent reader seating space
	Electrical:	Duplex outlets; sufficient distribution for vacuum cleaners and other incidental uses
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
Humanities & Social Science A-HF		1,696 DF Sections
Humanities & Social Science HG-PZ		2,431 DF Sections
Oversize		232 SF Sections
Dewey Decimal		405 DF Sections
Current Periodicals		84 DF Section
Science & Current Periodicals		68 DF Sections
Science & Engineering Q-Z		1979 DF Sections

1.8.1A SCIENCE & ENGINEERING REFERENCE Help Desk

IDENTIFICATION AND SIZE	Division:	Public Services
	Capacity:	2
	Proposed ASF:	240 sf
USE	Activities:	Information and science reference assistance
	Access:	Accessed by staff; library users are prevented from accessing behind desk by optional swing gate
	Frequency/Hours:	Available to all library users during all hours library is open.
	Adjacencies:	Science and Engineering Reference Collection
	Special Requirement:	Desk with standing and sitting height counters
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum
	Floor Finish:	Carpet tile
	Wall Finish:	Systems furniture or built-in cabinetry (painted)
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	n/a
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Floor outlets; furniture distribution
	Shielding, Grounding:	TBD
	Network:	Cabled/wireless
MECHANICAL/ ELECTRICAL	Natural Lighting:	Preferred
	Artificial Lighting:	General ceiling lighting; provide controls for all public areas
	HVAC Requirement:	Air-conditioned
	Electrical:	Duplex outlets hardwired into fixed help desk
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS	Description	Size	Number/location
	Service Counter		36'
	Chair – Task/Stool		2

1.8.1B SCIENCE & ENGINEERING REFERENCE
Help Desk – Locked Case

IDENTIFICATION AND SIZE	Division:	Public Services
	Capacity:	
	Proposed ASF:	120 sf
USE	Activities:	Storage of valuable materials / collection at Help Desk
	Access:	Accessed by staff
	Frequency/Hours:	Available to all library users during all hours library is open.
	Adjacencies:	Science and Engineering Help Desk
	Special Requirement:	n/a
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum
	Floor Finish:	Carpet tile
	Wall Finish:	Systems furniture or built-in (painted)
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	n/a
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	n/a
	Shielding, Grounding:	TBD
	Network:	n/a
MECHANICAL/ ELECTRICAL	Natural Lighting:	Not required
	Artificial Lighting:	General ceiling lighting
	HVAC Requirement:	Building standard
	Electrical:	Duplex outlets
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS	Description	Size	Number/location

1.8.2 SCIENCE & ENGINEERING REFERENCE Collection

IDENTIFICATION AND SIZE	Division:	Public Services
	Capacity:	
	Proposed ASF:	1,200 sf *Science Reference Collection, 840 sf* *Chemistry Abstracts 360 sf*
USE	Activities:	Shelves containing Science Reference and Chemistry Abstracts volumes; materials are removed from shelves for use at reader seating and reshelved by staff
	Access:	Public
	Frequency/Hours:	Available to all library users all hours the library is open.
	Adjacencies:	Science Reference Desk
	Special Requirement:	n/a
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum
	Floor Finish:	Carpet tile
	Wall Finish:	n/a; no enclosure
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	n/a
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Wall/column outlets
	Shielding, Grounding:	TBD
	Network:	Cabled/wireless
MECHANICAL/	Natural Lighting:	Not required; provide sun control for preservation of library materials
ELECTRICAL	Artificial Lighting:	Indirect lighting
	HVAC Requirement:	Air-conditioned; part of adjacent reader seating/ general collection space
	Electrical:	Duplex outlets; sufficient distribution for vacuum cleaners and other incidental uses
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS	Description	Size	Number/location
	Science Reference Collection		70 DF Sections
	Chem. Abstracts		30 DF Sections

1.8.3 SCIENCE & ENGINEERING REFERENCE
Maps

IDENTIFICATION AND SIZE

Division:	Public Services
Capacity:	
Proposed ASF:	3,070 sf *Science Map Collection, 2,030sf* *Maps Reshelve/Sorting, 200 sf* *Maps Reader Seating, 840 sf*

USE

Activities:	Flat file storage containing maps, tables for sorting and interspersed reader seats
Access:	Public
Frequency/Hours:	Available to all library users all hours the library is open.
Adjacencies:	Map Cataloger Office
Special Requirement:	n/a

CHARACTERISTICS

Ceiling Height:	Per existing building; 9'-0" minimum
Floor Finish:	Carpet tile
Wall Finish:	Not applicable; no enclosure
Ceiling Treatment:	Acoustic ceiling tile
Acoustic Treatment:	n/a
Special Requirement:	n/a

TECHNOLOGY

A.V. Requirement:	TBD
Wire Management:	Wall/column outlets
Shielding, Grounding:	TBD
Network:	Cabled/wireless

MECHANICAL/ ELECTRICAL

Natural Lighting:	Not required; provide sun control for preservation of library materials
Artificial Lighting:	Indirect lighting
HVAC Requirement:	Air-conditioned; part of adjacent reader seating/ general collection space
Electrical:	Duplex outlets; sufficient distribution for vacuum cleaners and other incidental uses
Security:	General
Fire Protection:	General
Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
Science Map Collection		58 DFS
Tables	3'x6'	9
Chairs – guest		24

1.8.4A SCIENCE & ENGINEERING REFERENCE
Offices – Head Librarian

IDENTIFICATION AND SIZE	Division:	Public Services
	Capacity:	1 occupant/ 3 guests
	Proposed ASF:	160 sf
USE	Activities:	General office work
	Access:	1 full-time staff
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (office hours 8-5)
	Adjacencies:	Offices, Meeting Room
	Special Requirement:	n/a
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	Carpet tile
	Wall Finish:	Painted gyp. board; glazed sidelight or doors
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	Sound isolation
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Wall/column outlets
	Shielding, Grounding:	TBD
	Network:	Cabled/wireless
MECHANICAL/ ELECTRICAL	Natural Lighting:	Preferred
	Artificial Lighting:	General ceiling lighting
	HVAC Requirement:	Building standard
	Electrical:	Duplex outlets located at no more than 10' intervals per wall
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
Work Surface	30"	17'
Desk	30" x 48"	1
Chairs		
Task		1
Guest		4
Conference Table	3' dia.	1
Lateral File		
3 drawer	42"	1
2 Drawer	42"	1
Drawer		
2 Drawer/1 File	15"	1

1.8.4B SCIENCE & ENGINEERING REFERENCE Offices

IDENTIFICATION AND SIZE	Division:	Public Services
	Capacity:	1 occupant/1 guest
	Proposed ASF:	120 sf
USE	Activities:	General office work
	Access:	1 full-time staff
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (office hours 8-5)
	Adjacencies:	Offices, Meeting Room
	Special Requirement:	n/a
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	Carpet tile
	Wall Finish:	Painted gyp. board; glazed sidelight or door
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	Sound isolation
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Wall/column outlets
	Shielding, Grounding:	TBD
	Network:	Cabled/wireless
MECHANICAL/ ELECTRICAL	Natural Lighting:	Preferred
	Artificial Lighting:	General ceiling lighting; task lighting at work surface
	HVAC Requirement:	Building standard
	Electrical:	Duplex outlets located at no more than 8' intervals per wall
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
Work surface	30"	19'
Chair		
Task		1
Guest		1
Lateral File		
2 Drawer/1 File	15"	1
2 Drawer	42"	1
Shelving	12"	10'

1.8.4C SCIENCE & ENGINEERING REFERENCE
Part-Time Staff Workstations

IDENTIFICATION AND SIZE	Division:	Public Services
	Capacity:	1 occupant/ 1 guest
	Proposed ASF:	80 sf
USE	Activities:	General office work
	Access:	1 full-time staff
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (office hours 8-5)
	Adjacencies:	Offices, Meeting Room
	Special Requirement:	n/a
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	Carpet tile
	Wall Finish:	Systems furniture
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	n/a
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Furniture distribution
	Shielding, Grounding:	TBD
	Network:	Cabled (furniture distribution)/wireless
MECHANICAL/ ELECTRICAL	Natural Lighting:	Preferred
	Artificial Lighting:	General ceiling lighting, task lighting at work surface
	HVAC Requirement:	Building standard
	Electrical:	Furniture distribution, outlets at no more than every 8'
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
Work Surface	30"	19'
Chairs		
Task		1
Guest		1
Lateral File		
2 Drawer/1 File	15"	1
2 drawer	42"'	1
Shelving	12"	9'

1.8.5A SCIENCE & ENGINEERING REFERENCE
Staff Spaces – Meeting Room

IDENTIFICATION AND SIZE	Division:	Public Services
	Capacity:	15
	Proposed ASF:	240 sf
USE	Activities:	Meeting area
	Access:	Staff
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (office hours 8-5)
	Adjacencies:	Offices, Science & Engineering Reference
	Special Requirement:	n/a
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	Carpet tile
	Wall Finish:	Painted gyp. board; glazed sidelight or doors
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	Sound isolation
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Wall/column outlets
	Shielding, Grounding:	TBD
	Network:	Cabled/wireless
MECHANICAL/ ELECTRICAL	Natural Lighting:	Preferred
	Artificial Lighting:	General ceiling lighting
	HVAC Requirement:	Building standard
	Electrical:	Duplex outlets on each wall
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS	Description	Size	Number/location
	Conference table		1
	Chairs		15

1.8.5B SCIENCE & ENGINEERING REFERENCE
Help Desk – Work Room

IDENTIFICATION AND SIZE	Division:	Public Services
	Capacity:	
	Proposed ASF:	180 sf
USE	Activities:	Staff support containing supplies, shared equipment (printers, scanners, copy machine, etc.) and departmental files.
	Access:	Accessed by staff
	Frequency/Hours:	Available to staff during all hours library is open.
	Adjacencies:	Science and Engineering, Reference Offices, Work Room and Storage
	Special Requirement:	Common area space; not fully enclosed
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum
	Floor Finish:	Carpet tile
	Wall Finish:	Painted gypsum board
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	n/a
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	n/a
	Shielding, Grounding:	TBD
	Network:	Cabled/wireless
MECHANICAL/ ELECTRICAL	Natural Lighting:	Not required
	Artificial Lighting:	General ceiling lighting
	HVAC Requirement:	Air-conditioned
	Electrical:	Duplex outlets
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
Base cabinet	24"	10'
Wall cabinet	12"	10'
White board	4' x 4'	1
Bulletin board	3' x 4'	1
Lateral file		
4 drawer	42"	1

1.8.5C SCIENCE & ENGINEERING REFERENCE
Staff Spaces - File/Copy

IDENTIFICATION AND SIZE	Division:	Public Services
	Capacity:	
	Proposed ASF:	80 sf
USE	Activities:	Staff support area containing supplies, shared equipment, (printers, scanners, copy machine, etc.) and departmental files.
	Access:	Accessed by staff
	Frequency/Hours:	Typically Mon-Fri, 7am to 9pm (office hours 8-5)
	Adjacencies:	Science & Engineering Collection
	Special Requirement:	Common Area space, not fully enclosed
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum
	Floor Finish:	Carpet tile
	Wall Finish:	Painted gyp board
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	At ceiling
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Wall/column outlets
	Shielding, Grounding:	TBD
	Network:	Cabled (2 outlets at counter)/wireless
MECHANICAL/ ELECTRICAL	Natural Lighting:	Not required
	Artificial Lighting:	General ceiling lighting
	HVAC Requirement:	Building standard
	Electrical:	General office
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
Base cabinet	24"	8'
Wall cabinet	12"	8'
White board	4' x 4'	1
Bulletin board	3' x 4'	1
Lateral file		
4 drawer	42"	1

1.8.5D SCIENCE & ENGINEERING REFERENCE
Staff Spaces – Storage

IDENTIFICATION AND SIZE	Division:	Public Services
	Capacity:	
	Proposed ASF:	80 sf
USE	Activities:	Equipment and materials storage
	Access:	Staff
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (office hours 8-5)
	Adjacencies:	Science and Engineering, Reference Offices, Work Room, File/Copy
	Special Requirement:	Common area apace
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	Carpet tile
	Wall Finish:	Painted gyp. board
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	n/a
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Wall/column outlets
	Shielding, Grounding:	TBD
	Network:	n/a
MECHANICAL/ ELECTRICAL	Natural Lighting:	Not required
	Artificial Lighting:	General ceiling lighting
	HVAC Requirement:	Building standard
	Electrical:	Duplex outlets located at no more than 10' intervals per wall
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS	Description	Size	Number/location

1.9.1 GOVERNMENT DOCUMENTS/MICROFORMS
Help Desk

IDENTIFICATION AND SIZE	Division:	Public Services
	Capacity:	4
	Proposed ASF:	480 sf
USE	Activities:	Gov. Docs. Assistance with secure storage for materials.
	Access:	Accessed by staff; library users are prevented from accessing behind desk by swing gates optional
	Frequency/Hours:	Available to all library users all hours the library is open.
	Adjacencies:	Gov. Docs. Collection, Reader Seats
	Special Requirement:	Desk with standing and sitting height counters
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum
	Floor Finish:	Carpet tile
	Wall Finish:	Paint
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	n/a
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Floor outlets; furniture distribution
	Shielding, Grounding:	TBD
	Network:	Cabled/wireless
MECHANICAL/ ELECTRICAL	Natural Lighting:	Not required
	Artificial Lighting:	General ceiling lighting; provide controls for all public areas
	HVAC Requirement:	Building standard
	Electrical:	Duplex outlets hardwired into fixed help desk
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
Standing and sitting height counter		30'
Chair – task/stool		4
Secure storage		10'

1.9.2A GOVERNMENT DOCUMENTS/MICROFORMS
Print Collection

IDENTIFICATION AND SIZE	Division:	Public Services
	Capacity:	
	Proposed ASF:	11,220 sf
USE	Activities:	Stacks on compact shelving containing Government Document volumes; materials are removed from shelves for use at reader seating and reshelved by staff.
	Access:	Public; 10% of collection in a gated, secure area.
	Frequency/Hours:	Available to all library users all hours the library is open.
	Adjacencies:	Gov. Docs. Help Desk, Staff, Gov. Docs. Reader Seating
	Special Requirement:	Compact shelving
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum
	Floor Finish:	Carpet tile
	Wall Finish:	n/a
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	n/a
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Wall/column outlets
	Shielding, Grounding:	TBD
	Network:	Cabled/wireless
MECHANICAL/	Natural Lighting:	Not required; provide sun control for preservation of library materials
ELECTRICAL	Artificial Lighting:	Indirect lighting
	HVAC Requirement:	Air-conditioned; part of adjacent reader seating/ general collection space
	Electrical:	Duplex outlets; sufficient distribution for vacuum cleaners and other incidental uses
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS	Description	Size	Number/location
			935 DF sections

1.9.2B GOVERNMENT DOCUMENTS/MICROFORMS
Microfilm

IDENTIFICATION AND SIZE	Division:	Public Services
	Capacity:	
	Proposed ASF:	1,786 sf
USE	Activities:	Individual research using microfilm
	Access:	Public
	Frequency/Hours:	Available to all library users all hours the library is open.
	Adjacencies:	Gov. Docs. Help Desk, General Seating and Collection
	Special Requirement:	n/a
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum
	Floor Finish:	Carpet tile
	Wall Finish:	Painted gyp. board
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	n/a
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Wall/column outlets
	Shielding, Grounding:	TBD
	Network:	Cabled/wireless
MECHANICAL/ ELECTRICAL	Natural Lighting:	Not Required
	Artificial Lighting:	Indirect lighting; minimize glare on screen
	HVAC Requirement:	Building standard
	Electrical:	Duplex outlets; sufficient distribution for vacuum cleaners and other incidental uses
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS	Description	Size	Number/location
			38 DF sections

1.9.2C GOVERNMENT DOCUMENTS/MICROFORMS
Microfiche

IDENTIFICATION AND SIZE	Division:	Public Services
	Capacity:	
	Proposed ASF:	1,216 sf
USE	Activities:	Individual research using microfiche
	Access:	Public
	Frequency/Hours:	Available to all library users all hours the library is open.
	Adjacencies:	Gov. Docs. Help Desk, General Seating and Collection
	Special Requirement:	n/a
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum
	Floor Finish:	Carpet tile
	Wall Finish:	Painted gyp. board
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	n/a
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Wall/column outlets
	Shielding, Grounding:	TBD
	Network:	Cabled/wireless
MECHANICAL/ ELECTRICAL	Natural Lighting:	Not Required
	Artificial Lighting:	Indirect lighting; minimize glare on screen
	HVAC Requirement:	Air-conditioned; part of adjacent reader seating/ collection space
	Electrical:	Duplex outlets; sufficient distribution for vacuum cleaners and other incidental uses
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
		38 DF sections

1.9.3 GOVERNMENT DOCUMENTS/MICROFORMS
General Seating

IDENTIFICATION AND SIZE	Division:	Public Services
	Capacity:	
	Proposed ASF:	8,310 sf *15 Computer Stations* *8 Microfilm Readers* *20 Table Seats*
USE	Activities:	Reading, and studying at tables/seating with & without power/data connections for computers; conduct individual research using microfilm/microfiche equipment.
	Access:	Public
	Frequency/Hours:	Available to all library users all hours the library is open.
	Adjacencies:	Gov. Docs. Help Desk, Microfilm/microfiche collection; Gov. Docs. Print Collection
	Special Requirement:	n/a
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	Carpet tile
	Wall Finish:	Painted gyp. board where applicable
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	n/a
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Wall/column outlets
	Shielding, Grounding:	TBD
	Network:	Cabled/wireless
MECHANICAL/ ELECTRICAL	Natural Lighting:	Preferred
	Artificial Lighting:	General ceiling lighting; task lighting at reader stations
	HVAC Requirement:	Air-conditioned; sufficient load for equipment
	Electrical:	Duplex outlets at microfiche/film readers; sufficient distribution for vacuum cleaners and other incidental uses
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
Computer Stations		15
Microfilm Readers		12
Tables		10
Chair - guest		40

1.9.4A GOVERNMENT DOCUMENTS/MICROFORMS
Office - Head Librarian

IDENTIFICATION AND SIZE	Division:	Public Services
	Capacity:	1 occupant/ 3 guests
	Proposed ASF:	160 sf
USE	Activities:	General office work
	Access:	1 full-time staff
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (office hours 8-5)
	Adjacencies:	Staff Spaces, Gov. Docs. Print Collection
	Special Requirement:	n/a
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	Carpet tile
	Wall Finish:	Painted gyp. board; glazed sidelight or door
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	Sound isolation
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Wall/column outlets
	Shielding, Grounding:	TBD
	Network:	Cabled/wireless
MECHANICAL/ ELECTRICAL	Natural Lighting:	Preferred
	Artificial Lighting:	General ceiling lighting
	HVAC Requirement:	Building standard
	Electrical:	Duplex outlets located at no more than 8' intervals per wall
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
Worksurface	30"	17'
Desk	60"	1
Conference Table	30" dia	1
Chair		
Task		1
Guest		3
Lateral File		
2 Drawer/1 File	15"	1
2 Drawer	42"	1
3 Drawer	42"	1
Shelving	12"	12'

1.9.4B GOVERNMENT DOCUMENTS/MICROFORMS Office

IDENTIFICATION AND SIZE

Division:	Public Services
Capacity:	1 occupant/ 1 guest
Proposed ASF:	120 sf

USE

Activities:	General office work
Access:	1 full-time staff
Frequency/Hours:	Typically Mon-Fri 7am to 9pm (office hours 8-5)
Adjacencies:	Staff Spaces, Gov. Docs. Print Collection
Special Requirement:	n/a

CHARACTERISTICS

Ceiling Height:	Per existing building; 9'-0" minimum.
Floor Finish:	Carpet tile
Wall Finish:	Painted gyp. board; glazed sidelight or door
Ceiling Treatment:	Acoustic ceiling tile
Acoustic Treatment:	Sound isolation
Special Requirement:	n/a

TECHNOLOGY

A.V. Requirement:	TBD
Wire Management:	Wall/column outlets
Shielding, Grounding:	TBD
Network:	Cabled/wireless

MECHANICAL/ ELECTRICAL

Natural Lighting:	Preferred
Artificial Lighting:	General ceiling lighting; task lighting at work surface
HVAC Requirement:	Building standard
Electrical:	Duplex outlets located at no more than 8' intervals per wall
Security:	General
Fire Protection:	General
Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
Work surface	30"	19'
Chair		
Task		1
Guest		1
Lateral File		
2 Drawer/1 File	15"	1
2 Drawer	42"	1
Shelving	12"	10'

1.9.4C GOVERNMENT DOCUMENTS/MICROFORMS
Staff Workstations

IDENTIFICATION AND SIZE	Division:	Public Services
	Capacity:	1 occupant/ 1 guest
	Proposed ASF:	80 sf
USE	Activities:	General office work
	Access:	1 full-time staff
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (office hours 8-5)
	Adjacencies:	Offices, Meeting Room
	Special Requirement:	n/a
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	Carpet tile
	Wall Finish:	Systems furniture
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	n/a
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Furniture distribution
	Shielding, Grounding:	TBD
	Network:	Cabled (furniture distribution)/wireless
MECHANICAL/ ELECTRICAL	Natural Lighting:	Preferred
	Artificial Lighting:	General ceiling lighting, task lighting at work surface
	HVAC Requirement:	Building standard
	Electrical:	Furniture distribution, outlets at no more than every 8'
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
Work Surface	30"	19'
Chairs		
Task		1
Guest		1
Lateral File		
2 Drawer/1 File	15"	1
2 drawer	42"'	1
Shelving	12"	9'

1.9.5A GOVERNMENT DOCUMENTS/MICROFORMS
Staff Spaces - Work Room

IDENTIFICATION AND SIZE	Division:	Public Services
	Capacity:	
	Proposed ASF:	240 sf
USE	Activities:	General office work
	Access:	Staff
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (office hours 8-5)
	Adjacencies:	Gov. Docs., Offices, Meetings room, File/Copy
	Special Requirement:	Common area, not fully enclosed
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	Carpet tile
	Wall Finish:	Painted gyp. board
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	n/a
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Wall/column outlets
	Shielding, Grounding:	TBD
	Network:	Cabled/wireless
MECHANICAL/ ELECTRICAL	Natural Lighting:	Not required
	Artificial Lighting:	General ceiling lighting
	HVAC Requirement:	Building standard
	Electrical:	Duplex outlets located at no more than 10' intervals per wall
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
Base Cabinet	24"	12'
Wall Cabinet	12"	12'

1.9.5B GOVERNMENT DOCUMENTS/MICROFORMS
Staff Spaces – Meeting Room

IDENTIFICATION AND SIZE	Division:	Public Services
	Capacity:	12
	Proposed ASF:	240 sf
USE	Activities:	Meeting space / conference room
	Access:	Accessed by staff
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (office hours 8-5)
	Adjacencies:	Gov. Docs. Print Collection
	Special Requirement:	n/a
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	Carpet tile
	Wall Finish:	Painted gyp. board
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	Sound isolation
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Wall/column outlets
	Shielding, Grounding:	TBD
	Network:	Cabled/wireless
MECHANICAL/ ELECTRICAL	Natural Lighting:	Not required
	Artificial Lighting:	General ceiling lighting
	HVAC Requirement:	Building standard
	Electrical:	Duplex outlets located at no more than 10' intervals per wall
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
Table		1
Guest Chairs		12
White Board	4' x 6'	1

1.9.5C OVERNMENT DOCUMENTS/MICROFORMS
Staff Spaces – File/Copy

IDENTIFICATION AND SIZE	Division:	Public Services
	Capacity:	
	Proposed ASF:	120 sf
USE	Activities:	Staff support area containing supplies, shared equipment (printers, scanners, copy machine, etc.) and departmental files.
	Access:	Accessed by staff
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (office hours 8-5)
	Adjacencies:	Gov. Docs., Work Room, Storage and Offices
	Special Requirement:	Common area space, not fully enclosed
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	Carpet tile
	Wall Finish:	Painted gyp. board; glazed sidelight or doors
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	n/a
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Wall/column outlets
	Shielding, Grounding:	TBD
	Network:	Cabled/wireless
MECHANICAL/ ELECTRICAL	Natural Lighting:	Not required
	Artificial Lighting:	General ceiling lighting
	HVAC Requirement:	Building standard
	Electrical:	Duplex outlets located at no more than 10' intervals per wall
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
Base Cabinet	24"	10 lin. ft.
Wall Cabinet	12"	10 lin. ft.
White Board	4' x 4'	1
Bulletin Board	3' x 4'	1
Lateral File		
4 drawer	42"	1

1.9.5D OVERNMENT DOCUMENTS/MICROFORMS
Staff Spaces – Storage

IDENTIFICATION AND SIZE	Division:	Public Services
	Capacity:	
	Proposed ASF:	80 sf
USE	Activities:	Secure equipment and materials storage
	Access:	Accessed by staff
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (office hours 8-5)
	Adjacencies:	Gov. Docs., Work Room, Collection
	Special Requirement:	n/a
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	VCT
	Wall Finish:	Painted gyp. board
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	n/a
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Wall/column outlets
	Shielding, Grounding:	TBD
	Network:	n/a
MECHANICAL/ ELECTRICAL	Natural Lighting:	Not required
	Artificial Lighting:	General ceiling lighting
	HVAC Requirement:	Building standard
	Electrical:	Duplex outlets; sufficient distribution for vacuum cleaners and other incidental uses
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS	Description	Size	Number/location

1.10.1 FINE ARTS (No Change)
Help Desk

IDENTIFICATION AND SIZE	Division:	Public Services
	Capacity:	
	Proposed ASF:	part of Fine Arts Reference (3,415 sf)
USE	Activities:	
	Access:	
	Frequency/Hours:	
	Adjacencies:	
	Special Requirement:	
CHARACTERISTICS	Ceiling Height:	
	Floor Finish:	
	Wall Finish:	
	Ceiling Treatment:	
	Acoustic Treatment:	
	Special Requirement:	
TECHNOLOGY	A.V. Requirement:	
	Wire Management:	
	Shielding, Grounding:	
	Network:	
MECHANICAL/ ELECTRICAL	Natural Lighting:	
	Artificial Lighting:	
	HVAC Requirement:	
	Electrical:	
	Security:	
	Fire Protection:	
	Plumbing:	

EQUIPMENT AND FURNISHINGS	Description	Size	Number/location

1.10.2A FINE ARTS (No Change) Collection - Reference

IDENTIFICATION AND SIZE	Division:	Public Services
	Capacity:	
	Proposed ASF:	3,415 sf
USE	Activities:	
	Access:	
	Frequency/Hours:	
	Adjacencies:	
	Special Requirement:	
CHARACTERISTICS	Ceiling Height:	
	Floor Finish:	
	Wall Finish:	
	Ceiling Treatment:	
	Acoustic Treatment:	
	Special Requirement:	
TECHNOLOGY	A.V. Requirement:	
	Wire Management:	
	Shielding, Grounding:	
	Network:	
MECHANICAL/ ELECTRICAL	Natural Lighting:	
	Artificial Lighting:	
	HVAC Requirement:	
	Electrical:	
	Security:	
	Fire Protection:	
	Plumbing:	

EQUIPMENT AND FURNISHINGS	Description	Size	Number/location

1.10.2B FINE ARTS (No Change) Collection – Closed Stacks

IDENTIFICATION AND SIZE
Division: Public Services
Capacity:
Proposed ASF: 2,604 sf

USE
Activities:
Access:
Frequency/Hours:
Adjacencies:
Special Requirement:

CHARACTERISTICS
Ceiling Height:
Floor Finish:
Wall Finish:
Ceiling Treatment:
Acoustic Treatment:
Special Requirement:

TECHNOLOGY
A.V. Requirement:
Wire Management:
Shielding, Grounding:
Network:

MECHANICAL/ ELECTRICAL
Natural Lighting:
Artificial Lighting:
HVAC Requirement:
Electrical:

Security:
Fire Protection:
Plumbing:

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location

1.10.3A FINE ARTS (No Change) General Seating

IDENTIFICATION AND SIZE	Division: Capacity: Proposed ASF:
USE	Activities: Access: Frequency/Hours: Adjacencies: Special Requirement:
CHARACTERISTICS	Ceiling Height: Floor Finish: Wall Finish: Ceiling Treatment: Acoustic Treatment: Special Requirement:
TECHNOLOGY	A.V. Requirement: Wire Management: Shielding, Grounding: Network:
MECHANICAL/ ELECTRICAL	Natural Lighting: Artificial Lighting: HVAC Requirement: Electrical: Security: Fire Protection: Plumbing:

EQUIPMENT AND FURNISHINGS	Description	Size	Number/location

1.10.3B FINE ARTS
General Seating – Fine Arts Classroom

IDENTIFICATION AND SIZE	Division:	Public Services
	Capacity:	50
	Proposed ASF:	included in Fine Arts Reference sf (950 sf)
USE	Activities:	Instruction, meeting area, independent work at perimeter computer stations
	Access:	Public access by appointment with library staff
	Frequency/Hours:	Available all hours the library is open
	Adjacencies:	Fine Arts Collection
	Special Requirement:	n/a
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'0" minimum
	Floor Finish:	Carpet tile
	Wall Finish:	Painted gyp. board
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	n/a
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Wall / column outlets every 6'
	Shielding, Grounding:	TBD
	Network:	Cabled outlets every 6' at walls/wireless
MECHANICAL/ ELECTRICAL	Natural Lighting:	Not required
	Artificial Lighting:	Indirect lighting; minimize glare on screen
	HVAC Requirement:	Air-conditioned
	Electrical:	Duplex outlets
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
Tables	30" x 8'	4
Guest Chairs		12
Seats with fold down writing surface		30
Instructor computer Workstations		1

PERIMETER COMP STATIONS

Tables	30" x 6'	10
Guest Chairs		20

1.10.4A FINE ARTS (No Change) Offices – Small Office

IDENTIFICATION AND SIZE	Division:	Public Services
	Capacity:	
	Proposed ASF:	98 sf
USE	Activities:	
	Access:	
	Frequency/Hours:	
	Adjacencies:	
	Special Requirement:	
CHARACTERISTICS	Ceiling Height:	
	Floor Finish:	
	Wall Finish:	
	Ceiling Treatment:	
	Acoustic Treatment:	
	Special Requirement:	
TECHNOLOGY	A.V. Requirement:	
	Wire Management:	
	Shielding, Grounding:	
	Network:	
MECHANICAL/ ELECTRICAL	Natural Lighting:	
	Artificial Lighting:	
	HVAC Requirement:	
	Electrical:	
	Security:	
	Fire Protection:	
	Plumbing:	

EQUIPMENT AND FURNISHINGS	Description	Size	Number/location

1.10.4B FINE ARTS (No Change) Offices – Medium Office

IDENTIFICATION AND SIZE
Division: Public Services
Capacity:
Proposed ASF: 144.5 sf

USE
Activities:
Access:
Frequency/Hours:
Adjacencies:
Special Requirement:

CHARACTERISTICS
Ceiling Height:
Floor Finish:
Wall Finish:
Ceiling Treatment:
Acoustic Treatment:
Special Requirement:

TECHNOLOGY
A.V. Requirement:
Wire Management:
Shielding, Grounding:
Network:

MECHANICAL/ ELECTRICAL
Natural Lighting:
Artificial Lighting:
HVAC Requirement:
Electrical:

Security:
Fire Protection:
Plumbing:

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location

1.10.4C FINE ARTS (No Change) Offices – Large Office

IDENTIFICATION AND SIZE	Division:	Public Services
	Capacity:	
	Proposed ASF:	276 sf
USE	Activities:	
	Access:	
	Frequency/Hours:	
	Adjacencies:	
	Special Requirement:	
CHARACTERISTICS	Ceiling Height:	
	Floor Finish:	
	Wall Finish:	
	Ceiling Treatment:	
	Acoustic Treatment:	
	Special Requirement:	
TECHNOLOGY	A.V. Requirement:	
	Wire Management:	
	Shielding, Grounding:	
	Network:	
MECHANICAL/ ELECTRICAL	Natural Lighting:	
	Artificial Lighting:	
	HVAC Requirement:	
	Electrical:	
	Security:	
	Fire Protection:	
	Plumbing:	

EQUIPMENT AND FURNISHINGS	Description	Size	Number/location

1.11.1 CIRCULATION
Help Desk

IDENTIFICATION AND SIZE	Division:	Public Services
	Capacity:	4
	Proposed ASF:	680 sf
USE	Activities:	Queuing space for library users waiting for check-in/check-out services for general collection volumes
	Access:	Accessed by staff; library users are prevented from accessing behind desk by swing gates optional
	Frequency/Hours:	Available to all library users all hours the library is open.
	Adjacencies:	At entry to 24 hour zone (Level 1); at library entry (Level 3)
	Special Requirement:	Desk with standing and sitting height counters
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum
	Floor Finish:	Carpet tile
	Wall Finish:	Paint
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	At ceiling
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Floor outlet; furniture distribution
	Shielding, Grounding:	TBD
	Network:	Cabled/wireless
MECHANICAL/ ELECTRICAL	Natural Lighting:	Not required
	Artificial Lighting:	General ceiling lighting; provide controls for all public areas
	HVAC Requirement:	Air-conditioned
	Electrical:	Duplex outlets hardwired into fixed help desk
	Security:	Gated exit
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
Counter		30 lin. ft.
Chair / Stool		4

1.11.2A CIRCULATION Office

IDENTIFICATION AND SIZE	Division:	Public Services
	Capacity:	1 occupant/3 guests
	Proposed ASF:	160 sf
USE	Activities:	General office work
	Access:	1 full-time staff
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (office hours 8-5)
	Adjacencies:	Circulation Staff Offices and Workstations, and Staff Spaces
	Special Requirement:	n/a
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	Carpet tile
	Wall Finish:	Painted gyp. board; glazed sidelight or door
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	Sound isolation
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Wall/column outlets
	Shielding, Grounding:	TBD
	Network:	Cabled/wireless
MECHANICAL/ ELECTRICAL	Natural Lighting:	Preferred
	Artificial Lighting:	General ceiling lighting; task lighting at work surface
	HVAC Requirement:	Building standard
	Electrical:	Duplex outlets located at no more than 10' intervals per wall
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
Worksurface	30"	17'
Desk	60"	1
Conference Table	30" dia	1
Chair		
Task		1
Guest		3
Lateral File		
2 Drawer/1 File	15"	1
2 Drawer	42"	1
3 Drawer	42"	1
Shelving	12"	12'

1.11.2B CIRCULATION Office

IDENTIFICATION AND SIZE	Division:	Public Services
	Capacity:	1 occupant/ 1 guest
	Proposed ASF:	120 sf
USE	Activities:	General office work
	Access:	1 full-time staff
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (office hours 8-5)
	Adjacencies:	Circulation Offices, Workstations and Staff Spaces
	Special Requirement:	n/a
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	Carpet tile
	Wall Finish:	Painted gyp. board; glazed sidelight or door
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	Sound isolation
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Wall/column outlets
	Shielding, Grounding:	TBD
	Network:	Cabled/wireless
MECHANICAL/ ELECTRICAL	Natural Lighting:	Preferred
	Artificial Lighting:	General ceiling lighting; task lighting at work surfaces
	HVAC Requirement:	Building standard
	Electrical:	Duplex outlets located at no more than 8' intervals per wall
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
Work surface	30"	19'
Chair		
Task		1
Guest		1
Lateral File		
2 Drawer/1 File	15"	1
2 Drawer	42"	1
Shelving	12"	10'

1.11.3 CIRCULATION
Staff Workstations

IDENTIFICATION AND SIZE	Division:	Public Services
	Capacity:	1 occupant/ 1 guest
	Proposed ASF:	110 sf
USE	Activities:	General office work
	Access:	1 full-time staff
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (office hours 8-5)
	Adjacencies:	Circulation Offices, Staff Spaces
	Special Requirement:	n/a
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	Carpet tile
	Wall Finish:	Systems furniture
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	n/a
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Furniture distribution
	Shielding, Grounding:	TBD
	Network:	Cabled/wireless
MECHANICAL/ ELECTRICAL	Natural Lighting:	Preferred
	Artificial Lighting:	General ceiling lighting; task lighting at work surface
	HVAC Requirement:	Building standard
	Electrical:	Duplex outlets located at no more than 8' intervals per wall
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
Worksurface	30"	19'
Chair		
Task		1
Guest		1
Lateral File		
2 Drawer/1 File	15"	1
2 Drawer	42"	1
Shelves	12"	10'

1.11.4A CIRCULATION
Staff Spaces – Meeting/Work Room

IDENTIFICATION AND SIZE	Division:	Public Services
	Capacity:	10
	Proposed ASF:	180 sf
USE	Activities:	General office work
	Access:	Accessed by staff
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (office hours 8-5)
	Adjacencies:	Special Collections (Level 5)
	Special Requirement:	Common area space, not fully enclosed
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	Carpet tile
	Wall Finish:	Painted gyp. board; glazed sidelight or doors
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	n/a
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Wall/column outlets
	Shielding, Grounding:	TBD
	Network:	Cabled/wireless
MECHANICAL/ ELECTRICAL	Natural Lighting:	Preferred
	Artificial Lighting:	General ceiling lighting
	HVAC Requirement:	Building standard
	Electrical:	Duplex outlets located at no more than 10' intervals per wall
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
White board	4' x 6'	1
Bulletin Board	3' x 4'	1
Base Cabinet	24"	6'
Wall Cabinet	12"	6'
Table		1
Guest Chairs		10

1.11.4B CIRCULATION
Staff Spaces – File/Copy

IDENTIFICATION AND SIZE	Division:	Public Services
	Capacity:	
	Proposed ASF:	120 sf
USE	Activities:	Staff support area containing supplies, shared copy machine, equipment (printers, scanners, etc.) and departmental files.
	Access:	Accessed by staff
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (office hours 8-5)
	Adjacencies:	Circulation Staff Spaces and Offices
	Special Requirement:	Common area space, not fully enclosed
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	Carpet tile
	Wall Finish:	Painted gyp. board; glazed sidelight or doors
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	n/a
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Wall/column outlets
	Shielding, Grounding:	TBD
	Network:	Cabled/wireless
MECHANICAL/ ELECTRICAL	Natural Lighting:	Preferred
	Artificial Lighting:	General ceiling lighting
	HVAC Requirement:	Building standard
	Electrical:	Duplex outlets located at no more than 10' intervals per wall
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
Base Cabinet	24"	10'
Wall Cabinet	12"	10'
White Board	4' x 4'	1
Bulletin Board	3' x 4'	1
Lateral File		
4 Drawer	42"	1

1.11.4C CIRCULATION
Staff Spaces - Storage

IDENTIFICATION AND SIZE	Division:	Public Services
	Capacity:	
	Proposed ASF:	80 sf
USE	Activities:	Equipment and materials storage
	Access:	Staff
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (office hours 8-5)
	Adjacencies:	Circulation Staff Spaces and Offices
	Special Requirement:	
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	VCT
	Wall Finish:	Painted gyp. board; glazed sidelight or doors
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	n/a
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Wall/column outlets
	Shielding, Grounding:	TBD
	Network:	n/a
MECHANICAL/ ELECTRICAL	Natural Lighting:	Not required
	Artificial Lighting:	General ceiling lighting
	HVAC Requirement:	Building standard
	Electrical:	Duplex outlets located at no more than 10' intervals per wall
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location

1.12.1 INTERLIBRARY LOANS
Help Desk

IDENTIFICATION AND SIZE	Division:	Public Services
	Capacity:	2
	Proposed ASF:	280 sf
USE	Activities:	Information assistance regarding interlibrary loans
	Access:	Accessed by staff; library users are prevented from accessing behind desk by swing gates optional.
	Frequency/Hours:	Available to all library users all hours the library is open.
	Adjacencies:	Circulation Desk at library entry (Level 3); General Collection
	Special Requirement:	Desk with standing and sitting height counters.
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum
	Floor Finish:	Carpet tile
	Wall Finish:	Systems furniture or built-in cabinetry-painted.
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	At ceiling
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Floor outlets; furniture distribution
	Shielding, Grounding:	TBD
	Network:	Cabled/wireless
MECHANICAL/ ELECTRICAL	Natural Lighting:	Not required
	Artificial Lighting:	General ceiling lighting; provide controls for all public areas
	HVAC Requirement:	Air-conditioned
	Electrical:	Duplex outlets hardwired into fixed help desk
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
Service counter		36'
Secure storage (below counter)		10'
Chair – task/stool		2

1.12.2 INTERLIBRARY LOANS
Office

IDENTIFICATION AND SIZE	Division:	Public Services
	Capacity:	1 occupant/ 3 guests
	Proposed ASF:	160 sf
USE	Activities:	General office work
	Access:	1 full-time staff
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (office hours 8-5)
	Adjacencies:	Staff Office , Workstations and Staff Spaces
	Special Requirement:	n/a
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	Carpet tile
	Wall Finish:	Painted gyp. board; glazed sidelight or door
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	Sound isolation
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Wall/column outlets
	Shielding, Grounding:	TBD
	Network:	Cabled/wireless
MECHANICAL/ ELECTRICAL	Natural Lighting:	Preferred
	Artificial Lighting:	General surface ceiling lighting; provide task lighting at work
	HVAC Requirement:	Building standard
	Electrical:	Duplex outlets located at no more than 8' intervals per wall
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
Worksurface	30"	17'
Desk	60"	1
Conference Table	30" dia	1
Chair		
Task		1
Guest		3
Lateral File		
2 Drawer/1 File	15"	1
2 Drawer	42"	1
3 Drawer	42"	1
Shelving	12"	12'

1.12.3A INTERLIBRARY LOANS
Staff Workstations

IDENTIFICATION AND SIZE	Division:	Public Services
	Capacity:	1 occupant/ 1 guest
	Proposed ASF:	110 sf
USE	Activities:	General office work
	Access:	1 full-time staff
	Frequency/Hours:	Typically Mon-Fri, 7 am to 9 m (office hours 8-5)
	Adjacencies:	Interlibrary Loans Offices and Staff Spaces
	Special Requirement:	n/a
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum
	Floor Finish:	Carpet tile
	Wall Finish:	Paint
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	n/a
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Floor outlets; furniture distribution
	Shielding, Grounding:	TBD
	Network:	Cabled/wireless
MECHANICAL/ ELECTRICAL	Natural Lighting:	Preferred
	Artificial Lighting:	General ceiling lighting; task lighting at work surfaces
	HVAC Requirement:	Building standard
	Electrical:	Duplex outlets located at no more than 8' intervals per walls
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
Worksurface	30"	19'
Chair		
Task		1
Guest		1
Lateral File		
2 Drawer/1 File	15"	1
2 Drawer	42"	1
Shelves	12"	10'

1.12.3B INTERLIBRARY LOANS
Staff Workstations – Part-time Stations

IDENTIFICATION AND SIZE	Division:	Public Services
	Capacity:	1 occupant/ 1 guest
	Proposed ASF:	80 sf
USE	Activities:	General office work
	Access:	1 part-time staff
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (office hours 8-5)
	Adjacencies:	Interlibrary Loan Staff Offices, Workstations & Staff Spaces
	Special Requirement:	n/a
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	Carpet tile
	Wall Finish:	Systems furniture
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	n/a
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Furniture distribution
	Shielding, Grounding:	TBD
	Network:	Cabled (furniture distribution)/wireless
MECHANICAL/ ELECTRICAL	Natural Lighting:	Preferred
	Artificial Lighting:	General ceiling lighting, task lighting at work surface
	HVAC Requirement:	Building standard
	Electrical:	Furniture distribution, outlets at no more than every 8'
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
Work Surface	30"	19'
Chairs		
Task		1
Guest		1
Lateral File		
2 Drawer/1 File	15"	1
2 drawer	42"'	1
Shelving	12"	9'

1.12.4A INTERLIBRARY LOANS
Staff Spaces – Work Room

IDENTIFICATION AND SIZE	Division:	Public Services
	Capacity:	10
	Proposed ASF:	280 sf
USE	Activities:	Meeting room and area for supplemental office support
	Access:	Accessed by staff; library users are prevented from accessing behind desk by swing gates or drop down section of counter.
	Frequency/Hours:	Typically Mon-Fri, 7am to 9pm (office hours 8-5)
	Adjacencies:	Interlibrary Loan Offices, Workstations, Staff Spaces
	Special Requirement:	Common area space, not fully enclosed
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum
	Floor Finish:	Carpet tile
	Wall Finish:	Painted gyp. board
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	At ceiling
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Wall / column outlets
	Shielding, Grounding:	TBD
	Network:	Cabled/wireless
MECHANICAL/ ELECTRICAL	Natural Lighting:	Not required
	Artificial Lighting:	General ceiling lighting
	HVAC Requirement:	Building standards
	Electrical:	Duplex outlets hardwired into fixed help desk
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
Table	4' x 14'	1
Guest chair		12
White board	4' x 6'	1
Typewriter station	30" x 40 "	1
Base cabinet		6'
Wall cabinet		6'

1.12.4B INTERLIBRARY LOANS
Staff Spaces - File/Copy

IDENTIFICATION AND SIZE

Division:	Public Services
Capacity:	
Proposed ASF:	100 sf

USE

Activities:	Staff support area containing supplies, shared equipment, (printers, scanners, copy machine, etc.) and departmental files.
Access:	Accessed by staff
Frequency/Hours:	Typically Mon-Fri, 7am to 9pm (office hours 8-5)
Adjacencies:	Interlibrary Loans Offices and Staff Spaces
Special Requirement:	Common Area space, not fully enclosed

CHARACTERISTICS

Ceiling Height:	Per existing building; 9'-0" minimum
Floor Finish:	Carpet tile
Wall Finish:	Painted gyp board
Ceiling Treatment:	Acoustic ceiling tile
Acoustic Treatment:	At ceiling
Special Requirement:	n/a

TECHNOLOGY

A.V. Requirement:	TBD
Wire Management:	Wall/column outlets
Shielding, Grounding:	TBD
Network:	Cabled/wireless

MECHANICAL/ ELECTRICAL

Natural Lighting:	Not required
Artificial Lighting:	General ceiling lighting
HVAC Requirement:	Building standard
Electrical:	General office
Security:	General
Fire Protection:	General
Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
Base cabinet	24"	10 lin. ft.
Wall cabinet	12"	10 lin. ft.
White board	4' x 4'	1
Bulletin board	3' x 4'	1
Lateral file		
4 drawer	42"	1

1.12.4C INTERLIBRARY LOANS
Staff Spaces - Storage

IDENTIFICATION AND SIZE	Division:	Public Services
	Capacity:	
	Proposed ASF:	60 sf
USE	Activities:	Equipment and materials storage area
	Access:	Accessed by staff
	Frequency/Hours:	Typically Mon-Fri, 7am to 9pm (office hours 8-5).
	Adjacencies:	Interlibrary loan staff spaces
	Special Requirement:	Common area space, not fully enclosed
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum
	Floor Finish:	VCT
	Wall Finish:	Painted gyp. board
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	n/a
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Wall/column outlets
	Shielding, Grounding:	TBD
	Network:	n/a
MECHANICAL/ ELECTRICAL	Natural Lighting:	Not required
	Artificial Lighting:	General ceiling lighting
	HVAC Requirement:	General office
	Electrical:	General office
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS	Description	Size	Number/location

1.13.1A RESERVES Help Desk

IDENTIFICATION AND SIZE	Division:	Public Services
	Capacity:	4
	Proposed ASF:	480 sf
USE	Activities:	Information assistance and check-out/administration of reserves volumes/materials; general office work
	Access:	Accessed by staff; library users are prevented from accessing behind desk by swing gates optional. This area is within the 24-hour zone.
	Frequency/Hours:	Available to all library users all hours the library is open. Hours variable, up to 7days/week, day and evening hours
	Adjacencies:	Reserve Collection, Cashier and Computers; Information Commons
	Special Requirement:	n/a
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum
	Floor Finish:	Carpet tile
	Wall Finish:	Painted gyp. board
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	n/a
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Floor outlets; furniture distribution
	Shielding, Grounding:	TBD
	Network:	Cabled/wireless
MECHANICAL/ ELECTRICAL	Natural Lighting:	Not required
	Artificial Lighting:	General ceiling lighting with task lighting at staff stations
	HVAC Requirement:	Building standard
	Electrical:	Duplex outlets hardwired into fixed help desk; Duplex outlets located at no more than 10' intervals per wall
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
Service counter	30"	36'
Chair / stool		4

1.13.1B RESERVES
Help Desk – Cashier

IDENTIFICATION AND SIZE	Division:	Public Services
	Capacity:	
	Proposed ASF:	120 sf
USE	Activities:	Workstation for cashier
	Access:	Accessed by staff.
	Frequency/Hours:	Typically Mon-Fri, 7am to 9pm (office hours 8-5).
	Adjacencies:	Information Commons; Reserves Help Desk
	Special Requirement:	n/a
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum
	Floor Finish:	Carpet tile
	Wall Finish:	Painted gyp. board
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	n/a
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Floor outlets; furniture distribution
	Shielding, Grounding:	TBD
	Network:	Cabled/wireless
MECHANICAL/ ELECTRICAL	Natural Lighting:	Not required
	Artificial Lighting:	Indirect lighting at stacks; general ceiling lighting, w/ task lighting at staff work surfaces
	HVAC Requirement:	Building standard
	Electrical:	Duplex outlets located at no more than 10' intervals per wall
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
Service Counter	30"	8'
Chair – task/stool		1

1.13.1C RESERVES
Help Desk – Reserves Computers

IDENTIFICATION AND SIZE	Division:	Public Services
	Capacity:	
	Proposed ASF:	40 sf
USE	Activities:	Information assistance and checkout
	Access:	Accessed by staff; This area is within the 24 hour zone.
	Frequency/Hours:	Available to all library users all hours the library is open. Hours variable, up to 7days/week, day and evening hours
	Adjacencies:	Information Commons; Reserves Help Desk
	Special Requirement:	n/a
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum
	Floor Finish:	Carpet tile
	Wall Finish:	Painted gyp. board
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	n/a
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Floor outlets; furniture distribution
	Shielding, Grounding:	TBD
	Network:	Cabled/wireless
MECHANICAL/ ELECTRICAL	Natural Lighting:	Not required
	Artificial Lighting:	General ceiling lighting w/ task lighting at work surfaces
	HVAC Requirement:	Building standard
	Electrical:	Duplex outlets hardwired into fixed help desk
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location

1.13.2 RESERVES
Collection

IDENTIFICATION AND SIZE	Division:	Public Services
	Capacity:	
	Proposed ASF:	810 sf
USE	Activities:	Information assistance and check-out/administration of reserves volumes/materials; general office work
	Access:	Accessed by 4 full-time staff; library users are prevented from accessing behind desk by swing gates or drop down section of counter. This area is within the 24-hour zone.
	Frequency/Hours:	Available to all library users all hours the library is open. Hours variable, up to 7days/week, day and evening hours
	Adjacencies:	Reserves Help Desk; Information Commons
	Special Requirement:	n/a
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum
	Floor Finish:	Carpet tile
	Wall Finish:	Painted gyp. board
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	n/a
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Floor outlets; furniture distribution
	Shielding, Grounding:	TBD
	Network:	Cabled/wireless
MECHANICAL/ ELECTRICAL	Natural Lighting:	Not required
	Artificial Lighting:	Indirect lighting at stacks; general ceiling lighting at office and staff spaces, w/ task lighting at staff workstations
	HVAC Requirement:	Building standard
	Electrical:	Duplex outlets hardwired into fixed help desk; duplex outlets located at no more than 10' intervals per wall
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
Stacks		45 DFS

1.13.3A RESERVES
Staff Spaces - Office

IDENTIFICATION AND SIZE	Division:	Public Services
	Capacity:	1 occupant/3 guests
	Proposed ASF:	160 sf
USE	Activities:	General office work
	Access:	1 full-time staff
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (office hours 8-5)
	Adjacencies:	Reserves workstations, Help Desk and Collections.
	Special Requirement:	n/a
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum
	Floor Finish:	Carpet tile
	Wall Finish:	Painted gypsum board, glazed sidelight or door.
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	Sound insulation
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Wall / column outlets
	Shielding, Grounding:	TBD
	Network:	Cabled/wireless
MECHANICAL/ ELECTRICAL	Natural Lighting:	Preferred
	Artificial Lighting:	General ceiling lighting w/ task lighting at staff work surface
	HVAC Requirement:	Building standard
	Electrical:	Duplex outlets located at no more than 8' intervals per wall
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
Worksurface	30"	17'
Desk	60"	1
Conference Table	30" dia	1
Chair		
Task		1
Guest		3
Lateral File		
2 Drawer/1 File	15"	1
2 Drawer	42"	1
3 Drawer	42"	1
Shelving	12"	12'

1.13.3B RESERVES
Staff Spaces - Workstations

IDENTIFICATION AND SIZE	Division:	Public Services
	Capacity:	1 occupant/ 1 guest
	Proposed ASF:	110 sf
USE	Activities:	Reserves volumes/materials; general office work
	Access:	1 full-time staff
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (office hours 8-5)
	Adjacencies:	Reserves; Office, Staff Spaces and Help Desk.
	Special Requirement:	n/a
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum
	Floor Finish:	Carpet tile
	Wall Finish:	Systems furniture
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	n/a
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Floor outlets; furniture distribution
	Shielding, Grounding:	TBD
	Network:	Cabled (furniture distribution)/wireless.
MECHANICAL/ ELECTRICAL	Natural Lighting:	Preferred
	Artificial Lighting:	General ceiling lighting, task lighting at work surface
	HVAC Requirement:	Building standard
	Electrical:	Duplex outlets located at no more than 8' intervals per wall
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
Work surface	30"	19'
Chair		
Task		1
Guest		1
Lateral File		
2 Drawer/1 File	15"	1
2 Drawer	42"	1
Shelves	12"	10'

1.13.3C Reserves Staff Spaces –Work Room

IDENTIFICATION AND SIZE	Division:	Public Services
	Capacity:	
	Proposed ASF:	120 sf
USE	Activities:	General office work
	Access:	Accessed by staff
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (office hours 8-5)
	Adjacencies:	Reserves Staff Spaces
	Special Requirement:	Common area space, not fully enclosed
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	Carpet tile
	Wall Finish:	Painted gyp. board; glazed sidelight or doors
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	n/a
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Wall/column outlets
	Shielding, Grounding:	TBD
	Network:	Cabled/wireless
MECHANICAL/ ELECTRICAL	Natural Lighting:	Preferred
	Artificial Lighting:	General ceiling lighting
	HVAC Requirement:	Building standard
	Electrical:	Duplex outlets located at no more than 10' intervals per wall
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
White board	4' x 6'	1
Bulletin Board	3' x 4'	1
Base cabinet	24"	6'
Wall cabinet	12"	6'
Table		1
Guest Chairs		10

1.14.1 CURRICULUM LIBRARY & JUVENILE COLLECTION
Help Desk

IDENTIFICATION AND SIZE	Division:	Public Services
	Capacity:	2
	Proposed ASF:	120 sf
USE	Activities:	Information assistance regarding Curriculum Library & Juvenile Collection
	Access:	Accessed by staff; library users are prevented from accessing behind desk by swing gate optional
	Frequency/Hours:	Available to all library users all hours the library is open.
	Adjacencies:	Within “closed” Curriculum Library, Juvenile Collection
	Special Requirement:	Desk with standing and sitting height counters.
CHARACTERISTICS	Ceiling Height:	Per existing building; 9’-0” minimum
	Floor Finish:	Carpet tile
	Wall Finish:	Systems furniture or built-in casework (painted)
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	n/a
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Floor outlets; furniture distribution
	Shielding, Grounding:	TBD
	Network:	Cabled (furniture distribution)/wireless
MECHANICAL/ ELECTRICAL	Natural Lighting:	Not required
	Artificial Lighting:	General ceiling lighting; provide controls for all public areas; *t*ask lighting at work surfaces
	HVAC Requirement:	Air-conditioned
	Electrical:	Duplex outlets hardwired into fixed help desk
	Security:	n/a
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
Work surface with standing and sitting height counter	34”	
Chair		
Task/stool		2
Secure storage		8’ lin. ft.

1.14.2 CURRICULUM LIBRARY & JUVENILE COLLECTION Seating

IDENTIFICATION AND SIZE	Division:	Public Services
	Capacity:	48
	Proposed ASF:	1,440 sf
USE	Activities:	Reading and studying at seating
	Access:	Public
	Frequency/Hours:	Available to all library users all hours the library is open.
	Adjacencies:	Curriculum Collection, Help Desk, Juvenile Collection.
	Special Requirement:	n/a
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	Carpet tile
	Wall Finish:	Painted gyp. board where applicable
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	n/a
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Wall/column outlets
	Shielding, Grounding:	TBD
	Network:	Cabled outlets at 25% of reader seats perimeter/wireless
MECHANICAL/ ELECTRICAL	Natural Lighting:	Preferred
	Artificial Lighting:	Indirect lighting
	HVAC Requirement:	Air-conditioned
	Electrical:	Sufficient distribution for vacuum cleaners and other incidental uses
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
Table	3'x 6'	12
Guest Chair		48

1.14.3A CURRICULUM LIBRARY & JUVENILE COLLECTION
Curriculum Collection

IDENTIFICATION AND SIZE	Division:	Public Services
	Capacity:	
	Proposed ASF:	1,040 sf
USE	Activities:	Closed stacks containing Curriculum Collection; materials are removed from shelves for use at reader or seats and/or photocopy room by readers and re-shelved by staff.
	Access:	Public
	Frequency/Hours:	Available to all library users all hours the library is open.
	Adjacencies:	
	Special Requirement:	n/a
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	Carpet tile
	Wall Finish:	Painted gyp. board where applicable
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	n/a
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Wall/column outlets
	Shielding, Grounding:	TBD
	Network:	Cabled/wireless
MECHANICAL/ ELECTRICAL	Natural Lighting:	Not required
	Artificial Lighting:	Indirect lighting
	HVAC Requirement:	Air-conditioned
	Electrical:	Sufficient distribution for vacuum cleaners and other incidental uses
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
Curriculum Collection	Tensco shelves	40 DF Sections

1.14.3B CURRICULUM LIBRARY & JUVENILE COLLECTION
Juvenile Collection

IDENTIFICATION AND SIZE	Division:	Public Services
	Capacity:	
	Proposed ASF:	1,746 sf
USE	Activities:	Closed stacks containing curriculum collection; materials are removed from shelves for use at reader or seats and/or photocopy room by readers and re-shelved by staff.
	Access:	Public
	Frequency/Hours:	Available to all library users all hours the library is open.
	Adjacencies:	Curriculum Collection, seating
	Special Requirement:	n/a
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	Carpet tile
	Wall Finish:	Painted gyp. board where applicable
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	n/a
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Wall/column outlets
	Shielding, Grounding:	TBD
	Network:	Cabled/wireless
MECHANICAL/ ELECTRICAL	Natural Lighting:	Not required
	Artificial Lighting:	Indirect lighting
	HVAC Requirement:	Building Standards
	Electrical:	Sufficient distribution for vacuum cleaners and other incidental uses
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
Juvenile Collection	Tensco shelves	97 DF Sections

1.14.4 CURRICULUM LIBRARY & JUVENILE COLLECTION
Office – Curriculum Head Librarian

IDENTIFICATION AND SIZE

Division:	Public Services
Capacity:	1 occupant/ 3 guests
Proposed ASF:	160 sf

USE

Activities:	General office work
Access:	1 full-time staff
Frequency/Hours:	Typically Mon-Fri 7am to 9pm (office hours 8-5)
Adjacencies:	Staff Spaces, Curriculum Collection & Juvenile Collection.
Special Requirement:	n/a

CHARACTERISTICS

Ceiling Height:	Per existing building; 9'-0" minimum.
Floor Finish:	Carpet tile
Wall Finish:	Painted gyp. board; glazed sidelight or door
Ceiling Treatment:	Acoustic ceiling tile
Acoustic Treatment:	Sound isolation
Special Requirement:	n/a

TECHNOLOGY

A.V. Requirement:	TBD
Wire Management:	Wall/column outlets
Shielding, Grounding:	TBD
Network:	Cabled/wireless

MECHANICAL/ ELECTRICAL

Natural Lighting:	Preferred
Artificial Lighting:	General ceiling lighting; task lighting at work surface
HVAC Requirement:	Building standard
Electrical:	Duplex outlets located at no more than 8' intervals per wall
Security:	General
Fire Protection:	General
Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
Worksurface	30"	17'
Desk	60"	1
Conference Table	30" dia	1
Chair		
Task		1
Guest		3
Lateral File		
2 Drawer/1 File	15"	1
2 Drawer	42"	1
3 Drawer	42"	1
Shelving	12"	12'

1.14.5A CURRICULUM LIBRARY & JUVENILE COLLECTION
Staff Spaces – Staff Workstations

IDENTIFICATION AND SIZE	Division:	Public Services
	Capacity:	1 occupant/ 1 guest
	Proposed ASF:	110 sf
USE	Activities:	General office work
	Access:	1 full-time staff
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (office hours 8-5)
	Adjacencies:	Staff Office, File/Storage, Curriculum & Juvenile Collections
	Special Requirement:	n/a
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	Carpet tile
	Wall Finish:	Systems furniture
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	n/a
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Furniture distribution
	Shielding, Grounding:	TBD
	Network:	Cable (furniture distribution)/wireless
MECHANICAL/ ELECTRICAL	Natural Lighting:	Preferred
	Artificial Lighting:	General ceiling lighting; task lighting at work surfaces
	HVAC Requirement:	Building standard
	Electrical:	Duplex outlets located at no more than 8' intervals per wall
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
Work surface	30"	19'
Chair		
Task		1
Guest		1
Lateral File		
2 Drawer/1 File	15"	1
2 Drawer	42"	1
Shelves	12"	10'

1.14.5B CURRICULUM LIBRARY & JUVENILE COLLECTION
Staff Spaces – File/Storage

IDENTIFICATION AND SIZE	Division:	Public Services
	Capacity:	
	Proposed ASF:	120 sf
USE	Activities:	Staff support area containing supplies, shared equipment (printers, scanners, copy machine, etc.) and department files.
	Access:	Staff
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (office hours 8-5)
	Adjacencies:	Staff Offices and work stations, Help Desk
	Special Requirement:	Common area space, note fully enclosed.
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	Carpet tile
	Wall Finish:	Painted gyp. board
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	n/a
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Wall/column outlets
	Shielding, Grounding:	TBD
	Network:	Cabled/wireless
MECHANICAL/ ELECTRICAL	Natural Lighting:	Not required
	Artificial Lighting:	General ceiling lighting
	HVAC Requirement:	Building standard
	Electrical:	Duplex outlets located at no more than 10' intervals per wall
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
Base Cabinet	24"	8 lin ft.
Wall Cabinet	12"	8 lin. Ft.
White Board	4' x 4'	1
Bulletin Board	3' x 4'	1
Lateral File		
4 Drawer	**42"**	**1**

1.15 TACC (No Change)

IDENTIFICATION AND SIZE
Division: Public Services
Capacity:
Proposed ASF: 3,132 sf

USE
Activities:
Access:
Frequency/Hours:
Adjacencies:
Special Requirement:

CHARACTERISTICS
Ceiling Height:
Floor Finish:
Wall Finish:
Ceiling Treatment:
Acoustic Treatment:
Special Requirement:

TECHNOLOGY
A.V. Requirement:
Wire Management:
Shielding, Grounding:
Network:

MECHANICAL/ ELECTRICAL
Natural Lighting:
Artificial Lighting:
HVAC Requirement:
Electrical:

Security:
Fire Protection:
Plumbing:

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location

1.16 GOULD AUDITORIUM (No Change)

IDENTIFICATION AND SIZE

Division: Public Services
Capacity:
Proposed ASF: 4,515 sf

USE

Activities:
Access:
Frequency/Hours:
Adjacencies:
Special Requirement:

CHARACTERISTICS

Ceiling Height:
Floor Finish:
Wall Finish:
Ceiling Treatment:
Acoustic Treatment:
Special Requirement:

TECHNOLOGY

A.V. Requirement:
Wire Management:
Shielding, Grounding:
Network:

MECHANICAL/ ELECTRICAL

Natural Lighting:
Artificial Lighting:
HVAC Requirement:
Electrical:

Security:
Fire Protection:
Plumbing:

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location

1.17.1 COPY/ PRINT
Copy/Print Rooms

IDENTIFICATION AND SIZE	Division:	Public Services
	Capacity:	4
	Proposed ASF:	160 sf
USE	Activities:	Several photocopiers and printers for public use; copied documents may be cut or stapled on a work counter; library materials which are copied are left on book trucks for staff to reshelve; wall shelving used for sorting/holding before reshelving.
	Access:	Public
	Frequency/Hours:	Available to all library users all hours the library is open.
	Adjacencies:	Help Desk, General Collection, Paper Storage Room.
	Special Requirement:	Consistent location on each level.
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	VCT
	Wall Finish:	Painted gyp. board; glazed sidelight or doors
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	Noise separation from adjacent library area
	Special Requirement:	Glazed partition for staff monitoring
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Wall/column outlets (220 V for large copiers as needed.)
	Shielding, Grounding:	TBD
	Network:	Cabled/wireless
MECHANICAL/ ELECTRICAL	Natural Lighting:	Not required
	Artificial Lighting:	General ceiling lighting on separate switching
	HVAC Requirement:	Building standard; design for heavy equipment-induced heat load and ozone off gassing from equipment
	Electrical:	Heavy electrical power demands for photocopiers/printers
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
Work counter with storage	3'x4'	1/center of room

1.17.2 COPY/ PRINT
Paper Storage

IDENTIFICATION AND SIZE	Division:	Public Services
	Capacity:	
	Proposed ASF:	40 sf
USE	Activities:	Materials storage room
	Access:	Public
	Frequency/Hours:	Available to all library users all hours the library is open.
	Adjacencies:	Copy/Print Rooms
	Special Requirement:	n/a
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	VCT
	Wall Finish:	Painted gyp. board
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	Noise separation from adjacent library area
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Wall/column outlets
	Shielding, Grounding:	TBD
	Network:	n/a
MECHANICAL/ ELECTRICAL	Natural Lighting:	Not required
	Artificial Lighting:	General ceiling lighting on separate switching
	HVAC Requirement:	Building standard
	Electrical:	Duplex outlets located at no more than 10' intervals per wall
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location

1.18 FACULTY STUDY
Faculty Study Suites

IDENTIFICATION AND SIZE	Division:	Public Services
	Capacity:	
	Proposed ASF:	480 sf *(8) 60 sf faculty study carrels*
USE	Activities:	Suite of faculty study carrels with book lockers for temporary storage of personal research materials.
	Access:	Staff / Faculty
	Frequency/Hours:	Available all hours library is open.
	Adjacencies:	General Collection
	Special Requirement:	n/a
CHARACTERISTICS	Ceiling Height:	Per existing building 9'-0" minimum.
	Floor Finish:	Carpet tile
	Wall Finish:	Systems furniture
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	Noise separation from adjacent library area.
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	n/a
	Wire Management:	Systems furniture
	Shielding, Grounding:	TBD
	Network:	Cabled (furniture distribution)/wireless
MECHANICAL/ ELECTRICAL	Natural Lighting:	Not required
	Artificial Lighting:	General ceiling lighting
	HVAC Requirement:	Building Standard
	Electrical:	Duplex outlet at work surface.
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
Per 60 sf faculty study carrel		
Work surface	30"	8 lin ft
Task chair		1

2.1.1A PUBLIC SPACES
Tanner Room- Public Reception

IDENTIFICATION AND SIZE	Division:	Special Collections
	Capacity:	2 plus queuing
	Proposed ASF:	250 sf
USE	Activities:	Reception area for Special Collection, monitoring of Quiet Read Room, Storage of user personal items, access point to all secured areas
	Access:	Public
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (Office hours 8-5)
	Adjacencies:	Atrium, Reference/technical tech. Support, Quiet Reading Room Digital Support Office.
	Special Requirement:	Desk with standing and sitting height areas with clear line of sight through Quiet Reading Room.
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum
	Floor Finish:	Carpet tile; existing upgraded surface treatment
	Wall Finish:	Painted gyp. board; existing upgraded materials; wood panels and marble; or systems furniture.
	Ceiling Treatment:	Currently there is a lay-in wood panel system
	Acoustic Treatment:	n/a
	Special Requirement:	Reuse of existing upgraded finishes to be determined.
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Floor distribution; furniture distribution or built-in cabinets at reception desk.
	Shielding, Grounding:	TBD
	Network:	Cabled (furniture distribution)/wireless
MECHANICAL/ ELECTRICAL	Natural Lighting:	Not required
	Artificial Lighting:	General ceiling light, task lighting at work surfaces
	HVAC Requirement:	Building standard
	Electrical:	Floor outlets, furniture distribution
	Security:	General; card key access into closed Special Collections Stacks.
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
Service Counter	30"	32 lin ft
Secure Storage below counter		6 lin ft

2.1.1B PUBLIC SPACES
Tanner Room- Reference / Technical Support

IDENTIFICATION AND SIZE	Division:	Special Collections
	Capacity:	4
	Proposed ASF:	1,250 sf
USE	Activities:	Enclosed and staffed assistance area for users of Tanner Quiet Reading Room.
	Access:	Public
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (Office hours 8-5)
	Adjacencies:	Public Reception, Quiet Reading Room, Digital Support Office, and Special Collection
	Special Requirement:	Desk with standing and sitting height areas with clear line of sight through Quiet Reading Room.
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum
	Floor Finish:	Carpet tile; existing upgraded surface treatment
	Wall Finish:	Painted gyp. board; existing upgraded materials; wood panels and marble; or systems furniture.
	Ceiling Treatment:	Currently there is a lay-in wood panel system
	Acoustic Treatment:	n/a
	Special Requirement:	Reuse of existing upgraded finishes to be determined.
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Wall/column outlets; furniture distribution desk.
	Shielding, Grounding:	TBD
	Network:	Cabled (furniture distribution)/wireless
MECHANICAL/ ELECTRICAL	Natural Lighting:	Not required
	Artificial Lighting:	General ceiling light, task lighting at work surfaces
	HVAC Requirement:	Building standard
	Electrical:	Floor outlets, furniture distribution
	Security:	General; card key access into closed Special Collections Stacks.
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
Service Counter (standing & sitting height)		12 lin ft
Work surface		24 lin ft

2.1.1C PUBLIC SPACES
Tanner Room- Quiet Reading Room

IDENTIFICATION AND SIZE	Division:	Special Collections
	Capacity:	150
	Proposed ASF:	5,000 sf
USE	Activities:	Tables to review Special Collection materials.
	Access:	Public
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (Office hours 8-5)
	Adjacencies:	Public Reception, Reference/Technical Support, and Digital Tech. Support Office.
	Special Requirement:	Clear line of sight to Public Reception Desk.
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum
	Floor Finish:	Carpet tile; existing upgraded surface treatment
	Wall Finish:	Painted gyp. board; existing upgraded materials; wood panels and marble; or systems furniture.
	Ceiling Treatment:	Currently there is a lay-in wood panel system
	Acoustic Treatment:	n/a
	Special Requirement:	Reuse of existing upgraded finishes to be determined.
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Wall/column outlets; furniture distribution desk.
	Shielding, Grounding:	TBD
	Network:	Cabled /wireless
MECHANICAL/ ELECTRICAL	Natural Lighting:	Not required; provide sum control for preservation of library collection as needed.
	Artificial Lighting:	Indirect lighting
	HVAC Requirement:	Building standard
	Electrical:	Floor outlets every 8' o.c.
	Security:	General; card key access into closed Special Collections Stacks.
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
Table	4'x 6'	70
Task Chair		150

2.1.1D PUBLIC SPACES
Tanner Room- Digital Tech. Support Office

IDENTIFICATION AND SIZE	Division:	Special Collections
	Capacity:	4
	Proposed ASF:	300 sf
USE	Activities:	Access to Technical Support and equipment.
	Access:	Public
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (Office hours 8-5)
	Adjacencies:	Public Reception, Reference/Technical Support, and Quiet Reading Room
	Special Requirement:	n/a
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum
	Floor Finish:	Carpet tile
	Wall Finish:	Painted gyp. board; glazed sidelight or doors
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	Sound isolation from Quite Reading Room.
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Wall/column outlets (min. 4 outlets)
	Shielding, Grounding:	TBD
	Network:	Cabled /wireless
MECHANICAL/ ELECTRICAL	Natural Lighting:	Not required
	Artificial Lighting:	Indirect lighting; task lighting at work surfaces
	HVAC Requirement:	Building standard
	Electrical:	Duplex outlets spaced nor more than 6' apart per wall.
	Security:	General; card key access into closed Special Collections Stacks.
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
Work Surface		36 lin ft
Shelving		18 lin ft
Lateral File		
2 Drawer/1 File	15"	4
4 drawer	42"	4
Task Chair		8

2.1.2 PUBLIC SPACES
Large Classroom

IDENTIFICATION AND SIZE	Division:	Special Collections
	Capacity:	30
	Proposed ASF:	650 sf
USE	Activities:	Classroom for 30 people, including Library staff training
	Access:	Public, through security check point at Public Recetpion.
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (Office hours 8-5)
	Adjacencies:	Tanner Reading Room
	Special Requirement:	n/a
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum
	Floor Finish:	Carpet tile
	Wall Finish:	Painted gyp. board
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	Sound isolation
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Wall/floor outlets
	Shielding, Grounding:	TBD
	Network:	Cabled (15 outlets at floor)/wireless
MECHANICAL/ ELECTRICAL	Natural Lighting:	Not required
	Artificial Lighting:	General ceiling down lights
	HVAC Requirement:	Building Standard
	Electrical:	Duplex outlets no less than 10' apart per wall.
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
White board	4'x 6'	1
Table	30" x 72"	15
Task Chair		30

2.1.3 PUBLIC SPACES
8-person Group Study

IDENTIFICATION AND SIZE	Division:	Special Collections
	Capacity:	8-10
	Proposed ASF:	200 sf
USE	Activities:	Private group study, including conversation, writing on whiteboard, use of library materials, use of lap top computers.
	Access:	Public
	Frequency/Hours:	Available to all library users all hours library is open.
	Adjacencies:	Middle East Collection
	Special Requirement:	n/a
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum
	Floor Finish:	Carpet tile
	Wall Finish:	Painted gyp. board; glazed sidelight or doors
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	n/a
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Wall/floor outlets
	Shielding, Grounding:	TBD
	Network:	Cabled/wireless
MECHANICAL/ ELECTRICAL	Natural Lighting:	Not required
	Artificial Lighting:	General ceiling down lights
	HVAC Requirement:	Building standard
	Electrical:	Duplex outlets on each wall
	Security:	Passage latch set.
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
White board	4'x 6'	1
Table	36" x 98"	1
Task Chair		8

2.1.4 PUBLIC SPACES
Eccles Reading Room

IDENTIFICATION AND SIZE	Division:	Special Collections
	Capacity:	
	Proposed ASF:	830 sf
USE	Activities:	Replica of Eccles Reading Room; used primarily for special events; unique space with built-in wood paneling, shelving, art, fireplace, unique furniture, and collection of books.
	Access:	Limited
	Frequency/Hours:	Limited
	Adjacencies:	Tanner Reading Room
	Special Requirement:	
CHARACTERISTICS	Ceiling Height:	
	Floor Finish:	Wood
	Wall Finish:	Wood
	Ceiling Treatment:	Wood
	Acoustic Treatment:	n/a
	Special Requirement:	*Note: This room is unique & must remain intact. If moved it will have to be reconstructed to match.*
TECHNOLOGY	A.V. Requirement:	n/a
	Wire Management:	n/a
	Shielding, Grounding:	n/a
	Network:	n/a
	Communication:	phone
MECHANICAL/ ELECTRICAL	Natural Lighting:	Not required
	Artificial Lighting:	General ceiling down lights; floor fixtures
	HVAC Requirement:	n/a
	Electrical:	n/a
	Security:	Closed, accessible by library staff or accompanied
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS	Description	Size	Number/location

2.1.5 PUBLIC SPACES
Exhibit

IDENTIFICATION AND SIZE	Division:	Special Collections
	Capacity:	20-30
	Proposed ASF:	650 sf
USE	Activities:	Display in closed cases with highlights of the special collection and traveling exhibits.
	Access:	Public
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (Office hours 8-5)
	Adjacencies:	Tanner Reading Room
	Special Requirement:	n/a
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum
	Floor Finish:	Carpet tile and terrazo
	Wall Finish:	Existing marble and wood panels
	Ceiling Treatment:	Acoustic tile
	Acoustic Treatment:	n/a
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Floor outlets 8' on center; poke thru
	Shielding, Grounding:	TBD
	Network:	Cabled/wireless
MECHANICAL/ ELECTRICAL	Natural Lighting:	Not required
	Artificial Lighting:	General lighting; plus adjustable spots for display cases
	HVAC Requirement:	Building Standards
	Electrical:	Building Standards
	Security:	General; Secure display cases
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS	Description	Size	Number/location
	Display Cases		TBD

2.2.1 MIDDLE EAST COLLECTION
Seating

IDENTIFICATION AND SIZE	Division:	Special Collections
	Capacity:	48
	Proposed ASF:	1,220 sf *(Table seating, 900 sf, Lounge seating, 320 sf.)*
USE	Activities:	Reading and studying at tables/seating with & without power/data connections for computers; includes comfortable seating for relaxed reading and studying.
	Access:	Public
	Frequency/Hours:	Available to all library users during all hours the library is open.
	Adjacencies:	Middle East Collection
	Special Requirement:	n/a
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	Carpet tile
	Wall Finish:	Painted gyp. board where applicable
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	n/a
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Wall/column outlets
	Shielding, Grounding:	TBD
	Network:	Cabled to table seating/wireless
MECHANICAL/ ELECTRICAL	Natural Lighting:	Preferred
	Artificial Lighting:	Indirect; task lighting at individual tables
	HVAC Requirement:	Building standard
	Electrical:	Power at table seating; sufficient duplex outlet distribution for vacuum cleaners and other incidental uses
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
Table	3'x 6'	15
Guest Chair		60
Lounge Chair		8
Side Table		4

2.2.2 MIDDLE EAST COLLECTION
Collection

IDENTIFICATION AND SIZE	Division:	Special Collections
	Capacity:	
	Proposed ASF:	10,350 sf *(Open Collection 9,774 sf; Reference Collection 576 sf)*
USE	Activities:	Open stacks containing Middle East volumes; materials are removed from shelves for use at reader seating &/or photocopy room by readers, and reshelved by staff.
	Access:	Public
	Frequency/Hours:	Available to library users during all hours the library is open.
	Adjacencies:	Middle East General Seating; General Collection
	Special Requirement:	n/a
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	Carpet tile
	Wall Finish:	Not applicable; no enclosure
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	n/a
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Wall/column outlets
	Shielding, Grounding:	TBD
	Network:	Cabled/wireless
MECHANICAL/ ELECTRICAL	Natural Lighting:	Not required
	Artificial Lighting:	Indirect lighting
	HVAC Requirement:	Air-conditioned; part of adjacent reader seating/ general collection space
	Electrical:	Duplex outlets; sufficient distribution for vacuum cleaners and other incidental uses.
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
Open Collection		543 DF sections
Reference Collection		32 DF sections

2.2.3A MIDDLE EAST COLLECTION
Office - Head Librarian Office

IDENTIFICATION AND SIZE	Division:	Special Collections
	Capacity:	1 occupant/ 3 guests
	Proposed ASF:	160 sf
USE	Activities:	General office work
	Access:	1 full-time staff
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (office hours 8-5)
	Adjacencies:	Middle East Collection, staff spaces
	Special Requirement:	n/a
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	Carpet tile
	Wall Finish:	Painted gyp. board; glazed sidelight or door
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	Sound isolation
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Wall/column outlets
	Shielding, Grounding:	TBD
	Network:	Cabled/wireless
MECHANICAL/ ELECTRICAL	Natural Lighting:	Preferred
	Artificial Lighting:	General ceiling lighting; task lighting at work surface
	HVAC Requirement:	Building standard
	Electrical:	Duplex outlets located at no more than 8' intervals per wall
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
Worksurface	30"	17'
Desk	60"	1
Conference Table	30" dia	1
Chair		
Task		1
Guest		3
Lateral File		
2 Drawer/1 File	15"	1
2 Drawer	42"	1
3 Drawer	42"	1
Shelving	12"	12'

2.2.3B MIDDLE EAST COLLECTION
Office

IDENTIFICATION AND SIZE	Division:	Special Collections
	Capacity:	1 occupant/ 1 guest
	Proposed ASF:	120 sf
USE	Activities:	General office work
	Access:	1 full-time staff.
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (office hours 8-5)
	Adjacencies:	Middle East Collection, Staff Spaces
	Special Requirement:	n/a
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	Carpet tile
	Wall Finish:	Painted gyp. board; glazed partitions, sidelight or door.
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	Sound isolation
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Wall/column outlets
	Shielding, Grounding:	TBD
	Network:	Cabled/wireless
MECHANICAL/ ELECTRICAL	Natural Lighting:	Preferred
	Artificial Lighting:	General ceiling lighting; task lighting at work surface
	HVAC Requirement:	Building standard
	Electrical:	Duplex outlets located at no more than 8' intervals per wall
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
Work surface	30"	19'
Chair		
Task		1
Guest		1
Lateral File		
2 Drawer/1 File	15"	1
2 Drawer	42"	1
Shelving	12"	10'

2.2.4A MIDDLE EAST COLLECTION
Staff Spaces - Staff Workstations

IDENTIFICATION AND SIZE	Division:	Special Collections
	Capacity:	1 occupant/ 1 guest
	Proposed ASF:	80 sf
USE	Activities:	General office work
	Access:	1 staff
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (office hours 8-5)
	Adjacencies:	Middle East Collection Offices, Staff Spaces
	Special Requirement:	n/a
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	Carpet tile
	Wall Finish:	Systems furniture
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	n/a
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Furniture distribution
	Shielding, Grounding:	TBD
	Network:	Cabled (furniture distribution)/wireless
MECHANICAL/ ELECTRICAL	Natural Lighting:	Preferred
	Artificial Lighting:	General ceiling lighting, task lighting at work surface
	HVAC Requirement:	Building standard
	Electrical:	Furniture distribution, outlets at no more than every 8'
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
Work Surface	30"	19'
Chairs		
Task		1
Guest		1
Lateral File		
2 Drawer/1 File	15"	1
2 drawer	42"'	1
Shelving	12"	9'

2.2.4B MIDDLE EAST COLLECTION (OPEN)
Staff Spaces - File/Copy

IDENTIFICATION AND SIZE	Division:	Special Collections
	Capacity:	
	Proposed ASF:	80 sf
USE	Activities:	Staff support area containing supplies, shared equipment (printers, scanners, copy machines, etc.) and department files.
	Access:	Staff
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (office hours 8-5)
	Adjacencies:	Middle East Collection Offices, and work surface
	Special Requirement:	Common area space, not fully enclosed.
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	Carpet tile
	Wall Finish:	Painted gyp. board
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	n/a
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Wall/column outlets
	Shielding, Grounding:	TBD
	Network:	Cabled *(2 outlets at counter)*
MECHANICAL/ ELECTRICAL	Natural Lighting:	Preferred
	Artificial Lighting:	General ceiling lighting
	HVAC Requirement:	Building standard
	Electrical:	Duplex outlets located at no more than 10' intervals per wall
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
Base cabinet	24"	10'
Wall cabinet	24"	10'
White Board	4' x 4'	1
Bulletin Board	3' x 4'	1
Lateral File		
4 drawer	42"	1

2.2.4C MIDDLE EAST COLLECTION
Staff Spaces - Storage

IDENTIFICATION AND SIZE	Division:	Special Collections
	Capacity:	
	Proposed ASF:	120 sf
USE	Activities:	Equipment and material storage
	Access:	Staff
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (office hours 8-5)
	Adjacencies:	Middle East Collection Offices and Staff Spaces
	Special Requirement:	Common area space, not fully enclosed.
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	Carpet tile
	Wall Finish:	Painted gyp. board; glazed sidelight or doors
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	n/a
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Wall/column outlets
	Shielding, Grounding:	TBD
	Network:	n/a
MECHANICAL/ ELECTRICAL	Natural Lighting:	Not required
	Artificial Lighting:	General ceiling lighting
	HVAC Requirement:	Building standard
	Electrical:	Duplex outlets located at no more than 10' intervals per wall
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS	Description	Size	Number/location

2.3.1 MANUSCRIPTS
Architectural Manuscripts / Manuscripts Collection

IDENTIFICATION AND SIZE	Division:	Special Collections
	Capacity:	
	Proposed ASF:	500 sf *(90+% of the Architectural Manuscripts and Manuscripts Collection will be housed in Bldg 213 approximately: 400 sf for Architectural Manuscripts and 3,500 sf for Manuscripts Collection.)*
USE	Activities:	Stacks containing architectural manuscripts and general manuscripts; materials are both removed from shelves for use at reader seating and reshelved by staff.
	Access:	Public access by appointment; accessed by staff
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (office hours 8-5)
	Adjacencies:	Multimedia Archives, partial Western Americana Collection
	Special Requirement:	n/a
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	Carpet tile
	Wall Finish:	Painted gyp. board (where applicable); glazed partitions
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	Sound isolation
	Special Requirement:	Glazed partitions for monitoring by staff
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Wall/column outlets
	Shielding, Grounding:	TBD
	Network:	Cabled/wireless
MECHANICAL/ ELECTRICAL	Natural Lighting:	Not required
	Artificial Lighting:	Indirect lighting
	HVAC Requirement:	Building standard
	Electrical:	Duplex outlets located at no more than 8' intervals per wall
	Security:	Closed area with card key access
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS	Description	Size	Number/location
	Work Tables	4' x 8'	4
	Task Chairs		4

2.3.2A MANUSCRIPTS
Curator Office

IDENTIFICATION AND SIZE	Division:	Special Collections
	Capacity:	1 occupant/ 3 guests
	Proposed ASF:	160 sf
USE	Activities:	General office work
	Access:	1 full-time staff
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (office hours 8-5)
	Adjacencies:	Manuscripts Collection, Staff Offices and Workstations
	Special Requirement:	n/a
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	Carpet tile
	Wall Finish:	Painted gyp. board; glazed sidelight or door
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	Sound Isolation
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Wall/column outlets
	Shielding, Grounding:	TBD
	Network:	Cabled/wireless
MECHANICAL/ ELECTRICAL	Natural Lighting:	Preferred
	Artificial Lighting:	General ceiling lighting; task lighting at work surface
	HVAC Requirement:	Building standard
	Electrical:	Duplex outlets located at no more than 8' intervals per wall
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
Worksurface	30"	17'
Desk	60"	1
Conference Table	30" dia	1
Chair		
Task		1
Guest		3
Lateral File		
2 Drawer/1 File	15"	1
2 Drawer	42"	1
3 Drawer	42"	1
Shelving	12"	12'

2.3.2B MANUSCRIPTS
Archivist Office / Manuscripts Office

IDENTIFICATION AND SIZE	Division:	Special Collections
	Capacity:	1 occupant/1 guest
	Proposed ASF:	120 sf
USE	Activities:	General office work
	Access:	1 full-time staff
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (office hours 8-5)
	Adjacencies:	Manuscripts Collection, Offices and Workstations
	Special Requirement:	n/a
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	Carpet tile
	Wall Finish:	Painted gyp. board; glazed sidelight or doors
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	Sound isolation
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Wall/column outlets
	Shielding, Grounding:	TBD
	Network:	Cabled/wireless
MECHANICAL/ ELECTRICAL	Natural Lighting:	Preferred;
	Artificial Lighting:	Indirect lighting, task lighting at work surfaces.
	HVAC Requirement:	Building standard
	Electrical:	Duplex outlets located at no more than 8' intervals per wall.
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
Worksurface	30"	16'
Desk (optional)	30" x 48'	1
Chair		
Task		1
Guest		1
Lateral File		
2 Drawer/1 File	15"	1
2 Drawer	42"	1
Shelving	12"	24 lin ft

2.3.2C MANUSCRIPTS
Staff Workstations

IDENTIFICATION AND SIZE	Division:	Special Collections
	Capacity:	1 occupant/ 1 guest
	Proposed ASF:	110 sf
USE	Activities:	General Office Space
	Access:	1 full-time staff
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (office hours 8-5)
	Adjacencies:	Manuscripts Offices and Collection
	Special Requirement:	n/a
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	Carpet tile
	Wall Finish:	System furniture
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	n/a
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Furniture distribution
	Shielding, Grounding:	TBD
	Network:	Cabled (furniture distribution)/wireless
MECHANICAL/ ELECTRICAL	Natural Lighting:	Preferred
	Artificial Lighting:	Indirect lighting, task lighting at work surface.
	HVAC Requirement:	Building standard
	Electrical:	Duplex outlets located at no more than 8' intervals per wall.
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
Worksurface	30"	19'
Chair		
Task		1
Guest		1
Lateral File		
2 Drawer/1 File	15"	1
2 Drawer	42"	1
Shelves	12"	10'

2.4.1 MULTIMEDIA ARCHIVES
Collection

IDENTIFICATION AND SIZE	Division:	Special Collections
	Capacity:	
	Proposed ASF:	2,940 sf *Film Tape, 735 sf* *Unprocessed, 735 sf* *Exhibit Materials, 378 sf* *Processed, 1,092 sf*
USE	Activities:	Stacks containing film tape, exhibit materials, and processed & unprocessed materials
	Access:	Public access by appointment; accessed by staff
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (office hours 8-5)
	Adjacencies:	Tanner Reading Room, Multi Media Offices
	Special Requirement:	n/a
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	Carpet tile
	Wall Finish:	Painted gyp. board
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	n/a
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Wall/column outlets
	Shielding, Grounding:	TBD
	Network:	Cabled/wireless
MECHANICAL/	Natural Lighting:	Not required; provide sun control for preservation of library materials.
ELECTRICAL	Artificial Lighting:	Indirect lighting
	HVAC Requirement:	Building standard
	Electrical:	Duplex outlets located at no more than 10' intervals per wall.
	Security:	Closed area with card key access; currently access is monitored through the Tanner Reading Room
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS	Description	Size	Number/location
	Film Tape		70 SFS
	Unprocessed		70 SFS
	Exhibit Materials		36 SFS
	Processed		104 SFS

2.4.2A MULTIMEDIA ARCHIVES
Office - Head Multimedia Archivist

IDENTIFICATION AND SIZE	Division:	Special Collections
	Capacity:	1 occupant/ 3 guests
	Proposed ASF:	160 sf
USE	Activities:	General office work
	Access:	1 full-time staff
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (office hours 8-5)
	Adjacencies:	Multimedia Archives Collections, Staff Offices and workstations
	Special Requirement:	n/a
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	Carpet tile
	Wall Finish:	Painted gyp. board; glazed sidelight or door
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	Sound Isolation
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Wall/column outlets
	Shielding, Grounding:	TBD
	Network:	Cabled/wireless
MECHANICAL/ ELECTRICAL	Natural Lighting:	Preferred
	Artificial Lighting:	General ceiling lighting; task lighting at work surface
	HVAC Requirement:	Building standard
	Electrical:	Duplex outlets located at no more than 8 intervals per wall
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
Worksurface	30"	17'
Desk	60"	1
Conference Table	30" dia	1
Chair		
Task		1
Guest		3
Lateral File		
2 Drawer/1 File	15"	1
2 Drawer	42"	1
3 Drawer	42"	1
Shelving	12"	12'

2.4.2B MULTIMEDIA ARCHIVES
Offices – A/V Assoc Archivist / Senior Library Specialist / Archivist

IDENTIFICATION AND SIZE	Division:	Special Collections
	Capacity:	1 occupant/ 1 guest
	Proposed ASF:	120 sf
USE	Activities:	General office work
	Access:	1 full-time staff
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (office hours 8-5)
	Adjacencies:	Multimedia Archives Collection, Staff Offices
	Special Requirement:	n/a
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	Carpet tile
	Wall Finish:	System furniture
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	Sound isolation
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Wall/column outlets; furniture distribution
	Shielding, Grounding:	TBD
	Network:	Cabled (furniture distribution)/wireless
MECHANICAL/ ELECTRICAL	Natural Lighting:	Preferred
	Artificial Lighting:	General ceiling lighting
	HVAC Requirement:	Building standard
	Electrical:	Duplex outlets located at no more than 8' intervals per wall
	Security:	n/a
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
Work surface	30"	19'
Chair		
Task		1
Guest		1
Lateral File		
2 Drawer/1 File	15"	1
2 Drawer	42"	1
Shelving	12"	10'

2.4.2C MULTIMEDIA ARCHIVES
Staff Workstations

IDENTIFICATION AND SIZE	Division:	Special Collections
	Capacity:	1 occupant/ 1 guest
	Proposed ASF:	80 sf
USE	Activities:	General Office Space
	Access:	1 full-time staff
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (office hours 8-5)
	Adjacencies:	Multimedia Archives, Multimedia Offices
	Special Requirement:	n/a
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	Carpet tile
	Wall Finish:	Systems furniture
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	n/a
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Furniture distribution
	Shielding, Grounding:	TBD
	Network:	Cabled (furniture distribution)/wireless
MECHANICAL/ ELECTRICAL	Natural Lighting:	Preferred
	Artificial Lighting:	General ceiling lighting, task lighting at work surface
	HVAC Requirement:	Building standard
	Electrical:	Furniture distribution, outlets at no more than every 8'
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
Work Surface	30"	19'
Chairs		
Task		1
Guest		1
Lateral File		
2 Drawer/1 File	15"	1
2 drawer	42"'	1
Shelving	12"	9'

2.5.1A RARE BOOKS
Collection - Middle East Rare / Rare Books

IDENTIFICATION AND SIZE	Division:	Special Collections
	Capacity:	
	Proposed ASF:	3,942 sf
USE	Activities:	Stacks containing Middle East Rare, Rare Books, Oversize and Rare Vault volumes
	Access:	Public access by appointment; accessed by staff
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (office hours 8-5)
	Adjacencies:	Book Arts Studio, Rare Books, Rare Books Vault, Middle East Rare near Middle East Collection
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	Carpet tile
	Wall Finish:	Painted gyp. board
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	n/a
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	n/a
	Wire Management:	Wall/column outlets
	Shielding, Grounding:	TBD
	Network:	Cabled/wireless
MECHANICAL/	Natural Lighting:	Not required; provide sun control for preservation of library collection as needed
ELECTRICAL	Artificial Lighting:	Indirect lighting
	HVAC Requirement:	Building standard; climate controlled
	Electrical:	Duplex outlets located at no more than 10' intervals per wall.
	Security:	Closed area with card key access
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
Middle East Rare		42 DF Sections
Rare Book		177 DF Sections

*Rare vault not currently included in square footage estimate of this program document.

2.5.1B RARE BOOKS
Collection - Oversize

IDENTIFICATION AND SIZE	Division:	Special Collections
	Capacity:	
	Proposed ASF:	2,478 sf
USE	Activities:	Stacks containing Oversize Rare volumes
	Access:	Public access by appointment; accessed by staff
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (office hours 8-5)
	Adjacencies:	Rare Books, Offices, Rare Books Vault.
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	Carpet tile
	Wall Finish:	Painted gyp. board
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	n/a
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Wall/column outlets
	Shielding, Grounding:	TBD
	Network:	Cabled/wireless
MECHANICAL/	Natural Lighting:	Not required; provide sun control for preservation of library collection as needed
ELECTRICAL	Artificial Lighting:	Indirect lighting
	HVAC Requirement:	Building standard; climate controlled
	Electrical:	Duplex outlets located at no more than 10' intervals per wall.
	Security:	Closed area with card key access
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS	Description	Size	Number/location

*Rare vault not currently included in square footage estimate of this program document.

2.5.1C RARE BOOKS
Collection - Rare Books Vault

IDENTIFICATION AND SIZE	Division:	Special Collections
	Capacity:	
	Proposed ASF:	2,310 sf
USE	Activities:	Enclosed stacks rare volumes (10,000) in a climate controlled vault.
	Access:	Public access by appointment; accessed by staff
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (office hours 8-5)
	Adjacencies:	Rare Books, Oversized and Offices.
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	VCT
	Wall Finish:	Painted gyp. board
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	n/a
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Wall/column outlets
	Shielding, Grounding:	TBD
	Network:	Cabled/wireless
MECHANICAL/	Natural Lighting:	Not required; provide sun control for preservation of library collection as needed
ELECTRICAL	Artificial Lighting:	Indirect lighting
	HVAC Requirement:	Climate controlled with tight tolerances for heat & humidity levels.
	Electrical:	Duplex outlets located at no more than 10' intervals per wall.
	Security:	Closed area with card key access
	Fire Protection:	Dry fire suppression system
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS	Description	Size	Number/location

2.5.2A RARE BOOKS
Book Arts Studio - Office

IDENTIFICATION AND SIZE	Division:	Special Collections
	Capacity:	1 occupant/ 1 guest
	Proposed ASF:	120 sf
USE	Activities:	General office work
	Access:	1 full time staff
	Frequency/Hours:	Public access by appointment; accessed by staff
	Adjacencies:	Rare Books Collection, Rare Books Vault
	Special Requirement:	n/a
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	Carpet tile
	Wall Finish:	Painted gyp. board
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	Sound isolation
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Wall/column outlets
	Shielding, Grounding:	TBD
	Network:	Cabled/wireless
MECHANICAL/ ELECTRICAL	Natural Lighting:	Preferred
	Artificial Lighting:	General ceiling lighting; task lighting at work surface.
	HVAC Requirement:	Building standard; design for equipment/printing fumes
	Electrical:	Duplex outlets located at no more than 8' intervals per wall.
	Security:	Closed area with card key access
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
Work surface	30"	19'
Chair		
Task		1
Guest		1
Lateral File		
2 Drawer/1 File	15"	1
2 Drawer	42"	1
Shelving	12"	10'

2.5.2B RARE BOOKS
Book Arts Studio

IDENTIFICATION AND SIZE	Division:	Special Collections
	Capacity:	
	Proposed ASF:	2,800 sf
USE	Activities:	
	Access:	Staff
	Frequency/Hours:	Public access by appointment; accessed by staff
	Adjacencies:	Book Arts Offices, Public Exhibit Area
	Special Requirement:	n/a
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	VCT
	Wall Finish:	Painted gyp. board
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	Sound isolation
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Wall/column outlets
	Shielding, Grounding:	TBD
	Network:	Cabled/wireless
MECHANICAL/	Natural Lighting:	Preferred; provide sun control for preservation of library materials as needed.
ELECTRICAL	Artificial Lighting:	General ceiling lighting;
	HVAC Requirement:	Building standard; design for equipment/printing fumes
	Electrical:	Duplex outlets located at no more than 10' intervals per wall.
	Security:	Closed area with card key access
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
Flat Files		
Tables		
Chairs		
Press		
Base Cabinet		
Wall Cabinet		

2.5.3A RARE BOOKS
Office - Head Curator

IDENTIFICATION AND SIZE	Division:	Special Collections
	Capacity:	1 occupant/ 3 guests
	Proposed ASF:	160 sf
USE	Activities:	General office work
	Access:	1 full-time staff (closed to the public)
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (office hours 8-5)
	Adjacencies:	Rare Books Collection, Rare Books Vault
	Special Requirement:	n/a
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	Carpet tile
	Wall Finish:	Painted gyp. board; glazed sidelight or door
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	Sound isolation
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Wall/column outlets
	Shielding, Grounding:	TBD
	Network:	Cabled/wireless
MECHANICAL/ ELECTRICAL	Natural Lighting:	Preferred
	Artificial Lighting:	General ceiling lighting
	HVAC Requirement:	Building standard
	Electrical:	Duplex outlets located at no more than 8' intervals per wall
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
Worksurface	30"	17'
Desk	60"	1
Conference Table	30" dia	1
Chair		
Task		1
Guest		3
Lateral File		
2 Drawer/1 File	15"	1
2 Drawer	42"	1
3 Drawer	42"	1
Shelving	12"	12'

2.5.3B RARE BOOKS
Office - Associate Curator

IDENTIFICATION AND SIZE	Division:	Special Collections
	Capacity:	1 occupant/ 1 guest
	Proposed ASF:	120 sf
USE	Activities:	General office work
	Access:	1 full-time staff
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (office hours 8-5)
	Adjacencies:	Rare Books Collection, Rare Books Vault
	Special Requirement:	n/a
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	Carpet tile
	Wall Finish:	Painted gyp. board; glazed sidelight or door
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	Sound isolation
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Wall/column outlets
	Shielding, Grounding:	TBD
	Network:	Cabled/wireless
MECHANICAL/ ELECTRICAL	Natural Lighting:	Preferred
	Artificial Lighting:	General ceiling lighting
	HVAC Requirement:	Building standard
	Electrical:	Duplex outlets located at no more than 8' intervals per wall
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
Work surface	30"	19'
Chair		
Task		1
Guest		1
Lateral File		
2 Drawer/1 File	15"	1
2 Drawer	42"	1
Shelving	12"	10'

2.6.1 WESTERN AMERICANA Collection

IDENTIFICATION AND SIZE	Division:	Special Collections	
	Capacity:		
	Proposed ASF:	11,152 sf *Western Americana Collection, 4,284 sf; Western Americana Serials, 1,062 sf; Western Americana Maps, 1,000 sf; Clipping & Vertical Files, 864 sf; Western Government Docs., 648 sf; Gifts, 324 sf; University Printed Archive, 2,970 sf*	
USE	Activities:	Stacks containing Western Americana serials, maps & other W.A. volumes; additional volumes of clipping & vertical files, Western Gov. Docs, and University Printed Archives volumes. Work areas for collection processing.	
	Access:	Public access by appointment; Accessed by staff	
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (office hours 8-5)	
	Adjacencies:	Western Americana offices	
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.	
	Floor Finish:	Carpet tile	
	Wall Finish:	Painted gyp. board (where applicable)	
	Ceiling Treatment:	Acoustic ceiling tile	
	Acoustic Treatment:	n/a	
TECHNOLOGY	A.V. Requirement:	TBD	
	Wire Management:	Wall/column outlets	
	Shielding, Grounding:	TBD	
	Network:	Cabled/wireless	
MECHANICAL/	Natural Lighting:	Not required; provide sun control for preservation of library collection as needed	
ELECTRICAL	Artificial Lighting:	Indirect lighting	
	HVAC Requirement:	Building standard	
	Electrical:	Duplex outlets at no more than 10' intervals per wall.	
	Security:	Closed area with card key access	
	Fire Protection:	General	

EQUIPMENT AND FURNISHINGS	Description	Size	Number/location
	Western Americana Collection		238 DF Sections
	Western Americana Serials		59 DF Sections
	Western Americana Maps		
	Clipping & Vertical Files		48 DF Sections
	Western Government Docs.		36 DF Sections
	Gift		36 DF Sections
	University Printed Archive		165 DF Sections
WORK AREA			
	Table	4' x 8'	4
	Task Chair		4
	Lateral file - 2 drawer	42"	4

2.6.2A WESTERN AMERICANA
Office - W.A. Head Librarian

IDENTIFICATION AND SIZE	Division:	Special Collections
	Capacity:	1 occupant / 3 guests
	Proposed ASF:	160 sf
USE	Activities:	Stacks containing Western Americana serials, maps, and other W.A. volumes; additional volumes of clipping & vertical files, Western Gov. Docs, and University Printed Archives volumes.
	Access:	Public access by appointment; Accessed by staff
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (office hours 8-5)
	Adjacencies:	Western American Offices, Collection
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	Carpet tile
	Wall Finish:	Painted gyp. board; glazed sidelight or door
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	Sound isolation
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Wall/column outlets
	Shielding, Grounding:	TBD
	Network:	Cabled/wireless
MECHANICAL/	Natural Lighting:	Preferred; provide sun control for preservation of library collection as needed
ELECTRICAL	Artificial Lighting:	Provide ceiling lighting; task lighting at work surface
	HVAC Requirement:	Building standard
	Electrical:	Duplex outlets located at no more than 8' intervals per wall.
	Security:	Within closed area with card key access
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
Worksurface	30"	17'
Desk	60"	1
Conference Table	30" dia	1
Chair		
Task		1
Guest		3
Lateral File		
2 Drawer/1 File	15"	1
2 Drawer	42"	1
3 Drawer	42"	1
Shelving	12"	12'

2.6.2B WESTERN AMERICANA Offices

IDENTIFICATION AND SIZE	Division:	Special Collections
	Capacity:	1 occupant/ 1 guest
	Proposed ASF:	120 sf
USE	Activities:	General office work
	Access:	1 full-time staff
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (office hours 8-5)
	Adjacencies:	Western Americana Collection, Offices
	Special Requirement:	n/a
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	Carpet tile
	Wall Finish:	Systems furniture
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	n/a
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Furniture distribution
	Shielding, Grounding:	TBD
	Network:	Cabled/wireless
MECHANICAL/ ELECTRICAL	Natural Lighting:	Not required
	Artificial Lighting:	General ceiling lighting; task lighting at work surface
	HVAC Requirement:	Building standard
	Electrical:	Duplex outlets located at no more than 8' intervals per wall
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
Work surface	30"	19'
Chair		
Task		1
Guest		1
Lateral File		
2 Drawer/1 File	15"	1
2 Drawer	42"	1
Shelving	12"	10'

2.7.1A PRESERVATION/BINDING
Work Areas - Preservation Lab

IDENTIFICATION AND SIZE	Division:	Special Collections
	Capacity:	8
	Proposed ASF:	1,400 sf
USE	Activities:	Preservation/Binding staff in an open workshop setting revolving around the primary tools/equipment: board shear, encapsulator and adjacent polyestor storage files, and jaw backer.
	Access:	Staff
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (office hours 8-5)
	Adjacencies:	Treatment Room, Shop Materials, Preservation Workstations, Freight Elevator
	Special Requirement:	Access to elevator, oversized to accommodate movement of pallets
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum
	Floor Finish:	VCT
	Wall Finish:	Painted gypsum board
	Ceiling Treatment:	Acoustical ceiling tile
	Acoustic Treatment:	n/a
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	n/a
	Wire Management:	TBD
	Shielding, Grounding:	TBD
	Network:	TBD
MECHANICAL/ ELECTRICAL	Natural Lighting:	Preferred
	Artificial Lighting:	High levels of indirect, task lighting at worksurface
	HVAC Requirement:	Building standard
	Electrical:	Floor outlets 8' on center, poke thru
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

FURNISHINGS	Description	Size	Number/location
	Work tables (portable)	4' x 8'	8/to be primarily ganged in sets of 2
	Stools		8
EQUIPMENT			
	Board sheer	5' x 5'	1/center of work area
	Encapsulator	4' x 5'	1/qtr. of work area
	Flat files (polyester storage)	30" x 40"	as worksurface adj. to encapsulator
	Book presses	18" x 18"	6/adj. to press workstations

2.7.1B PRESERVATION/BINDING
Work Areas - Treatment Room

IDENTIFICATION AND SIZE	Division:	Special Collections
	Capacity:	3
	Proposed ASF:	250 sf
USE	Activities:	Library specialists focusing on preservation of library volumes, at large materials wash area and adjacent worksurface & drying rack, fume hood, and work counters. Some chemical storage.
	Access:	Accessed by staff only
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (office hours 8-5)
	Adjacencies:	Preservation Lab, Materials, Preservation Workstations
	Special Requirement:	Open to Preservation Lab through a series of retractable doors
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	VCT
	Wall Finish:	Painted gyp. board; glazed partitions and doors
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	n/a
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Wall/column outlets - grounded
	Shielding, Grounding:	TBD
	Network:	n/a
MECHANICAL/ ELECTRICAL	Natural Lighting:	Not required
	Artificial Lighting:	Indirect lighting, task lighting at work surfaces
	HVAC Requirement:	Building standard; negative pressure heat load
	Electrical:	Duplex outlets
	Security:	General
	Fire Protection:	General
	Plumbing:	Water filtration system to: sink (18" x 30" min) & materials processing

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
Vented hood (prefer externally vented)		
Base cabinet	24"	10 lin. ft.
Wall cabinet	12"	10 lin. ft.
Materials processing sink		
Paper drying rack (existing)		1 / wall mounted

2.7.1C PRESERVATION/BINDING
Work Areas - Shop

IDENTIFICATION AND SIZE	Division:	Special Collections
	Capacity:	
	Proposed ASF:	200 sf
USE	Activities:	Enclosed area for materials and equipment preparation. Tasks involve heavy outputs of dust and particulate matter which need to be contained.
	Access:	Accessed by staff only
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (office hours 8-5)
	Adjacencies:	Preservation Lab
	Special Requirement:	n/a
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	VCT
	Wall Finish:	Painted gyp. board
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	n/a
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Wall/column outlets
	Shielding, Grounding:	TBD
	Network:	Cabled
MECHANICAL/ ELECTRICAL	Natural Lighting:	Not required
	Artificial Lighting:	General ceiling lighting, task lighting at work surfaces
	HVAC Requirement:	Building standard; multiples air changes per hour
	Electrical:	Duplex outlets; design for equipment loads
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location

2.7.1D PRESERVATION/BINDING
Work Areas - Materials

IDENTIFICATION AND SIZE	Division:	Special Collections
	Capacity:	
	Proposed ASF:	200 sf
USE	Activities:	Easily accessible storage of materials, including oversized shelves for blocks of paper, fiber board, pre-fabricated pamphlet binders, small equipment, and rolled fabric and Mylar reserves.
	Access:	Accessed by staff only
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (office hours 8-5)
	Adjacencies:	Preservation Lab, Binding and Preservation Workstations
	Special Requirement:	n/a
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	VCT
	Wall Finish:	Painted gyp. board
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	n/a
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	n/a
	Wire Management:	n/a
	Shielding, Grounding:	n/a
	Network:	n/a
MECHANICAL/ ELECTRICAL	Natural Lighting:	North or west light
	Artificial Lighting:	Indirect lighting
	HVAC Requirement:	Building standard
	Electrical:	Duplex outlets no more than every 10' per wall
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location

2.7.2A PRESERVATION/BINDING
Offices - Head Preservation Binding Office

IDENTIFICATION AND SIZE	Division:	Special Collections
	Capacity:	1 occupant/2 guest
	Proposed ASF:	160 sf
USE	Activities:	General office work
	Access:	1 full-time staff
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (office hours 8-5)
	Adjacencies:	Preservation Offices, Workroom, Preservation Lab
	Special Requirement:	n/a
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	Carpet tile
	Wall Finish:	Painted gyp. board; glazed sidelight or door
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	Sound isolation
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Wall/column outlets
	Shielding, Grounding:	TBD
	Network:	Cabled
MECHANICAL/ ELECTRICAL	Natural Lighting:	Not required
	Artificial Lighting:	General ceiling lighting; task lighting at work surface
	HVAC Requirement:	Building standard
	Electrical:	Duplex outlets located at no more than 8' intervals per wall
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
Worksurface	30"	19'
Chair		
Task		1
Guest		2
Lateral File		
2 Drawer/1 File	15"	1
2 Drawer	42"	1
Shelves	12"	11'

2.7.2B PRESERVATION/BINDING Offices

IDENTIFICATION AND SIZE	Division:	Special Collections
	Capacity:	1 occupant/ 1 guest
	Proposed ASF:	100 sf
USE	Activities:	General office work
	Access:	1 full-time staff
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (office hours 8-5)
	Adjacencies:	Preservation Offices, Workroom, Preservation Lab
	Special Requirement:	n/a
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	Carpet tile
	Wall Finish:	Painted gyp. board; glazed sidelight or door
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	Sound isolation
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Wall/column outlets
	Shielding, Grounding:	TBD
	Network:	Cabled
MECHANICAL/ ELECTRICAL	Natural Lighting:	Not required
	Artificial Lighting:	General ceiling lighting; task lighting at work surface
	HVAC Requirement:	Building standard
	Electrical:	Duplex outlets located at no more than 8' intervals per wall
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
Work surface	30"	19'
Chair		
Task		1
Guest		1
Lateral File		
2 Drawer/1 File	15"	1
2 Drawer	42"	1
Shelving	12"	10'

2.7.3A PRESERVATION/BINDING
Workstations – Preservation Workstations

IDENTIFICATION AND SIZE	Division:	Special Collections
	Capacity:	1
	Proposed ASF:	50 sf
USE	Activities:	General office work
	Access:	1 part-time staff
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (office hours 8-5)
	Adjacencies:	Preservation Lab, Materials, Treatment Area
	Special Requirement:	n/a
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	Carpet tile
	Wall Finish:	Systems furniture
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	n/a
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Wall/column outlets
	Shielding, Grounding:	TBD
	Network:	TBD
MECHANICAL/ ELECTRICAL	Natural Lighting:	Preferred
	Artificial Lighting:	General ceiling lighting; task lighting at work surface
	HVAC Requirement:	Building standard
	Electrical:	Duplex outlets located at no more than 8' intervals per wall
	Security:	n/a
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
Worksurface	36" x 8'	1
Chair, task or stool		1
Shelving	18"	24' / adjacent to work surface
Lateral file / drawer	15"	1

2.7.3B PRESERVATION/BINDING
Workstations – Binding

IDENTIFICATION AND SIZE	Division:	Special Collections
	Capacity:	3
	Proposed ASF:	300 sf
USE	Activities:	Library specialist focusing on binding of library volumes, preparation of materials to be shipped out to commercial bindary and materials storage
	Access:	3 full-time staff
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (office hours 8-5)
	Adjacencies:	Staff Elevator & Press / Binding
	Special Requirement:	Open area divided from area entry. Preservation lab by shelving.
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	VCT
	Wall Finish:	Painted gyp. Board as needed; systems furniture
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	n/a
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Wall/column outlets; plus furniture distribution
	Shielding, Grounding:	TBD
	Network:	Cabled (1 outlet per workstation)/wireless
MECHANICAL/ ELECTRICAL	Natural Lighting:	Preferred
	Artificial Lighting:	Indirect lighting with high light levels, task lighting at work surfaces
	HVAC Requirement:	Building standard
	Electrical:	Duplex outlets; located at no more than 8' intervals per wall
	Security:	General
	Fire Protection:	General
	Plumbing:	Water filtration system

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
Per workstation (3)		
Worksurface	30"	12'
Lateral file		
2 Drawer/1 File	15"	1
Task chair		1
Shelving		4 DFS

2.7.4A PRESERVATION/BINDING
Staff Spaces - Workroom

IDENTIFICATION AND SIZE	Division:	Special Collections
	Capacity:	10
	Proposed ASF:	150 sf
USE	Activities:	Informal conference, file/copy and gathering area
	Access:	1 full-time staff
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (office hours 8-5)
	Adjacencies:	Preservation/Binding Offices, Preservation Lab
	Special Requirement:	Open to adjacent offices, need for separation from lab (infrequently)
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	Carpet tile
	Wall Finish:	n/a
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	n/a
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Wall/column outlets
	Shielding, Grounding:	TBD
	Network:	Cabled/wireless
MECHANICAL/ ELECTRICAL	Natural Lighting:	Not required
	Artificial Lighting:	General ceiling lighting
	HVAC Requirement:	Building Standard
	Electrical:	Duplex outlets located at no more than 10' intervals per wall
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
Work table	3' x 6'	2
Chair – guest		8
Lateral file – 3 drawer	42"	1
Base cabinet	24"	8'
Wall cabinet	12"	8'

2.8 ARCHIVES & RECORDS MANAGEMENT (No Change)

IDENTIFICATION AND SIZE

Division: Special Collections
Capacity:
Proposed ASF: Located Off-site

USE

Activities:
Access:
Frequency/Hours:
Adjacencies:
Special Requirement:

CHARACTERISTICS

Ceiling Height:
Floor Finish:
Wall Finish:
Ceiling Treatment:
Acoustic Treatment:
Special Requirement:

TECHNOLOGY

A.V. Requirement:
Wire Management:
Shielding, Grounding:
Network:

MECHANICAL/ ELECTRICAL

Natural Lighting:
Artificial Lighting:
HVAC Requirement:
Electrical:

Security:
Fire Protection:
Plumbing:

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location

2.9.1A ADMINISTRATIVE OFFICES
Assistant Director

IDENTIFICATION AND SIZE	Division:	Special Collections
	Capacity:	1 occupant/3 guests
	Proposed ASF:	180 sf
USE	Activities:	General office work
	Access:	1 full-time staff
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (office hours 8-5)
	Adjacencies:	Special Collections, Public Reception
	Special Requirement:	n/a
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	Carpet tile
	Wall Finish:	Painted gyp. board; glazed sidelight or door
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	Sound isolation
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Wall/column outlets
	Shielding, Grounding:	TBD
	Network:	Cabled/wireless
MECHANICAL/ ELECTRICAL	Natural Lighting:	Preferred
	Artificial Lighting:	General ceiling lighting, task lighting at work surfaces
	HVAC Requirement:	Building standard
	Electrical:	Duplex outlets located at no more than 8' intervals per wall
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
Worksurface	30"	18"
Desk	60"	1
Conference Table	30" dia	1
Chair		
Task		1
Guest		3
Lateral File		
2 Drawer/1 File	15"	1
3 Drawer	42"	1
Shelving	12"	12'

*Try to use existing furniture

2.9.1B ADMINISTRATIVE OFFICES
Program Manager

IDENTIFICATION AND SIZE	Division:	Special Collections
	Capacity:	1 occupant/1 guest
	Proposed ASF:	140 sf
USE	Activities:	General office work
	Access:	1 full-time staff
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (office hours 8-5)
	Adjacencies:	Special Collections
	Special Requirement:	n/a
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	Carpet tile
	Wall Finish:	Painted gyp. board; glazed sidelight or door
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	Sound isolation
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Wall/column outlets
	Shielding, Grounding:	TBD
	Network:	Cabled/wireless
MECHANICAL/ ELECTRICAL	Natural Lighting:	Preferred
	Artificial Lighting:	General ceiling lighting, task lighting at work surfaces
	HVAC Requirement:	Building standard
	Electrical:	Duplex outlets located at no more than 8' intervals per wall
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
Worksurface	30"	16'
Desk (optional)	30" x 48'	1
Chair		
Task		1
Guest		1
Lateral File		
2 Drawer/1 File	15"	1
2 Drawer	42"	1

2.10 GIFTS

IDENTIFICATION AND SIZE
Division: Special Collections
Capacity:
Proposed ASF: Off-Site (Bldg. 213)

USE
Activities:
Access:
Frequency/Hours:
Adjacencies:
Special Requirement:

CHARACTERISTICS
Ceiling Height:
Floor Finish:
Wall Finish:
Ceiling Treatment:
Acoustic Treatment:
Special Requirement:

TECHNOLOGY
A.V. Requirement:
Wire Management:
Shielding, Grounding:
Network:

MECHANICAL/ ELECTRICAL
Natural Lighting:
Artificial Lighting:
HVAC Requirement:
Electrical:

Security:
Fire Protection:
Plumbing:

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location

2.10.1 GIFTS
Book Sale Area

IDENTIFICATION AND SIZE	Division:	Library Computing
	Capacity:	
	Proposed ASF:	100
USE	Activities:	Display area for the sale of excess materials
	Access:	Public
	Frequency/Hours:	Available to all library users all hours the library is open
	Adjacencies:	Reserves Help Desk Cashier or Copy Center Cashier
	Special Requirement:	
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	Carpet tile or VCT
	Wall Finish:	Painted gyp. board
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	n/a
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	n/a
	Wire Management:	Wall/column outlets
	Shielding, Grounding:	n/a
	Network:	n/a
MECHANICAL/ ELECTRICAL	Natural Lighting:	Not required
	Artificial Lighting:	General ceiling lighting
	HVAC Requirement:	Building standard
	Electrical:	Sufficient distribution for vacuum cleaners and other incidental uses
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
Shelving		5 SFS

3.0 LIBRARY COMPUTING
Assistant Director

IDENTIFICATION AND SIZE	Division:	Library Computing
	Capacity:	1 occupant/3 guests
	Proposed ASF:	180 sf
USE	Activities:	General office work
	Access:	1 full time staff
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (office hours 8-5)
	Adjacencies:	Library Computing, public access, Administration, Technical Services
	Special Requirement:	n/a
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	Carpet tile
	Wall Finish:	Painted gyp. board; glazed sidelight or door
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	Sound isolation
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	n/a
	Wire Management:	Wall/column outlets
	Shielding, Grounding:	TBD
	Network:	Cabled (3 outlets at work surface)/wireless
MECHANICAL/ ELECTRICAL	Natural Lighting:	Preferred
	Artificial Lighting:	General ceiling lighting, task lighting at work surface
	HVAC Requirement:	Building Standard
	Electrical:	Duplex outlets located at no more than 10' intervals per wall
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
Worksurface	30"	18'
Desk	30" x 60'	1
Conference table	30" dia.	1
Chair		
Task		1
Guest		3
Lateral File		
2 Drawer/1 File	15"	1
2 Drawer	42"	3
Shelving	12"	12'

3.1.1 MICROCOMPUTING
Head Offices

IDENTIFICATION AND SIZE	Division:	Library Computing
	Capacity:	1 occupant/3 guests
	Proposed ASF:	180 sf
USE	Activities:	General office work
	Access:	1 full-time staff
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (office hours 8-5)
	Adjacencies:	Microcomputing Offices & Workstations, Staff Spaces
	Special Requirement:	n/a
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	Carpet tile
	Wall Finish:	Painted gyp. board; glazed sidelight or door
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	Sound isolation
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	n/a
	Wire Management:	Wall/column outlets; floor outlets 8' on center, poke thru
	Shielding, Grounding:	TBD
	Network:	Cabled (3 outlets at work surface)/wireless
MECHANICAL/ ELECTRICAL	Natural Lighting:	Preferred
	Artificial Lighting:	General ceiling lighting; task lighting at work surface
	HVAC Requirement:	Building standard
	Electrical:	Duplex outlets located at no more than 6' intervals per wall
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
Worksurface	30"	18'
Desk	30" x 60'	1
Conference table	30" dia.	1
Chair		
Task		1
Guest		3
Lateral File		
2 Drawer/1 File	15"	1
2 Drawer	42"	3
Shelving	12"	12'

3.1.2A MICROCOMPUTING
Staff Workstations

IDENTIFICATION AND SIZE	Division:	Library Computing
	Capacity:	1 occupant/1 guest
	Proposed ASF:	150 sf
USE	Activities:	General office work
	Access:	1 full-time staff
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (office hours 8-5)
	Adjacencies:	Information Commons
	Special Requirement:	n/a
CHARACTERISTICS	Ceiling Height:	Per existing building; 9’-0” minimum.
	Floor Finish:	Carpet tile
	Wall Finish:	Painted gyp. board; glazed sidelight or door
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	Sound isolation
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Wall/column outlets; floor outlets 8' on center, poke thru
	Shielding, Grounding:	TBD
	Network:	Cabled/wireless
MECHANICAL/ ELECTRICAL	Natural Lighting:	Preferred
	Artificial Lighting:	General ceiling lighting; task lighting at work surfaces
	HVAC Requirement:	Building standard
	Electrical:	Duplex outlets located at no more than 10’ intervals per wall
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
Worksurface	30”	22’
Chair		
Task		1
Guest		1
Lateral File		
2 Drawer/1 File	15”	1
2 Drawer	42”	1
Shelves	12”	16’

3.1.2B MICROCOMPUTING
Staff Workstations – Streaming AV Station

IDENTIFICATION AND SIZE	Division:	Library Computing
	Capacity:	1 occupant/1 guest
	Proposed ASF:	150 sf
USE	Activities:	General office work
	Access:	Microcomputing staff
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (office hours 8-5)
	Adjacencies:	Microcomputing Workstations, Meeting Room and File/Copy
	Special Requirement:	n/a
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	Carpet tile
	Wall Finish:	Systems furniture
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	n/a
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Furniture distribution; floor outlets 8' on center, poke thru
	Shielding, Grounding:	TBD
	Network:	Cabled (furniture distribution w/ 2 outlets per wall)/ wireless
MECHANICAL/ ELECTRICAL	Natural Lighting:	Preferred
	Artificial Lighting:	General ceiling lighting; task lighting at work surfaces
	HVAC Requirement:	Building standard
	Electrical:	Duplex outlets located at no more than 10' intervals per wall
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
Work surface	30"	15'
Shelving	12"	15'
Chair – task		2

3.1.2C MICROCOMPUTING
Staff Workstations – Part-time Assistants

IDENTIFICATION AND SIZE	Division:	Library Computing
	Capacity:	2 occupant/1 guest
	Proposed ASF:	160 sf
USE	Activities:	General office work
	Access:	2 part-time staff
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (office hours 8-5)
	Adjacencies:	Microcomputing Offices & Staff Spaces
	Special Requirement:	n/a
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	Carpet tile
	Wall Finish:	Systems furniture
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	n/a
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	n/a
	Wire Management:	Wall/column outlets; floor outlets 8' on center, poke thru
	Shielding, Grounding:	TBD
	Network:	Cabled/wireless
MECHANICAL/ ELECTRICAL	Natural Lighting:	Preferred
	Artificial Lighting:	General ceiling lighting; task lighting at work surfaces
	HVAC Requirement:	Building standard
	Electrical:	Duplex outlets located at no more than 10' intervals per wall
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
Worksurface	30"	26'
	36"	5' peninsula
Chair		
Task		2
Guest		1
Lateral File		
2 Drawer/1 File	15"	1
Shelving, enclosed	12"	16

3.1.3A MICROCOMPUTING
Staff Spaces – Computer Repair

IDENTIFICATION AND SIZE	Division:	Library Computing
	Capacity:	
	Proposed ASF:	200 sf
USE	Activities:	Equipment staging and repair
	Access:	Microcomputing staff
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (office hours 8-5)
	Adjacencies:	Staff Spaces: Meeting Room, File/Copy and Offices
	Special Requirement:	Common area; not fully enclosed
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	Carpet tile
	Wall Finish:	Painted gyp. board; glazed partitions; systems furniture
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Wall/column outlets; floor outlets 8' on center, poke thru
	Shielding, Grounding:	TBD
	Network:	Cabled/wireless
MECHANICAL/ ELECTRICAL	Natural Lighting:	Prefered
	Artificial Lighting:	General ceiling lighting; task lighting at work surfaces
	HVAC Requirement:	Building standard
	Electrical:	Duplex outlets located at no more than 6' intervals per wall
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
Work surface	30"	16'
Base cabinet	24"	8'
Wall cabinet	12"	8'
Chair – task		4

3.1.3B MICROCOMPUTING
Staff Spaces – Storage

IDENTIFICATION AND SIZE	Division:	Library Computing
	Capacity:	
	Proposed ASF:	200 sf
USE	Activities:	Equipment and supply storage
	Access:	Micro-computing staff
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (office hours 8-5)
	Adjacencies:	Micro-computing Computer Repair, Storage, File/Copy, and Meeting Room
	Special Requirement:	n/a
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	Carpet tile
	Wall Finish:	Painted gyp. board
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	Sound isolation
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Wall/column outlets; floor outlets 8' on center, poke thru
	Shielding, Grounding:	TBD
	Network:	Cabled/wireless
MECHANICAL/ ELECTRICAL	Natural Lighting:	Not required
	Artificial Lighting:	General ceiling lighting
	HVAC Requirement:	Building standard
	Electrical:	Duplex outlets located at no more than 10' intervals per wall
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS	Description	Size	Number/location

3.1.3C MICROCOMPUTING
Staff Spaces – Meeting Room

IDENTIFICATION AND SIZE	Division:	Library Computing
	Capacity:	18
	Proposed ASF:	240 sf
USE	Activities:	Informal meeting/conference area
	Access:	Microcomputing staff
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (office hours 8-5)
	Adjacencies:	Information Microcomputing Workstations, File/Copy
	Special Requirements:	Common area; not fully enclosed
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	Carpet tile
	Wall Finish:	Painted gyp. board; glazed partitions; systems furniture
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	Sound isolation
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Wall/column outlets; floor outlets 8' on center, poke thru
	Shielding, Grounding:	TBD
	Network:	Cabled/wireless
MECHANICAL/ ELECTRICAL	Natural Lighting:	Not required
	Artificial Lighting:	General ceiling lighting
	HVAC Requirement:	Building standard
	Electrical:	Duplex outlets located at no more than 10' intervals per wall
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
Table	3' x 6'	4/configure as conference table
Chair – guest		18

3.1.3D MICROCOMPUTING
Staff Spaces – File/Copy

IDENTIFICATION AND SIZE	Division:	Library Computing
	Capacity:	
	Proposed ASF:	100 sf
USE	Activities:	Staff support area containing supplies, shared copy machine, equipment (printers, scanners, etc.) and departmental files.
	Access:	Microcomputing staff
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (office hours 8-5)
	Adjacencies:	Microcomputing Meeting Room, Workstations
	Special Requirement:	Common area; not fully enclosed
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	Carpet tile
	Wall Finish:	Painted gyp. board
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	n/a
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Wall/column outlets; floor outlets 8' on center, poke thru
	Shielding, Grounding:	TBD
	Network:	Cabled/wireless
MECHANICAL/ ELECTRICAL	Natural Lighting:	Not required
	Artificial Lighting:	General ceiling lighting
	HVAC Requirement:	Building standard
	Electrical:	Duplex outlets located at no more than 10' intervals per wall
	Security:	n/a
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
Base Cabinet	24"	8'
Wall Cabinet	12"	8'
White Board	4' x 4'	1
Bulletin Board	3' x 4'	1
Lateral File		
4 Drawer	42"	1

3.2.1 DIGITAL TECHNOLOGIES
Office – Digital Tech Head

IDENTIFICATION AND SIZE	Division:	Library Computing
	Capacity:	1 occupant/3 guests
	Proposed ASF:	180 sf
USE	Activities:	General office work
	Access:	1 full-time staff
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (office hours 8-5)
	Adjacencies:	Digital Technologies Staff, Workstations, Staff Spaces
	Special Requirement:	n/a
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	Carpet tile
	Wall Finish:	Painted gyp. board; glazed sidelight or doors
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	Sound isolation
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	n/a
	Wire Management:	Wall/column outlets; floor outlets 8' on center; poke thru
	Shielding, Grounding:	TBD
	Network:	Cabled (4+ outlets at work surface)/wireless
MECHANICAL/ ELECTRICAL	Natural Lighting:	Preferred
	Artificial Lighting:	General ceiling lighting; task lighting at work surfaces
	HVAC Requirement:	Building standard
	Electrical:	Duplex outlets located at no more than 8' intervals per wall
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
Worksurface	30"	18'
Desk	30" x 60'	1
Conference table	30" dia.	1
Chair		
Task		1
Guest		3
Lateral File		
2 Drawer/1 File	15"	1
2 Drawer	42"	3
Shelving	12"	12'

3.2.2A DIGITAL TECHNOLOGIES
Staff Workstations

IDENTIFICATION AND SIZE	Division:	Library Computing
	Capacity:	1 occupant/1 guest
	Proposed ASF:	150 sf
USE	Activities:	General office work
	Access:	1 full-time staff
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (office hours 8-5)
	Adjacencies:	Digital Technologies Staff and Staff Spaces
	Special Requirement:	n/a
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	Carpet tile
	Wall Finish:	Systems furniture
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	n/a
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Furniture distribution; floor outlets 8' on center; poke thru
	Shielding, Grounding:	TBD
	Network:	Cabled (4+ outlets at work surface)/wireless
MECHANICAL/ ELECTRICAL	Natural Lighting:	Preferred
	Artificial Lighting:	General ceiling lighting; task lighting at work surfaces
	HVAC Requirement:	Building standard
	Electrical:	Duplex outlets located at no more than 4' intervals; furniture distribution
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
Worksurface	30"	22'
Chair		
Task		1
Guest		1
Lateral File		
2 Drawer/1 File	15"	1
2 Drawer	42"	1
Shelves	12"	16'

3.2.2B DIGITAL TECHNOLOGIES
Staff Workstations – Part-time Assistants

IDENTIFICATION AND SIZE	Division:	Library Computing
	Capacity:	2 occupants/ 1 guest
	Proposed ASF:	160 sf
USE	Activities:	General office work
	Access:	2 full-time staff
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (office hours 8-5)
	Adjacencies:	Digital Technologies Staff and Staff Spaces
	Special Requirement:	n/a
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	Carpet tile
	Wall Finish:	Systems furniture
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	n/a
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Furniture distribution; floor outlets 8' on center; poke thru
	Shielding, Grounding:	TBD
	Network:	Cabled/wireless
MECHANICAL/ ELECTRICAL	Natural Lighting:	Preferred
	Artificial Lighting:	General ceiling lighting; task lighting at work surfaces
	HVAC Requirement:	Building standard
	Electrical:	Duplex outlets located at no more than 8' intervals per wall
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
Worksurface	30"	22'
	36"	4' peninsula
Chair		
Task		2
Guest		1
Lateral File		
2 Drawer/1 File	15"	1
Shelving, enclosed	12"	16

3.2.3A DIGITAL TECHNOLOGIES
Staff Spaces – Digitization Center

IDENTIFICATION AND SIZE	Division:	Library Computing
	Capacity:	1 occupant/ 1 guest
	Proposed ASF:	110 sf
USE	Activities:	General office work
	Access:	Accessible to public; 1 full time staff
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (office hours 8-5)
	Adjacencies:	Help Desk, Digital Technologies Staff Workstations, Electronic Education Center
	Special Requirement:	Desk with standing and sitting height counter
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	Carpet tile
	Wall Finish:	Painted gyp. board; glazed partitions; systems furniture
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	n/a
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Furniture distribution; floor outlets 8' on center; poke thru
	Shielding, Grounding:	TBD
	Network:	Cabled (furniture distribution)/wireless
MECHANICAL/ ELECTRICAL	Natural Lighting:	Not required
	Artificial Lighting:	General ceiling lighting; task lighting at work surfaces
	HVAC Requirement:	Building standard
	Electrical:	Duplex outlets located at no more than 8' intervals per wall
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
Work surface	30"	19'
Chair		
Task		1
Guest		1
Lateral File		
2 Drawer/1 File	15"	1
2 Drawer	42"	1
Shelving	12"	10'

3.2.3B DIGITAL TECHNOLOGIES
Staff Spaces – File/Copy

IDENTIFICATION AND SIZE	Division:	Library Computing
	Capacity:	
	Proposed ASF:	80 sf
USE	Activities:	Staff support area containing supplies, shared copy machine, equipment (printers, scanners, etc.) and departmental files.
	Access:	Accessed by staff
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (office hours 8-5)
	Adjacencies:	Digital Technologies Staff and Staff Spaces
	Special Requirement:	Common area; not fully enclosed
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	Carpet tile
	Wall Finish:	Painted gyp. board; glazed partitions; systems furniture
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	n/a
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Wall/column outlets; floor outlets 8' on center; poke thru
	Shielding, Grounding:	TBD
	Network:	Cabled/wireless
MECHANICAL/ ELECTRICAL	Natural Lighting:	Not required
	Artificial Lighting:	General ceiling lighting
	HVAC Requirement:	Building standard
	Electrical:	Duplex outlets located at no more than 10' intervals per wall
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
Base cabinet	24"	6'
Wall cabinet	12"	6'
White board	4' x 4'	1
Bulliten board	3' x 4'	1
Lateral file		
4 drawer	42"	1

3.2.3C DIGITAL TECHNOLOGIES
Staff Spaces - Storage

IDENTIFICATION AND SIZE	Division:	Library Computing
	Capacity:	
	Proposed ASF:	80 sf
USE	Activities:	Equipment and materials storage
	Access:	
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (office hours 8-5)
	Adjacencies:	Digital technologies. Workstations and Staff Spaces
	Special Requirement:	Common area space, bit fully enclosed
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	Carpet tile
	Wall Finish:	Painted gyp. board (where required); glazed partitions (where required); systems furniture
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	n/a
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	n/a
	Wire Management:	Wall/column outlets; floor outlets 8' on center; poke thru
	Shielding, Grounding:	n/a
	Network:	n/a
MECHANICAL/ ELECTRICAL	Natural Lighting:	Preferred
	Artificial Lighting:	General ceiling lighting
	HVAC Requirement:	Building standard
	Electrical:	Duplex outlets located at no more than 10' intervals per wall
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS	Description	Size	Number/location

3.3.1 INTEGRATED LIBRARY SYSTEM
Office - Head Integrated Library System

IDENTIFICATION AND SIZE	Division:	Library Computing
	Capacity:	1 occupant/3 guests
	Proposed ASF:	180 sf
USE	Activities:	General office work
	Access:	1 full-time staff
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (office hours 8-5)
	Adjacencies:	Electronic Education Center
	Special Requirement:	n/a
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	Carpet tile
	Wall Finish:	Painted gyp. board; glazed sidelight or door
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	Sound isolation
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	n/a
	Wire Management:	Wall/column outlets
	Shielding, Grounding:	TBD
	Network:	Cabled (3 outlets at work surface) /wireless
MECHANICAL/ ELECTRICAL	Natural Lighting:	Preferred
	Artificial Lighting:	General ceiling lighting, task lighting at work surfaces
	HVAC Requirement:	Building standard
	Electrical:	Duplex outlets located at no more than 10' intervals per wall
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
Worksurface	30"	18'
Desk	30" x 60'	1
Conference table	30" dia.	1
Chair		
Task		1
Guest		3
Lateral File		
2 Drawer/1 File	15"	1
2 Drawer	42"	3
Shelving	12"	12'

3.3.2 INTEGRATED LIBRARY SYSTEM
Office – Computer Professional

IDENTIFICATION AND SIZE	Division:	Library Computing
	Capacity:	1 occupant/1 guest
	Proposed ASF:	150 sf
USE	Activities:	General office work
	Access:	1 full-time staff
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (office hours 8-5)
	Adjacencies:	Electronic Education Center
	Special Requirement:	n/a
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	Carpet tile
	Wall Finish:	Systems furniture
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	n/a
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Furniture distribution
	Shielding, Grounding:	TBD
	Network:	Cabled (3 + outlets at worksurface) / wireless
MECHANICAL/ ELECTRICAL	Natural Lighting:	Preferred
	Artificial Lighting:	General ceiling lighting, task lighting at work surfaces
	HVAC Requirement:	Building standard
	Electrical:	Duplex outlets located at no more than 10' intervals per wall
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
Worksurface	22'	16'
Desk (optional)	30" x 48'	1
Chair		
Task		1
Guest		1
Lateral File		
2 Drawer/1 File	15"	1
2 Drawer	42"	1
Shelves	16'	

3.4.1 SYSTEMS/NETWORK
Data Center

IDENTIFICATION AND SIZE	Division:	Library Computing
	Capacity:	
	Proposed ASF:	2,760 sf
USE	Activities:	Operation and maintenance of library servers & hub for university servers
	Access:	IT staff
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (office hours 8-5)
	Adjacencies:	Information Technologies Staff, Electronic Education Center
	Special Requirement:	
CHARACTERISTICS	Ceiling Height:	Per existing building;
	Floor Finish:	VCT (w/ static dissipation) on accessible raised floor
	Wall Finish:	Painted gyp. board
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	Sound isolation
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Full access computer floor
	Shielding, Grounding:	TBD
	Network:	TBD
MECHANICAL/ ELECTRICAL	Natural Lighting:	Not required
	Artificial Lighting:	General ceiling lighting on separate switching
	HVAC Requirement:	Building standard; design for heavy equipment-induced heat load; redundant system
	Electrical:	Heavy electrical power demands for computer equipment; redundant UPS, generator backup
	Security:	Card access secured
	Fire Protection:	Dry fire suppression system
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS	Description	Size	Number/location

3.4.2A SYSTEMS/NETWORK Distribution - MMC Server Room

IDENTIFICATION AND SIZE	Division:	Library Computing
	Capacity:	
	Proposed ASF:	800 sf
USE	Activities:	Houses server room and switching closets
	Access:	IT Staff
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (office hours 8-5)
	Adjacencies:	MMC Staff Spaces
	Special Requirement:	n/a
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	VCT (w/ static dissipation) on access floor
	Wall Finish:	Painted gyp. board; glazed sidelight or doors
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	Sound isolation
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Full access computer floor
	Shielding, Grounding:	TBD
	Network:	TBD
MECHANICAL/ ELECTRICAL	Natural Lighting:	Not required
	Artificial Lighting:	General ceiling lighting on separate switching
	HVAC Requirement:	Building standard; design for heavy equipment-induced heat load; redundant system
	Electrical:	Heavy electrical power demands for computer equipment; redundant UPS, generator backup
	Security:	Closed area with card key access
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS	Description	Size	Number/location

3.4.2B SYSTEMS/NETWORK
Distribution - Switching Closets

IDENTIFICATION AND SIZE	Division:	Library Computing
	Capacity:	
	Proposed ASF:	30 sf
USE	Activities:	Houses server room and switching closets
	Access:	IT Staff
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (office hours 8-5)
	Adjacencies:	Switching Rooms stacked on floors to facilitate cables
	Special Requirement:	n/a
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	VCT (w/ static dissipation) on access floor
	Wall Finish:	Painted gyp. board; glazed sidelight or doors
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	Sound isolation
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Full access computer floor
	Shielding, Grounding:	TBD
	Network:	TBD
MECHANICAL/ ELECTRICAL	Natural Lighting:	Not required
	Artificial Lighting:	General ceiling lighting on separate switching
	HVAC Requirement:	Building standard
	Electrical:	Heavy electrical power demands for computer equipment; redundant UPS, generator backup
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location

3.4.3A SYSTEMS/NETWORK
Offices – Head of Systems, Head of Networking

IDENTIFICATION AND SIZE	Division:	Library Computing
	Capacity:	1 occupant/3 guests
	Proposed ASF:	180 sf
USE	Activities:	General office work
	Access:	1 full-time staff
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (office hours 8-5)
	Adjacencies:	Main Computer Room, Systems /Network Offices, and Staff Spaces.
	Special Requirement:	n/a
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	Carpet tile
	Wall Finish:	Painted gyp. board; glazed sidelight or door
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	Sound isolation
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	n/a
	Wire Management:	Wall/column outlets; floor outlets 8' on center, poke thru
	Shielding, Grounding:	TBD
	Network:	Cabled (3 outlets at worksurfaces)/wireless
MECHANICAL/ ELECTRICAL	Natural Lighting:	Not required
	Artificial Lighting:	General ceiling lighting; task lighting at work surface
	HVAC Requirement:	Building standard
	Electrical:	Duplex outlets located at no more than 10' intervals per wall
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
Worksurface	30"	18'
Desk	30" x 60'	1
Conference table	30" dia.	1
Chair		
Task		1
Guest		3
Lateral File		
2 Drawer/1 File	15"	1
2 Drawer	42"	3
Shelving	12"	12'

3.4.3B SYSTEMS/NETWORK Offices

IDENTIFICATION AND SIZE	Division:	Library Computing
	Capacity:	1 occupant/1 guest
	Proposed ASF:	150 sf
USE	Activities:	General office work
	Access:	1 full-time staff
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (office hours 8-5)
	Adjacencies:	Main Computer Room, Systems/Network, Staff Spaces
	Special Requirement:	n/a
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	Carpet tile
	Wall Finish:	Systems furniture
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	Sound isolation
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Wall/column outlets; floor outlets 8' on center, poke thru
	Shielding, Grounding:	TBD
	Network:	Cabled (3 + outlets at worksurface)/wireless
MECHANICAL/ ELECTRICAL	Natural Lighting:	Preferred
	Artificial Lighting:	General ceiling lighting; task lighting at work surface
	HVAC Requirement:	Building standard
	Electrical:	Duplex outlets located at no more than 4' intervals per wall; systems furniture distribution
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
Worksurface	30"	22'
Chair		
Task		1
Guest		1
Lateral File		
2 Drawer/1 File	15"	1
2 Drawer	42"	1
Shelves	12"	16'

3.4.3C SYSTEMS/NETWORKING
Staff Workstations

IDENTIFICATION AND SIZE	Division:	Library Computing
	Capacity:	2 occupant/1 guest
	Proposed ASF:	150 sf
USE	Activities:	General office work
	Access:	2 part-time staff
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (office hours 8-5)
	Adjacencies:	Systems/Network Offices
	Special Requirement:	n/a
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	Carpet tile
	Wall Finish:	Systems furniture
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	n/a
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	n/a
	Wire Management:	Furniture distribution; floor outlets 8' on center, poke thru
	Shielding, Grounding:	TBD
	Network:	Cabled (furniture distribution)/wireless
MECHANICAL/ ELECTRICAL	Natural Lighting:	Preferred
	Artificial Lighting:	General ceiling lighting; task lighting at work surfaces
	HVAC Requirement:	Building standard
	Electrical:	Duplex outlets located at no more than 10' intervals per wall
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
Worksurface	30"	26'
	36"	5' peninsula
Chair		
Task		2
Guest		1
Lateral File		
2 Drawer/1 File	15"	1
Shelving, enclosed	12"	16

3.4.4A SYSTEMS/NETWORK
Staff Spaces - Work Room

IDENTIFICATION AND SIZE	Division:	Library Computing
	Capacity:	
	Proposed ASF:	240 sf
USE	Activities:	General office work
	Access:	Systems / Network Staff
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (office hours 8-5)
	Adjacencies:	Systems / Network Staff Spaces and Offices
	Special Requirement:	Common area space, not fully enclosed
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	Carpet tile
	Wall Finish:	Painted gyp. board; glazed partitions; systems furniture
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	n/a
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Wall/column outlets
	Shielding, Grounding:	TBD
	Network:	Cabled/wireless
MECHANICAL/ ELECTRICAL	Natural Lighting:	Not required
	Artificial Lighting:	General ceiling lighting
	HVAC Requirement:	Building standard
	Electrical:	Duplex outlets located at no more than 10' intervals per wall
	Security:	n/a
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
Tables	3' x 6'	4
Guest Chairs		8
Base Cabinet	24"	6'
Wall Cabinet	12"	6'

3.4.4B SYSTEMS/NETWORK
Staff Spaces – File/Storage

IDENTIFICATION AND SIZE	Division:	Library Computing
	Capacity:	
	Proposed ASF:	100 sf
USE	Activities:	Staff support area containing supplies, shared copy machine, equipment (printers, scanners, etc.) and departmental files.
	Access:	Staff
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (office hours 8-5)
	Adjacencies:	Systems/Network Work Room, Meeting Room, Book Library and Offices.
	Special Requirement:	n/a
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	Carpet tile
	Wall Finish:	Painted gyp. board; glazed sidelight or doors
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	n/a
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Wall/column outlets
	Shielding, Grounding:	TBD
	Network:	Cabled/wireless
MECHANICAL/ ELECTRICAL	Natural Lighting:	Not required
	Artificial Lighting:	General ceiling lighting
	HVAC Requirement:	Building standard
	Electrical:	Duplex outlets located at no more than 10' intervals per wall
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
Base cabinet	24"	8 lin. ft.
Wall cabinet	12"	8 lin. ft,
White board	4' x 4'	1
Bulletin Board	3' x 4'	1
Lateral File		
4 drawer	42"	1

3.4.4C SYSTEMS/NETWORK
Staff Spaces – Meeting Room

IDENTIFICATION AND SIZE	Division:	Library Computing
	Capacity:	10
	Proposed ASF:	120 sf
USE	Activities:	Conference Room
	Access:	Staff
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (office hours 8-5)
	Adjacencies:	Systems/Network Offices, Staff Spaces
	Special Requirement:	n/a
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	Carpet tile
	Wall Finish:	Painted gyp. board; glazed sidelight or doors
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	Sound isolation
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Wall/column outlets; floor outlets 8' on center, poke thru
	Shielding, Grounding:	TBD
	Network:	Cabled/wireless
MECHANICAL/ ELECTRICAL	Natural Lighting:	Not required
	Artificial Lighting:	General ceiling lighting
	HVAC Requirement:	Building standard
	Electrical:	Duplex outlets located at no more than 10' intervals per wall
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
Conference table	4' x 12'	1
Guest chairs		10

3.4.4D SYSTEMS/NETWORK
Staff Spaces – Book Library

IDENTIFICATION AND SIZE	Division:	Library Computing
	Capacity:	
	Proposed ASF:	100 sf
USE	Activities:	General office work
	Access:	Staff
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (office hours 8-5)
	Adjacencies:	Systems/Network Staff Spaces
	Special Requirement:	Common area space, not fully enclosed
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	Carpet tile
	Wall Finish:	Painted gyp. board; glazed partitions; systems furniture
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	n/a
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Wall/column outlets; floor outlets 8' on center, poke thru
	Shielding, Grounding:	TBD
	Network:	Cabled/wireless
MECHANICAL/ ELECTRICAL	Natural Lighting:	Not required
	Artificial Lighting:	General ceiling lighting
	HVAC Requirement:	Building standard
	Electrical:	Duplex outlets located at no more than 10' intervals per wall
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
Shelving		5 sfs
Lounge seating		
Chair		2
Side table		1

3.5.1 COMMON AREA
Central Storage

IDENTIFICATION AND SIZE	Division:	Library Computing
	Capacity:	
	Proposed ASF:	800 sf
USE	Activities:	Equipment and materials storage
	Access:	Systems/Network Staff
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (office hours 8-5)
	Adjacencies:	IT Machine Room, Systems/Network Staff
	Special Requirement:	n/a
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	VCT
	Wall Finish:	Painted gyp. board
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	n/a
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Wall/column outlets
	Shielding, Grounding:	TBD
	Network:	Cabled/wireless
MECHANICAL/ ELECTRICAL	Natural Lighting:	Not required
	Artificial Lighting:	General ceiling lighting
	HVAC Requirement:	Building standard
	Electrical:	Duplex outlets located at no more than 10' intervals per wall
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS	Description	Size	Number/location

3.5.2 COMMON AREA
Break Room

IDENTIFICATION AND SIZE	Division:	Library Computing
	Capacity:	
	Proposed ASF:	300 sf
USE	Activities:	
	Access:	Library Computing Staff
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (office hours 8-5)
	Adjacencies:	IT Machine Room, Systems/Network Staff
	Special Requirement:	n/a
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	VCT
	Wall Finish:	Painted gyp. board; glazed sidelight or doors
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	Sound isolation
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Wall/column outlets; floor outlets 8' on center
	Shielding, Grounding:	TBD
	Network:	Cabled/wireless
MECHANICAL/ ELECTRICAL	Natural Lighting:	Not required
	Artificial Lighting:	General ceiling lighting
	HVAC Requirement:	Building standard
	Electrical:	Duplex outlets located at no more than 10' intervals per wall
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
Table	3' x 6'	4 / ganged as conference table
Guest chair		18
Base cabinet		8'

3.5.3 COMMON AREA
Central Files

IDENTIFICATION AND SIZE	Division:	Library Computing
	Capacity:	
	Proposed ASF:	200 sf
USE	Activities:	File storage
	Access:	Systems/Network Staff
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (office hours 8-5)
	Adjacencies:	IT Machine Room, Systems/Network Staff
	Special Requirement:	n/a
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	VCT
	Wall Finish:	Painted gyp. board
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	n/a
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	n/a
	Wire Management:	Wall/column outlets; floor outlets 8' on center
	Shielding, Grounding:	TBD
	Network:	Cabled/wireless
MECHANICAL/ ELECTRICAL	Natural Lighting:	Not required
	Artificial Lighting:	General ceiling lighting
	HVAC Requirement:	Building standard
	Electrical:	Duplex outlets located at no more than 10' intervals per wall
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS	Description	Size	Number/location

4.1.1 CATALOG RECORDS MAINTENANCE
Office – Head of Catalog Records Maintenance

IDENTIFICATION AND SIZE	Division:	Technical Services
	Capacity:	1 occupant/ 3 guests
	Proposed ASF:	160 sf
USE	Activities:	General office work
	Access:	1 full time staff
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (office hours 8-5)
	Adjacencies:	Catalog Records Maintenance Workstations, Monographic Cataloging Head, other Technical Services Offices
	Special Requirement:	n/a
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	Carpet tile
	Wall Finish:	Painted gyp. board; glazed sidelight or door
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	Sound isolation
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	n/a
	Wire Management:	Wall/column outlets
	Shielding, Grounding:	TBD
	Network:	Cabled/wireless
MECHANICAL/ ELECTRICAL	Natural Lighting:	Preferred
	Artificial Lighting:	General ceiling lighting; task lighting at work surface
	HVAC Requirement:	Building standard
	Electrical:	Duplex outlets located at no more than 8' intervals per wall
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
Worksurface	30"	17'
Desk	60"	1
Conference Table	30" dia	1
Chair		
Task		1
Guest		3
Lateral File		
2 Drawer/1 File	15"	1
2 Drawer	42"	1
3 Drawer	42"	1
Shelving	12"	12'

4.1.2 CATALOG RECORDS MAINTENANCE
Staff Workstations

IDENTIFICATION AND SIZE	Division:	Technical Services
	Capacity:	1 occupant/ 1 guest
	Proposed ASF:	110 sf
USE	Activities:	General office work
	Access:	1 full-time staff
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (office hours 8-5)
	Adjacencies:	
	Special Requirement:	n/a
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	Carpet tile
	Wall Finish:	Systems furniture
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	n/a
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Furniture distribution
	Shielding, Grounding:	TBD
	Network:	Cabled (furniture distribution)/wireless
MECHANICAL/ ELECTRICAL	Natural Lighting:	Preferred
	Artificial Lighting:	General ceiling lighting; task lighting at work surface
	HVAC Requirement:	Building standard
	Electrical:	Duplex outlets located at no more than 8' intervals per wall
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
Worksurface	30"	19'
Chair		
Task		1
Guest		1
Lateral File		
2 Drawer/1 File	15"	1
2 Drawer	42"	1
Shelves	12"	10'

4.1.3A CATALOG RECORDS MAINTENANCE
Staff Spaces - Marking Tables

IDENTIFICATION AND SIZE	Division:	Technical Services
	Capacity:	
	Proposed ASF:	560 sf
USE	Activities:	General office work
	Access:	Staff
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (office hours 8-5)
	Adjacencies:	Catalog Records Maintenance Staff
	Special Requirement:	Common area; not fully enclosed
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	Carpet tile
	Wall Finish:	Painted gyp. board; glazed sidelight or doors
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	n/a
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Wall/column outlets
	Shielding, Grounding:	TBD
	Network:	Cabled/wireless
MECHANICAL/ ELECTRICAL	Natural Lighting:	Preferred
	Artificial Lighting:	General ceiling lighting; task lighting at work surface
	HVAC Requirement:	Building standard
	Electrical:	Duplex outlets located at no more than 10' intervals per wall
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
Tables	3'x6'	6
Chairs – task		8
Lateral files		
2 drawer	42"	2

4.1.3B CATALOG RECORDS MAINTENANCE
Staff Spaces - Marking Stacks

IDENTIFICATION AND SIZE	Division:	Technical Services
	Capacity:	
	Proposed ASF:	252 sf
USE	Activities:	Stack area for temporary storage and materials retreival
	Access:	Staff
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (office hours 8-5)
	Adjacencies:	Catalog Records Maintenance Staff
	Special Requirement:	Common area; not fully enclosed
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	Carpet tile
	Wall Finish:	n/a
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	n/a
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	n/a
	Wire Management:	Wall/column outlets
	Shielding, Grounding:	TBD
	Network:	Cabled/wireless
MECHANICAL/ ELECTRICAL	Natural Lighting:	Not required
	Artificial Lighting:	General ceiling lighting
	HVAC Requirement:	Building standard
	Electrical:	Duplex outlets located at no more than 10' intervals per wall
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS	Description	Size	Number/location
	Stacks		12 DFS

4.1.3C CATALOG RECORDS MAINTENANCE
Staff Spaces - Delivery/Staging Areas

IDENTIFICATION AND SIZE	Division:	Technical Services
	Capacity:	
	Proposed ASF:	300 sf
USE	Activities:	Open area to accommodate temporary materials storage and project staging
	Access:	Staff
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (office hours 8-5)
	Adjacencies:	Catalog Records Maintenance Staff
	Special Requirement:	Common area; not fully enclosed
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	VCT
	Wall Finish:	n/a
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	n/a
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	n/a
	Wire Management:	Wall/column outlets
	Shielding, Grounding:	TBD
	Network:	Cabled/wireless
MECHANICAL/ ELECTRICAL	Natural Lighting:	Not required
	Artificial Lighting:	General ceiling lighting
	HVAC Requirement:	Building standard
	Electrical:	Duplex outlets located at no more than 10' intervals per wall
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location

4.1.3D CATALOG RECORDS MAINTENANCE
Staff Spaces - Processing

IDENTIFICATION AND SIZE	Division:	Technical Services
	Capacity:	
	Proposed ASF:	300 sf
USE	Activities:	General office work
	Access:	Staff
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (office hours 8-5)
	Adjacencies:	Catalog Records Maintenance Staff
	Special Requirement:	Common area; not fully enclosed
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	Carpet tile
	Wall Finish:	n/a
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	n/a
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Wall/column outlets
	Shielding, Grounding:	TBD
	Network:	Cabled/wireless
MECHANICAL/ ELECTRICAL	Natural Lighting:	Not required
	Artificial Lighting:	General ceiling lighting
	HVAC Requirement:	Building standard
	Electrical:	Duplex outlets located at no more than 10' intervals per wall
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
Table	3' x 6'	4
Chair – task		4

4.1.3E CATALOG RECORDS MAINTENANCE
Staff Spaces - Label Table

IDENTIFICATION AND SIZE	Division:	Technical Services
	Capacity:	
	Proposed ASF:	240 sf
USE	Activities:	General office work
	Access:	Staff
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (office hours 8-5)
	Adjacencies:	Catalog Records Maintenance Staff
	Special Requirement:	Common area; not fully enclosed
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	Carpet tile
	Wall Finish:	n/a
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	n/a
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Wall/column outlets
	Shielding, Grounding:	TBD
	Network:	Cabled/wireless
MECHANICAL/ ELECTRICAL	Natural Lighting:	Not required
	Artificial Lighting:	General ceiling lighting
	HVAC Requirement:	Building standard
	Electrical:	Duplex outlets located at no more than 10' intervals per wall
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS	Description	Size	Number/location

4.1.3F CATALOG RECORDS MAINTENANCE
Staff Spaces - Book Truck Storage

IDENTIFICATION AND SIZE	Division:	Technical Services
	Capacity:	
	Proposed ASF:	200 sf
USE	Activities:	Book truck storage and staging area
	Access:	Staff
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (office hours 8-5)
	Adjacencies:	Catalog Records Maintenance Staff
	Special Requirement:	Common area; not fully enclosed
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	Carpet tile
	Wall Finish:	Painted gyp. board; glazed sidelight or doors
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	n/a
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	n/a
	Wire Management:	Wall/column outlets
	Shielding, Grounding:	TBD
	Network:	Cabled/wireless
MECHANICAL/ ELECTRICAL	Natural Lighting:	Not required
	Artificial Lighting:	General ceiling lighting
	HVAC Requirement:	Building standard
	Electrical:	Duplex outlets located at no more than 10' intervals per wall
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location

4.1.3G CATALOG RECORDS MAINTENANCE
Staff Spaces - Cataloging Material Stacks

IDENTIFICATION AND SIZE	Division:	Technical Services
	Capacity:	
	Proposed ASF:	1,008 sf
USE	Activities:	Stack area for temporary storage and materials retreival
	Access:	Staff
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (office hours 8-5)
	Adjacencies:	Catalog Records Maintenance Staff
	Special Requirement:	Common area; not fully enclosed
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	Carpet tile
	Wall Finish:	n/a
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	n/a
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	n/a
	Wire Management:	Wall/column outlets
	Shielding, Grounding:	TBD
	Network:	Cabled/wireless
MECHANICAL/ ELECTRICAL	Natural Lighting:	Not required
	Artificial Lighting:	General ceiling lighting
	HVAC Requirement:	Building standard
	Electrical:	Duplex outlets located at no more than 10' intervals per wall
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
Stacks		48 DFS

4.1.3H CATALOG RECORDS MAINTENANCE
Staff Spaces - File/Copy/Storage

IDENTIFICATION AND SIZE	Division:	Technical Services
	Capacity:	
	Proposed ASF:	100 sf
USE	Activities:	Staff support area containing supplies, shared copy machine, equipment (printers, scanners, etc.) and department files.
	Access:	Staff
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (office hours 8-5)
	Adjacencies:	Catalog Records Maintenance Staff
	Special Requirement:	Common area; not fully enclosed
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	Carpet tile
	Wall Finish:	n/a
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	n/a
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Wall/column outlets
	Shielding, Grounding:	TBD
	Network:	Cabled/wireless
MECHANICAL/ ELECTRICAL	Natural Lighting:	Not required
	Artificial Lighting:	General ceiling lighting
	HVAC Requirement:	Building standard
	Electrical:	Duplex outlets located at no more than 10' intervals per wall
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
Base cabinet	24"	6'
Wall cabinet	12"	6'
White board	4' x 4'	1
Bulliten board	3' x 4'	1
Lateral file		
4 drawer	42"	1

4.2.1 MONOGRAPHIC CATALOGING
Offices - Monographic Cataloging and Original Cataloging Heads

IDENTIFICATION AND SIZE	Division:	Technical Services
	Capacity:	1 occupant/3 guests
	Proposed ASF:	160 sf
USE	Activities:	General office work
	Access:	1 full-time staff
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (office hours 8-5)
	Adjacencies:	Monographic Cataloging Workstations, other Technical Services Offices
	Special Requirement:	n/a
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	Carpet tile
	Wall Finish:	Painted gyp. board; glazed sidelight or door
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	Sound isolation
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Wall/column outlets
	Shielding, Grounding:	TBD
	Network:	Cabled
MECHANICAL/ ELECTRICAL	Natural Lighting:	Preferred
	Artificial Lighting:	General ceiling lighting; task lighting at work surface
	HVAC Requirement:	Building standard
	Electrical:	Duplex outlets located at no more than 8' intervals per wall
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
Worksurface	30"	17'
Desk	60"	1
Conference Table	30" dia	1
Chair		
Task		1
Guest		3
Lateral File		
2 Drawer/1 File	15"	1
2 Drawer	42"	1
3 Drawer	42"	1
Shelving	12"	12'

4.2.2A MONOGRAPHIC CATALOGING
Office – Science/Map Cataloger Librarian

IDENTIFICATION AND SIZE	Division:	Technical Services
	Capacity:	1 occupant
	Proposed ASF:	160 sf
USE	Activities:	General office work
	Access:	1 full time staff
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (office hours 8-5)
	Adjacencies:	Map Collection
	Special Requirement:	n/a
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	Carpet tile
	Wall Finish:	Systems furniture
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	n/a
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	n/a
	Wire Management:	Furniture distribution
	Shielding, Grounding:	TBD
	Network:	Cabled (furniture distribution)/wireless
MECHANICAL/ ELECTRICAL	Natural Lighting:	Not required
	Artificial Lighting:	General ceiling lighting; task lighting at work surface
	HVAC Requirement:	Building standard
	Electrical:	Duplex outlets located at no more than 8' intervals per wall
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
Worksurface	36"	10'
Table	36" x 72"	1
Chair		
Task		1
Lateral File		
2 Drawer/1 File	15"	1
Flat files	30" x 42"	8 – in two stacks
Shelving	12"	12'

4.2.2B MONOGRAPHIC CATALOGING
Staff Workstations

IDENTIFICATION AND SIZE

Division:	Technical Services
Capacity:	1 occupant/1 guest
Proposed ASF:	110 sf

USE

Activities:	General office work
Access:	1 full-time staff
Frequency/Hours:	Typically Mon-Fri 7am to 9pm (office hours 8-5)
Adjacencies:	Monographic Cataloging Stacks
Special Requirement:	n/a

CHARACTERISTICS

Ceiling Height:	Per existing building; 9'-0" minimum.
Floor Finish:	Carpet tile
Wall Finish:	Systems furniture
Ceiling Treatment:	Acoustic ceiling tile
Acoustic Treatment:	n/a
Special Requirement:	n/a

TECHNOLOGY

A.V. Requirement:	TBD
Wire Management:	Furniture distribution
Shielding, Grounding:	TBD
Network:	Cabled (furniture distribution)/wireless

MECHANICAL/ ELECTRICAL

Natural Lighting:	Preferred
Artificial Lighting:	General ceiling lighting; task lighting at work surface
HVAC Requirement:	Building standard
Electrical:	Duplex outlets located at no more than 8' intervals per wall
Security:	General
Fire Protection:	General
Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
Worksurface	30"	19'
Chair		
Task		1
Guest		1
Lateral File		
2 Drawer/1 File	15"	1
2 Drawer	42"	1
Shelves	12"	10'

4.2.3A MONOGRAPHIC CATALOGING
Staff Spaces - Delivery/Staging Area

IDENTIFICATION AND SIZE	Division:	Technical Services
	Capacity:	
	Proposed ASF:	200 sf
USE	Activities:	Open area to accommodate temporary materials storage and project staging
	Access:	Staff
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (office hours 8-5)
	Adjacencies:	Freight elevator, Monographic Cataloging Stacks & Storage
	Special Requirement:	n/a
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	Carpet tile
	Wall Finish:	Painted gyp. board; glazed sidelight or doors
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	Sound isolation
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Wall/column outlets
	Shielding, Grounding:	TBD
	Network:	Cabled
MECHANICAL/ ELECTRICAL	Natural Lighting:	Preferred
	Artificial Lighting:	General ceiling lighting; task lighting at work surface
	HVAC Requirement:	Building standard
	Electrical:	Duplex outlets located at no more than 10' intervals per wall
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS	Description	Size	Number/location

4.2.3B MONOGRAPHIC CATALOGING
Staff Spaces - Stacks

IDENTIFICATION AND SIZE	Division:	Technical Services
	Capacity:	
	Proposed ASF:	210 sf
USE	Activities:	General office work
	Access:	Staff
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (office hours 8-5)
	Adjacencies:	Monographic Cataloging Staff Workstations
	Special Requirement:	n/a
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	Carpet tile
	Wall Finish:	Painted gyp. board; glazed sidelight or doors
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	Sound isolation
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Wall/column outlets
	Shielding, Grounding:	TBD
	Network:	Cabled
MECHANICAL/ ELECTRICAL	Natural Lighting:	Preferred
	Artificial Lighting:	General ceiling lighting; task lighting at work surface
	HVAC Requirement:	Building standard
	Electrical:	Duplex outlets located at no more than 10' intervals per wall
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS	Description	Size	Number/location
	Stacks		10 DFS

4.2.3C MONOGRAPHIC CATALOGING
Staff Spaces - Rare Books Closet

IDENTIFICATION AND SIZE	Division:	Technical Services
	Capacity:	
	Proposed ASF:	80 sf
USE	Activities:	Temporary secure storage of rare books & materials
	Access:	Staff
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (office hours 8-5)
	Adjacencies:	Monographic Cataloging Offices
	Special Requirement:	n/a
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	Carpet tile
	Wall Finish:	Painted gyp. board
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	Sound isolation
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Wall/column outlets
	Shielding, Grounding:	TBD
	Network:	Cabled
MECHANICAL/ ELECTRICAL	Natural Lighting:	Preferred
	Artificial Lighting:	General ceiling lighting; task lighting at work surface
	HVAC Requirement:	Building standard
	Electrical:	Duplex outlets located at no more than 10' intervals per wall
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS	Description	Size	Number/location

4.2.3D MONOGRAPHIC CATALOGING
Staff Spaces - File/Copy

IDENTIFICATION AND SIZE	Division:	Technical Services
	Capacity:	
	Proposed ASF:	100 sf
USE	Activities:	Staff support area containing supplies, shared copy machine, equipment (printers, scanners, etc.) and department files.
	Access:	Staff
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (office hours 8-5)
	Adjacencies:	General Collection and Middle East Collection
	Special Requirement:	n/a
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	Carpet tile
	Wall Finish:	Painted gyp. board
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	Sound isolation
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Wall/column outlets
	Shielding, Grounding:	TBD
	Network:	Cabled
MECHANICAL/ ELECTRICAL	Natural Lighting:	Preferred
	Artificial Lighting:	General ceiling lighting; task lighting at work surface
	HVAC Requirement:	Building standard
	Electrical:	Duplex outlets located at no more than 10' intervals per wall
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
Base cabinet	24"	6'
Wall cabinet	12"	6'
White board	4' x 4'	1
Bulletin board	3' x 4'	1
Lateral file		
4 drawer	42"	1

4.2.3E MONOGRAPHIC CATALOGING
Staff Spaces - Storage

IDENTIFICATION AND SIZE	Division:	Technical Services
	Capacity:	
	Proposed ASF:	120 sf
USE	Activities:	Equipment and materials storage
	Access:	Staff
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (office hours 8-5)
	Adjacencies:	Monographic Cataloging Workstations and Offices
	Special Requirement:	n/a
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	Carpet tile
	Wall Finish:	Painted gyp. board; glazed sidelight or doors
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	Sound isolation
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Wall/column outlets
	Shielding, Grounding:	TBD
	Network:	Cabled
MECHANICAL/ ELECTRICAL	Natural Lighting:	Preferred
	Artificial Lighting:	General ceiling lighting; task lighting at work surface
	HVAC Requirement:	Building standard
	Electrical:	Duplex outlets located at no more than 10' intervals per wall
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS	Description	Size	Number/location

4.3.1A SERIALS
Office - Head of Serials

IDENTIFICATION AND SIZE	Division:	Technical Services
	Capacity:	1 occupant/3 guests
	Proposed ASF:	160 sf
USE	Activities:	General office work
	Access:	1 full-time staff
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (office hours 8-5)
	Adjacencies:	Serials Workstations, other Technical Services Offices
	Special Requirement:	n/a
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	Carpet tile
	Wall Finish:	Painted gyp. board; glazed sidelight or door
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	Sound isolation
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Wall/column outlets
	Shielding, Grounding:	TBD
	Network:	Cabled
MECHANICAL/ ELECTRICAL	Natural Lighting:	Preferred
	Artificial Lighting:	General ceiling lighting; task lighting at work surface
	HVAC Requirement:	Building standard
	Electrical:	Duplex outlets located at no more than 8' intervals per wall
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
Worksurface	30"	17'
Desk	60"	1
Conference Table	30" dia	1
Chair		
Task		1
Guest		3
Lateral File		
2 Drawer/1 File	15"	1
2 Drawer	42"	1
3 Drawer	42"	1
Shelving	12"	12'

4.3.1B SERIALS
Office - Serials Check-In

IDENTIFICATION AND SIZE	Division:	Technical Services
	Capacity:	2 full-time and 2 part-time occupants/1 guest
	Proposed ASF:	300 sf
USE	Activities:	General office work
	Access:	2 full-time staff /2 part-time staff
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (office hours 8-5)
	Adjacencies:	Serials Staff Spaces and Offices
	Special Requirement:	n/a
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	Carpet tile
	Wall Finish:	Painted gyp. board; glazed sidelight or door
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	Sound isolation
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Wall/column outlets
	Shielding, Grounding:	TBD
	Network:	Cabled
MECHANICAL/ ELECTRICAL	Natural Lighting:	Preferred
	Artificial Lighting:	General ceiling lighting; task lighting at worksurface
	HVAC Requirement:	Building standard
	Electrical:	Duplex outlets located at no more than 10' intervals per wall
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
Worksurface	30"	48"
Chair		
Task		4
Guest		1
Lateral File		
2 Drawer/1 File	15"	2
2 Drawer	42"	2
Shelving	12"	25'

4.3.2A SERIALS
Staff Workstations

IDENTIFICATION AND SIZE	Division:	Technical Services
	Capacity:	1 occupant/ 1 guest
	Proposed ASF:	110 sf
USE	Activities:	General office work
	Access:	1 full-time staff
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (office hours 8-5)
	Adjacencies:	Serials Staff Spaces and Offices
	Special Requirement:	n/a
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	Carpet tile
	Wall Finish:	Systems furniture
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	n/a
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Furniture distribution
	Shielding, Grounding:	TBD
	Network:	Cabled (furniture distribution)/ wireless
MECHANICAL/ ELECTRICAL	Natural Lighting:	Preferred
	Artificial Lighting:	General ceiling lighting; task lighting at work surface
	HVAC Requirement:	Building standard
	Electrical:	Duplex outlets located at no more than 8' intervals per wall
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
Worksurface	30"	19'
Chair		
Task		1
Guest		1
Lateral File		
2 Drawer/1 File	15"	1
2 Drawer	42"	1
Shelves	**12"**	**10'**

4.3.3A SERIALS
Staff Spaces - Delivery/Staging Area

IDENTIFICATION AND SIZE	Division:	Technical Services
	Capacity:	
	Proposed ASF:	200 sf
USE	Activities:	Open area to accommodate temporary materials storage and project staging
	Access:	Staff
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (office hours 8-5)
	Adjacencies:	Serials Staff Spaces
	Special Requirement:	Common area, not fully enclosed
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	Carpet tile
	Wall Finish:	Painted gyp. board
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	Sound isolation
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Wall/column outlets
	Shielding, Grounding:	TBD
	Network:	Cabled
MECHANICAL/ ELECTRICAL	Natural Lighting:	Not required
	Artificial Lighting:	General ceiling lighting
	HVAC Requirement:	Building standard
	Electrical:	Duplex outlets located at no more than 10' intervals per wall
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS	Description	Size	Number/location

4.3.3B SERIALS
Staff Spaces - File/Copy

IDENTIFICATION AND SIZE	Division:	Technical Services
	Capacity:	
	Proposed ASF:	100 sf
USE	Activities:	Staff support area containing supplies, shared equipment (printers, scanners, copy machine, etc.) and departmental files.
	Access:	Staff
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (office hours 8-5)
	Adjacencies:	Serials Staff Spaces
	Special Requirement:	Common area space; not fully enclosed
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	Carpet tile
	Wall Finish:	Painted gyp. board; glazed sidelight or doors
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	n/a
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Wall/column outlets
	Shielding, Grounding:	TBD
	Network:	Cabled/wireless
MECHANICAL/ ELECTRICAL	Natural Lighting:	Not required
	Artificial Lighting:	General ceiling lighting
	HVAC Requirement:	Building standard
	Electrical:	Duplex outlets located at no more than 8' intervals per wall
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
Base cabinet	24"	6'
Wall cabinet	12"	6'
White board	4' x 4'	1
Bulliten board	3' x 4'	1
Lateral file		
4 drawer	42"	1

4.3.3C SERIALS
Staff Spaces - Storage

IDENTIFICATION AND SIZE	Division:	Technical Services
	Capacity:	
	Proposed ASF:	100 sf
USE	Activities:	Equipment and materials storage
	Access:	Staff
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (office hours 8-5)
	Adjacencies:	Serials Staff Spaces
	Special Requirement:	Common area space; not fully enclosed
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	Carpet tile
	Wall Finish:	Painted gyp. board
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	Sound isolation
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Wall/column outlets
	Shielding, Grounding:	TBD
	Network:	Cabled
MECHANICAL/ ELECTRICAL	Natural Lighting:	Not required
	Artificial Lighting:	General ceiling lighting
	HVAC Requirement:	Building standard
	Electrical:	Duplex outlets located at no more than 10' intervals per wall
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location

4.4.1 COMMON AREAS
Meeting/Work Rooms

IDENTIFICATION AND SIZE	Division:	Technical Services
	Capacity:	
	Proposed ASF:	240 sf
USE	Activities:	General office work
	Access:	Staff
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (office hours 8-5)
	Adjacencies:	
	Special Requirement:	n/a
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	Carpet tile
	Wall Finish:	Painted gyp. board
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	Sound isolation
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Wall/column outlets
	Shielding, Grounding:	TBD
	Network:	Cabled
MECHANICAL/ ELECTRICAL	Natural Lighting:	Not required
	Artificial Lighting:	General ceiling lighting
	HVAC Requirement:	Building standard
	Electrical:	Duplex outlets located at no more than 10' intervals per wall
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
Tables	3' x 6'	4
Guest Chairs		8
Base Cabinet	24"	6'
Wall Cabinet	12"	6'

4.4.2 COMMON AREAS
Central Storage

IDENTIFICATION AND SIZE	Division:	Technical Services
	Capacity:	
	Proposed ASF:	400 sf
USE	Activities:	Equipment and Materials Storage
	Access:	
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (office hours 8-5)
	Adjacencies:	
	Special Requirement:	n/a
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	Sealed concrete
	Wall Finish:	Painted gyp. board
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	n/a
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	n/a
	Wire Management:	n/a
	Shielding, Grounding:	n/a
	Network:	n/a
MECHANICAL/ ELECTRICAL	Natural Lighting:	Not required
	Artificial Lighting:	General ceiling lighting
	HVAC Requirement:	Building standard
	Electrical:	Duplex outlets located at no more than 10' intervals per wall
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS	Description	Size	Number/location

5.1.1 ADMINISTRATION
Office – Administration Director

IDENTIFICATION AND SIZE	Division:	General Administration
	Capacity:	1 occupant/6 guests
	Proposed ASF:	230 sf
USE	Activities:	General office work
	Access:	1 full-time staff
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (office hours 8-5)
	Adjacencies:	Administrative Assistant, Assistant Directors, Development Office, Financial Management Head, Human Resources Head
	Special Requirement:	n/a
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	Carpet tile
	Wall Finish:	Painted gyp. board; glazed sidelight or doors
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	Sound isolation
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Wall/column outlets
	Shielding, Grounding:	TBD
	Network:	Cabled/wireless
MECHANICAL/ ELECTRICAL	Natural Lighting:	Preferred
	Artificial Lighting:	General ceiling lighting; task lighting at work surface
	HVAC Requirement:	Building standard
	Electrical:	Duplex outlets located at no more than 10' intervals per wall
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
Worksurface	30"	22'
Desk	30" x 60'	1
Conference table	3'x6'.	1
Chair		
Task		1
Guest		6
Lateral File		
2 Drawer/1 File	15"	1
2 Drawer	42"	3
Shelving	12"	22'

5.1.2 ADMINISTRATION
Offices – Administrative Assistant & Executive Secretary

IDENTIFICATION AND SIZE	Division:	General Administration
	Capacity:	1 occupant/ 1 guest
	Proposed ASF:	120 sf
USE	Activities:	General office work
	Access:	1 full-time staff
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (office hours 8-5)
	Adjacencies:	Administration Director and Reception
	Special Requirement:	n/a
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	Carpet tile
	Wall Finish:	Painted gyp. board; glazed sidelight or door
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	Sound isolation
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Wall/column outlets
	Shielding, Grounding:	TBD
	Network:	Cabled
MECHANICAL/ ELECTRICAL	Natural Lighting:	Preferred
	Artificial Lighting:	General ceiling lighting; task lighting at work surfaces
	HVAC Requirement:	Building standard
	Electrical:	Duplex outlets located at no more than 8' intervals per wall
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
Work surface	30"	19'
Chair		
Task		1
Guest		1
Lateral File		
2 Drawer/1 File	15"	1
2 Drawer	42"	1
Shelving	12"	10'

5.1.3A ADMINISTRATION
Administrative Receptionist

IDENTIFICATION AND SIZE	Division:	General Administration
	Capacity:	1 occupant
	Proposed ASF:	100 sf
USE	Activities:	General office work
	Access:	1 full-time staff
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (office hours 8-5)
	Adjacencies:	Administration Director, Administrative Assistant and Executive Secretary
	Special Requirement:	n/a
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	Carpet tile
	Wall Finish:	Systems furniture
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	n/a
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	n/a
	Wire Management:	Furniture distribution
	Shielding, Grounding:	TBD
	Network:	Cabled (furniture distribution)/wireless
MECHANICAL/ ELECTRICAL	Natural Lighting:	Preferred
	Artificial Lighting:	General ceiling lighting; task lighting at work surfaces
	HVAC Requirement:	Building standard
	Electrical:	Duplex outlets located at no more than 10' intervals per wall
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
Workstation	30"	14'
Transaction counter	12"	6'
Chair – task		1
Lateral file		
2 drawer/1 file	15"	1/under counter
2 drawer	42"	1/under counter

5.1.3B ADMINISTRATION
Queuing and Waiting

IDENTIFICATION AND SIZE	Division:	General Administration
	Capacity:	4
	Proposed ASF:	100 sf
USE	Activities:	General office work
	Access:	Public
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (office hours 8-5)
	Adjacencies:	Administration Reception and Executive Secretary
	Special Requirement:	Common area; not fully enclosed
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	Carpet tile
	Wall Finish:	Painted gyp. board; glazed sidelight or doors; systems furniture
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	n/a
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Wall/column outlets
	Shielding, Grounding:	TBD
	Network:	Cabled/wireless
MECHANICAL/ ELECTRICAL	Natural Lighting:	Preferred
	Artificial Lighting:	General ceiling lighting; task lighting at side tables
	HVAC Requirement:	Building standard
	Electrical:	Duplex outlets located at no more than 8' intervals per wall
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
Lounge seating		4
Side table		2

5.2 ASSISTANT DIRECTORS
Office – Public Services

IDENTIFICATION AND SIZE	Division:	General Administration
	Capacity:	1 occupant/3 guests
	Proposed ASF:	180 sf
USE	Activities:	General office work
	Access:	1 full-time staff
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (office hours 8-5)
	Adjacencies:	Administration Director
	Special Requirement:	n/a
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	Carpet tile
	Wall Finish:	Painted gyp. board; glazed sidelight or doors
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	Sound isolation
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Wall/column outlets
	Shielding, Grounding:	TBD
	Network:	Cabled
MECHANICAL/ ELECTRICAL	Natural Lighting:	Preferred
	Artificial Lighting:	General ceiling lighting; task lighting at work surfaces
	HVAC Requirement:	Building standard
	Electrical:	Duplex outlets located at no more than 10' intervals per wall
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
Worksurface	30"	18'
Desk	30" x 60'	1
Conference table	30" dia.	1
Chair		
Task		1
Guest		3
Lateral File		
2 Drawer/1 File	15"	1
2 Drawer	42"	3
Shelving	12"	12'

5.3.1A COLLECTION DEVELOPMENT
Office – Head of Collection Development

IDENTIFICATION AND SIZE	Division:	General Administration
	Capacity:	1 occupant/3 guests
	Proposed ASF:	160 sf
USE	Activities:	General office work
	Access:	1 full-time staff
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (office hours 8-5)
	Adjacencies:	Financial Services, Acquisitions
	Special Requirement:	n/a
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	Carpet tile
	Wall Finish:	Painted gyp. board; glazed sidelight or doors
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	Sound isolation
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Wall/column outlets
	Shielding, Grounding:	TBD
	Network:	Cabled
MECHANICAL/ ELECTRICAL	Natural Lighting:	Preferred
	Artificial Lighting:	General ceiling lighting; task lighting at work surface
	HVAC Requirement:	Building standard
	Electrical:	Duplex outlets located at no more than 8' intervals per wall
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
Work surface	30"	17'
Desk	60"	1
Conference Table	30" dia	1
Chair		
Task		1
Guest		3
Lateral File		
2 Drawer/1 File	15"	1
2 Drawer	42"	1
3 Drawer	42"	1
Shelving	12"	12'

5.3.1B COLLECTION DEVELOPMENT
Offices

IDENTIFICATION AND SIZE	Division:	General Administration
	Capacity:	1 occupant/ 1 guest
	Proposed ASF:	120 sf
USE	Activities:	General office work
	Access:	1 full-time staff
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (office hours 8-5)
	Adjacencies:	Financial Services / Acquisitions
	Special Requirement:	n/a
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	Carpet tile
	Wall Finish:	Painted gyp. board; glazed sidelight or door
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	Sound isolation
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Wall/column outlets
	Shielding, Grounding:	TBD
	Network:	Cabled
MECHANICAL/ ELECTRICAL	Natural Lighting:	Preferred
	Artificial Lighting:	General ceiling lighting; task lighting at work surface
	HVAC Requirement:	Building standard
	Electrical:	Duplex outlets located at no more than 8' intervals per wall
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
Work surface	30"	19'
Chair		
Task		1
Guest		1
Lateral File		
2 Drawer/1 File	15"	1
2 Drawer	42"	1
Shelving	12"	10'

5.3.2 COLLECTION DEVELOPMENT
Staff Workstations

IDENTIFICATION AND SIZE	Division:	General Administration
	Capacity:	1 occupant/1 guest
	Proposed ASF:	110 sf
USE	Activities:	General office work
	Access:	1 full-time staff
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (office hours 8-5)
	Adjacencies:	Financial Services / Acquisitions
	Special Requirement:	n/a
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	Carpet tile
	Wall Finish:	Systems furniture
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	n/a
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Furniture distribution
	Shielding, Grounding:	TBD
	Network:	Cabled/wireless
MECHANICAL/ ELECTRICAL	Natural Lighting:	Preferred
	Artificial Lighting:	General ceiling lighting; task lighting at work surface
	HVAC Requirement:	Building standard
	Electrical:	Duplex outlets located at no more than 10' intervals per wall
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
Work surface	30"	19'
Chair		
Task		1
Guest		1
Lateral File		
2 Drawer/1 File	15"	1
2 Drawer	42"	1
Shelves	12"	10'

5.3.3A COLLECTIONS DEVELOPMENT
Staff Spaces - Meeting/Work Room

IDENTIFICATION AND SIZE	Division:	General Administration
	Capacity:	
	Proposed ASF:	240 sf
USE	Activities:	General office work
	Access:	Staff
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (office hours 8-5)
	Adjacencies:	Collections Development Staff
	Special Requirement:	n/a
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	Carpet tile
	Wall Finish:	Painted gyp. board
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	Sound isolation
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Wall/column outlets
	Shielding, Grounding:	TBD
	Network:	Cabled
MECHANICAL/ ELECTRICAL	Natural Lighting:	Not required
	Artificial Lighting:	General ceiling lighting
	HVAC Requirement:	Building standard
	Electrical:	Duplex outlets located at no more than 10' intervals per wall
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
Tables	3' x 6'	4
Guest Chairs		8
Base Cabinet	24"	6'
Wall Cabinet	12"	6'

5.3.3B COLLECTIONS DEVELOPMENT File/Copy

IDENTIFICATION AND SIZE	Division:	General Administration
	Capacity:	
	Proposed ASF:	100 sf
USE	Activities:	Staff support area containing supplies, shared copy machine, equipment (printers, scanners, etc.) and department files.
	Access:	Staff
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (office hours 8-5)
	Adjacencies:	Collections Development Staff
	Special Requirement:	n/a
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	Carpet tile
	Wall Finish:	Painted gyp. board
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	Sound isolation
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Wall/column outlets
	Shielding, Grounding:	TBD
	Network:	Cabled
MECHANICAL/ ELECTRICAL	Natural Lighting:	Preferred
	Artificial Lighting:	General ceiling lighting; task lighting at work surface
	HVAC Requirement:	Building standard
	Electrical:	Duplex outlets located at no more than 10' intervals per wall
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
Base Cabinet	24"	10'
Wall Cabinet	12"	10'
White Board	4' x 4'	1
Bulletin Board	3' x 4'	1
Lateral File		
4 drawer	42"	1

5.3.3C COLLECTIONS DEVELOPMENT Storage

IDENTIFICATION AND SIZE	Division:	General Administration
	Capacity:	
	Proposed ASF:	100 sf
USE	Activities:	Equipment and materials storage
	Access:	Staff
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (office hours 8-5)
	Adjacencies:	Collections Development Staff
	Special Requirement:	n/a
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	Carpet tile
	Wall Finish:	Painted gyp. board
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	n/a
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Wall/column outlets
	Shielding, Grounding:	TBD
	Network:	Cabled/wireless
MECHANICAL/ ELECTRICAL	Natural Lighting:	Not required
	Artificial Lighting:	General ceiling lighting
	HVAC Requirement:	Building standard
	Electrical:	Duplex outlets located at no more than 10' intervals per wall
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location

5.4.1 DEVELOPMENT
Office - Director

IDENTIFICATION AND SIZE	Division:	General Administration
	Capacity:	1 occupant/ 3 guests
	Proposed ASF:	160 sf
USE	Activities:	General office work
	Access:	1 full-time staff
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (office hours 8-5)
	Adjacencies:	Financial Services, Acquisitions
	Special Requirement:	n/a
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	Carpet tile
	Wall Finish:	Painted gyp. board; glazed sidelight or door
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	Sound isolation
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Wall/column outlets
	Shielding, Grounding:	TBD
	Network:	Cabled/wireless
MECHANICAL/ ELECTRICAL	Natural Lighting:	Preferred
	Artificial Lighting:	General ceiling lighting; task lighting at work surface
	HVAC Requirement:	Building standard
	Electrical:	Duplex outlets located at no more than 8' intervals per wall
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
Worksurface	30"	17'
Desk	60"	1
Conference Table	30" dia	1
Chair		
Task		1
Guest		3
Lateral File		
2 Drawer/1 File	15"	1
2 Drawer	42"	1
3 Drawer	42"	1
Shelving	12"	12'

5.4.2 DEVELOPMENT
Office – Development Specialist

IDENTIFICATION AND SIZE	Division:	General Administration
	Capacity:	1 occupant/ 1 guest
	Proposed ASF:	120 sf
USE	Activities:	General office work
	Access:	1 full-time staff
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (office hours 8-5)
	Adjacencies:	Development Office, Administration Director
	Special Requirement:	n/a
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	Carpet tile
	Wall Finish:	Painted gyp. board; glazed sidelight or door
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	Sound isolation
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Wall/column outlets
	Shielding, Grounding:	TBD
	Network:	Cabled/wireless
MECHANICAL/ ELECTRICAL	Natural Lighting:	Preferred
	Artificial Lighting:	General ceiling lighting
	HVAC Requirement:	Building standard
	Electrical:	Duplex outlets located at no more than 8' intervals per wall
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
Work surface	30"	19'
Chair		
Task		1
Guest		1
Lateral File		
2 Drawer/1 File	15"	1
2 Drawer	42"	1
Shelving	12"	10'

5.5.1A FINANCIAL MANAGEMENT
Offices – Head of Financial Management

IDENTIFICATION AND SIZE	Division:	General Administration
	Capacity:	1 occupant/3 guests
	Proposed ASF:	180 sf
USE	Activities:	General office work
	Access:	1 full-time staff
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (office hours 8-5)
	Adjacencies:	Administration Director
	Special Requirement:	n/a
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	Carpet tile
	Wall Finish:	Painted gyp. board; glazed sidelight or door
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	Sound isolation
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	n/a
	Wire Management:	Wall/column outlets
	Shielding, Grounding:	TBD
	Network:	Cabled (3 outlets at work surface)/wireless
MECHANICAL/ ELECTRICAL	Natural Lighting:	Preferred
	Artificial Lighting:	General ceiling lighting, task lighting at work surfaces
	HVAC Requirement:	Building standard
	Electrical:	Duplex outlets located at no more than 10' intervals per wall
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
Worksurface	30"	18'
Desk	30" x 60'	1
Conference table	30" dia.	1
Chair		
Task		1
Guest		3
Lateral File		
2 Drawer/1 File	15"	1
2 Drawer	42"	3
Shelving	12"	12'

5.5.1B FINANCIAL MANAGEMENT Offices

IDENTIFICATION AND SIZE	Division:	General Administration
	Capacity:	1 occupant/ 1 guest
	Proposed ASF:	120 sf
USE	Activities:	General office work
	Access:	1 full-time staff
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (office hours 8-5)
	Adjacencies:	Development Office, Administration Director
	Special Requirement:	n/a
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	Carpet tile
	Wall Finish:	Painted gyp. board; glazed sidelight or door
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	Sound isolation
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Wall/column outlets
	Shielding, Grounding:	TBD
	Network:	Cabled/wireless
MECHANICAL/ ELECTRICAL	Natural Lighting:	Preferred
	Artificial Lighting:	General ceiling lighting; task lighting at work surface
	HVAC Requirement:	Building standard
	Electrical:	Duplex outlets located at no more than 8' intervals per wall
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
Work surface	30"	19'
Chair		
Task		1
Guest		1
Lateral File		
2 Drawer/1 File	15"	1
2 Drawer	42"	1
Shelving	12"	10'

5.5.2A FINANCIAL MANAGEMENT
Staff Spaces – Safe Room

IDENTIFICATION AND SIZE	Division:	General Administration
	Capacity:	
	Proposed ASF:	80 sf
USE	Activities:	Secure Work Room for money handling, valuable assets storage and safes
	Access:	Limited access by Financial Management staff
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (office hours 8-5)
	Adjacencies:	Financial Management Head and Assoc. Accountant
	Special Requirement:	n/a
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	VCT
	Wall Finish:	Painted gyp. board (secure backing)
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	Sound isolation
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Wall/column outlets
	Shielding, Grounding:	TBD
	Network:	Cabled
MECHANICAL/ ELECTRICAL	Natural Lighting:	Preferred
	Artificial Lighting:	General ceiling lighting; task lighting at work surface
	HVAC Requirement:	Building standard
	Electrical:	Duplex outlets located at no more than 10' intervals per wall
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
Work surface	30"	8'
Chair – guest		1
Lateral file		
4 drawer	42"	1
Shelving	12"	8'

5.5.2B FINANCIAL MANAGEMENT
Staff Spaces – Meeting Room

IDENTIFICATION AND SIZE	Division:	General Administration
	Capacity:	8
	Proposed ASF:	240 sf
USE	Activities:	Meeting area
	Access:	Staff
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (office hours 8-5)
	Adjacencies:	Financial Management, Human Resources, Development
	Special Requirement:	Common area, not fully enclosed
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	Carpet tile
	Wall Finish:	Painted gyp. board; glazed sidelight or doors
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	Sound isolation
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Wall/column outlets
	Shielding, Grounding:	TBD
	Network:	Cabled
MECHANICAL/ ELECTRICAL	Natural Lighting:	Not required
	Artificial Lighting:	General ceiling lighting
	HVAC Requirement:	Building standard
	Electrical:	Duplex outlets on each wall
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS	Description	Size	Number/location
	Conference table		1
	Chairs		8

5.6.1A ACQUISITIONS
Office – CSO Coordinator Senior Specialist

IDENTIFICATION AND SIZE	Division:	General Administration
	Capacity:	1 occupant/ 3 guests
	Proposed ASF:	160 sf
USE	Activities:	General office work
	Access:	1 full-time staff
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (office hours 8-5)
	Adjacencies:	Acquisitions Staff Office and Staff Spaces, Cataloging, Serials, Collection Development and Financial Management Offices
	Special Requirement:	n/a
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	Carpet tile
	Wall Finish:	Painted gyp. board; glazed sidelight or door
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	Sound isolation
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Wall/column outlets
	Shielding, Grounding:	TBD
	Network:	Cabled / wireless
MECHANICAL/ ELECTRICAL	Natural Lighting:	Preferred
	Artificial Lighting:	General ceiling lighting; provide tasklighting at work surface
	HVAC Requirement:	Building standard
	Electrical:	Duplex outlets located at no more than 8' intervals per wall
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
Worksurface	30"	17'
Desk	60"	1
Conference Table	30" dia	1
Chair		
Task		1
Guest		3
Lateral File		
2 Drawer/1 File	15"	1
2 Drawer	42"	1
3 Drawer	42"	1
Shelving	12"	12'

5.6.1B ACQUISITIONS
Offices

IDENTIFICATION AND SIZE	Division:	General Administration
	Capacity:	1 occupant/ 1 guest
	Proposed ASF:	110 sf
USE	Activities:	General office work
	Access:	1 full-time staff
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (office hours 8-5)
	Adjacencies:	Acquisitions Staff Spaces
	Special Requirement:	n/a
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	Carpet tile
	Wall Finish:	Painted gyp. board; glazed sidelight or door
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	Sound isolation
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Wall/column outlets
	Shielding, Grounding:	TBD
	Network:	Cabled
MECHANICAL/ ELECTRICAL	Natural Lighting:	Preferred
	Artificial Lighting:	General ceiling lighting
	HVAC Requirement:	Building standard
	Electrical:	Duplex outlets located at no more than 10' intervals per wall
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
Worksurface	30"	16'
Desk (optional)	30" x 48'	1
Chair		
Task		1
Guest		1
Lateral File		
2 Drawer/1 File	15"	1
2 Drawer	42"	1

5.6.1C ACQUISITIONS
Part-Time Workstations

IDENTIFICATION AND SIZE	Division:	General Administration
	Capacity:	1
	Proposed ASF:	50 sf
USE	Activities:	General office work
	Access:	1 part-time staff
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (office hours 8-5)
	Adjacencies:	Offices and Staff Spaces
	Special Requirement:	n/a
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	Carpet tile
	Wall Finish:	Systems furniture
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	n/a
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Furniture distribution
	Shielding, Grounding:	TBD
	Network:	Cabled (furniture distribution)/wireless
MECHANICAL/ ELECTRICAL	Natural Lighting:	Preferred
	Artificial Lighting:	General ceiling lighting, task lighting at work surface
	HVAC Requirement:	Building standard
	Electrical:	Furniture distribution
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
Work Surface	30"	8'
Chairs		
Task		1
Lateral File		
2 Drawer/1 File	15"	1
2 drawer	42"	1
Shelves	12"	8'

5.6.2A ACQUISITIONS
Staff Spaces – File/Copy

IDENTIFICATION AND SIZE	Division:	General Administration
	Capacity:	
	Proposed ASF:	100 sf
USE	Activities:	Staff support area containing supplies, shared equipment (printers, scanners, copy machine, etc.) and departmental files.
	Access:	Accessed by staff
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (office hours 8-5)
	Adjacencies:	Acquisitions Offices, Storage
	Special Requirement:	Common area space, not fully enclosed
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	Carpet tile
	Wall Finish:	Painted gyp. board; glazed sidelight or doors
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	n/a
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Wall/column outlets
	Shielding, Grounding:	TBD
	Network:	Cabled
MECHANICAL/ ELECTRICAL	Natural Lighting:	Not required
	Artificial Lighting:	General ceiling lighting
	HVAC Requirement:	Building standard
	Electrical:	Duplex outlets located at no more than 10' intervals per wall
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
Base Cabinet	24"	10 lin. ft.
Wall Cabinet	12"	10 lin. ft.
White Board	4' x 4'	1
Bulletin Board	3' x 4'	1
Lateral File		
4 drawer	42"	1

5.6.2B ACQUISITIONS
Staff Spaces – Storage

IDENTIFICATION AND SIZE	Division:	General Administration
	Capacity:	
	Proposed ASF:	80 sf
USE	Activities:	Secure equipment and materials storage
	Access:	Accessed by staff
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (office hours 8-5)
	Adjacencies:	Acquisitions Staff Offices, File/Copy
	Special Requirement:	n/a
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	VCT
	Wall Finish:	Painted gyp. board
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	n/a
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Wall/column outlets
	Shielding, Grounding:	TBD
	Network:	n/a
MECHANICAL/ ELECTRICAL	Natural Lighting:	Not required
	Artificial Lighting:	General ceiling lighting
	HVAC Requirement:	Building standard
	Electrical:	Duplex outlets; sufficient distribution for vacuum cleaners and other incidental uses
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS	Description	Size	Number/location

5.7.1A HUMAN RESOURCES
Offices – Head of Human Resources

IDENTIFICATION AND SIZE	Division:	General Administration
	Capacity:	1 occupant/3 guests
	Proposed ASF:	180 sf
USE	Activities:	General office work
	Access:	1 full-time staff
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (office hours 8-5)
	Adjacencies:	Human Resources Offices & File Room, Administration
	Special Requirement:	n/a
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	Carpet tile
	Wall Finish:	Painted gyp. board; glazed sidelight or door
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	Sound isolation
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	n/a
	Wire Management:	Wall/column outlets
	Shielding, Grounding:	TBD
	Network:	Cabled (3 outlets at work surface)/wireless
MECHANICAL/ ELECTRICAL	Natural Lighting:	Preferred
	Artificial Lighting:	General ceiling lighting, task lighting at work surfaces
	HVAC Requirement:	Building standard
	Electrical:	Duplex outlets located at no more than 10' intervals per wall
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
Worksurface	30"	18'
Desk	30" x 60'	1
Conference table	30" dia.	1
Chair		
Task		1
Guest		3
Lateral File		
2 Drawer/1 File	15"	1
2 Drawer	42"	3
Shelving	12"	12'

5.7.1B HUMAN RESOURCES
Offices

IDENTIFICATION AND SIZE	Division:	General Administration
	Capacity:	1 occupant/ 1 guest
	Proposed ASF:	120 sf
USE	Activities:	General office work
	Access:	1 full-time staff
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (office hours 8-5)
	Adjacencies:	Development Office, Administration Director
	Special Requirement:	n/a
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	Carpet tile
	Wall Finish:	Painted gyp. board; glazed sidelight or door
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	Sound isolation
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Wall/column outlets
	Shielding, Grounding:	TBD
	Network:	Cabled/wireless
MECHANICAL/ ELECTRICAL	Natural Lighting:	Preferred
	Artificial Lighting:	General ceiling lighting
	HVAC Requirement:	Building standard
	Electrical:	Duplex outlets located at no more than 8' intervals per wall
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
Work surface	30"	19'
Chair		
Task		1
Guest		1
Lateral File		
2 Drawer/1 File	15"	1
2 Drawer	42"	1
Shelving	12"	10'

5.7.1C HUMAN RESOURCES
Office – Protection Services

IDENTIFICATION AND SIZE	Division:	General Administration
	Capacity:	1
	Proposed ASF:	100 sf
USE	Activities:	General office work
	Access:	1 full-time staff
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (office hours 8-5)
	Adjacencies:	Human Resources Head
	Special Requirement:	n/a
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	Carpet tile
	Wall Finish:	Systems furniture
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	n/a
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Furniture distribution
	Shielding, Grounding:	TBD
	Network:	Cabled (furniture distribution)/wireless
MECHANICAL/ ELECTRICAL	Natural Lighting:	Not required
	Artificial Lighting:	General ceiling lighting; task lighting at work surface
	HVAC Requirement:	Building standard
	Electrical:	Duplex outlets located at no more than 10' intervals per wall
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
Worksurface	30"	12'
Chair		
Task		1
Guest		1
Lateral File		
2 Drawer/1 File	15"	1
2 Drawer	42"	2

5.7.2 HUMAN RESOURCES
Staff Spaces – File Room

IDENTIFICATION AND SIZE	Division:	General Administration
	Capacity:	
	Proposed ASF:	140 sf
USE	Activities:	Secure file storage
	Access:	Staff
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (office hours 8-5)
	Adjacencies:	Human Resources Staff
	Special Requirement:	n/a
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	Carpet tile
	Wall Finish:	Painted gyp. board
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	n/a
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Wall/column outlets
	Shielding, Grounding:	TBD
	Network:	Cabled/wireless
MECHANICAL/ ELECTRICAL	Natural Lighting:	Not required
	Artificial Lighting:	General ceiling lighting
	HVAC Requirement:	Building standard
	Electrical:	Duplex outlets located at no more than 10' intervals per wall
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
Table	30"x60"	1
Lateral File		
4 Drawer	42"	8

5.8.1A COMMON AREA File/Copy

IDENTIFICATION AND SIZE	Division:	General Administration
	Capacity:	
	Proposed ASF:	200 sf
USE	Activities:	Staff support area containing supplies, shared copy machine, equipment (printers, scanners, etc.),departmental files and catering staging area.
	Access:	Staff
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (office hours 8-5)
	Adjacencies:	
	Special Requirement:	n/a
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	Carpet tile
	Wall Finish:	Painted gyp. board
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	Sound isolation
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Wall/column outlets
	Shielding, Grounding:	TBD
	Network:	Cabled/wireless
MECHANICAL/ ELECTRICAL	Natural Lighting:	Not required
	Artificial Lighting:	General ceiling lighting
	HVAC Requirement:	Building standard
	Electrical:	Duplex outlets located at no more than 6' intervals per wall
	Security:	General
	Fire Protection:	General
	Plumbing:	?

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
Table	3' x 6'	1
Chair – guest		6
Lateral files		
4 Drawer	42"	2
Base cabinet	24"	12'
Wall cabinet	12"	12'
Cupboard	24" x 36" (72"h)	1

5.8.1B COMMON AREA
Storage

IDENTIFICATION AND SIZE	Division:	General Administration
	Capacity:	
	Proposed ASF:	100 sf
USE	Activities:	Secure equipment and materials storage
	Access:	Accessed by staff
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (office hours 8-5)
	Adjacencies:	Administration
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	VCT
	Wall Finish:	Painted gyp. board
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	n/a
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Wall/column outlets
	Shielding, Grounding:	TBD
	Network:	n/a
MECHANICAL/ ELECTRICAL	Natural Lighting:	Not required
	Artificial Lighting:	General ceiling lighting
	HVAC Requirement:	Building standard
	Electrical:	Duplex outlets; sufficient distribution for vacuum cleaners and other incidental uses
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS	Description	Size	Number/location

5.8.1C COMMON AREA
Conference Room

IDENTIFICATION AND SIZE	Division:	General Administration
	Capacity:	
	Proposed ASF:	700 sf
USE	Activities:	Conference room with room for catering service, presentations and teleconferencing.
	Access:	Accessed by staff
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (office hours 8-5)
	Adjacencies:	Administration
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	Carpet tile
	Wall Finish:	Painted gyp. board
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	n/a
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	Overhead projector, projection screen
	Wire Management:	Wall/column outlets
	Shielding, Grounding:	TBD
	Network:	Cabled/wireless
MECHANICAL/ ELECTRICAL	Natural Lighting:	Not required
	Artificial Lighting:	General ceiling lighting, presentation lighting at table and service area
	HVAC Requirement:	Building standard
	Electrical:	Duplex outlets; sufficient distribution for vacuum cleaners and other incidental uses
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
Conference table	existing	
Chairs, guest		16
Sideboard	2' x 8'	1
Projection Screen		
White board		
Bulletin board		

6.1 MAILING (No Change)

IDENTIFICATION AND SIZE	Division:	Support
	Capacity:	
	Proposed ASF:	760 sf
USE	Activities:	
	Access:	
	Frequency/Hours:	
	Adjacencies:	
	Special Requirement:	
CHARACTERISTICS	Ceiling Height:	
	Floor Finish:	
	Wall Finish:	
	Ceiling Treatment:	
	Acoustic Treatment:	
	Special Requirement:	
TECHNOLOGY	A.V. Requirement:	
	Wire Management:	
	Shielding, Grounding:	
	Network:	
MECHANICAL/ ELECTRICAL	Natural Lighting:	
	Artificial Lighting:	
	HVAC Requirement:	
	Electrical:	
	Security:	
	Fire Protection:	
	Plumbing:	

EQUIPMENT AND FURNISHINGS	Description	Size	Number/location

6.2 SUPPLY (existing)

IDENTIFICATION AND SIZE	Division:	Support
	Capacity:	
	Proposed ASF:	2,760 sf *Temporary Off-loading, 600 sf* *Buyer II Office, 160 sf* *Supply Assistant, 100 sf* *Purchasing, 1,000 sf* *Back storage Area, 900 sf*
USE	Activities:	Acquisition and storage of materials for the library
	Access:	Supply Staff
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (office hours 8-5)
	Adjacencies:	Information Technologies Staff
	Special Requirement:	n/a
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	VCT
	Wall Finish:	Painted gyp. board
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	Sound isolation
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Wall/column outlets
	Shielding, Grounding:	TBD
	Network:	Cabled
MECHANICAL/ ELECTRICAL	Natural Lighting:	Not Required
	Artificial Lighting:	General ceiling lighting
	HVAC Requirement:	Building standard
	Electrical:	Duplex outlets located at no more than 10' intervals per wall
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS	Description	Size	Number/location

6.3 BUILDING MANAGEMENT

IDENTIFICATION AND SIZE	Division:	Support
	Capacity:	
	Proposed ASF:	940 sf *Carpenter Workshop, 520 sf* *Building Operator, 140 sf* *Facilities Coordinator, 140 sf* *Computer Technician Shop, 140 sf*
USE	Activities:	
	Access:	Building Management Staff
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (office hours 8-5)
	Adjacencies:	
	Special Requirement:	n/a
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	VCT typ.; sealed concrete at Carpenter's Workshop
	Wall Finish:	Painted gyp. board
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	Sound isolation
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Wall/column outlets
	Shielding, Grounding:	TBD
	Network:	Cabled
MECHANICAL/ ELECTRICAL	Natural Lighting:	Not required
	Artificial Lighting:	General ceiling lighting
	HVAC Requirement:	Building standard
	Electrical:	Heavy electrical power demands @ carpenter workshop for power tool equipment; duplex outlets located at no more than 10' intervals per wall
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS	Description	Size	Number/location

6.3 BUILDING MANAGEMENT
Facilities Storage

IDENTIFICATION AND SIZE	Division:	Support
	Capacity:	
	Proposed ASF:	600 sf
USE	Activities:	Storage of excess materials, including furniture, partitions and systems furniture
	Access:	Building Management Staff
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (office hours 8-5)
	Adjacencies:	Not on Level 1
	Special Requirement:	n/a
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	Sealed concrete
	Wall Finish:	Painted gyp. board
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	Sound isolation
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Wall/column outlets
	Shielding, Grounding:	TBD
	Network:	Cabled
MECHANICAL/ ELECTRICAL	Natural Lighting:	Not required
	Artificial Lighting:	General ceiling lighting
	HVAC Requirement:	Building standard
	Electrical:	Duplex outlets; sufficient distribution for vacuum cleaners and other incidental uses
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS	Description	Size	Number/location

6.4.1A RESHELVING
Office – Head of Reshelving

IDENTIFICATION AND SIZE	Division:	Support
	Capacity:	1 occupant/ 3 guests
	Proposed ASF:	160 sf
USE	Activities:	General office work
	Access:	1 full-time staff
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (office hours 8-5)
	Adjacencies:	Monographic Cataloging Staff Spaces
	Special Requirement:	n/a
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	Carpet tile
	Wall Finish:	Painted gyp. board; glazed sidelight or door
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	Sound isolation
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Wall/column outlets
	Shielding, Grounding:	TBD
	Network:	Cabled/wireless
MECHANICAL/ ELECTRICAL	Natural Lighting:	Preferred
	Artificial Lighting:	General ceiling lighting; task lighting at work surface
	HVAC Requirement:	Building standard
	Electrical:	Duplex outlets located at no more than 10' intervals per wall
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
Worksurface	30"	17'
Desk	60"	1
Conference Table	30" dia	1
Chair		
Task		1
Guest		3
Lateral File		
2 Drawer/1 File	15"	1
2 Drawer	42"	1
3 Drawer	42"	1
Shelving	12"	12'

6.4.1B RESHELVING
Offices

IDENTIFICATION AND SIZE	Division:	Support
	Capacity:	1 occupant/ 1 guest
	Proposed ASF:	120 sf
USE	Activities:	General office work
	Access:	1 full-time staff.
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (office hours 8-5)
	Adjacencies:	Reshelving Offices, Staff Spaces and Stacks
	Special Requirement:	n/a
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	Carpet tile
	Wall Finish:	Systems furniture
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	n/a
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Furniture distribution
	Shielding, Grounding:	TBD
	Network:	Cabled (furniture distribution)/wireless
MECHANICAL/ ELECTRICAL	Natural Lighting:	Not required
	Artificial Lighting:	General ceiling lighting; task lighting at work surface
	HVAC Requirement:	Building standard
	Electrical:	Duplex outlets located at no more than 8' intervals per wall
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
Work surface	30"	16'
Desk (optional)	30" x 48'	1
Chair		
Task		1
Guest		1
Lateral File		
2 Drawer/1 File	15"	1
2 Drawer	42"	1

6.4.2A RESHELVING
Storage

IDENTIFICATION AND SIZE	Division:	Support
	Capacity:	1 occupant/ 3 guests
	Proposed ASF:	200 sf
USE	Activities:	Equipment and materials storage
	Access:	Staff
	Frequency/Hours:	Occupied during all hours the library is open.
	Adjacencies:	Freight elevator, Reshelving Offices and Staff Spaces
	Special Requirement:	n/a
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	VCT
	Wall Finish:	Painted gyp. board
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	n/a
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Wall/column outlets
	Shielding, Grounding:	TBD
	Network:	Cabled/wireless
MECHANICAL/ ELECTRICAL	Natural Lighting:	Not required
	Artificial Lighting:	General ceiling lighting; task lighting at work surface
	HVAC Requirement:	Building standard
	Electrical:	Duplex outlets located at no more than 8' intervals per wall
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
Worksurface	30"	18"
Desk	60"	1
Conference Table	30" dia	1
Chair		
Task		1
Guest		3
Lateral File		
2 Drawer/1 File	15"	1
2 Drawer	42"	1
3 Drawer	42"	1
Shelving	12"	12'

6.4.2B RESHELVING
Part-time Staff Area

IDENTIFICATION AND SIZE	Division:	Support
	Capacity:	
	Proposed ASF:	240 sf
USE	Activities:	Lockers and break area for part-time staff
	Access:	Staff
	Frequency/Hours:	Occupied during all hours the library is open.
	Adjacencies:	Reshelving Stacks
	Special Requirement:	Common area, not fully enclosed
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	VCT
	Wall Finish:	Painted gyp. board
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	Sound isolation
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Wall/column outlets
	Shielding, Grounding:	TBD
	Network:	Cabled/wireless
MECHANICAL/ ELECTRICAL	Natural Lighting:	Not required
	Artificial Lighting:	General ceiling lighting; task lighting at work surfaces
	HVAC Requirement:	Building standard
	Electrical:	Duplex outlets located at no more than 10' intervals per wall
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location

6.4.3 RESHELVING
Stacks

IDENTIFICATION AND SIZE	Division:	Support
	Capacity:	
	Proposed ASF:	1,294 sf
USE	Activities:	Open space for check-in, returned book sorting and loading on carts
	Access:	Staff
	Frequency/Hours:	Occupied during all hours the library is open.
	Adjacencies:	Freight elevator, Reshelving Offices and Staff Spaces
	Special Requirement:	n/a
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	VCT
	Wall Finish:	Painted gyp. board
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	Sound isolation
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Wall/column outlets
	Shielding, Grounding:	TBD
	Network:	Cabled/wireless
MECHANICAL/ ELECTRICAL	Natural Lighting:	Not required
	Artificial Lighting:	General ceiling lighting; task lighting at work surfaces
	HVAC Requirement:	Building standard
	Electrical:	Duplex outlets located at no more than 10' intervals per wall
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS	Description	Size	Number/location

6.5 STAFF AREAS
Lounge

IDENTIFICATION AND SIZE	Division:	Support
	Capacity:	30-50
	Proposed ASF:	800 sf
USE	Activities:	Area for staff breaks, meals, recreation, storage of personal items and informal meetings
	Access:	Administration Staff
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (office hours 8-5)
	Adjacencies:	Staff Areas: Kitchen and Lockers
	Special Requirement:	n/a
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	Ceramic tile
	Wall Finish:	Painted gyp. board
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	Sound isolation
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Wall/column outlets
	Shielding, Grounding:	TBD
	Network:	Cabled/wireless
MECHANICAL/ ELECTRICAL	Natural Lighting:	Preferred
	Artificial Lighting:	General ceiling lighting
	HVAC Requirement:	Building standard
	Electrical:	Duplex outlets located at no more than 10' intervals per wall
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
Table	42" dia	10
Chairs		40

6.5 STAFF AREAS
Kitchen

IDENTIFICATION AND SIZE	Division:	Support
	Capacity:	
	Proposed ASF:	140 sf
USE	Activities:	Area meal preparation, vending and dishwashing
	Access:	Administration Staff
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (office hours 8-5)
	Adjacencies:	Staff Areas: Lounge and Lockers
	Special Requirement:	n/a
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	Ceramic tile
	Wall Finish:	Painted gyp. board
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	Sound isolation
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Wall/column outlets
	Shielding, Grounding:	TBD
	Network:	Cabled
MECHANICAL/ ELECTRICAL	Natural Lighting:	Preferred
	Artificial Lighting:	General ceiling lighting
	HVAC Requirement:	Building standard
	Electrical:	Duplex outlets located at no more than 10' intervals per wall
	Security:	General
	Fire Protection:	General
	Plumbing:	sink in counter top, hot and cold water

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
Base cabinet	24"	10'
Wall cabinet	12"	10'
Full-size refrigerator		1

6.5 STAFF AREAS
Lockers

IDENTIFICATION AND SIZE	Division:	Support
	Capacity:	
	Proposed ASF:	60 sf
USE	Activities:	Area for staff breaks, meals, recreation, storage of personal items and informal meetings
	Access:	Administration Staff
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (office hours 8-5)
	Adjacencies:	Staff Areas: Lounge and Kitchen
	Special Requirement:	n/a
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	Ceramic tile
	Wall Finish:	Painted gyp. board
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	Sound isolation
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Wall/column outlets
	Shielding, Grounding:	TBD
	Network:	Cabled
MECHANICAL/ ELECTRICAL	Natural Lighting:	Preferred
	Artificial Lighting:	General ceiling lighting
	HVAC Requirement:	Building standard
	Electrical:	Duplex outlets located at no more than 10' intervals per wall
	Security:	General
	Fire Protection:	General
	Plumbing:	Kitchenette: sink in counter top, hot and cold water

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
Lockers with integral bench		(40) 12"x36" lockers min.

6.6.1 CUSTODIAL
Offices (existing)

IDENTIFICATION AND SIZE	Division:	Support
	Capacity:	
	Proposed ASF:	
USE	Activities:	
	Access:	Custodial Staff
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (office hours 8-5)
	Adjacencies:	
	Special Requirement:	n/a
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	Carpet tile
	Wall Finish:	Painted gyp. board
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	Sound isolation
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Wall/column outlets
	Shielding, Grounding:	TBD
	Network:	Cabled
MECHANICAL/ ELECTRICAL	Natural Lighting:	Not required
	Artificial Lighting:	General ceiling lighting
	HVAC Requirement:	Air-conditioned
	Electrical:	Duplex outlets located at no more than 10' intervals per wall
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS	Description	Size	Number/location

6.6.2 CUSTODIAL
Custodian Work Rooms

IDENTIFICATION AND SIZE	Division:	Support
	Capacity:	
	Proposed ASF:	105 sf
USE	Activities:	Staging and supply for custodial staff on each level
	Access:	Custodial Staff
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (office hours 8-5)
	Adjacencies:	Restroom core
	Special Requirement:	n/a
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	Sealed concrete
	Wall Finish:	Painted gyp. board
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	n/a
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	n/a
	Wire Management:	n/a
	Shielding, Grounding:	TBD
	Network:	n/a
MECHANICAL/ ELECTRICAL	Natural Lighting:	Not required
	Artificial Lighting:	General ceiling lighting
	HVAC Requirement:	Building standard
	Electrical:	Duplex outlets located at no more than 10' intervals per wall
	Security:	General
	Fire Protection:	General
	Plumbing:	Mop sink, hot and cold water

EQUIPMENT AND FURNISHINGS

Description	Size	Number/location
Shelving		2 SFS

6.6.3 CUSTODIAL
Storage (existing)

IDENTIFICATION AND SIZE	Division:	Support
	Capacity:	
	Proposed ASF:	600 asf
USE	Activities:	
	Access:	Custodial Staff
	Frequency/Hours:	Typically Mon-Fri 7am to 9pm (office hours 8-5)
	Adjacencies:	
	Special Requirement:	n/a
CHARACTERISTICS	Ceiling Height:	Per existing building; 9'-0" minimum.
	Floor Finish:	Carpet tile
	Wall Finish:	Painted gyp. board
	Ceiling Treatment:	Acoustic ceiling tile
	Acoustic Treatment:	Sound isolation
	Special Requirement:	n/a
TECHNOLOGY	A.V. Requirement:	TBD
	Wire Management:	Wall/column outlets
	Shielding, Grounding:	TBD
	Network:	Cabled
MECHANICAL/ ELECTRICAL	Natural Lighting:	Not required
	Artificial Lighting:	General ceiling lighting
	HVAC Requirement:	Air-conditioned
	Electrical:	Duplex outlets located at no more than 10' intervals per wall
	Security:	General
	Fire Protection:	General
	Plumbing:	n/a

EQUIPMENT AND FURNISHINGS	Description	Size	Number/location

6

Project Cost Summary

UNIVERSITY OF UTAH
MARRIOTT LIBRARY
RENOVATION OF THE ORIGINAL BUILDING

Program Cost Estimate
June 13, 2002

S U M M A R Y

SECTION	QUANTITY	UNIT	UNIT COST	COST
CONSTRUCTION COSTS				
Building And Site	302,000	SF	124.67	$37,651,840
Hazardous Material Removal	1	LS	600,000	$600,000
				$38,251,840
FURNISHINGS AND EQUIPMENT				
Compact Shelving				
1996 Building Addition	1	LS	2,500,000	$2,500,000
Original Building	1	LS	900,000	$900,000
Furnishings				
New	210,000	SF	20.00	$4,200,000
Refurbish Existing	100,000	SF	5.00	$500,000
1996 Building Addition - Systems Furniture (Government Documents & Special Collections)	4,120	SF	20.00	$82,400
				$8,182,400
EEC Classrooms / Computer Center Relocation	1	LS	1,000,000	$1,000,000
Data Cabling / Connections - 1,000 Each	1	LS	300,000	$300,000
DESIGN COSTS				
Architectural / Engineering Fees	9.5%	of	Construction	$3,633,925
FF&E Fee	10.0%	of	Furnishings	$818,240
				$4,452,165
MOVING				
Move from 1967 Building	302,000	SF	2.00	$604,000
Move into 1967 Building	302,000	SF	2.00	$604,000
Move from 1996 Building	56,000	SF	2.00	$112,000
				$1,320,000
OTHER COSTS				
Public Arts	1.0%	of	Construction	$382,518
Survey / Environmental Testing	1	LS	12,000	$12,000
Soils / Geotechnical Testing	1	LS	10,000	$10,000
Material Testing	1	LS	140,000	$140,000
Certified Inspections	1	LS	200,000	$200,000
Commissioning	1	LS	100,000	$100,000
Signage, Lock Cylinders, Parking, Etc	1	LS	150,000	$150,000
Insurance	0.15%	of	Construction	$57,378
Legal Services	0.2%	of	Construction	$76,504
Value Management	1	LS	35,000	$35,000
CAD Services	1	LS	35,000	$35,000
				$1,198,400
CONTINGENCY				
Project Contingency	6.0%	of	Construction	$2,295,110
TOTAL (PROJECT)				$56,999,915

STATE FUNDING

UNIVERSITY OF UTAH
MARRIOTT LIBRARY
RENOVATION OF THE ORIGINAL BUILDING

Program Cost Estimate
June 13, 2002

SECTION	QUANTITY	UNIT	UNIT COS	COST
SUMMARY				
ARCHITECTURAL	302,000	GSF	39.88	**$12,044,500**
STRUCTURAL	302,000	GSF	25.25	**$7,624,495**
MECHANICAL	302,000	GSF	30.57	**$9,231,103**
ELECTRICAL	302,000	GSF	22.52	**$6,801,766**
1996 BUILDING MODIFICATIONS				**$1,397,334**
SITE MODIFICATIONS				**$552,642**
TOTAL	**302,000**	**GSF**	**124.67**	**$37,651,840**

NOTES: Costs are for Construction only.
Costs are based on a Competitive Bid Basis.
Costs are based on a Construction Start of April 2004.

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RENOVATION OF THE ORIGINAL BUILDING

Program Cost Estimate
June 13, 2002

SECTION	QUANTITY	UNIT	UNIT COST	COST
ARCHITECTURAL				
DEMOLITION				
Selective Building Demolition	302,000	SF	1.50	$453,000
			1.50	**$453,000**
ROOF				
New Roofing System (Main & Loading Dock)	13,500	SF	10.00	$135,000
Existing Skylights - No Work Required				$0
			0.45	**$135,000**
EXTERIOR WALLS				
New GFRC Panels at Unbonded Brace Areas	10,000	SF	85.00	$850,000
Repair Stone Railings at Level 2 & 3	2,080	LF	200.00	$416,000
Power Wash Building Exterior	67,600	SF	1.50	$101,400
Recaulk and Repair Building Exterior (Including Windows)	67,600	SF	4.00	$270,400
			5.42	**$1,637,800**
INTERIOR WALLS				
New Metal Stud and Gyp Board Walls	181,200	SF	5.00	$906,000
Glass Partitions	5,000	SF	45.00	$225,000
New Shaft / Vault Walls (Special Collection)	27,800	SF	10.00	$278,000
			4.67	**$1,409,000**
DOORS AND WINDOWS				
New Exterior Entry Doors	36	LEAF	2,000	$72,000
New Interior Man Doors	340	LEAF	900.00	$306,000
			1.25	**$378,000**

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SECTION		QUANTITY	UNIT	UNIT COST	COST
ARCHITECTURAL					
FINISHES					
New Floor Finishes		302,000	SF	4.50	$1,359,000
New Wall Finishes		390,200	SF	2.50	$975,500
New Ceiling Finishes		302,000	SF	3.00	$906,000
Finishes Upgrade (Terrazzo, Wood, Etc.)		302,000	SF	3.00	$906,000
Patch and Repair		302,000	SF	1.00	$302,000
				14.73	**$4,448,500**
SPECIALTIES					
New Elevators		3	EA	150,000	$450,000
New Millwork / Casework		1,800	LF	350.00	$630,000
New Railings, Acoustic Panels, Misc Specialties, Etc.		302,000	SF	2.00	$604,000
				5.58	**$1,684,000**
SUB TOTAL - Architectural				**33.59**	**$10,145,300**
GENERAL CONDITIONS	**6.0%**				**$608,718**
BONDING	**1.0%**				**$101,453**
OVERHEAD & PROFIT	**5.0%**				**$507,265**
SUB TOTAL - Architectural		**302,000**	**GSF**	**37.62**	**$11,362,736**
INFLATION TO BID DATE (April 2004)	**6.0%**				**$681,764**
TOTAL - Architectural		**302,000**	**GSF**	**39.88**	**$12,044,500**

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MARRIOTT LIBRARY
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SECTION	QUANTITY	UNIT	UNIT COST	COST
STRUCTURAL				
DEMOLITION				
Selective Building Demolition	302,000	SF	1.50	$453,000
			1.50	**$453,000**
FOUNDATION				
Helical Piers	352	EA	2,500	$880,000
Concrete Footings / Tie Beams	2,190	CY	375.00	$821,250
Epoxy Dowels	3,300	EA	75.00	$247,500
Excavation and Backfill (Footings / Tie Beams)	4,380	CY	60.00	$262,800
			7.32	**$2,211,550**
FLOORS				
Concrete Slab on Grade (For Foundation Work)	33,800	SF	6.50	$219,700
Steel Frame Extension (For Unbonded Braced Frames)	10,800	SF	20.00	$216,000
			1.44	**$435,700**
COLUMNS				
Seismic Upgrade to Existing Steel Columns (Concrete Filled Steel Columns with Capitals)	5,700	LF	110.00	$627,000
			2.08	**$627,000**
ROOF				
Loading Dock Roof Deck (Structural Repairs)	1	LS	50,000	$50,000
			0.17	**$50,000**

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SECTION		QUANTITY	UNIT	UNIT COST	COST
STRUCTURAL					
EXTERIOR WALL					
Unbonded Braced Frames		160	EA	5,200	$832,000
Steel Columns (For Unbonded Braced Frames)		365	TON	3,000	$1,095,000
Brace Existing Precast Wall Panels		4,160	LF	100.00	$416,000
				7.76	**$2,343,000**
MISCELLANEOUS					
Brace Secondary Items (Existing Equipment, Walls, Etc.)		302,000	SF	1.00	$302,000
				1.00	**$302,000**
SUB TOTAL - Structural				**21.27**	**$6,422,250**
GENERAL CONDITIONS	**6.0%**				**$385,335**
BONDING	**1.0%**				**$64,223**
OVERHEAD & PROFIT	**5.0%**				**$321,113**
SUB TOTAL - Structural		**302,000**	**GSF**	**23.82**	**$7,192,920**
INFLATION TO BID DATE (April 2004)	**6.0%**				**$431,575**
TOTAL - Structural		**302,000**	**GSF**	**25.25**	**$7,624,495**

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SECTION		QUANTITY	UNIT	UNIT COST	COST
MECHANICAL					
PLUMBING					
Remove Plumbing System		302,000	SF	0.25	$75,500
New Plumbing Fixtures & Piping		105	EA	2,200	$231,000
New Roof Drain System (Overflow)		72,900	SF	1.25	$91,125
				1.32	**$397,625**
HVAC					
Remove HVAC System		302,000	SF	1.00	$302,000
Modify Air-Handling Units at Roof		8	EA	35,000	$280,000
Add Smoke Control System		170,000	CFM	1.75	$297,500
Add Perimeter Radiant Heating		4,320	LF	110.00	$475,200
New HVAC System at Rare Books Vault		3,000	SF	35.00	$105,000
New HVAC Distribution Equipment		302,000	SF	4.00	$1,208,000
New Ductwork & Insulation		302,000	SF	6.00	$1,812,000
New Grilles, Registers & Diffusers		302,000	SF	2.00	$604,000
New HVAC Piping System		302,000	SF	2.00	$604,000
New HVAC Control System		302,000	SF	3.50	$1,057,000
HVAC Test & Balance		302,000	SF	0.35	$105,700
				22.68	**$6,850,400**
FIRE PROTECTION					
Modify Fire Sprinkler System		302,000	SF	1.25	$377,500
Gaseous Suppression System at Rare Books Vault and Computer Room Servers		6,000	SF	25.00	$150,000
				1.75	**$527,500**
SUB TOTAL - Mechanical		**302,000**	**GSF**	**25.75**	**$7,775,525**
GENERAL CONDITIONS	**6.0%**				**$466,532**
BONDING	**1.0%**				**$77,755**
OVERHEAD & PROFIT	**5.0%**				**$388,776**
SUB TOTAL - Mechanical		**302,000**	**GSF**	**28.84**	**$8,708,588**
INFLATION TO BID DATE (April 2004)	**6.0%**				**$522,515**
TOTAL - Mechanical		**302,000**	**GSF**	**30.57**	**$9,231,103**

STATE FUNDING
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MARRIOTT LIBRARY
RENOVATION OF THE ORIGINAL BUILDING

Program Cost Estimate
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SECTION		QUANTITY	UNIT	UNIT COST	COST
ELECTRICAL					
ELECTRICAL					
Remove Electrical System		302,000	SF	1.25	$377,500
New Light Fixtures		4,550	EA	315.00	$1,433,250
New Devices (Outlets & Switches)		4,200	EA	90.00	$378,000
New Equipment (Panels & Transformers)		302,000	SF	2.00	$604,000
New Emergency Generators		2	EA	135,000	$270,000
New Feeder & Branch Circuitry		302,000	SF	4.50	$1,359,000
New Fire Alarm System		302,000	SF	1.25	$377,500
New Telecommunications Conduit Raceway		302,000	SF	0.50	$151,000
New Special Systems Conduit Raceway (Future)		302,000	SF	2.00	$604,000
New UPS		1	SUM	175,000	$175,000
				18.97	**$5,729,250**
SUB TOTAL - Electrical				**18.97**	**$5,729,250**
GENERAL CONDITIONS	**6.0%**				**$343,755**
BONDING	**1.0%**				**$57,293**
OVERHEAD & PROFIT	**5.0%**				**$286,463**
SUB TOTAL - Electrical		**302,000**	**GSF**	**21.25**	**$6,416,760**
INFLATION TO BID DATE (April 2004)	**6.0%**				**$385,006**
TOTAL - Electrical		**302,000**	**GSF**	**22.52**	**$6,801,766**

PRIVATE FUNDING

UNIVERSITY OF UTAH
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RENOVATION OF THE ORIGINAL BUILDING

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SECTION		QUANTITY	UNIT	UNIT COST	COST
1996 BUILDING MODIFICATIONS					
MODIFICATIONS					
Reconfigure Entry Doors & Glazing		1	LS	35,000	$35,000
Reconfigure Service Counters		1	LS	50,000	$50,000
Add New Stair		1	LS	250,000	$250,000
Add New Carpet		56,000	SF	3.50	$196,000
Patch & Repair Finishes		1	LS	50,000	$50,000
Rework Electrical		1	LS	50,000	$50,000
EEC Classrooms		7,000	SF	60.00	$420,000
Convert Reserves to Café		1,400	SF	90.00	$126,000
					$1,177,000
SUB TOTAL - 1996 Building Modifications					**$1,177,000**
GENERAL CONDITIONS	**6.0%**				**$70,620**
BONDING	**1.0%**				**$11,770**
OVERHEAD & PROFIT	**5.0%**				**$58,850**
SUB TOTAL - 1996 Building Modifications					**$1,318,240**
INFLATION TO BID DATE (April 2004)	**6.0%**				**$79,094**
TOTAL - 1996 Building Modifications					**$1,397,334**

STATE FUNDING

UNIVERSITY OF UTAH
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RENOVATION OF THE ORIGINAL BUILDING

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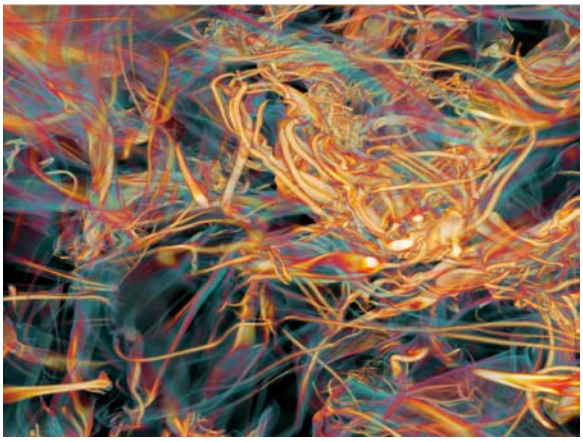
SECTION		QUANTITY	UNIT	UNIT COST	COST
SITE					
MODIFICATIONS					
Entry Stair (West Side)		4,300	SF	85.00	$365,500
Misc Site Modifications		1	LS	100,000	$100,000
					$465,500
SUB TOTAL - Site Modifications					**$465,500**
GENERAL CONDITIONS	**6.0%**				**$27,930**
BONDING	**1.0%**				**$4,655**
OVERHEAD & PROFIT	**5.0%**				**$23,275**
SUB TOTAL - Site Modifications					**$521,360**
INFLATION TO BID DATE (April 2004)	**6.0%**				**$31,282**
TOTAL - Site Modifications					**$552,642**



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Appendix

7.1 STRUCTURAL / SEISMIC SYSTEMS

A. SURVEY SUMMARY

In recent years the awareness of the potential of earthquakes along the Wasatch Front has been heightened. Recent discoveries along with geotechnical and geoseismic investigations have revealed that major earthquakes occur along the Wasatch Front on a regular geologic basis. Since many of the buildings within the inventory of those found along the Wasatch Front were built at a time when knowledge of the region's seismicity was virtually non-existent, these buildings are particularly vulnerable in terms of potential damage due to seismic motion. The University of Utah's original Marriott Library Building is no exception. Also, in recent decades innovative changes have been incorporated into building codes to deal with the seismic issue. Buildings designed prior to these innovations simply do not have the inherent characteristics that enable them to perform adequately during a significant earthquake. Despite the knowledge of seismic potential (or lack thereof) many older buildings are vulnerable to seismic damage simply because they were designed and built without the benefit of modern standards and code criteria. For these reasons, the Marriott Library is deemed vulnerable to seismic damage and should be considered as a candidate for seismic upgrade.

OBJECTIVES AND SCOPE

The purpose of this report is to present the findings of the seismic evaluation of the original Marriott Library building and to propose retrofit methods that will improve the expected seismic performance of the building. The seismic evaluation and analysis of the structure is based on the latest codes and standards for seismic rehabilitation that have been released by governing authorities. Among these are the "Handbook for the Seismic Evaluation of Buildings – A Prestandard", also referred to as FEMA 310 and "Prestandard and Commentary for the Seismic Rehabilitation of Buildings", also referred to as FEMA 356.

As part of the renovation of the building, it is also desired to make improvements that will increase the flexibility and improve the serviceability of the facility. An additional structural objective is to investigate proposed methods of architecturally renovating the building to ensure that proposed modifications can be made without compromising its structural integrity.

BUILDING DESCRIPTION

The original Marriott Library is a five-story structure that measures approximately 270 feet by 270 feet in plan. It is located centrally on campus at the University of Utah where it serves as an important resource for graduate and undergraduate studies. Lorenzo S. Young & Partners Architects and George S. Nelson Structural Engineer designed the facility in 1965. The construction of the building is somewhat unique and consists of steel box columns with a post-tensioned concrete waffle slab system for the floors. Bay spacing is 26 feet in each direction and the floor to floor heights are typically 13 feet. The waffle slab typically consists of 30 inch pans with 9 inch ribs thus making 8 pans per bay in each direction. Although the record drawings and details for the building indicate that the structure was designed and constructed as a lift slab, other sources indicate that the floor slab for the building was cast in place.

The lateral force resisting system (LFRS) of the structure consists of concrete shear walls located intermittently across the breadth of the structure. These walls are typically located at stair and elevator shafts. At the first level, shear walls are found at the perimeter of the structure but these walls do not extend above level 1. The concrete shear walls are typically 12 inches thick and in some cases were cast around steel trusses that are believed to be supplemental lateral force resisting system. Although this method of lateral bracing is not entirely understood, it is not believed to be effective in terms of resisting the loads of the anticipated seismic event. Since the trusses lie within reinforced concrete walls, they do not effectively brace the structure against earthquake motion. The walls themselves are far stiffer than the trusses thus rendering the trusses ineffective.

At the upper levels exterior cladding of the building consists of glass, cast stone, and stone sandwich panels that are connected to the structure. The cladding at the lower levels is primarily masonry veneer with some cast stone and glass. On the interior are glass and solid partitions in addition to features considered standard for a library of this nature. Cladding of the interior consists of glass and wood panels in addition to marble wall facing.

SITE SEISMICITY

The Marriott Library is located within the intermountain fault zone and lies very near the Salt Lake City Segment of the Wasatch Fault. Geologic seismic hazard mapping indicates that this site could experience severe lateral ground shaking. The characteristic major seismic hazard for this site (referred to as the Maximum Considered Earthquake or MCE) has a magnitude of 7.2 and occurs about once every 1350 years. Earthquakes of lower magnitude and intensity occur at a higher frequency than the characteristic major seismic event.

According to a soils report dated April 12, 1993 prepared by Crawford Environmental Specialists Inc., the soil is seismically classified as type S_3 per UBC 1991 criteria. The boring logs indicate the presence of 20 feet or more of clayey soil in a compact to medium dense condition.

Due to its proximity to the Wasatch Fault, the expected ground accelerations are very high with respect to those of other parts of the Salt Lake Valley that lie further from the fault. The expected ground motion for the Marriott Library and other sites near the fault are expected to be similar to the ground motions of many areas at or near fault-lines along the coast of California.

FEMA 310 defines a minimum level of lateral forces to use for the evaluation of structures based on ground motions corresponding to the Maximum Considered Earthquake (MCE). The Maximum Considered Earthquake is the characteristic large earthquake that occurs for this site. It is based upon analysis of available geoseismic data and is meant to represent the large, rare seismic event that is characteristic for the site. USGS (United States Geological Survey), in cooperation with NEHRP (National Earthquake Hazards Reduction Program) have developed contour maps that display the level of lateral motion expected for any site across the United States. The information shown in the contour maps is then mathematically combined with coefficients representing localized soil conditions to produce the expected level of ground motion.

To enable engineers to determine the most appropriate level of force for the building in question, the contour maps are divided to represent two primarily unique building classifications. These are termed as buildings with short periods (periods in the range of 0.2 seconds) and buildings with long periods (periods in the range of 1.0 seconds or more). A building period is defined as the amount of time required for the structure to complete one complete cycle of natural vibration. For the Marriott Library, the contour maps indicate that horizontal accelerations could be in excess of 1.77g for short period structures. For more limber long period structures horizontal accelerations could be in excess of 0.79g (see Figure 1). This means that a very stiff short structure could experience horizontal forces as high as 1.77 times its own weight and a taller, more limber structure could experience 0.79 times its own weight for the characteristic earthquake.

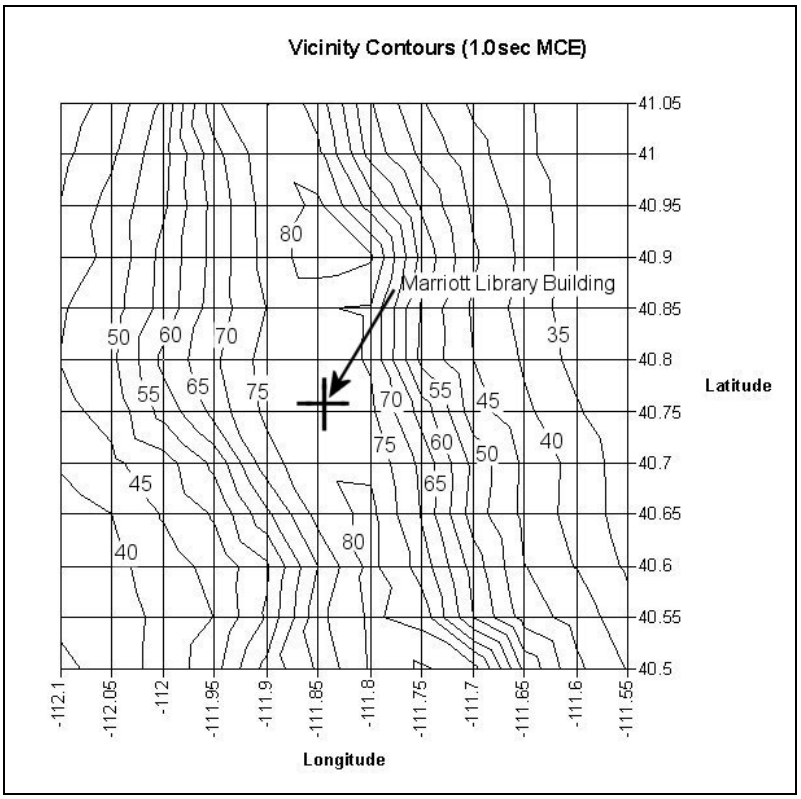


Figure 1 – Spectral Acceleration Contours for MCE, 1 Second Period.

B. ANALYSIS

METHOD OF ANALYSIS

To determine the seismic adequacy of the structure the methods of FEMA 310 and FEMA 356 were implemented. Since many older buildings cannot meet the rigorous standards and criteria of new building codes, the Federal Emergency Management Agency (FEMA) in cooperation with the National Earthquake Hazards Reduction Program (NEHRP) have released nationally recognized standards for the evaluation of existing structures. These standards provide alternate methodologies and are specifically written for the evaluation and analysis of existing buildings in terms of seismic adequacy.

As part of its basic method of analysis, FEMA 310 uses a multi-tiered approach for the evaluation of buildings. The multi-tiered approach enables the evaluation of a structure based on stages with increasing detail and complexity. The first tier of analysis enables the rough calculation and evaluation of the building's adequacy. Primary structural inadequacies identified by a FEMA 310 tier 1 analysis become the triggers requiring further analysis and evaluation per FEMA 356 to determine the seismic capacity of the structure. During a tier 1 evaluation, if no triggers are hit, the building is deemed acceptable by FEMA 310 guidelines. Further evaluation may be pursued, but is not necessarily required by the FEMA guidelines. If one or more of the tier 1 triggers are hit, further and more detailed analysis is required (tier 2 analysis or possibly tier 3 analysis) to determine whether the structure is seismically adequate per FEMA guidelines.

A tier 2 FEMA analysis is a standard linear analysis and uses methods that are very consistent with those of design for new construction. The tier 2 methodology is more detailed than a tier 1 methodology and may indicate that a structure has the inherent strength to support the loads of the anticipated seismic event. When the linear methods of tier 2 do not yield satisfactory results or when irregular systems or configurations are being used a more sophisticated tier 3 analysis may be implemented. Tier 2 analysis methods primarily involve linear analysis methods whereas tier 3 involves complex nonlinear analysis methods.

The FEMA tier 3 analysis (FEMA 356 methodology) is a detailed method of seismic evaluation that enables the engineer to mathematically quantify the level of strength that a building could have despite its shortcomings identified by FEMA 310 tier 1 and tier 2 analyses. The tier 3 method considers the inherent strength of structure including the strength that remains as a structure's members progressively fail. It is a very detailed and sophisticated method of analysis by which buildings might be demonstrated to meet seismic demands for Life Safety and other levels of structural performance. The methods of analyses included in the various tiers of FEMA 310 include quick check analysis (tier 1), linear static analysis (tier 2), linear dynamic analysis (tier 2), nonlinear static analysis (sometimes called pushover analysis – tier 3), and nonlinear dynamic analysis (tier 3).

In some cases, despite the implementation of sophisticated FEMA 356 methods, analysis cannot demonstrate that a structure has the necessary strength to perform adequately. In such cases, retrofitting or seismically strengthening the building is required to improve its level of expected seismic performance.

REHABILITATION OBJECTIVES

As part of the seismic evaluation of an existing building, it becomes incumbent upon the engineer, architect, and owner to identify the level of desired performance for the building for a given magnitude of earthquake. The level of desired performance is most often defined as the level of acceptable post earthquake damage to the building. Economic constraints most often limit the extent of retrofitting that is performed on a building, therefore effective improvements in seismic performance are often sought which will meet a specific and limited rehabilitation objective. The most common rehabilitation objective is for a building to perform to a "Life Safety" level for an earthquake often defined as the "Design Basis Earthquake" or DBE. The DBE is an earthquake that has a 10% probability of being exceeded in a 50

year period and has a return interval of about 500 years. This earthquake is often referred to as the Basic Safety Earthquake –1 or BSE-1. Life Safety performance is typically considered a minimum level of performance for BSE-1 with a primary objective of preserving the lives of the building occupants. Although the building may be damaged beyond a state of reasonable repair, the lives of the occupants are preserved. Figure 2 graphically depicts the key levels of performance that are commonly considered in establishing a rehabilitation objective. Note that as the rehabilitation objective improves the associated costs of achieving the rehabilitation objective increase, but expected performance improves and there are less post earthquake losses. Likewise, for a building with a lower rehabilitation objective, the costs of meeting the objective may be minimal but the risk of loss due to lower performance increases. The primary levels of structural seismic performance include, but are not limited to, Operational, Immediate Occupancy, Life Safety and Collapse Prevention (see Figure 2).

As a minimum, code guidelines indicate that Life Safety should be the minimum level of performance used to evaluate and rehabilitate existing structures. A structure should be made to perform to a Life Safety level of performance for the Design Basis Earthquake (BSE-1), which occurs approximately once every 500 years. In addition, codes recommend that a structure perform to a Collapse Prevention level for the more severe Maximum Considered Earthquake (MCE) or 2% in 50-year seismic event. This level of earthquake is commonly referred to as a Basic Safety Earthquake-2 or BSE-2. This multiple level of performance is recommended so that losses due to the characteristic large rare seismic event are reduced. This combination of performance objectives characterizes the minimum level of performance as recommended by current retrofit codes (FEMA 356) and is termed the “Basic Safety Objective” or BSO. These performance levels and earthquake forces are not unlike those prescribed by newer building codes for new building construction. For instance, the International Building Code (IBC) 2000 bases seismic design loads on a seismic event having a 2% probability of being exceeded in a 50-year period. This is roughly the same level of load corresponding to the BSE-2 according to the FEMA criteria for the evaluation of existing buildings.

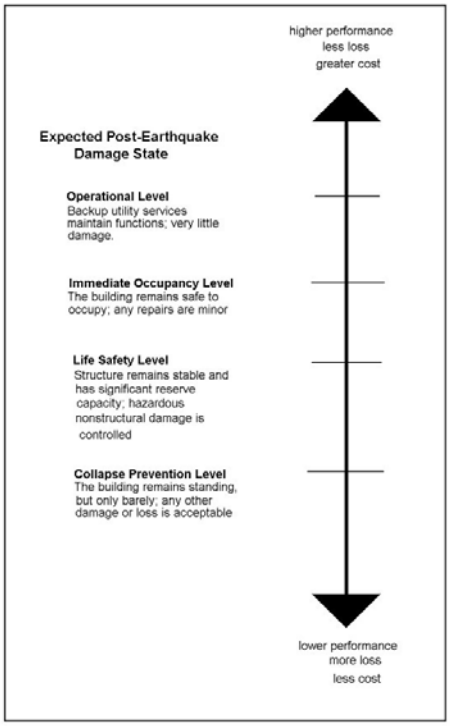


Figure 2 – FEMA Performance Levels.

In some cases, such as with critically important or historically significant structures, an Enhanced Rehabilitation Objective is chosen. An Enhance Rehabilitation Objective is defined as a level of seismic performance superior to that of the Basic Safety Objective. In cases where Life Safety and Collapse Prevention are deemed unacceptable in terms of post earthquake damage, an owner may elect to provide seismic protection above and beyond that provided by the Basic Safety Objective. Since a Basic Safety Objective is primarily concerned with preserving the lives of a building's occupants, it does little to address preservation of the building itself. Although a building may meet the BSO during an earthquake, it may be damaged beyond a state of feasible repair. To preserve the building in addition to its occupants, an Enhanced Rehabilitation Objective may be defined which would have the objective of preserving the lives of the building's occupants in addition to preserving the building itself. Also, for the Marriott Library Building, this rehabilitation objective could enhance the protection and the preservation of the collection within the building. As with any performance objective that surpasses the Basic Safety Objective, an Enhanced Rehabilitation Objective would have a higher cost than that of meeting the minimum Basic Safety Objective.

FINDINGS

As part of the evaluation of the Marriott Library, a FEMA 310 tier 1 (in addition to limited tier 2 and tier 3) evaluation has been completed. For the tier 1 analysis, FEMA 310 requires investigation into the primary seismic systems of the structure as well as investigation into building characteristics that are commonly considered to be critical in terms of a building's seismic safety and ability to perform in a significant earthquake. The criteria used to evaluate the building were based on the Basic Safety Objective (BSO) which requires that the building perform to at least a Life Safety level of performance for BSE-1 and a Collapse Prevention level of performance for BSE-2.

The following are building characteristics that have primary influence over a structure's ability to safely withstand the forces of a moderate or major earthquake (per FEMA 310) and are part of the FEMA 310 Basic Structural Checklist:

1. LOAD PATH
2. WEAK STORY
3. SOFT STORY
4. GEOMETRY
5. VERTICAL DISCONTINUITIES
6. MASS
7. TORSION
8. DETERIORATION OF CONCRETE
9. POST TENSIONING ANCHORS
10. CONCRETE WALL CRACKS
11. COMPLETE FRAMES
12. REDUNDANCY
13. SEISMIC SHEAR STRESS
14. REINFORCING STEEL
15. TRANSFER TO SHEAR WALLS
16. WALL REINFORCING
17. SHEAR WALL BOUNDARY COLUMNS

These are the building's primary characteristics that are indicative of the structure's ability to perform satisfactorily for the characterized seismic event. A discussion of the definition of each of these characteristics and the findings for each as they pertain to the Marriott Library follows. Each characteristic is accordingly marked 'compliant' or 'non-compliant' indicating whether FEMA 310 criteria for required performance are met.

LOAD PATH - Compliant
An adequate load path is defined as a structure having a complete lateral force resisting system that effectively transfers inertial seismic forces from the mass of the structure to its foundation. According to the provided plans, the concrete shear walls for the Marriott Library provide a continuous load path from each of the floors to the foundation of the structure.

WEAK STORY – Non-compliant
A structure is considered to have a weak story when the lateral strength of any one story in the structure is less than 80% of the strength of an adjacent story above or below. The perimeter walls for the Marriott Library extend only through level 1 thus leaving the stories above with diminished capacity and classifying the building as one with weak story. Because of the weak story, seismic loads tend to become more concentrated and localized thus increasing the likelihood of more severe seismic structural failure.

SOFT STORY – Non-compliant
A structure is considered to have a soft story when the lateral stiffness of any one story is less than 70% of an adjacent story above or below or if any one story has a lateral stiffness less than 80% of the average stiffness of three adjacent stories above or below. The Marriott Library is classified as having a seismic soft story due to the same characteristics that identify it as having a weak story. In addition, since the third floor of the structure is 16 feet, whereas the remaining floors are typically 13 feet, the third floor is far more limber and is therefore classified as a soft story. Problems due to seismic soft story often become manifest as increased displacement and deformation. This leads to greater likelihood of failures and seismic inadequacies at the soft story level.

GEOMETRY – Non-compliant
Seismic irregularities in a building's geometry are identified by structures in which the overall dimension of the lateral force resisting system changes by more than 30% in adjacent stories of the structure. Since the perimeter walls are discontinuous above level 1 the length of the lateral force resisting system above is only about 50% of its length at level 1 thus the building is geometrically irregular. This can lead to uneven distribution of seismic load and high stress concentrations at the boundaries of lateral force resisting systems.

VERTICAL DISCONTINUITIES - Compliant
Vertical discontinuities exist in a structure when portions of the lateral force resisting system do not extend to a building's foundation. Other than a few seismically insignificant stairwell walls, all of the structure's concrete shear walls form a complete load path to the foundation with no apparent vertical discontinuities.

MASS - Compliant
When the mass of one story to the next changes by more than 50% a structure is said to have a mass irregularity. The mass from level to level of the Marriott Library is somewhat consistent from level to level thus no mass irregularities are apparent.

TORSION - Compliant
A structure is characterized as torsionally irregular when the center of mass and the center of rigidity on any floor of a structure are separated by more than 20% of the structure's horizontal dimension. Based on analysis, the center of mass and the center of rigidity of each level do not fall far enough apart for the building to be classified as torsionally irregular.

DETERIORATION OF STEEL - Compliant
Evidence of cracked, corroded or deteriorated steel for the lateral force resisting system of a structure can lead to its characterization of seismically inadequate. Observations made at the building did not reveal any deterioration of steel that is part of the primary structural system.

CONCRETE WALL CRACKS - Compliant
Diagonal concrete wall cracks, localized highly concentrated cracks, or cracks that form an 'X' pattern are indicative of concrete walls that could be inadequate in terms of seismic strength. Observations of exposed walls the building did not reveal cracks of this nature that would indicate lack of structural seismic capacity.

COMPLETE FRAMES - Compliant
Secondary components of the structure are required to form a complete vertical load carrying system to the foundation to be classified a complete. According to the provided plans, all of the major load carrying columns are continuous to the foundation of the structure.

REDUNDANCY - Compliant
Lack of structural redundancy in shear wall buildings is characterized by structures of that have less than two seismic shear walls in each principle direction of the building. Since the Marriott Library has at least two concrete shear walls in each direction, it meets the FEMA 310 requirements for redundancy.

SHEAR STRESS – Non-compliant
Concrete walls lack the adequate shear strength when the characterized seismic event causes stress in excess of the concrete's basic shear strength. This strength is characterized as the lesser of 2 times the square root of the concrete compressive strength or 100 psi, whichever is less. Due to the overall lack of concrete shear walls for the structure as whole, stresses on the concrete walls significantly surpass the levels at which the building would be classified as safe per FEMA 310 guidelines. Analysis indicates that some walls are stressed as much as 400 percent of the basic concrete shear strength for the characterized seismic event.

REINFORCING STEEL - Compliant
Concrete shear walls must have an amount of horizontal steel of at least 0.0025 times the wall cross sectional area and an amount of vertical steel of at least 0.0015 times the wall cross sectional area to be adequate in terms of seismic safety. According to the provided plans, typical wall reinforcement meets or exceeds the minimum criteria established by FEMA 310.

TRANSFER TO SHEAR WALLS – Non-compliant
Diaphragms shall be reinforced and connected for transfer of lateral loads to the shear walls. According to the provided plans, diaphragms are not doweled to concrete shear walls. Connections are made at intersecting walls and diaphragms with keyways only along with vertical wall reinforcing bars that happen to engage the diaphragm.

WALL REINFORCING - Compliant
Vertical wall reinforcement shall be doweled to the footings to qualify the building to perform adequately for life safety. According to the provided plans, dowels are present that match the vertical wall reinforcing.

SHEAR WALL BOUNDARY COLUMNS – Non-compliant
The shear wall boundary columns shall be anchored to the building foundation for Life Safety. According to the provided plans, the concrete shear walls do not specifically have boundary columns therefore, the shear walls are not adequately anchored to the foundation.

Since one or more of the building characteristics identified above were deemed non-compliant with FEMA 310 criteria for a Life Safety level of performance, triggers are activated that require more detailed analysis and/or seismic strengthening of the structure.

ADDITIONAL CONSIDERATIONS

An additional building deficiency not specifically identified by FEMA 310 is the connection of the concrete waffle slab to the boxed steel columns. Based on the details and plans provided (see Figures 3 and 4), the lift slab and steel columns are connected together by a system of channels embedded into the concrete that are welded to the steel columns with simple fillet welds. Although this connection appears to be adequate in terms of its ability to carry the everyday service loads of the structure, it is deemed inadequate in terms of its ability to remain intact for seismic loading. Analysis indicates that for even very small seismic motion (story drifts of less than 1”), the stresses on the fillet welds for this connection are far beyond that which would be allowed for modern construction. Should these welds fail, the concrete lift slab could become detached from the column and the segment of slab if not the entire slab could fall to the story below causing successive failures of each connection and subsequent floor below.

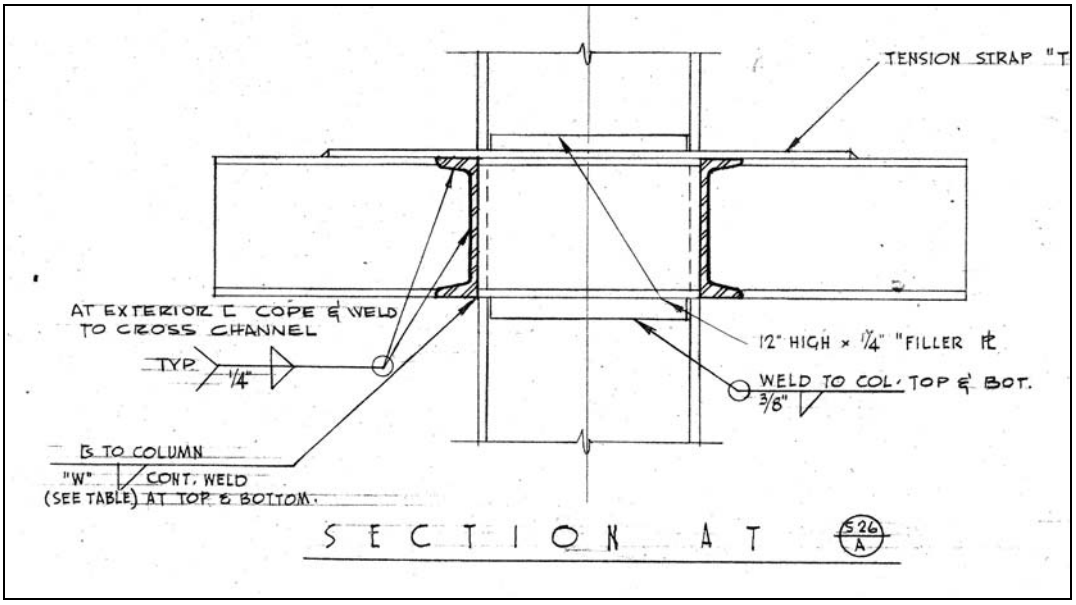


Figure 3 – Original Slab to Column Connection.

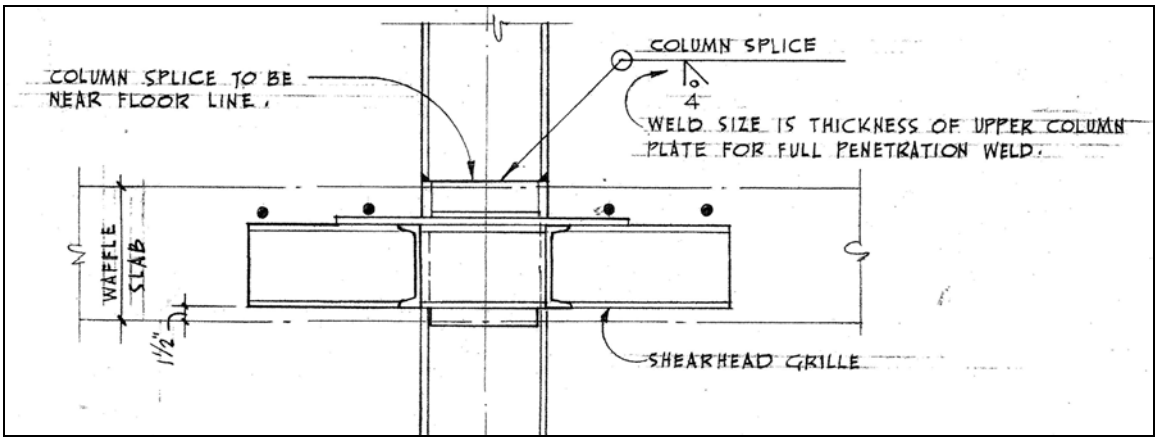


Figure 4 – Original Slab to Column Connection.

Since the structure lies in a region of high seismicity, the following supplemental checklists from FEMA 310 must also be included as part of the seismic evaluation of the structure:

1. Supplemental Structural Checklist.
2. Geologic Site Hazard and Foundation Checklist.
3. Basic Nonstructural Checklist.

SUPPLEMENTAL STRUCTURAL CHECKLIST ITEMS

The following items are part of the supplemental structural checklist that are applicable to this building and the Life Safety rehabilitation objective. FEMA 310 checklists include many building traits within this category, most of which do not apply to this structure and rehabilitation objective and are therefore not listed.

1. Openings at Shear Walls
2. Deflection Compatibility
3. Diaphragm Continuity

OPENINGS AT SHEAR WALLS - Non-compliant
This deficiency is characterized by diaphragm (floor) openings immediately adjacent to shear walls that have a dimension greater than 25% of the wall length. For the Marriott Library, shear walls occur primarily at stair and elevator shafts where floor openings run the entire length of the wall. This deficiency could lead to higher localized stresses and greater likelihood of failure at those portions of the floor that are connected to the shear walls.

DEFLECTION COMPATIBILITY - Compliant (exception noted)
Secondary components such as the columns that carry gravity loads only shall have the shear capacity to develop the flexural strength of the column for Life Safety. Based on the analysis, the columns have the shear capacity needed. However, the detailing of the columns is insufficient in terms of the flexural demand, particularly at the column to slab connections at each level.

DIAPHRAGM CONTINUITY - Compliant
To meet this criteria diaphragms must be continuous on each level and must not be composed of split level floors. The Marriott Library building meets the FEMA 310 criteria for diaphragm continuity.

GEOLOGIC SITE HAZARDS AND FOUNDATION CHECKLIST

The following items pertain to geologic site hazards that are applicable to the Marriott Library building:

1. Liquefaction
2. Slope Failures
3. Surface Fault Rupture
4. Foundation Performance
5. Deterioration
6. Overturning
7. Ties between Foundation and Elements

LIQUEFACTION - Compliant
Liquefaction susceptible, saturated, loose granular soils that could jeopardize the building's seismic performance shall not exist in the foundation soils at depths within 50 feet under the building for Life Safety. According to "Selected Critical Facilities and Geologic Hazards, Salt Lake County, Utah", a map produced by the Utah Geological Survey, the Marriott Library is located within a region of very low liquefaction potential.

SLOPE FAILURES - Compliant
The building site shall be sufficiently remote from potential earthquake-induced slope failures or rockfalls to be unaffected by such failures or shall be capable of accommodating any predicted movements without failure. The building site appears to be sufficiently removed from potential slope failures or rockfalls.

SURFACE FAULT RUPTURE - Non-compliant
To meet a Life Safety level of expected seismic performance, surface fault rupture and surface displacements at the building site must not be anticipated. Due to its proximity to the fault, the likelihood of surface ruptures and displacements at the building site is increased. This can lead to differential settlements and shifts in footing bearing across the breadth of the building that can cause structural failure.

FOUNDATION PERFORMANCE - Compliant
To meet established criteria for Life Safety, there shall be no evidence of excessive foundation movement such as settlement or heave that would affect the integrity or strength of the structural system. Base on field observations, there appears to be no evidence of inadequate foundation performance for the Marriott Library.

DETERIORATION - Compliant
There shall be no evidence that foundation elements have deteriorated due to corrosion, sulfate attack, material breakdown, or other reasons in a manner that would affect the integrity or strength of the structure. Based on field observations, there appears to be no deterioration of the foundation elements.

OVERTURNING – Non-compliant
For the Marriott Library building, the base of the lateral force resisting system components shall be at least 44 feet to meet life safety criteria for overturning. Since many of the shear walls for the lateral force system of the building are stair and elevator shafts their aspect ratios (height/width) are very large and this criteria is not met. Very few (if any) of the footings for the structure's shear walls are longer than 44 feet, thus overturning potential is high.

TIES BETWEEN FOUNDATION ELEMENTS – Non-compliant
The foundation shall have ties to adequately resist seismic forces where footings are not restrained by soil, slabs, or other structural elements. Due to the high level of seismic load and the few shear walls and footings that resist the load, the foundation is deemed inadequate.

BASIC NONSTRUCTURAL CHECKLIST

The items listed below are identified by FEMA 310 as nonstructural components that could affect the performance of the structure in terms of Life Safety. The items listed are only those applicable to the Marriott Library and a Life Safety performance objective:

1. Integrated Ceilings
2. Lay in Tiles
3. Support of Suspended Ceilings
4. Suspended Lath and Plaster
5. Independent Support of Light Fixtures
6. Bracing of Emergency Lighting
7. Cladding Anchors
8. Multistory Panels
9. Bearing Connections
10. Inserts Supporting Cladding
11. Panel Connections
12. Deterioration of Cladding
13. Damage of Cladding
14. Glazing Surfaces at Exterior Walking Surfaces
15. Shelf Angles
16. Ties for Masonry Veneer
17. Weakened Planes in Masonry Veneer
18. Canopies at Building Exits
19. Tall Narrow Contents
20. Emergency Power
21. Heavy Equipment
22. Fire Suppression Piping
23. Flexible Couplings
24. Toxic Substances

These items are included as parts of the FEMA 310 Basic Nonstructural Component Checklist. For the Marriott Library to meet a Life Safety performance objective, each of these items must be appropriately addressed and modified as needed to bring the building into compliance. The FEMA 310 checklist for these items and definitions for each can be found in the appendix.

TIER 2 AND TIER 3 ANALYSES

As part of the investigation into possible methods of retrofit for this building, further analysis of the existing structure has been performed in accordance with a FEMA 310 tier 2 and tier 3 analyses. The analyses incorporate the methods of evaluation from “Prestandard and Commentary for the Seismic Rehabilitation of Buildings” or FEMA 356. The method of analysis used to evaluate the capacity of the lateral force resisting system of the building is the Nonlinear Static Pushover Analysis per FEMA 356 (FEMA 310 tier 3). This detailed method of analysis is based on incrementally pushing the structure horizontally while qualitatively and quantitatively measuring the ability of the structure to support load as it is laterally deformed. This enables the development of the nonlinear static pushover curve, which is a measure of the building’s ability to support loads while subject to horizontal movement. Figure 5 is a graph depicting the nonlinear static pushover curve for the original Marriott Library Building. The horizontal axis of the graph represents the horizontal displacement of the structure measured at the roof level. The vertical axis represents the amount of base shear or horizontal load measured at the base of the structure for each level of displacement. Note that as measured displacement increases, so do the relative base shears. As structural members begin to fail with increased displacement, they lose their ability to carry

load and thus the measured forces at the base of the structure do not continue to increase until ultimately, the members fail and have only residual load capacity remaining.

Also shown on the nonlinear static pushover curve for the original building are the performance levels. These are located along the nonlinear (yielding) portion of the curve. The Immediate Occupancy range is defined as the range where elastic (linear) behavior ends and inelastic (nonlinear) behavior begins. The Collapse Prevention performance level is the location on the curve just before significant loss in base shear capacity. The Life Safety region of the curve is defined as the approximate midpoint between the Immediate Occupancy (IO) and the Collapse Prevention (CP) range of the curve.

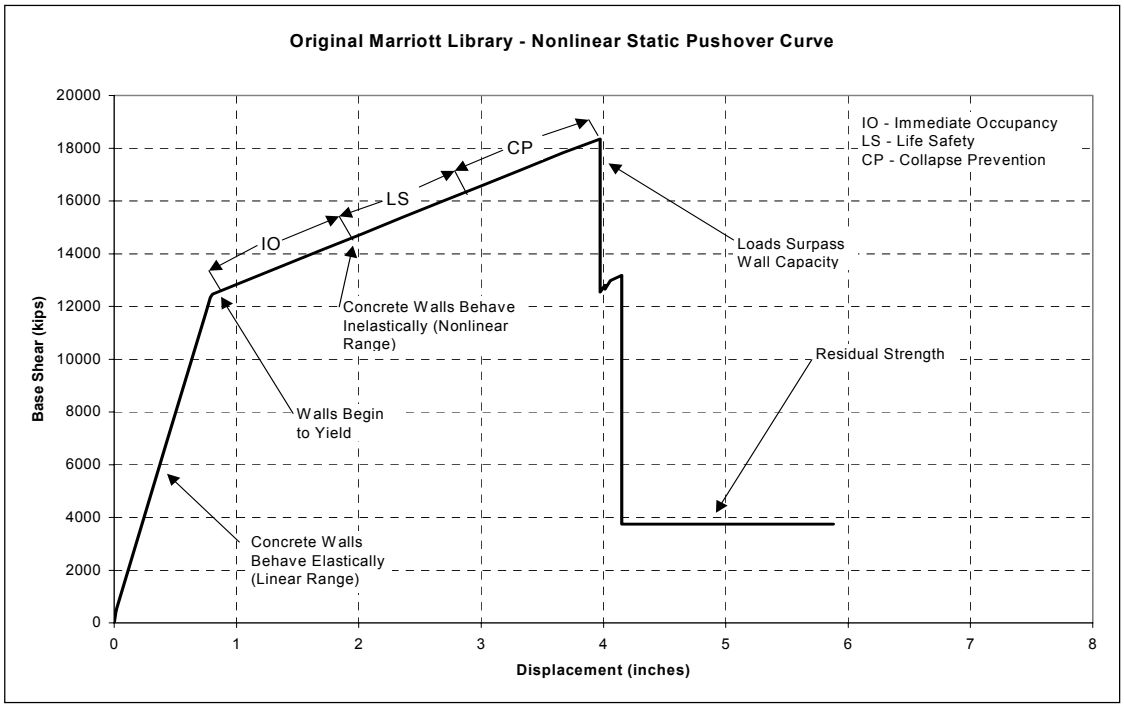


Figure 5 – Nonlinear Static Pushover Curve for Original Marriott Library Building.

Once the nonlinear behavior of the structure has been established by performing the nonlinear static pushover analysis, it then becomes possible to calculate the level of horizontal displacement that is expected from the anticipated seismic event. The level of horizontal displacement is determined by mathematical solution using the expected lateral acceleration along with the fundamental mode of vibration (among other variables). This horizontal displacement is referred to as the "target displacement" and can be directly superimposed onto the nonlinear static pushover curve to determine whether the structure has the capacity to perform at the desired level for the selected seismic event.

An additional tool that carries the nonlinear analysis of the structure beyond that of the nonlinear static pushover curve is the acceleration-displacement response spectra (ADRS) and demand/capacity curves. Using the results of nonlinear static pushover analysis a similar capacity curved can be developed that represents the capacity of the structure in terms of spectral displacement and spectral acceleration. Superimposing this curve on the spectral acceleration and displacement curves representing the anticipated seismic events provides an indication of how the structure might perform with respect to the seismic event in question. Figure 6 displays the ADRS for the original Marriott Library Building. As can be seen by the curves displayed, the demand/capacity curve for the original building does not intersect either of the curves representing the expected seismic events. In fact, the acceptable performance range for the capacity curve lies a significant distance from the demand curves indicating a significant lack of structural capacity and ability to seismically perform. Thus, the results of the FEMA 310 tier 1 analysis

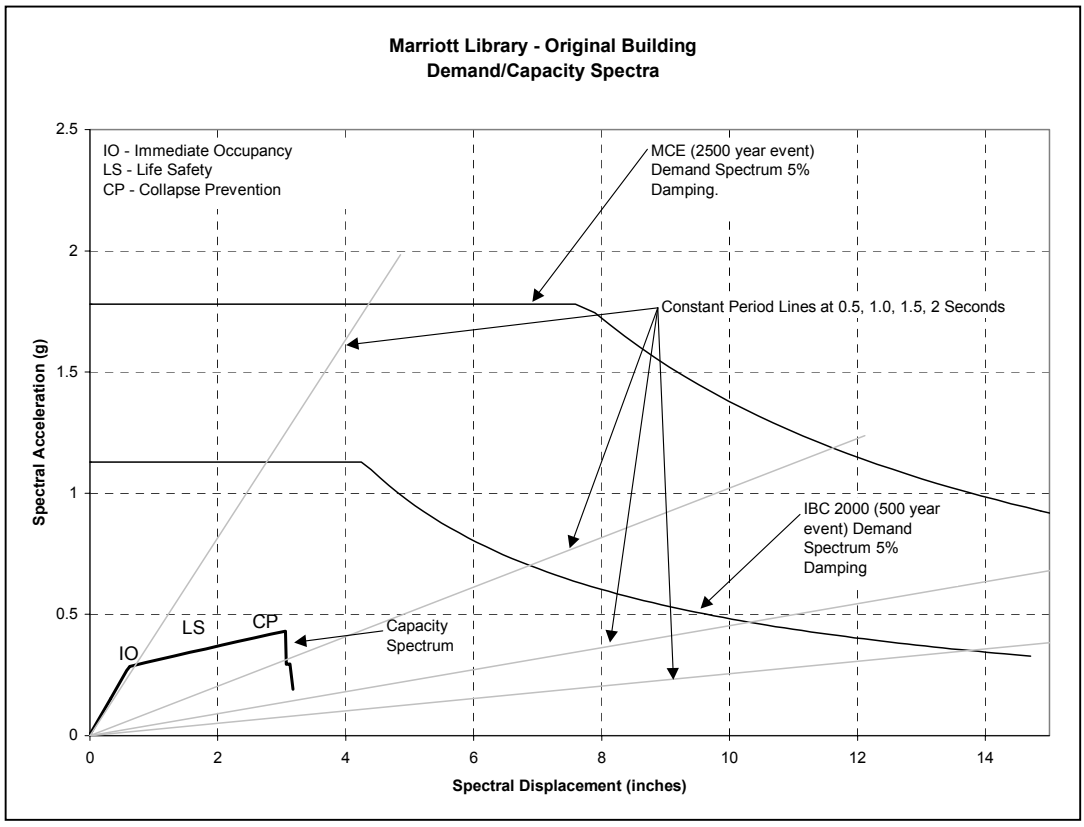


Figure 6 – Acceleration/Displacement Demand and Capacity Spectra for Original Marriott Library Building.

are confirmed and the structure is deemed inadequate in terms of its ability to meet the minimum performance objectives outlined by FEMA guidelines.

C. RECOMMENDATIONS

STANDARDS AND CODES

The FEMA 310 tier 1, 2, 3 analyses indicate that the original Marriott Library Building does not have the capacity to meet recommended minimum performance objectives for the anticipated seismic event. To improve the building's expected seismic performance, retrofit measures must be pursued. Among the primary considerations for retrofit of a building such as this, the owner must choose a specific rehabilitation objective. FEMA 356 recommends that the minimum rehabilitation objective should be the FEMA Basic Safety Objective (BSO). For the BSO, the building should be made to perform to a Life Safety level for an event having a 10% probability of being exceeded in a 50 year period (BSE-1). In addition, the structure should perform to a Collapse Prevention level for the more severe BSE-2 earthquake (MCE or 2% in 50 year event). Since the level of seismic design load corresponding to the FEMA recommended rehabilitation objective is fundamentally the same level of load prescribed by the International Building Code (IBC) 2000, it is recommended that the retrofit of the original Marriott Library Building be based on the seismic requirements for new construction found in IBC 2000. Thus, the retrofitted structure will be brought to the seismic standards of new or soon to be adopted building codes.

PRIMARY STRUCTURAL RETROFITTING

To improve the expected seismic performance of the structure so that it meets the minimum desired performance objective, several different methods of retrofit could be used. The possible methods of retrofit can be grouped into two main categories. The first category is retrofitting by strengthening and adding to the existing lateral force resisting system of the structure. The second category is retrofit by adding a new lateral force resisting system that is designed to act independent of the lateral force resisting system of the existing structure. The methods of retrofitting include, but are not limited to the following:

Category 1 – Strengthening or Adding to Existing System.

1. Strengthening the existing walls with carbon fiber or fiberglass reinforcing to improve their expected seismic performance.
2. Adding seismic shear walls to the structure to alleviate the stress on the existing walls.
3. Encapsulating existing walls with reinforced concrete to provide strength to withstand the forces of the expected seismic event.

Category 2 – Providing a New Independent Lateral System.

1. Adding braced frames to the structure to alleviate the stress on the existing walls.
2. Using advanced systems such as unbonded braces which absorb seismic energy so that it is not free to cause structural damage. Also referred to as buckling restrained braces these braces consist of encapsulated steel elements that axially yield to absorb earthquake energy.
3. Integrating a seismic base isolation system at the foundation level of the structure to lessen the impact of the anticipated seismic event on the building.

Among the challenges in choosing a retrofit system is finding a cost-effective solution that not only meets the needs and desires of the owner, but is also structurally compatible with systems and structural elements that are already present. Such challenges become manifest in studying each of the aforementioned retrofit possibilities. For instance, systems of consisting braced frames or unbonded braces initially do not appear to be readily compatible with the existing structural system. Although the existing concrete shear walls are inadequate, they are nonetheless very rigid and stiff compared to a bracing system of retrofit. As a result, the existing walls tend to attract a majority of the seismic load, which leads to their seismic failure. For bracing systems such as these to be effective, analysis must demonstrate that the existing walls have the ability to remain intact and carry gravity load for the given seismic event. For this type of retrofit the existing walls may be classified as secondary elements. As secondary elements the existing walls would be subject to a different and typically more liberal set of acceptance criteria which may demonstrate their acceptability in terms of the expected seismic motion. The braced frame or unbonded bracing system could then be designed as the primary lateral force resisting system for the structure as a whole and would be designed to resist one hundred percent of the building's seismic forces. This would leave the existing walls free to behave as secondary rather than primary elements.

Among the other retrofit options is to reinforce the existing walls with fiberglass or carbon fiber reinforcing. These methods of retrofit can be effective in holding concrete elements together as they are loaded and begin to crack in an earthquake. This improves the overall ductility in the structure as it reduces the magnitude of brittle failures. However, a major concern with the existing concrete walls is the lack of overturning or "boundary" reinforcement. Although these methods of retrofit can improve this condition, they are not believed to be as effective at achieving the rehabilitation objective as other methods of retrofit.

Of the remaining methods of retrofit, the addition of concrete shear walls appears to be effective in terms of meeting the recommended rehabilitation objective. Since new concrete shear walls would be similar in stiffness and rigidity to the existing walls in the building, it is believed that the new walls would complement the existing walls and the two systems could work together to help qualify the building as adequate for Life Safety concerns. Similarly, new shear walls in conjunction with reinforced or encapsulated existing walls could be used to meet the rehabilitation objective. Figures 7 and 8 depict a possible layout of new shear walls in conjunction with reinforced existing walls. It is believed that either of these layouts could be used for implementing a shear wall retrofit of the original Marriott Library building. Though the shear wall method of retrofit appears to be among the most effective methods for reinforcing the existing structure, the shear walls are far less amicable in terms of architectural flexibility. In addition, the shear wall system of retrofit does not appear to meet the requirements for a phased construction sequence. The shear walls would be added at the interior of the structure, thus causing significant disruption to the space and other architectural systems during construction and limiting the flexibility of finished space due to the presence of the added concrete walls.

An additional system of retrofit worthy of consideration is a seismic base isolation system. The effectiveness of a seismic base isolation system stems from its ability to reduce the seismic motions which a structure experiences. As a result, the seismic forces are reduced and the likelihood of structural damage and disruption to the building diminishes. A base isolator typically consists of laminated steel and rubber plates that are stacked together to form a structural element that is very stiff vertically yet very limber horizontally (see Figure 9). As a result, when a series of isolators is placed at the base of the building, the structure tends to 'float' horizontally as the ground beneath experiences significant seismic motion.

Among buildings retrofitted with systems such as this is the historic Salt Lake City, City and County Building.

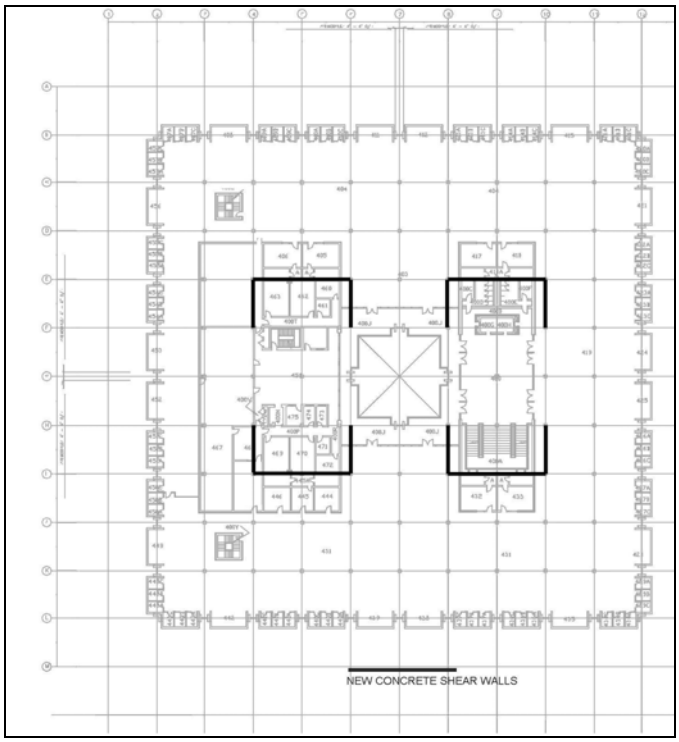


Figure 7 – Possible Shear Wall Configuration for Original Marriott Library.

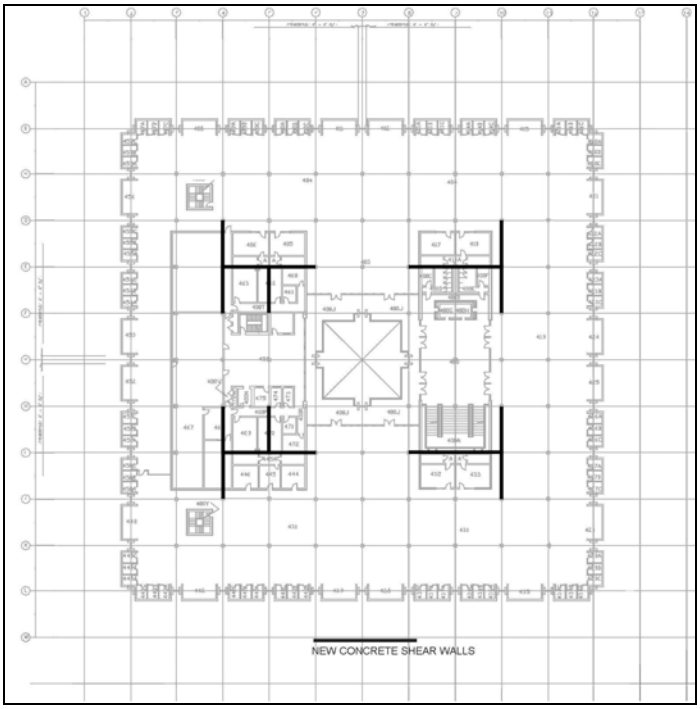


Figure 8 – Possible Shear Wall Configuration for Original Marriott Library.

A second type of isolator that provides performance similar to the laminated bearing isolators is the friction pendulum isolator. This isolator is typically in the form of a spherical or conical dish that allows the structure to 'float' laterally. The shape of the dish enables the structure to return to its original resting position (see Figure 10). Although the costs of installing a base isolation system are dramatically more than those of other systems of rehabilitation, a base isolation system provides ultimate flexibility for the structure above. In many cases, base isolation reduces seismic forces on a structure to such extent that no further retrofit is needed above the foundation to meet the desired performance objective.

Although a base isolation system can minimize the impact of retrofit measures on a structure above its foundation, it requires significant work at the foundation level. To install a base isolation system on an existing structure, the foundation of the structure usually needs to be replaced in its entirety. This system requires that a new sub floor (usually concrete on metal deck) be installed along with a new sub-basement with a height of approximately 4 to 5 feet in addition to the new foundation elements to support the structure and base isolation system.

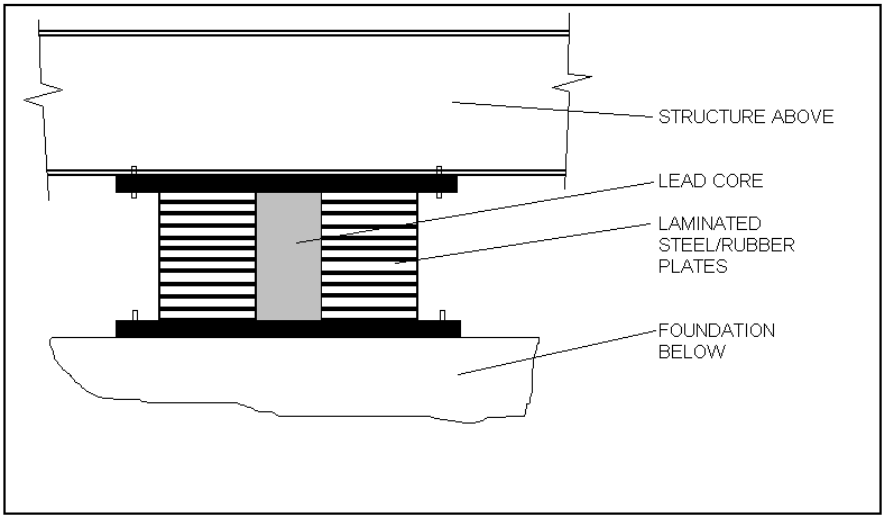


Figure 9 – Laminated Rubber Bearing Base Isolator.

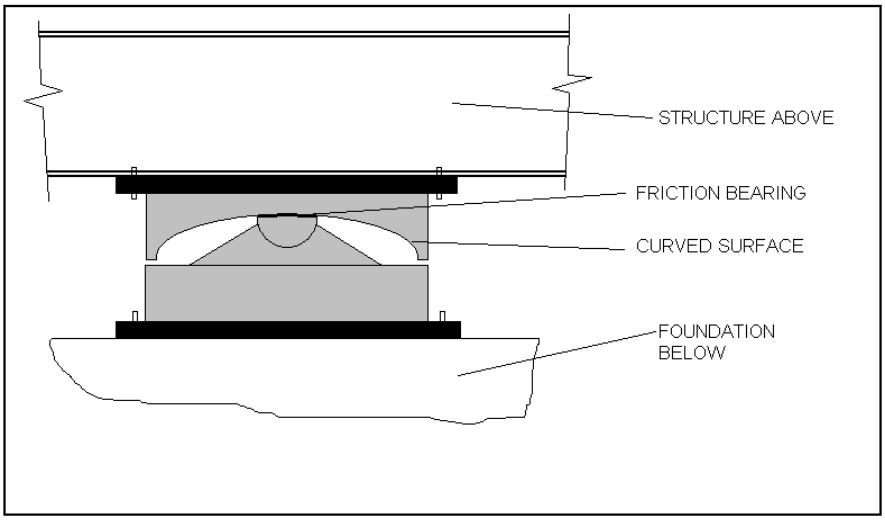


Figure 10 – Friction Pendulum Base Isolator.

RETROFITTING WITH BRACED FRAMES OR UNBONDED BRACES

In consideration of the structural effectiveness and cost of each possible method of retrofit, in conjunction with the architectural ramifications of each method, placing a system of braced frames or unbonded braces at the perimeter of the structure appears to be among the most effective of retrofit schemes in terms of meeting the overall building performance objectives. The recommended layout of braces is shown schematically in Figures 11 and 12.

As described before, the existing concrete walls in the structure are not readily compatible with a braced frame scheme. For the braced frame system of retrofit to be effective, it must be designed to resist one hundred percent of the expected seismic loads independent of any existing structural systems. The existing concrete walls may then be reclassified as secondary elements and they must be able to meet a minimum level of expected seismic performance for the given seismic event as secondary elements. Since the acceptance criteria for secondary elements is more liberal in terms of post earthquake damage, the walls are expected to more readily meet the acceptance criteria for the minimum recommended rehabilitation objective. In essence, the existing walls are not expected to take part in resisting the loads of the expected moderate or large seismic event. The new braced frames (or unbonded braces) will carry the seismic loads while the existing walls experience significant damage while staying relatively intact.

To ensure that the existing walls (as secondary elements) remain intact for the expected seismic event, it is necessary to verify whether FEMA limitations have been exceed for these walls for the specific seismic event. FEMA criteria indicate that secondary walls of this nature can experience rotations at hinging points as high as 0.010 radians.

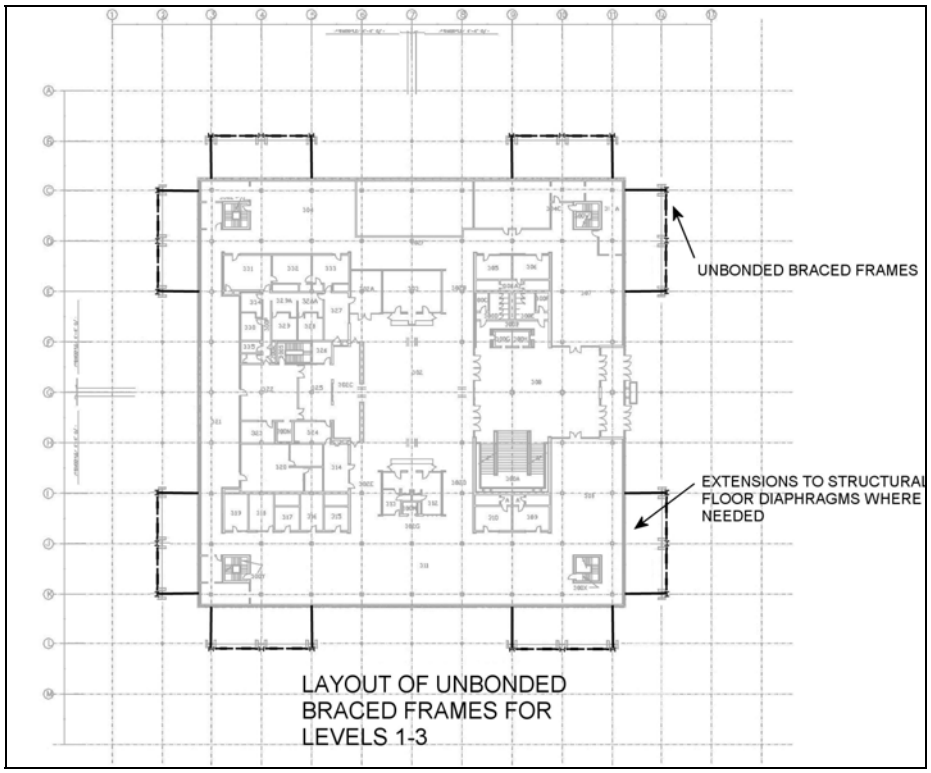


Figure 11 – Recommended Layout of Unbonded Braced Frames, Levels 1-3.

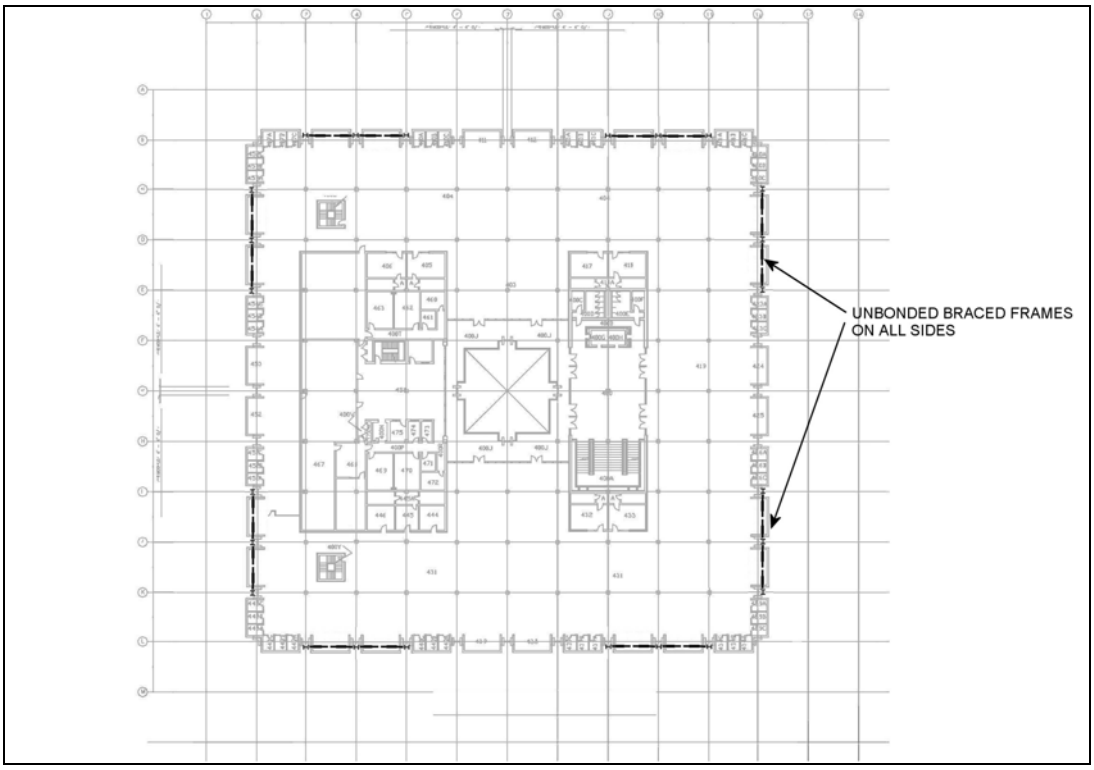


Figure 12 – Recommended Layout of Unbonded Braced Frames, Levels 4,5.

This translates to a rooftop displacement of approximately 8.2 inches. Preliminary nonlinear analysis methods of the unbonded braced frame systems indicate that rooftop displacements are not likely to exceed 4 inches for a level of motion corresponding to the prescribed loads from IBC 2000 and 8 inches for motion corresponding to the more severe yet less frequent MCE . Thus the existing walls may be demonstrated to meet the required performance level for the anticipated event while the brace frame system becomes the primary system for resisting the lateral loads of the structure.

As part of the current study of the Marriott Library Building the retrofit method of placing a system of unbonded braces at the perimeter of the structure has been carefully studied. The unbonded braced frame system herein described is believed to be among the most economical and most effective retrofit methods for meeting the seismic demands on the structure while also accommodating the functional and architectural objectives of the retrofit. A recommended layout of the unbonded braces can be found in Figures 11,12. A schematic elevation view of the unbonded braces can be found in Figure 13. In addition, typical details for the connections of the unbonded braces can be found in Figures 14 through 17.

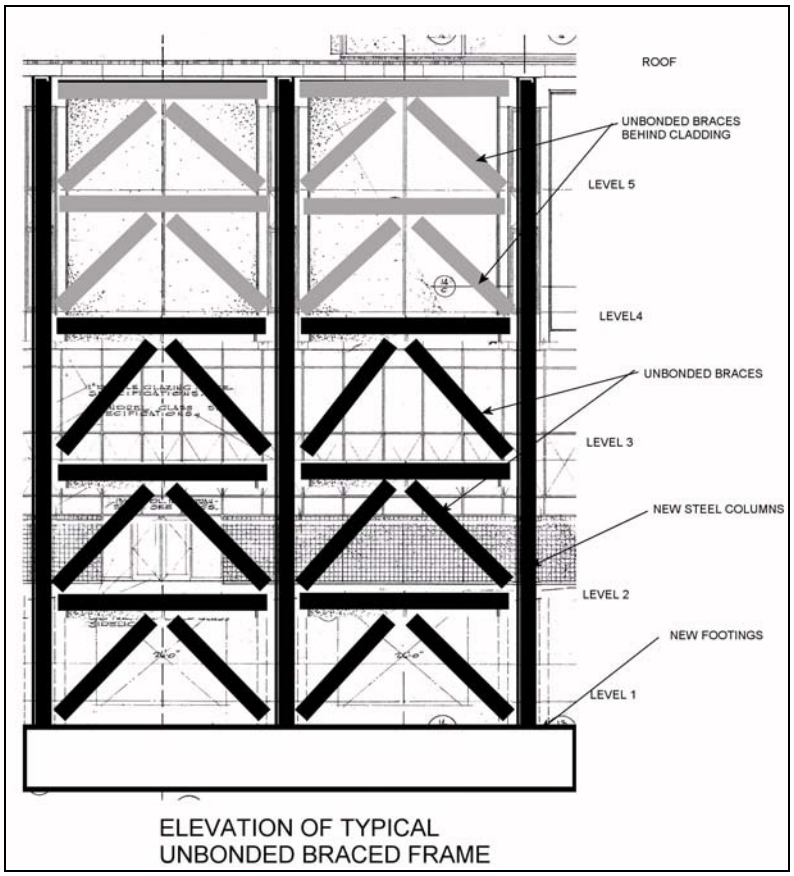


Figure 13 – Schematic Elevation of Unbonded Braced

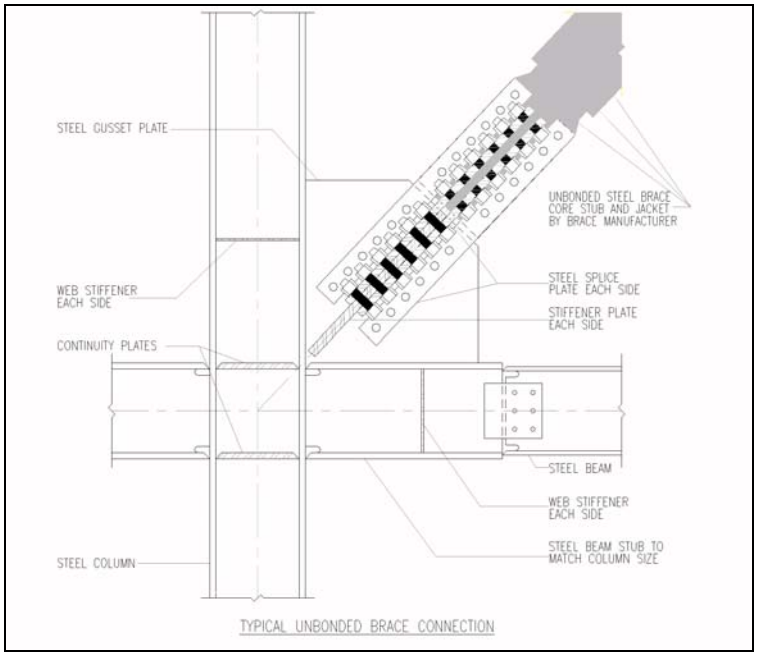


Figure 14 – Typical Detail for Unbonded Braced Frame Connection.

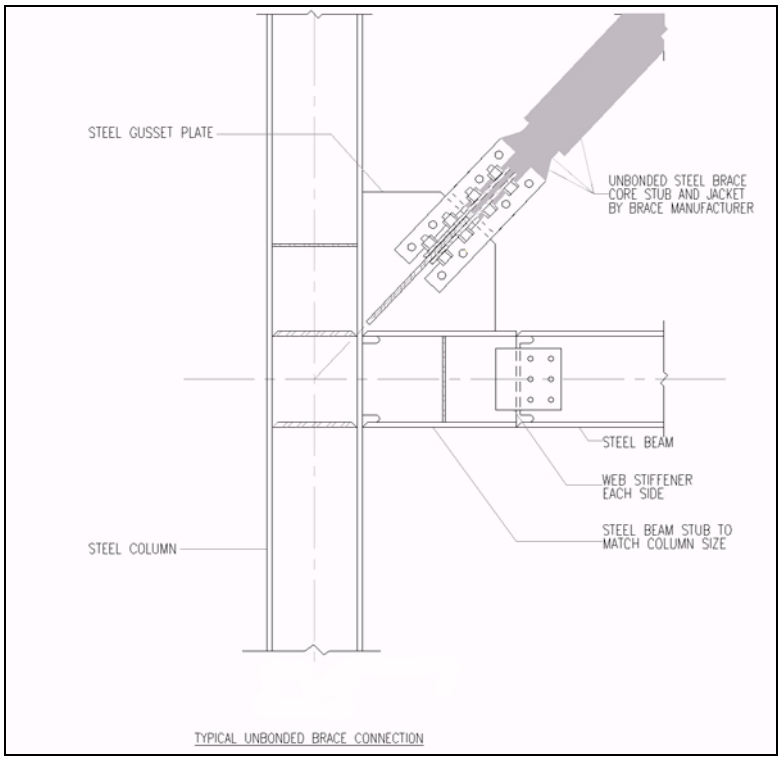


Figure 15 – Typical Detail for Unbonded Braced Frame Connection.

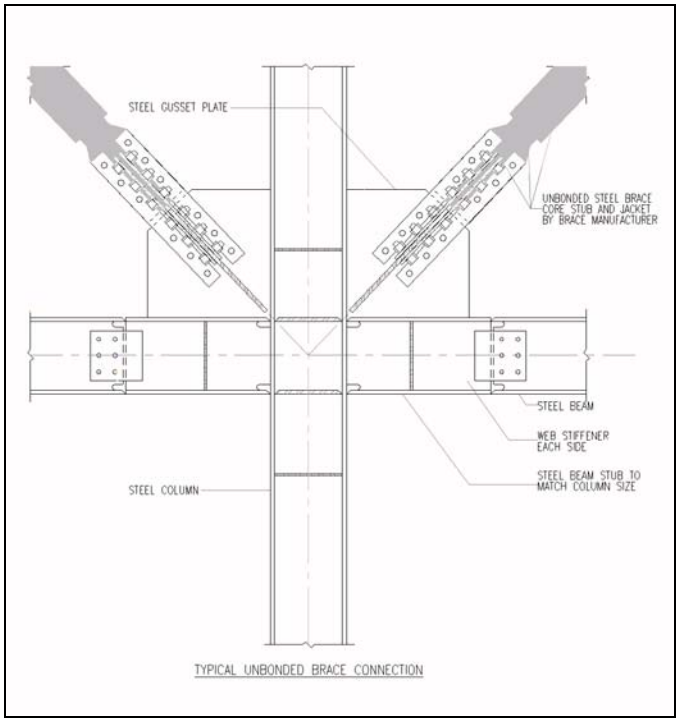


Figure 16 – Typical Detail for Unbonded Braced Frame Connection.

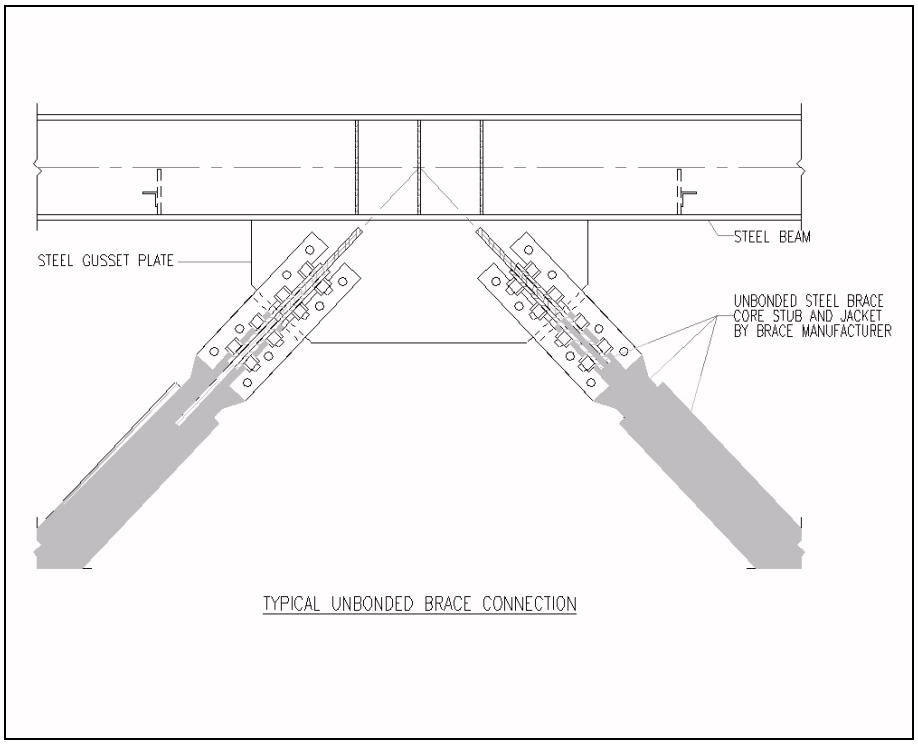


Figure 17 – Typical Detail for Unbonded Braced Frame Connection.

To determine whether the unbonded braced frame system or a braced frame system in general can serve as an effective retrofit system for this facility, preliminary design using nonlinear analysis methods per FEMA 356 have been employed. Among these is the method of nonlinear static pushover analysis. Results of the analysis have indicated that the performance of the unbonded braced frame system is far superior to that of other systems of seismic retrofit (mentioned previously) in terms of the structure's ability to behave in a ductile manner. Ductility in structures is defined as a structure's ability to experience significant yielding and deformation while still maintaining its ability to carry load. Since the unbonded brace system is a highly specialized steel yielding mechanism it lends itself very well to improving and enhancing overall structural ductility.

The effectiveness of an unbonded brace stems from its ability to compress and stretch steel without allowing it to buckle. The brace itself consists of a slender steel element (yielding core) encased by a larger hollow steel element (steel jacket) with grout filled voids (see Figures 18 and 19). The seismic loads for the brace are transferred into the yielding core while the outer steel jacket and grout have the primary purpose of preventing buckling of the yielding core. As the structure cycles in an earthquake the slender core yields in tension and compression without buckling. Large amounts of energy are required to yield the steel in this fashion. Thus, a large portion of the earthquake energy imparted to a structure is converted to mechanical energy that focuses on yielding the unbonded brace. It is therefore not free to cause structural stress and damage at other parts of the structure.

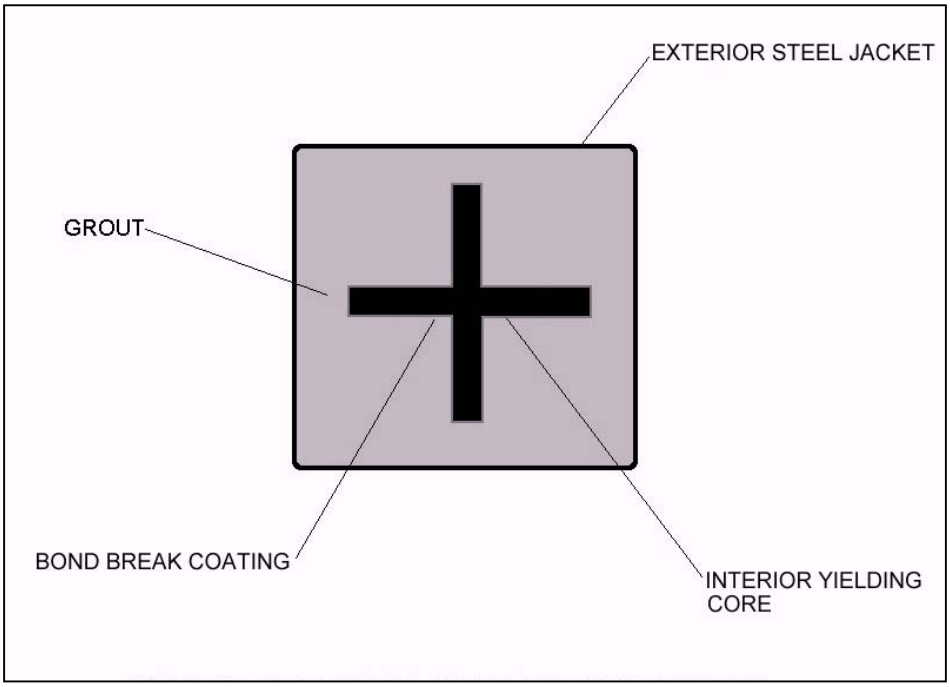


Figure 18 – Typical Unbonded Brace Cross Section.

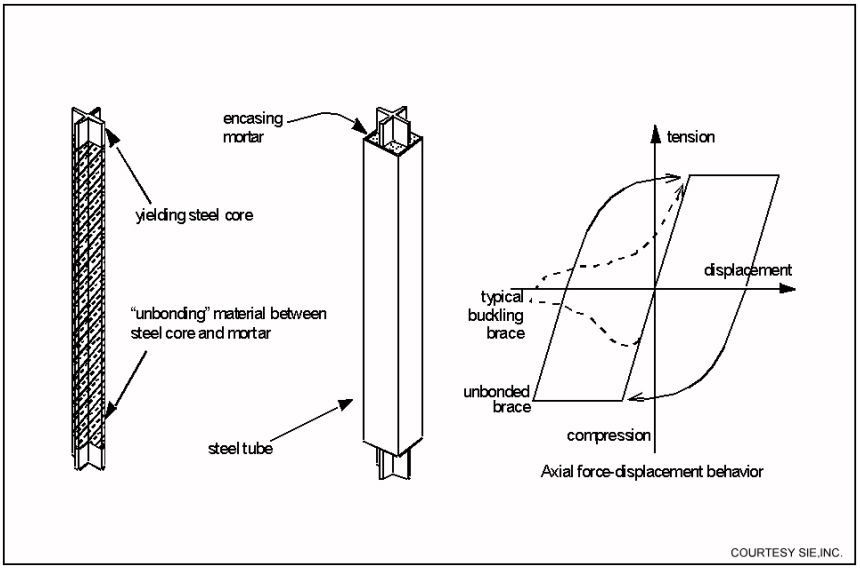


Figure 19 – Typical Unbonded Brace Configuration and Behavior.

A good measure of a structure's ductility is its ability to dampen the effect of applied motion. Damping in structures has the effect of gradually reducing overall structural motions as a structure cycles due to applied load. For typical structures a damping ratio of 5 percent is typically used to assess the level of expected motion. Sophisticated analysis techniques for the preliminary analysis of the unbonded braced frame system indicates that the level of effective damping for this system on the Marriott Library Building is between 25 and 30 percent. The preliminary analysis of this retrofit system indicates that its ductility is far superior to that of other lateral force resisting systems.

Figure 20 depicts the acceleration displacement response spectra (ADRS) for the Marriott Library Building retrofitted with a system of unbonded braces. Also included in the figure is the acceleration/displacement nonlinear static pushover curve that represents the capacity of the structure. The points where the capacity curves and the demand curves meet are called performance points. Note that for load demands corresponding to the IBC 2000, spectral displacements are about 3.75 inches.

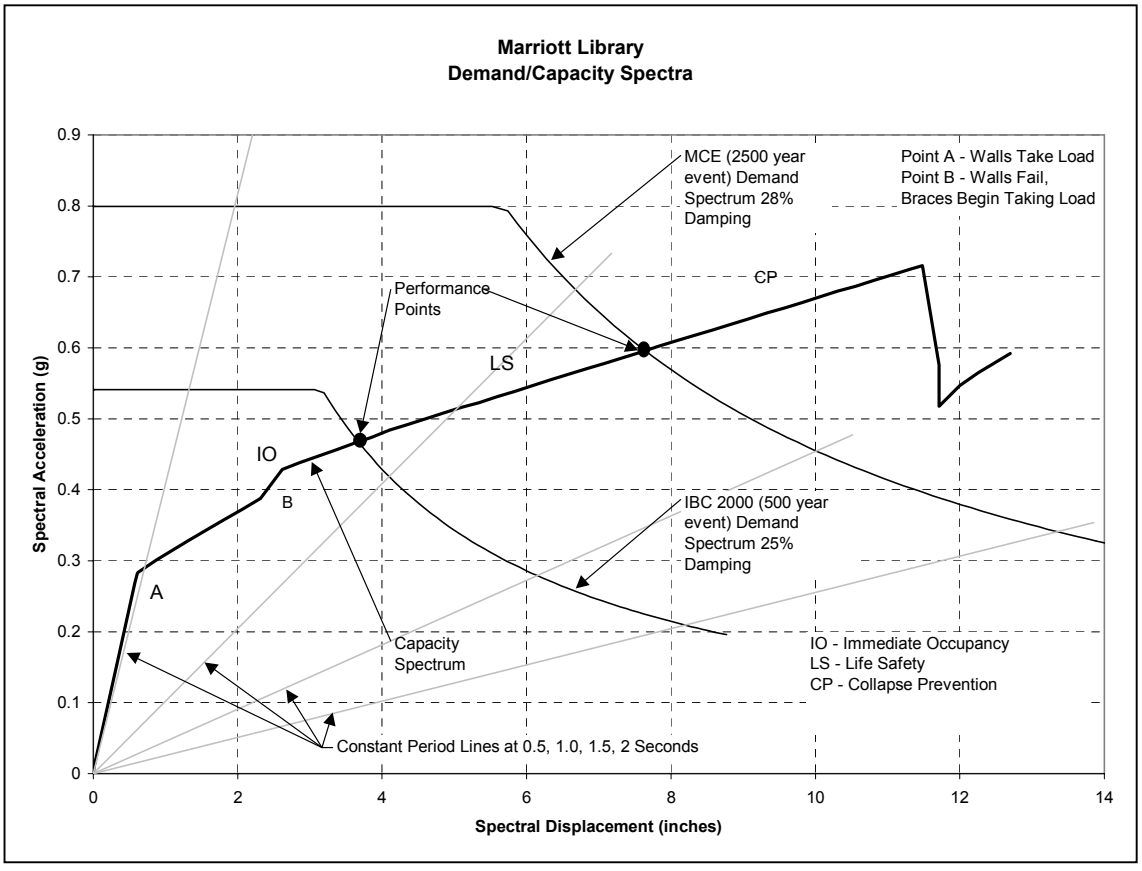


Figure 20 – Acceleration/Displacment Demand/Capacity Spectra for Original Marriott Library Building Retrofitted with Unbonded Braced Frames.

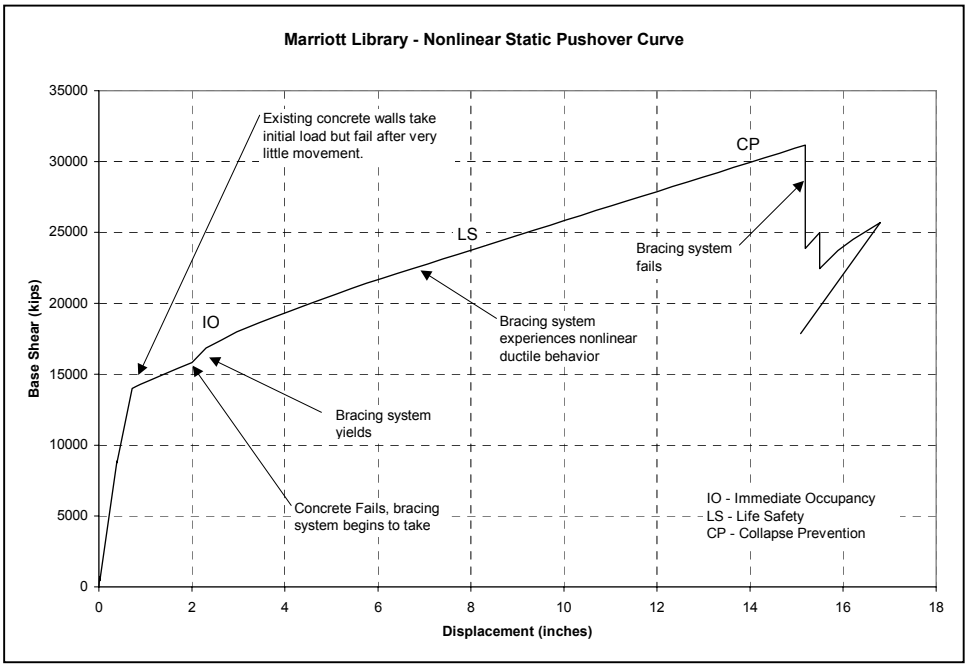


Figure 21 – Nonlinear Static Pushover Curve for Original Marriott Library Building Retrofitted with Unbonded Braced Frames.

Likewise for the MCE the spectral displacements are about 7.5 inches. In addition, the performance points indicate that for the IBC 2000, expected performance lies between Immediate Occupancy (IO) and Life Safety (LS). Likewise, the MCE performance point lies between Life Safety (LS) and Collapse Prevention (CP). Thus the analysis indicates that the recommended performance objectives for the seismic retrofit of this structure would be met.

Preliminary analysis has indicated that significant work would be required at the basement and foundation levels of the structure to accommodate the new unbonded braced frames.

Since most of the seismic load would be resisted by the new unbonded braced frames, the footings and foundations required to effectively transfer the load into the adjacent soils are considerable in size. The foundation at the base of each unbonded braced frame would consist of a mat footing measuring approximately 16' x 16' x 5.5'. To account for overturning loads, the footing would need to be anchored to the soil at each end with approximately 20 drilled helical piers. To account for lateral sliding of the foundation, the new mat would need to be anchored and tied to existing footing elements with a system of grade beams. Figure 22 is a representation of the recommended footing and foundation configuration. This footing configuration could be made to work with the proposed retrofit system. However, finding alternate or slightly different configurations could reduce the intensity of work involved at the foundation. The following alternatives for the recommended footings and foundations could be explored during final design to determine the most appropriate and most economically feasible solution:

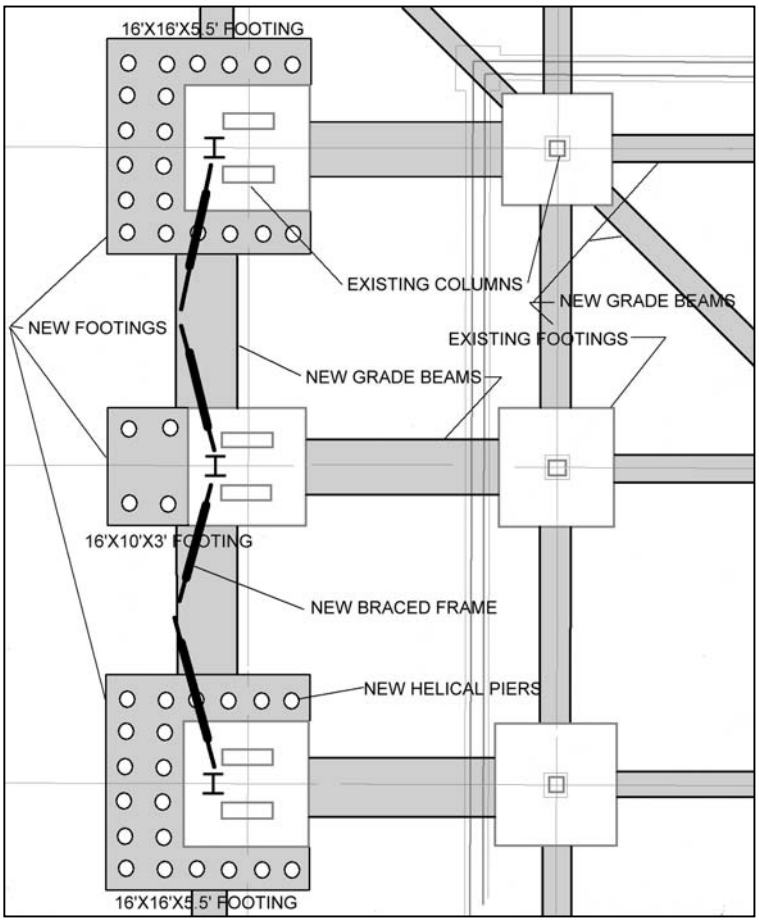


Figure 22 – Schematic Representation of Typical Footings and Foundations for New Unbonded Braced Frames.

1. Extending the ends of the mat footing to engage columns one bay beyond the frame at each end would effectively engage more dead load that resists overturning. Overturning loads would therefore be lessened and the amount of helical piers could be reduced.
2. Extending the bays of braced structure to three in lieu of two at the basement level would enable the proposed braced frames to meet at the corners of the structure and therefore work together and complement one another as lateral force resisting frames. Since the frames would be tied together, their collective strength would enable their foundations to work together in a more efficient manner thus reducing the amount of foundation work required to meet rehabilitation objective.
3. Extending the bays of braced structure at the basement level to four bays in lieu of two bays would provide greater distribution of load at the foundation. This would reduce overturning potential while also providing more structure to engage in reducing sliding loads thereby reducing the extent of grade beams required at the foundation.

RETROFIT OF SLAB TO COLUMN CONNECTION

To alleviate the problem of overstressed fillet welds on the slab to column connection, encapsulating the existing columns in approximately 6" of concrete is recommended. The concrete would then provide a positive support mechanism for the floor slab in the event of weld failure. In addition, the concrete coating on the steel columns would vastly improve their ability to perform under conditions of fire as the concrete provides a significant fire barrier. Figures 23 and 24 depict the recommended method of encapsulating the columns. Although the encapsulation of the columns does improve their stiffness which improves the overall seismic performance of the structure, the encapsulated columns are still far too limber to participate effectively in the overall lateral force resisting system of the structure.

As an alternative to the column encapsulation described above, the capacity of the slab to column connection may be improved by filling the existing columns with concrete and adding steel haunches that provide a positive support mechanism between the floor and the column. Figure 25 depicts this method of reinforcing the connection. Since the walls of many of the columns are too thin to effectively support the haunches and their loads, bolts would need to penetrate the column to allow the bolts to engage the concrete and provide a positive load transfer mechanism. Although not as reliable as encapsulating the existing columns with concrete, this method of reinforcing the connection is believed to be an effective improvement.

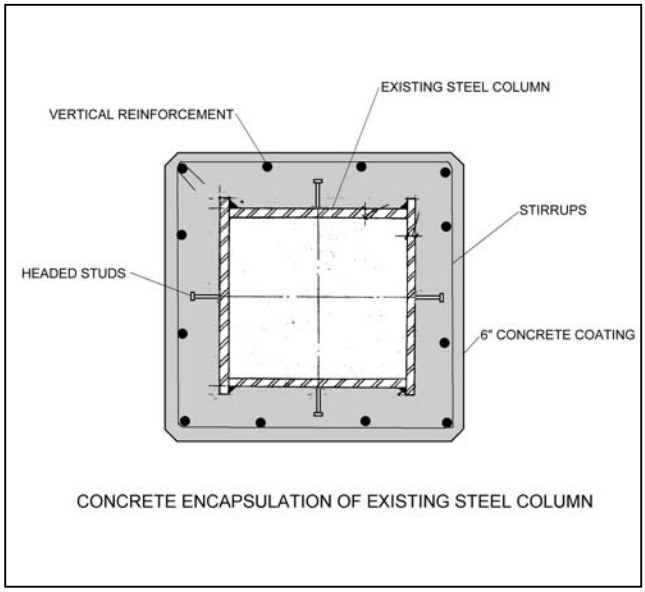


Figure 23 – Concrete Encapsulation of Existing Steel Columns

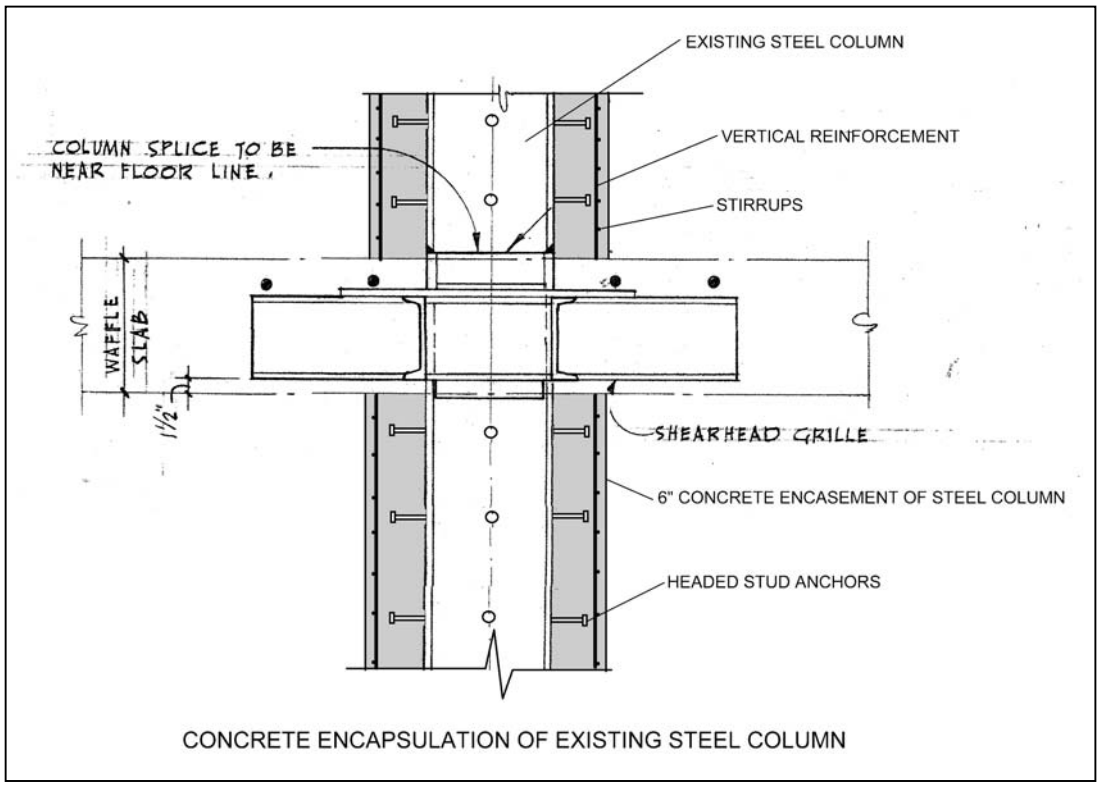


Figure 24 – Reinforcement of Existing Columns and Floor to Column Connection.

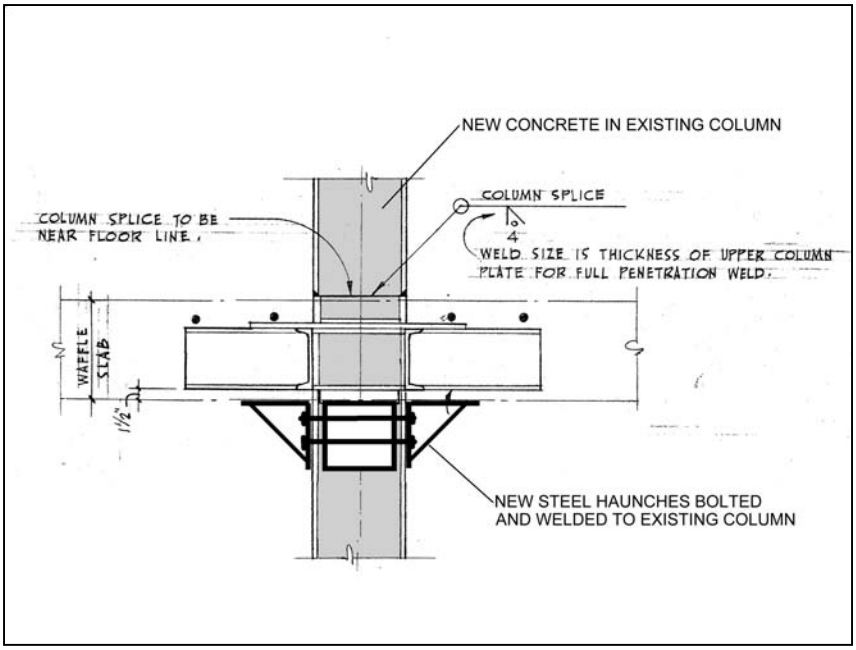


Figure 25 – Reinforcement of Existing Columns and Floor to Column Connection.

INCREASING FLEXIBILITY

As part of the rehabilitation objective of this structure, it is desired to improve its role as a flexible edifice capable of meeting the needs of The University of Utah. The items herein described are proposed architectural renovations that would improve the performance and function of the building and the structural considerations that must be addressed.

Floor/Atrium Penetration at Level 3
To improve overall flexibility for the facility recommendations have been made to remove a small section of the third floor waffle slab near the center of the west end of the building. This would enable an atrium configuration that would improve overall flexibility. Such an opening in the waffle can be made, however the following are considerations that must be addressed:

1. The edges of the opening must be carefully located so that they fall at or near areas of low flexural demand on the existing slab. This occurs approximately where the draped reinforcing tendons of the waffle slab intersect the neutral axes of the rib members. For the most part, this occurs at the edges of the solid concrete column capitols that measure approximately 9' x 9' at each existing steel column. Failure to locate the edges of the opening as required could result in unbalanced loading of the existing post tensioned system, which could lead to serviceability problems such as excessive deflection. It could even lead to failure of existing structural elements.

2. All structural elements that share post tensioning tendons with members that will be severed must be temporarily shored or otherwise supported. To do the work, the stress on the existing tendons must be released then re-applied thus temporarily compromising the structural capacity of the system.

3. The anchorage hardware for the existing post tensioning system of the structure is believed to be a "Button Head" system. For this system of post tensioning each tendon is unwound at the anchorage location then each individual wire is anchored to a steel plate in a riveting type fashion. The entire plate is then jacked away from the concrete to stress the tendon and wedges are placed between the plate and the concrete to maintain the stress in the system. To do the work as required, skilled contractors must be retained with experience in this type of system. Though outdated, it is believed that the equipment needed to accomplish this work can be found.

Floor Penetrations in Waffle Slab for Support Utilities

The record drawings for the Marriott Library indicate provisions for penetrating the waffle slab. The drawings state, "*HOLES IN THE WAFFLE SLAB SHALL BE THRU THE SLAB BETWEEN THE RIBS, UNLESS NOTED OTHERWISE*". At the ribs of the waffle slab are reinforcing tendons that should be carefully avoided. These tendons are highly tensioned and could cause significant damage if severed. However, between the ribs is a relatively thin, lightly reinforced slab. This thin slab may be penetrated as required or may even be completely removed, provided the adjacent rib members remain intact. It is believed that the thin concrete slab could be removed in as much as 10% of the total number of pans without adversely affecting the behavior of the system as a whole. If the penetrations are intermittently scattered across the breadth of the structure this number may even increase. However, care should be taken to avoid removing or penetrating the slab at areas that could experience high levels of concentrated load such as primary lateral force resisting systems (braced frames or shear walls).

Saw Cutting in Basement for Compact Shelving

As part of the renovation it is desired to use a system of compact shelving at the basement level of the structure. To do so, saw cutting the slab will be required to install the necessary equipment to accommodate the shelving. Since a large portion of the basement would be disrupted to install the foundations for the new lateral force resisting system (unbonded braced frames), the equipment for the compact shelving could be easily accommodated when replacing the concrete floor slabs. At areas of floor slab that are unaffected by the installation of new foundations, the existing slab may be saw cut as required to accommodate the equipment. Prior to placing new concrete in saw-cut areas where the hardware is added, the existing soil should be proof-rolled and compacted as needed to reduce the likelihood of settlements that could cause serviceability problems for the compact shelving.

DISCLAIMER

The recommendations for retrofit herein described are based on a preliminary nonlinear analysis of the building structure. The intent of the analysis was to ascertain the feasibility of using the proposed retrofit system. Further investigation of actual conditions in addition to future design and analysis efforts may uncover conditions or behaviors not explicitly accounted for in this study. Therefore, future design and analysis efforts must focus not only upon carrying the current analysis to the next level, but verifying that the recommendations herein provided can effectively meet the identified rehabilitation objective.

Glossary of Structural Terms

Accelerogram — A recording of the horizontal accelerations due to ground motions of a specific earthquake or a record of artificially generated accelerations developed from geoseismic engineering for use at a specific site.

Amplification — The phenomenon of increase in horizontal accelerations caused either by increased structural height, irregular vibration behavior or soil conditions.

Base Isolation System — A group of seismic base isolators interconnected by a stiff structural floor (diaphragm) enabling the isolators to act in uniform motion.

Base Isolator — A vertically stiff but horizontally flexible element used to de-couple a structure from the ground thus limiting significant ground motions that transfer into the structure.

Basic Safety Earthquake 1 (BSE-1) - An earthquake having a 10% a probability of being exceeded in a 50 year period per FEMA guidelines (See **Design Basis Earthquake).**

Basic Safety Earthquake 2 (BSE-2) — An earthquake having a 2% probability of being exceeded in a 50 year period or a deterministic Maximum Considered Earthquake (MCE).

Basic Safety Objective — The primary rehabilitation goal established by the owner or building official. Per FEMA guidelines, a Life Safety (LS) level of performance for the BSE-1 and a Collapse Prevent (CP) level of performance for the BSE-2.

Bay — The typical unit of space in a structure usually measured from centerline to centerline of adjacent structural columns.

Buckling Restrained Braced – Often referred to as an unbonded brace this unique brace consists of an internal steel yielding element coated with bond breaker and encased by a grout filled exterior steel jacket. As the internal element is subject to axial tensile and compressive loads it is restrained from buckling due to the encasement. As a result the internal element yields and becomes an effective energy dissipating mechanism leading to improved overall structural ductility.

Confinement — Transverse concrete reinforcing bars (ties) used to wrap around longitudinal reinforcing bars to hold them in place and prevent them from buckling through the concrete column surface. Also used to hold the core of a concrete column together after cracking.

Damping — The ability of a structure, structural component, or device to absorb earthquake energy so that it become less likely manifest as earthquake load, deformation, or damage.

Design Basis Earthquake — An earthquake having a 10% probability of being exceeded in a 50 year period (See Basic Safety Earthquake -1).

Diaphragm — A horizontal planar structural component (floor or roof) that transfers earthquake loads across the breadth of a structure to its primary horizontal load resisting elements.

Drag Strut — A beam rigidly connected to a structural diaphragm used to collect earthquake load from a diaphragm and deliver it to the primary earthquake resisting elements.

Ductility - The Ability of a structure to deflect and deform significantly while still maintaining its ability to carry load. In addition, a structure is said to be ductile when it has a high capacity for absorbing and dissipating earthquake energy without experiencing significant structural damage.

Dynamic Characteristics — The natural vibrations of a structure and the manners in which the vibrations become amplified or excited by applied load or applied motion.

Dynamic Load — The forces that a structure and its components experience as a result of earthquake or wind motion.

Elastic — The range over which a structural member can be deformed under a specific load and still return to its original shape. The ability of an element to be deformed and then automatically return to its original shape and configuration.

Elastic Displacement — The measured structural deformations due to applied loads that are low enough for the structure to return to its original shape.

Finite Element Method — Method of analysis which considers the various strengths and stiffness of all of the elements of a system and how the elements interact to define the structural characteristics and modes of response for the complete system.

Fixed Base System — A structure with a foundation that is cast directly against the earth thus causing the foundation system to be subject to exactly the same earthquake ground accelerations as the adjacent soil.

Fundamental Mode of Vibration — The predominant mode of natural movement for a structure.

Fundamental Period — The time required for the fundamental mode of vibration to complete one cycle of movement.

Global System — The complete building structure in combination with the seismic base isolators and the isolation system.

Inelastic — The range over which a structural member can be deformed under a specific load high enough that the member cannot return to its original shape or configuration.

Inelastic Displacement — The measured structural deformations due applied loads that are too high for the structure to return to its original shape.

Lateral Drift — The measured horizontal displacement of a structure due to applied load.

Lateral Force Resisting System (LFRS) — The structural system included in a building intended primarily to resist the loads and forces that act horizontally on the structure such as wind and earthquake.

Level of performance — The predefined post earthquake damage state of a structure subject to rehabilitation.

Linear — See **Elastic**.

Linear Behavior — The ability of a structure to return to its original shape and configuration after being subject to a load of certain magnitude. Structural behavior in which member stresses are low enough that the members do not yield.

Maximum Considered Earthquake — A characteristic large earthquake, rare seismic event.

Moment Frame — A lateral force resisting frame that consists only of horizontal beams and vertical columns. Horizontal forces are resisted almost entirely by the bending stiffness of the frame members.

Nonlinear — See **Inelastic**.

Nonlinear Behavior — Structural motions that are high enough to cause the structure to become permanently deformed at a horizontal load of certain magnitude. Structural behavior in which member stresses are high enough that members yield.

Nonlinear Demand — The requirement of a structural system to experience nonlinear behavior for the applied seismic load.

Nonlinear Displacement — The measurable seismic deformations that occur as a result of nonlinear behavior.

Out-of-Plane — The direction normal (perpendicular) to a wall surface.

Out-of-Plane Loads — Forces that act normal (perpendicular) to a wall surface. These loads are usually due to wind or seismic motion.

Passive Damper — A device added to a structure in a configuration similar to a diagonal brace. The device acts as a seismic 'shock absorber' to lessen the impact of an earthquake by absorbing earthquake energy and dissipating it in a safe manner rather than allowing it to become manifest as structural damage.

Performance Based Evaluation — The method of evaluation and design of structures intended to be in accordance with the specific structural performance goals established by the owner or building official.

Performance Objective — The process of selecting an acceptable post-earthquake damage state for a structure then selecting the level of seismic motion for which the acceptable damage state should apply.

Positive Anchorage — The use of specific elements and or devices to connect structural members or structural systems together.

Prescriptive Design — Design in which the primary objective is to follow the letter of the applicable code, usually without regard to the specific performance objective of the owner.

Recurrence Interval — The time period that passes between occurrences of events that are similar in nature and magnitude.

Response Spectrum — A measure of the extent to which actual or theoretical ground motions have the ability to excite the various natural vibrational modes of a structure resulting in the horizontal acceleration and loading of the structure.

Response Spectrum Analysis — A method of dynamic analysis in which the seismic response of the various modes are combined mathematically to produce a measure of overall structural response to seismically induced ground motions.

Return Period — See **Recurrence Interval**.

Seismic Demand — The requirement of structural members to perform to a specific level under a certain amount of seismic load.

Seismic Response — The manner in which a structure responds to a specific earthquake ground motion. This is usually measured by overall force, rooftop displacement, or acceleration.

Shearwall — A wall that is designed to resist forces acting parallel to the plane of the wall.

Site Specific — Characteristically unique to the specific building site.

Soil Classification — A measure of the hardness or stiffness of a soil in terms of its ability to transmit shear waves.

Soil Bearing Capacities — The overall capacity of a soil to support a load of specific magnitude.

Shear Wave Velocities — The speeds at which shear waves are propagated through a soil. Usually an accurate measure of the soils ability to amplify the motion of an earthquake.

Static Load — Discrete loads that are applied to a structure that do not move.

Steel Bracing — Diagonal frame members, usually steel, used to prevent oblique deformations in structural frames caused by wind or earthquake loads.

Stiffness Discontinuity — A change in structural strength at a particular elevation that tends to produce a significant horizontal weakness. Sometimes referred to as 'Soft Story' this weakness is often manifest in earthquakes as a collapsed level of a multi-level structure.

Structural Dynamics — The field of structural engineering primarily concerned with the design, analysis and evaluation of structures in response to earthquake or wind induced horizontal motion.

Structural Response — The specific behavior of a structure in response to forces of a specific nature. This is usually measured by overall force, displacement, or acceleration.

Target Displacement — A measure of the total nonlinear deformation that a structure is expected to experience for a predefined level of earthquake motion.

Time History — A record of measured horizontal accelerations from a specific earthquake or those from an artificially generated earthquake produced from geoseismic engineering and analysis.

Time History Analysis — A method of dynamic structural analysis which uses time history accelerograms and applies them directly to the analysis model to determine the seismic response.

Unbonded Brace – See **Buckling Restrained Brace**.

Yield — The behavior that occurs in a material when it is loaded beyond its elastic limit and is subject to permanent deformations.

7.2 MECHANICAL SYSTEMS

A. SURVEY SUMMARY:

This report makes general and specific recommendations for mechanical work required for replacement or upgrade of aging and worn out mechanical systems serving the original portion of the Marriott Library. This mechanical report is a portion of an overall report that addresses architectural, structural and electrical issues.

The original building constructed in 1967-1969 has an area of approximately 300,000 gross square feet. The adjoining addition/expansion constructed in 1994-1996, has an approximate area of 210,000 gross square feet.

The original building has had some mechanical upgrades within the past 30 years. Most recently as part of the addition/expansion the central chilled water plant and the central heating water plant functions for the building were replaced with new. Additionally the air handling units serving the original portion of the building were fitted with new chilled water coils, new steam humidification injectors, new filter bank system and new direct digital controls. In a 1998-1999 retrofit, the existing ceiling supply air plenum (Airson) distribution system was modified to provide a conventional ducted diffuser system to provide conditioned air more directly to the building spaces. As part of the 1998-1999 retrofit work, a wet pipe fire sprinkler fire protection system was installed to provide fire protection for the entire building.

Since the construction of the original building, technological advancements (PC computers, Internet, high speed copy machines, etc.) and increased student enrollment have and will continue to cause the functions of the spaces within the Library to change. The building's occupants point out issues of comfort complaints, particularly concerning temperature and low air flow, issues of dust accumulation, and concerns of non-constant temperature and humidity conditions.

The mechanical systems serving the library need to be upgraded and modified to: provide a reliable system capable of serving the library building for another 30 years; to be capable of providing a relative constant environmental condition (temperature and humidity) for occupant comfort and document preservation; to provide for ease in the monitoring and manipulating of the system's setpoint conditions; to provide flexibility in the distribution systems in order to be capable of responding to space function changes that will occur over time; to be energy efficient and to have the installed mechanical system meet current code requirements especially for life safety and seismic restraint.

B. ANALYSIS

EXISTING MECHANICAL SYSTEMS:

CENTRAL AIR HANDLING SYSTEM:

The existing building is served from 8 built-up fan systems. The eight systems are located in four penthouse fan rooms. Each penthouse system (two supply and two return/relief fans) serve one quarter of each of the five floors of the building.

Air handlers 36 and 37 serve the northwest portion, air handlers 38 and 39 serve the northeast portion, air handlers 40 and 41 serve the southwest portion, and air handlers 42 and 43 serve the southeast portion of the building. Each of the air handling units is constant volume airflow.

The supply from each of the supply fans is discharged into separate main supply air ducts. Main supply air ductwork from each fan drops in separate mechanical shafts located in the four quadrants of the building. The two supply air duct that are fed from supply fan systems located in a common penthouse are interconnected at the levels four and two.

The Mechanical Shafts also serve as a return air path back from each of the floors back to the return air/relief air fans. The shafts also serve as a path for piping and conduit extending up the building to the various floors.

Each air handling system has an associated return/relief air fan. Return fans 44 and 45 serve the northwest portion, return fans 46 and 47 serve the northeast portion, return fans 48 and 49 serve the southwest portion and return fans 50 and 51 serve the southeast portion of the building. The two return fans in each penthouse return air into a common penthouse space. The air is either relieved to the outside through dampered/louvered openings or returned back to the supply fan system.

As part of recent mechanical upgrade work, new chilled water cooling coils, new filter, bank system and new steam humidification injector(s) were installed in each air handling unit. Additionally each of the air handling units were fitted with new Staefa direct digital controls and tied into the central campus control system. The systems were balanced as part of the distribution retrofit work in 1999.

Each of the built up air handling units consist of:

1. Mixed Air section.
2. Filter section.
3. Chilled Water Cooling Coil section.
4. Heating Water Pre-Heat Coil section.
5. Supply Air Fan Section.
6. Return/Relief Air Fan Section.
7. Relief air damper and louver.

The components of each of the air handling units are housed in a plenum enclosure that uses single wall sheet metal plenums and the outside walls of the penthouse to create the enclosure. The interior of the sheet metal walls and the walls of the penthouse used for the enclosure are lined with 1" thick acoustical insulation.

FILTER SECTIONS:

Each of the filter section consists of 12" deep rigid filters with 2" thick pre- filters. Each of the filters have an area of 96 square feet. With an airflow of 42,000 cfm the air velocity across the filter is on the order of 440 fpm. Maximum air velocity through the filter should not exceed 500 fpm. Filters area for the given airflow are of adequate size.

COOLING COILS:

The existing cooling coils were installed in the 1996 retrofit work. The existing cooling coils are eight row, eight fin per inch. Each having a rated capacity of 1,074,000 Btuh with an airflow of 42,000 cfm and an entering chilled water temperature of 43 deg. F. and leaving chilled water temperature of 55 deg. F. using 180 gpm each. In total for the eight systems there is 716 tons of cooling capacity.

STEAM HUMIDIFIER INJECTORS:

The existing steam humidifier injectors were installed in the 1996 retrofit work.

The existing humidifier injectors have a capacity of 125 lbs/hour using 5 to 15 psi steam.

HEATING WATER PRE-HEAT COILS:

The existing pre-heat coil are original. Each has a rated capacity of 266,000 Btuh. The coils are single row with wide fin spacing. Each coil has a flow rate of 26.6 gpm using 180-200 deg. F. entering hot water temperature with 160 -180 deg. F. leaving water temperature. The heating coils have been in service for over 30 years. ASHRAE indicates that the mean service life for a coil is on the order of 20 years. Though no catastrophic problems have occurred with the coils it is recommended that the coils be replaced with new.

SUPPLY AIR FANS:

All of the supply air fans are constant speed. Each fan is an American Blower, double inlet, size 445 (44" wheel), backward inclined, Class 1 fan, 30 hp motors. The fans are original and have been in operation for over 30 plus years. Each of the fans are mounted to the concrete floor of the fan room with spring isolators.

In 1999 the air handling systems and units were balanced. The following table summarizes the airflow capacities of the air handling units.

		1999	Return Fan		1999
AHU	Original Design	Balanced	Fan	Original design	Balanced
Number	cfm	cfm	Number	cfm	cfm
36	41383	38362	44	37575	33743
37	42316	39622	45	37575	36590
38	42122	31845	46	37575	34398
39	41650	47355	47	37575	30971
40	41525	40838	48	37575	34272
41	41259	30690	49	37575	35380
42	40213	35488	50	37575	48098
43	42183	38280	51	37575	37396
Total	332651	302480		300600	290848

ASHRAE indicates that the mean service life for a fan is on the order of 25 years. To provide reliable service for another 30 years and to provide airflow capacity of 42,000 cfm, it is recommended that the fans be replaced with new. The new fans should be Class 2 and have inverter duty rated motors for use as a variable air volume system. The variable air volume system can match the load more closely. This system will provide better comfort for the occupants and a more constant temperatures for the books.

RETURN AIR FANS:

All of the return air fans are constant speed. Each fan is an American Blower, double inlet, size 445 (44" wheel), backward inclined Class 1 fan, 10 hp motors. The fans are original and have been in operation for over 30 years.

ASHRAE indicates that the mean service life for a fan is on the order of 25 years. To provide reliable service for another 30 years and to provide airflow capacity on the order of 40,000 - 42,000 cfm it is recommended that the fans be replaced with new. The new fans should be Class 2 and have inverter duty rated motors for use as a variable air volume system.

MIXED AIR:

The mixed air section of each of the air handlers consists of dampered outside air intake and dampered return air feeding into a common plenum. The outside air damper is served by an outside air intake louver. The dampers appear to be of the low leak type. The louver is original and has an intake screen. The return air dampers have an area of 39 sq. ft.. At a return airflow of 38,000 cfm, the airflow across the damper is on the order of 960 fpm. The outside air damper has an area of 63 sq. ft.. At an outside airflow of 42,000 cfm, the airflow across the damper is on the order of 660 fpm. The outside air louver has an area of 63 sq. ft.. For an air flow of 42,000 cfm, the intake air velocity through the louver is on the order of 1300 fpm.

The damper opening sizes and louver sizes are adequate for an air volume of 42,000 cfm. The louvers and screens are fouled with greasy dirt. It is recommended that the louvers be replaced with new. Louvers to be of the drainable type, low pressure drop and have stainless steel bird screens. The existing dampers should be replaced with low leakage type with blade and edge seals. To provide better mixing of the return air and outside air it is recommended that a sheet metal baffle be installed in the mixed air

plenums. To monitor and measure the flow of outside air introduced into the systems it is recommended that a airflow monitor grid/station be installed. For ease of maintenance, low pressure drop and reliability the use of an Ebtron system is recommended for the air flow measuring.

RELIEF AIR DAMPER:

The Relief air damper and louver are located in the fan room outside wall. The damper was replaced in 1996 retrofit work. The louver is original. Portions of the existing louver have been blanked off. The relief air damper has an area of 25 sq. ft. For an air flow 38,000 cfm the air velocity through the louver is on the order of 1500 fpm.

The available damper and louver opening size are adequate for an airflow of 42,000 cfm. The louvers and screens appeared to be fouled with dirt and grime. It is recommended that the louver be replaced with a new louver. The louver to be of the drainable type, low pressure drop and have stainless steel bird screens.

SUPPLY AIR DUCTWORK:

The existing building supply air ductwork is sized for 1,000 to 2,000 fpm velocity. Approximately 2,000 fpm velocity for main ductwork extending from the air handler down the shaft. Approximately 1,500 fpm velocity for main ductwork extending from the shaft to the terminal boxes located on each of the floors and approximately 1,000 - 1,500 fpm velocity for distribution supply air ductwork downstream of the terminal boxes.

The existing ductwork located in the shaft and which extends to the terminal boxes on the floors is externally wrapped with duct wrap insulation. The internal condition of the main supply air ductwork was reviewed. The interior of the ductwork was observed to be noticeably coated with a grimy layer of dirt.

In total, the eight air handling systems are to deliver 336,000 cfm (design) to the building. Based upon the 1999 balance report the air handling units are delivering 302,000 -310,000 cfm to the building. For the building in total this equates to 1.2 Cfm/sq. ft. (design), with 1.1Cfm/sq. ft. actually being delivered.

The main supply air ductwork extending down the shaft from each fan to each of the floors has a capacity capability of 43,000 cfm at 2,000 fpm. The existing main supply air ductwork is of adequate size to handle each fan capacity of 42,000 cfm.

From the main ductwork system in the shaft, ductwork is extended and connected to multiple constant volume terminal boxes located throughout the building on each of the floors.

Over time, the interior of the ductwork has become fouled with dirt. The air tightness of the ductwork system is unknown but we suspect that due to its age the seals at the joints and fittings have begun to leak. ASHRAE indicates that the mean life for ductwork is on the order of 30 years. Though the ductwork is of adequate size for the fan air volume, it is recommended that the main supply ductwork systems be replaced with new. Doing so will provide the building with a clean, tight sealed ductwork system that will be capable of serving the building for another 30 plus years. New fire-smoke dampers are to be installed at all shaft wall penetrations and at the shaft openings into the fan rooms. It is also recommended that the main ductwork systems on the floor be routed and looped to provide flexibility for connection of terminal boxes to more easily accommodate changes.

TERMINAL BOXES AND DISTRIBUTION DUCTWORK:

With few exceptions, the existing terminal boxes are from the original construction and have been in use for over 30 years. Each terminal box has a hot water heating coil and a manually set volume damper. During the retrofit and balancing work conducted in 1998-1999, it was found that many of the manually operated damper regulators had seized and the box air flow could not be adjusted. Additionally it was also found that for some boxes, the heating water coil was plugged and would not allow heating water flow. To maintain space temperature set points, the temperature of the discharge air from the box is heated by modulating the heating water control valve serving the heating coil of each terminal box. The heating water control valves for each coil was installed as part of the 1996-1999 retrofit work.

Distribution supply air ductwork is connected to the discharge side of the constant volume terminal boxes and extended to supply air diffusers located throughout the spaces. The supply air diffusers and elements of distribution ductwork were added in the 1998-1999 retrofit of the Ceiling Supply Air plenum (Airson) system. The added ductwork has been externally insulated with duct wrap insulation. The 1999 balancing report indicates that airflow to each of the floors is as follows:

Fifth Floor:	95,000 cfm
Fourth Floor:	77,710 cfm
Third Floor:	58,400 cfm
Second Floor:	43,000 cfm
First Floor:	34,600 cfm

The existing terminal boxes have met their life expectancy. The new program for the building will dictate the reconfiguration of many of the spaces for both use and size. The existing ductwork system will need to be remodeled/replaced to respond to the new programmed requirements for the spaces. Additionally, most to all of the existing odd sized ceiling grid is slated to be replaced with a new conventional 2' x 2' ceiling grid with narrow tee members. The existing supply air diffusers and return air grilles are not compatible with the new ceiling grid system. It is recommended that the existing terminal boxes be replaced with new variable air volume terminal boxes with hot water heating coils. The use of a variable air volume system (VAV) will provide for better space temperature control and be more energy efficient. The VAV terminal boxes are to be fitted with direct digital controls. The direct digital controls will give the building operators the capability to monitor and adjust airflow and temperature to individual rooms and spaces. To respond to the reconfigured space requirements, it is recommended that new distribution ductwork be provided for the entire system. New ceiling diffusers and return air grills will be required in order to match the new ceiling grid system.

RETURN AIR:

Return air from each of the spaces is transferred through ceiling mounted return air grilles. The ceiling space is utilized as a return air plenum. Return air from each of the floor's ceiling plenums is then transferred through return air openings at each of the mechanical shafts up through the shafts and back to the return/relief fans.

Each supply air duct penetration and each return air opening penetration at the mechanical shafts is dampered with a multi-blade fire damper with fusible link. Some of these dampers are held open with wood blocking, others will not properly close due to misaligned frames.

Area of the Return Air openings into the shaft are as follows:

Fifth Floor:	85 sq. ft. at 800 fpm provides for 1.2 cfm / sq ft.
Fourth Floor:	68 sq. ft. at 800 fpm provides for 1.0 cfm / sq. ft.
Third Floor:	56 sq. ft. at 800 fpm provides for 0.8 cfm / sq. ft.
Second Floor:	46 sq. ft. at 800 fpm provides for 0.6 cfm / sq. ft.
First Floor:	40 sq. ft. at 800 fpm provides for 0.6 cfm / sq. ft.

The estimated free area of each of the main shafts is on the order of 40 sq. ft. At 800 fpm velocity this area provides an approximate capacity capability of 32,000 cfm each. At 1000 fpm velocity this area provides an approximate capacity capability of 40,000 cfm for each fan system. The addition of conduit, piping and ductwork system to the shafts will reduce the capacity capability of the return air shafts.

The size of the return air openings into the shaft from the fourth, third, second and first floors needs to be increased to provide transfer air openings large enough to accommodate at least 1.2 cfm / sq ft of return air flow. Additional return air shaft area of ten square feet free-area needs to be provided for each of the eight shafts. The additional shafts are to extend from the first floor ceiling up to the fan rooms. The existing fire dampers at the return air openings in the shaft are to be replaced with new fire-smoke dampers.

TEMPERATURE AND RELATIVE HUMIDITY REQUIREMENTS:

The required year round indoor design condition for the library is to be 70 to 72 deg. F at 30 % +/- 5% relative humidity. The indoor temperature and humidity levels are to be maintained to provide, as near as possible, a constant year round temperature and relative humidity environment throughout the library. The computer machine room is to be maintained at 68 deg. F. and 40% - 45% relative humidity.

The existing air handlers were retrofitted in 1996 with new 8 rows 8 fin per inch cooling coils and new steam injection humidifiers. Additionally the outside air economizer function of the air handling units was discontinued and only minimum outside air is being introduced into each of the systems.

To accomplish dehumidification in the summer months (when outside air humidity levels are higher) the chilled water supply temperature off of the chillers is to be lowered (42- 43 deg. F.) to provide an air discharge temperature low enough to drop the moisture out of the supply air stream (49 – 50 deg. F). The air off of the cooling coils will then need to be re-heated to 55 deg. F. Reheat should be accomplished by either adding new heating coils down stream of the existing cooling coils in each of the air handlers or by sizing the heating coils of the new variable volume terminal boxes large enough to provide the required heating. In the winter months, when low outside air humidity levels are present, the existing steam injection humidifiers and steam generating system is to be utilized to provide humidification. To minimize the amount of humidification required, the use of outside air economizer is not to be done. The existing evaporative chilling system, that utilizes the cooling towers to produce chilled water, is to be

utilized for providing cooling when outside air dry bulb and wet bulb temperatures are suitable for such.

EXHAUST AIR SYSTEMS:

There are three existing exhaust fans and associated ductwork systems. The existing exhausts fans are located on the roof of the original building. The exhaust fan systems serve toilet rooms, old smoking rooms, janitor closets, and miscellaneous spaces throughout the building. The exhaust fan systems have the following design capacities:

Exhaust Fan System 30: Serves northwest section. The system has a design capacity of 3,780 cfm.

Exhaust Fan System 31: Serves northeast section. The system has a design capacity of 10,250 cfm.

Exhaust Fan System 32: Serves south section. The system has a design capacity of 12,310 cfm.

With the reduced capacity needs of the exhaust system (the elimination of smoking rooms, elimination of general exhaust throughout the building etc.,) the existing system was balanced to the following air quantities:

Exhaust Fan System 30: 3,290 cfm.

Exhaust Fan System 31: 3,900 cfm.

Exhaust Fan System 32: 3,000 cfm.

The existing exhaust fans and ductwork systems are original and have been in use for over 30 years. ASHRAE indicates that the mean life expectancy for the fans is on the order of 25 years and for ductwork on the order of 30 years. The existing fans and exhaust ductwork systems have exceeded their expected life. The estimated duty for exhaust serving toilet rooms is on the order of 6000-7000 cfm. At this time a requirement for other general exhaust is unknown (program dependent). It is recommended that the existing exhaust fans and ductwork systems be replaced with new.

PIPING SYSTEMS (IN SHAFTS):

All of the existing piping in the shafts will have to be removed and replaced if shaft structural work is required. The shafts will be enlarged and structural improvements made. This piping includes chilled water, heating water, steam, condensate, tower water, domestic cold, domestic hot, recirculating, fire protection, drinking water, waste, and vent lines.

HEATING WATER PIPING SYSTEM:

Building heating water for use at the terminal box coils, the air handler pre-heat coils and the perimeter baseboard radiation is produced by heat exchange with campus high temperature water. The central system consisting of heat exchange equipment, pumps, piping and valving were installed as part of the 1994 - 1996 addition/expansion project. Variable speed pumping provides heating water to the terminal box coils and to the air handler pre-heat coils of the addition/expansion systems and to the original building systems. A separate pumping and piping system provides heating water to the perimeter baseboard radiation system of the original building. Existing heating capacity and pumping capacity is adequate for the load of the original building.

During the balancing work of the original building systems it was found that some terminal box coils and ends of piping runs on the floors were fouled and plugged with sediment (mud). At that time an effort was made to unplug and drain the sediment (mud). In some cases the system was unplugged others it was not. The piping system has been in operation for over 30 years. The existing piping system should be replaced in order to provide a reliable, clean supply of heating water to the new coils of the VAV terminal boxes, and to the new pre-heat coils of the air handlers

It is recommended that existing heating water piping serving the original building be replaced with new, including the risers in the shaft. This piping is original with the building and is at the end of its useful life. If this piping is continued to be used, future water leaks may occur.

The existing baseboard radiation system is served from separate pumping and piping system. The system serves wall heaters on the perimeter of the second floor and finned tube radiation located in architectural enclosures along the perimeter of the third floor. Some of the wall heaters at the second level have been disconnected and abandoned in place.

The perimeter wall heating load at the second level can be successfully treated with the heating capabilities of the VAV terminal boxes. The perimeter wall heaters on the second level could be removed. The radiation at the third floor is used at the base of the large exposures of glass. This is a good solution to treat the heat loss against the glass. It is recommended that the base board radiation system concept to serve the third floor perimeter be used. The finned element should be replaced with new as well as the piping system. This finned element and piping can be modified to accommodate architectural or space changes.

ELEVATOR EQUIPMENT ROOM AND SHAFT VENT:

Currently there are five elevators that serve the building. The Public elevators located in the east lobby (serving floors one through five), the Staff elevator located in the southwest portion of the building (serving floors one through five), and Freight elevator located off of the west dock (serving levels one and two), and a small staff elevator, located in the Southeast, serving floors one through three. The existing elevator equipment rooms for the public elevators and the staff elevator are located in the penthouse mechanical rooms. The elevator equipment rooms are currently gravity ventilated with outside air.

Most of the five elevators are to be removed. The two public elevators will be replaced in the same location. One new elevator for the staff will be added near the grand lobby and stair.

The new elevator equipment has a requirement for better temperature control to serve the new electronic controls and new motors. A new separate cooling system will be required for the elevator equipment rooms.

The International Building Code indicates that if a building is equipped with an automatic sprinkler system throughout, venting of the shafts to the outside is not required. This building is equipped with a fire sprinkler system and therefore venting of the shafts is not required.

SUPPLEMENTAL COOLING SYSTEMS:

In addition to the central air handler and distribution systems, two additional self contained systems serve specific areas of the library. A system for the second floor Data Center and a separate system for the third floor computer lab area. The second floor computer room is served from two computer room cooling units. One unit is direct expansion refrigeration with a condensing unit on the roof. The other is glycol cooled unit with the dry cooling unit and pumps

on the roof. The third floor computer classroom area is served from a separate air-cooled chiller located on the roof with the cooling fan coil unit(s) located in the ceiling space above the room.

The existing Data Center function is slated to grow and be moved to the an existing portion of the library. The new Data Center is approximately 1,600 square feet on the first floor. At 100 watts per square foot heat rejection load, 50 tons of cooling will be required. The existing central system does not have the extra capacity available for this load. To meet this type of load, three 20 ton computer room units with remote condensers will be required. The existing Data Center HVAC equipment should be removed after the construction of the new Data Center. The new computer space should be served with new HVAC equipment. The new Data Center should be protected with a gas suppression system and a dry fire protection system.

The existing third floor computer classroom space is scheduled to be removed and relocated. The cooling equipment serving this space has been in operation since 1986. This equipment should be removed when the classroom is removed.

SPECIAL AND RARE COLLECTION HVAC:

An approximate space of 2,500 square feet is being considered for the Special/Rare collection in a Vault. To maintain tight control of temperature, humidity and light for the Vault, a separate independently refrigerated and humidified enclosure may be considered for this space. The enclosures should be protected with a gas suppression system and a dry fire protection system.

COPY CENTER HVAC:

Program requirements for a Copy Center have not been finalized at this time. Ozone produced from copying equipment is of concern. Ozone can be detrimental to the archives. If a Copy Center is slated for the building, a separate air handling system dedicated to serve only the Copy Center should be provided. The air handling system should have direct access to the outside for outside air intake and exhaust.

CENTRAL HEATING WATER AND CHILLED WATER SYSTEMS:

The building uses the central campus high temperature water (HTW) system for heat exchange to provide building heating water and building domestic hot water. The existing heat exchange plant serves the entire library facility. The building heating water conversion equipment has a total capacity of 15,000,000 Btuh with 7,500,000 Btuh (750 gpm) available for heating use in the original building. The heat exchange equipment and system were upgraded with the installation of new in the 1994-1996 addition/expansion.

For cooling, the entire library facility is served from two 600 ton chillers (1200 tons total). The chillers are located in the basement mechanical room with two matching ceramic cooling towers located on the roof of the original building. There is 710 ton capacity available for cooling use in the original building and 490 tons capacity required for the systems serving the addition/expansion portion of the facility. For winter time cooling of the facility, when outdoor conditions permit, the cooling towers and tower water system were to be utilized to provide chilled water through a heat exchanger with the chilled water system (evaporative chilling). The system will minimize the introduction of outside air to keep the library space humidity relatively constant. In the past, the electric heat in the sumps of the towers has failed and the water in the sumps have frozen. It is reported that gear drives on the tower fans have failed and have been replaced. It also has been reported that the towers periodically overflow. It is recommended that the existing towers be re-piped separately from each other. This would require a new 12" tower supply line from the 5th floor down to the basement. These independent lines, one from each

tower, will solve the tower overflow problem. Also, the electric heat in the sumps should be repaired.

In order to accommodate the air-handlers for the atrium smoke control system, the cooling towers might be relocated to the grade level. Nevertheless, this could pose several difficulties. First, during the winter, the condensate cloud from the towers could disperse on the building, the parking lot, and the students. The specific dynamics of the condensate cloud are hard to predict. Second, this cloud of condensate is made of chemically treated water. This water could pose a safety hazard to anyone inhaling the vapors. If the towers are located on grade, new sumps, piping and pumps would be required for the towers.

CONTROLS:

The existing central heating, chilled water and cooling tower, and tower water functions of the building are currently controlled with direct digital control systems. The high temperature water system is controlled with a combination of pneumatics and electric controls. The mechanical systems serving the addition/expansion portion of the facility are controlled with direct digital controls. Elements of the existing penthouse air handling units are controlled with direct digital controls. The direct digital controls are Staefa. The Staefa control system was installed as part of the work of the 1994 -1996 addition/expansion project. The heating coil control valves associated with the terminal boxes and the baseboard radiation systems are pneumatically controlled.

The terminal boxes are recommended to be replaced with new VAV terminal boxes with direct digital controls (DDC). The control of the control valves serving the finned tube radiation is to be by the DDC system. For the variable air volume system, additional DDC controls for space static, duct static, space humidity, control of the frequency drives etc. are to be added. DDC control and monitoring of new exhaust fans and other added mechanical equipment is to be provided. The DDC system is to be Staefa and is to interface with the existing system. Water detection is to be added to monitor and alarm if there is water detected on the floor of the penthouse fan rooms.

ATRIUM:

The requirements for the atrium, as they relate to smoke control were studied by Rolf Jensen and Associates.

Their report indicates that a minimum of 170,000 cfm of exhaust and 170,000 cfm of supply will be required. This determination has been made based on an application of the axisymmetric plume algorithms for a fire at the base of the atrium. Depending on the configuration of adjacent spaces, additional exhaust on each level (15,000 - 30,000 cfm per level) may be required.

EXISTING PLUMBING SYSTEMS:

SUPPLY SYSTEMS:

The existing building has domestic cold and hot water service. Additionally, there is a central chilled water system providing cold domestic water to the drinking fountains of the original building. Domestic hot water is produced from a converter using the campus HTW system for heat and then stored in a 325 gallon storage tank. Cold water to the drinking fountains is provided by a domestic water chiller. All of these units are located in the basement mechanical rooms. During the 1994-1996 addition/expansion, the domestic converter, hot water storage tank and water chiller were replaced with new units. The domestic hot water converter can handle approximately 300 gallons-per-hour (GPH) .

PIPING:

All of the supply piping in the building is original. Several areas were investigated ,and copper piping was the material used for the domestic water supply. Most of the piping is routed in the ceiling of the first, third, and fifth floors. The second floor is served from risers through the first. The fourth floor is served from risers through the third floor. The piping system has been in service for over 30 years. The maintenance staff has commented that the system has not been overly troublesome, but also requested additional new isolation valving and replacement of several sections of piping. The median life of copper is approximately 40-50 years. If this building is to be used without major modifications for 30 more years, the piping system should be replaced with new. Isolation valves should be added in the new piping to facilitate maintenance of the plumbing fixtures.

FIXTURES:

The existing fixtures in the original building appear to be original. These fixtures have reached the end of their useful life and should be replaced. These fixtures and restrooms require upgrading to meet ADA requirements. The restrooms will have to be remodeled to fit handicap accessible fixtures and new fixtures in the space. The branch waste piping from the fixtures to the existing mains should be replaced. There are approximately 41 lavatories, 50 water closets, 20 urinals, 16 drinking fountains, and 20 miscellaneous sinks needing replacement.

WASTE PIPING:

The waste piping is original within the building. This piping should be still functional and should not require wholesale replacement. Nevertheless, several areas should be replaced due to use, and past leaks. The drain piping from the penthouse mechanical room floor drains to the main vertical risers should be replaced. These drain lines have developed leaks in the past. The maintenance staff has commented on several p-traps that have failed in the space. All galvanized drain and vent piping should be replaced with cast iron. The galvanized piping has reached the end of its useful life and should be replaced.

ROOF DRAINS:

The original building has only primary roof drains serving the main roof areas. There no secondary system. A secondary roof drain system for the roofs is recommended.

EXTERIOR HOSE BIBBS:

The original building has (9) nine exterior hose bibbs located around the original building. These hose bibbs do not meet current code, and are not being used. It is recommended that all of the existing hose bibbs be removed, with the associated piping.

NEW CAFE:

The program for a new café consists of pre-prepared foods and no cooking requirements. Therefore, water, sewer, and vent would have to be extended to this area. Since no cooking would be involved, no exhaust would be required.

FIRE PROTECTION:

During the construction period between 1998-1999, a wet-pipe fire-sprinkling system was installed in the existing library. This system will require modifications due to wall and ceiling changes in the existing building that will be required due to new program requirements.

A gaseous suppression system should be considered for the protection of the Rare Collection Archives Vault, and Computer Server Room.

C. RECOMMENDATIONS

1. Upgrade the existing air handling units.

   a. Replace existing supply and return fans with new fans. Provide inverter duty motors for the fans. Provide inertia bases with seismic spring isolators for the mounting of the fans and motors. Provide variable frequency drives for the fan motors. Provide fans with new discharge air dampers.

   b. Replace the existing return air and outside air dampers with new. Provide airflow monitoring at outside air dampers and at relief fans.

   c. Replace the existing outside air and relief air louvers with new.

   d. Replace the hot water pre-heating coils with new. Provide new hot water coil circulating pumps.

   e. Provide new mixing baffle in the mixed air plenums.

   f. Repair existing plenum access doors. Patch, repair and insulate the existing plenum.

   g. Seal and waterproof the existing penthouse floor including the floor inside the fan plenums. Provide water detection system to monitor and alarm if water is present on the floor of the penthouse.

   h. Provide new lighting in the fan plenums and in the mechanical penthouses.

   i. Provide new supply air ductwork connection and transition from the fan discharge to the supply air ductwork.

2. Replace all existing main supply air ductwork from the supply fans and extending down the shaft to the floors of the building. Replace all existing main ductwork located on the floors with new. Provide a looped ductwork system.

3. Replace all existing constant volume terminal unit boxes with new variable air volume (VAV) terminal units with hot water heating coils and new direct digital controls. Provide new supply air ductwork downstream of new terminal boxes to provide conditioned air to all spaces.

4. Add additional terminal boxes and associated ductwork and diffusers as required to provide additional air supply to modified serve modified space functions. (program dependant)

5. Replace all ceiling diffusers and grilles with new to match the new ceiling grid system. The existing ceiling is non-standard and will be replaced by a 2'x2' grid.

6. Provide new fire smoke dampers at all shaft penetrations for supply air ductwork and return air openings.

7. Provide additional return shaft area for each of the eight shafts. Extending from the first floor ceiling to the fan rooms. Each shaft requires an additional ten square feet of area.

8. Provide additional return air openings for transfer of return air into the return air shafts. Provide additional return air area for levels one, two, three and four.

9. Replace the existing exhaust air system, which includes ductwork and fans with new.

10. Replace the entire existing building heating water system serving the original building with new.

11. Remove all existing wall heaters on level two.

12. Replace the existing finned tube radiation at the third floor with new.

13. Repair existing cooling tower sump heaters.

14. Re-pipe existing cooling tower supplies to be independent.

15. Provide new cooling systems for the existing elevator equipment rooms when elevator equipment is upgraded. Provide new cooling system for new elevator equipment room.

16. Provide new computer room cooling equipment for new computer server room. Provide new condensing units on grade level.

17. Replace all existing plumbing fixtures with new. Upgrade to meet ADA standards. Replace existing branch waste piping associated with the fixtures.

18. Remove all existing exterior hose bibbs. The exterior bibbs are not used and do not meet current code.

19. Replace the domestic chilled water piping system, serving the original building, with new copper piping based system. Replace existing drinking fountains with new.

20. Replace existing domestic supply piping complete. Install a copper based piping system. Provide new isolation valves at each of the bathroom groups.

21. Provide secondary roof drains for the roof.

22. Provide new direct digital controls for all new mechanical equipment. Add digital controls to existing air handling systems to provide for variable air volume operation and monitoring of the building's temperature and humidity conditions.

23. Replace existing waste piping serving the floor drains of the penthouse mechanical rooms.

24. Modify existing fire sprinkler system piping and heads as required to coordinate with new remodeled space walls and ceiling changes. (Program dependant)

25. Possible addition of new gaseous fire-protection system to 2,500 square feet of Rare collection (Vault) and 1,600 square feet of new computer server room.

7.3 ELECTRICAL SYSTEMS

A. SURVEY SUMMARY:

1. Power Distribution System Overview

The Marriott Library consists of an original building and an expansion with an estimated 512,000ft². It is supplied by an electrical service that includes transformers totaling 5000kVA. This size electrical service provides approximately 9.8 watts per square foot for all loads ranging from HVAC to convenience receptacles. The main 5000kVA supply consists of two transformers that feed two main distribution panels. Balancing the load between the two transformers is important if full utilization of the supply is desired. Current consumption based on a reading of the demand for each transformer shows that the peak electrical consumption of the entire library is 4.5 watts/ft².

The original portion of the library consists of an estimated 300,000 ft² on five floors. Each of these floors is supplied by 480/277-volt panels (primarily for lighting) and 208/120-volt panels (primarily for receptacles). Originally all the 208/120-volt panels on each floor were fed from the 480/277-volt panels on the same floor using transformers to step the voltage down. Additions have been made to the electrical systems on the second, third and fourth floor such that part of the available 208/120-volt power is fed from the main electrical distribution on the first floor.

An analysis of each floor shows that the existing 480/277-volt distribution system provides between 5.1 and 9.5 watts per ft², depending on the floor, with an average of 6.9. A portion of this power is transformed into 208/120-volts on each floor but as mentioned above the 208/120-volt power has been supplemented by various additions. An analysis of the 208/120-volt power shows that between 1.7 to 4.6 watts per ft² is available with an average of 2.6. The results of the 480/277-volt analysis and the 208/120-volt analysis are show in Table 1 below.

480/277-volt power	
Floor	w/ft²
1	6.6
2	6.2
3	5.1
4	6.7
5	9.5
Average	6.9

208/120-volt power	
Floor	w/ft²
1	1.7
2	4.6
3	3.1
4	2.0
5	1.8
Average	2.6

Table 1 – Watts per Square Foot for 480/277-volt and 208/120-volt

2. Lighting System Overview

The lighting throughout most of the library remains the same as it was originally installed. It consists of lay-in fixtures to match the acoustic ceiling. The size is a non-standard 4ft 4in grid rather than today's 4ft grid. Lighting ballasts have been replaced as necessary through the years to keep the system functioning well. Control of the lighting is accomplished manually using the circuit breakers for each area. These breakers are located in approximately four places on each floor. No automatic switching using occupancy sensors or time clocks is done in the originally library.

3. History

a. Original Construction

The original service installed when the library was built in 1969 included transformers rated at a total capacity of 2500kVA. The electrical distribution also included;

1. Panels on each floor for lighting powered at 277V.
2. Transformers to step the voltage from 480 to 208/120.
3. Panels for 120-volt loads.

In general, this equipment is installed in the Northwest, Northeast, Southwest and Southeast quadrants of each floor. The panels are flush-mounted in equipment rooms with cinder-block walls. Most rooms include a small vent. A few of the rooms do not have sufficient working space by today's standards either due to the original construction or because obstructions have been added.

The lighting throughout the library is controlled using the circuit breakers in the 480/277-volt panels on each floor. Library personnel use colored stickers to mark the breakers and color-coded floor plans on the panel doors to facilitate knowing which breakers control each bank of lights.

Panels with colored stickers to identify breakers

Color-coded floor plans on the panel doors

b. Pre-expansion changes (between 1969 and 1996)

Changes to the electrical system of the library prior to the expansion consist of work primarily done to support computers.

On the second floor, a computer room was added in the southern part of the building and electrical panels (LCR, PCR, LLD) were added. These panels were primarily added to supply power to the computer and the computer air conditioning equipment. Additionally a transformer was added in the second floor southern electrical room for panel PCR. A panel was also added on the second floor in the northeast electrical room next to panels LF and PF.

Panels PCR and LCR on second floor

On the third floor (NE area), a new 75kVA transformer and panels were added to supply power to a computer lab. The computer lab has now become a copy center. Power was run from the original switchboard MA to a new panel labeled 'Main'. This panel was then used to supply power to the new 75kVA transformer and new secondary panels CA and CB. The labels in these panels indicate that most of the circuits now feed the fourth floor.

Transformer and panels added on the third floor

c. Expansion changes (1995-1996)

In 1996, during the renovation of the library, the service was upgraded to include two 2500kVA transformers or 5000kVA. In essence the service was doubled. Much of the original distribution equipment was left in place at the time of the renovation and new distribution equipment was added. The original main distribution panels (MA and MB) were re-fed from the new equipment.

The emergency power distribution was changed with panels and a generator added or replaced. Panel HEF was added as the main 480-volt emergency distribution panel in place of panel LE. Panel LE was replaced with a newer version. The 480 to 208/120-volt emergency transformer TPE (15kVA) was removed and replaced with a 75kVA version now labeled TE. The 208-volt emergency panel PE fed from TPE was also replaced and an additional panel labeled LEF added. The feeder for Elevator #1 was moved from the main switchboard MB to the emergency power distribution panel HEF. An emergency panel (HEG) was placed on the roof to feed other emergency loads. Additional emergency panels were also added in the expansion.

Changes in the way the elevators obtain power were also made during the expansion. The feeder for Elevator #2 was moved from the original main switchboard MB to the new main distribution panel MDP1. Also the feeder for Elevator #3 was moved from panel LR on the fifth floor to the new main distribution panel MDP2.

One of the original six motor control centers (MCF) was removed and replaced with a new motor control center (MCC4). The new motor control center is powered from MDP2. Additionally, another of the original six motor control centers (MCG) was changed and its feeder was moved from MB to MDP2. The remaining four original motor control centers continue to be fed from the original switchboard MB.

The two chillers located on the first floor were replaced with newer versions. The power for the chillers was moved from the original main switchboard MB to the new main distribution panels MDP1 and MDP2.

The snowmelt equipment was disconnected either before or during the renovation. The three panels feeding this equipment are located on the second floor (SB in the northwest) and the third floor (SA and SC in the northeast). These panels were also fed from the original switchboard MB.

d. Post-expansion changes (1996 to 2001)

Since the library expansion, further additions have taken place in an effort to support changing computer needs.

An additional 112.5kVA of power was supplied to the computer room on the second floor by installing a 225A breaker to the new main distribution panel MDP1 panel. This breaker supplies power to transformer T2D which was installed on the first floor (south). This transformer then feeds panel D2D which was added on the second floor along with a UPS panel and distribution panels U-1 and U-2. Additionally panel ‘B’ was added on the first floor (south) as well.

112.5kVA transformer on first floor and panels U-1 and U-2 on second floor

Finally, a 100A breaker was also added to MDP1 to feed a new transformer (T4A) on the fourth floor (NW). This transformer then feeds panel L4A in the same room. The circuits in this panel are used primarily for the “Library Computing” area on the fourth floor and copier on the fifth.

Panel L4A and transformer T4A added to the fourth floor

4. Code Violations and Concerns

During the process of gathering information for this report various conditions were observed as National Electrical Code violations and concerns. At the time the original library was constructed these items were obviously not addressed and most likely were not viewed in the same way they are today.

Working space seems to be the most commonly violated code requirement in the original library. Some of the violations could be corrected with housekeeping while others require more substantial effort.

The main electrical room on the first floor has one entrance at present, however NEC 110-26(c) requires an entrance at each end of the working space for equipment rated 1200 amps or more.

Wall and pipe violating working space in front of electrical equipment

Janitorial supplies stored in the working space

Other concerns include overall panel neatness and workmanship. As a result of the age of the original building and the number of times electrical circuits have been added or changed, some panels have become cluttered with changes.

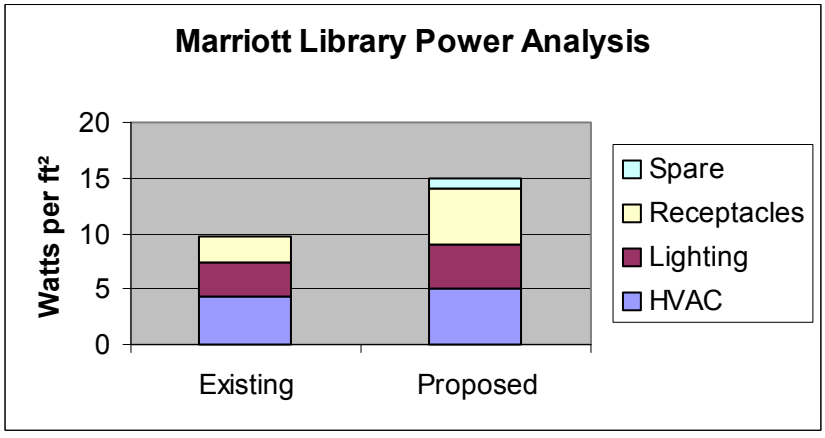
An example of panel clutter

Another challenge caused by the many changes that have taken place in to the library is the difficulty in troubleshooting for the library personnel. When problems occur or a circuit breaker trips, it is sometimes difficult to find the correct panel to solve the problem.

Finally, a few of the original panels and transformers are removed or could not be found during the research for this report. Due to the absence of up-to-date drawings the exact circuitry of a few components of the distribution system remains in question.

B. ANALYSIS

The current and future power needs of the library at this stage of the project are determined using information from the programming work accomplished to date and historical data for this type of building. The overall design criteria based on sound industry practices and guidelines for college libraries recommends designing for 15 watts/ft². While this figure can and does change depending on the occupancy and function of each area, this figure gives us a starting point for analyzing the changes required in the overall power distribution. The chart below indicates the existing and proposed power distribution in watts per square foot.



As can be seen the Marriott Library's existing power available to meet the current and estimated future electrical needs is not sufficient. The deficiencies can be separated into five major categories;

1) User Available (120-volt) Power - Receptacles
2) Power Distribution
3) Electrical Service
4) Lighting
5) Emergency Power

1. User Available (120-volt) Power – Receptacles

As pointed out in the survey summary there is currently an average of 2.6 watts/ft² of user available (120-volt) power. This is wholly inadequate for today's needs involving computers and other low-voltage equipment. As described above transformers currently exist on each floor to provide user available (120-volt) power. As we consider adding additional transformers on each floor or replacing those currently in use, we quickly discover the loads that would be added to the existing 480-volt panels. These panels are not sized to handle this increased load causing a need to improve the power distribution system. Even if sufficient power was available in the original 480-volt panels, the ability to add circuits is hampered by the age of the equipment. Replacement breakers are difficult to obtain and the hardware to add breakers is not available from the original manufacturer (General Electric).

2. Power Distribution

Consideration was given to replacement of the panel interiors, leaving the enclosure and conduits in place. Again the age of the equipment comes into play, as currently designed equipment will not fit in the old enclosures. Additionally, we considered replacement of the panels however the conduits to each floor are not sized with sufficient capacity to handle the increase in wire size necessary to upgrade the power distribution. Additional or new conduits are necessary to feed the larger panels necessary on each floor.

3. Electrical Service

The main switchboards feeding the original building have fulfilled their useful life and are inadequate for the planned distribution upgrade. Additionally the two existing 2500kVA transformers do not have sufficient capacity to satisfy the 15-watts/ft² design requirement. Replacing the original main switchboards and adding transformer capacity will solve these problems. Increasing the size of the existing transformers was considered but is not feasible due to the space and available equipment limitations. Research with University of Utah personnel indicates the high voltage power distribution system is capable of handling the load of additional transformers although additional feeders from the nearby manhole will be necessary.

While adding service equipment can be costly, there is an extra advantage in this case since it is desirable to keep the library in operation during construction. Installing and energizing additional transformers and main distribution switchboards allows each area of the library under construction to be fed from the new switchboard without disrupting the distribution system to the existing areas. A more orderly switchover from area to area is easier to accomplish.

4. Lighting

As mentioned earlier in this report the lay-in ceiling grid is not standard and will be replaced as part of the scope of work. Replacement of the existing fixtures is a natural part of that process. While the existing fixtures continue to work and undergo lamp and ballast replacement as necessary, their size and age make them sure candidates for replacement.

The lighting control system currently in use involves security or library personnel going from panel to panel in each quadrant of each floor and switching breakers. This system meets the smallest of requirements for lighting control. With increased awareness for power conservation and safety any consideration given to the continued use of this type of lighting control is quickly eliminated.

5. Emergency Power

During the expansion, a new emergency generator was included in the project. While adequate for the expansion and the loads in the original building at the time, upgrading the original library adds three significant loads. Emergency lighting, smoke evacuation and backing up the UPS for the data center will significantly add to the emergency power requirements. Considerations were made to adding an additional generator rather than replacing it; however, the integral nature of the systems, maintenance required and space needed, indicate that replacement is the preferred choice.

C. RECOMMENDATIONS

1. In order to provide a reasonable amount of user available (120-volt) power, as well as sufficient power for other systems, we recommend installing an additional 3000kVA of transformers to augment the existing service.
2. Power for lighting and receptacles from these new transformers will be distributed to the four quadrants of each floor using new feeder conduits and distribution panels.
3. We recommend an additional feeder into the building be installed to power the additional transformers.
4. Lighting throughout the building should be replaced in conjunction with the new ceilings planned. Additionally an energy efficient control scheme should be used to meet current standards and control the lighting in a convenient manner.
5. It is recommended that the existing generator be replaced with a larger unit (approximately 850kW) in order to sufficiently handle the emergency loads in the building.
6. Finally, we recommend investigating the replacement of the “tie breaker” currently in place in the switchgear.

D. SUMMARY OF COSTS

Construction element	Cost per ft²	Total
Service and Distribution	$ 2.75	$ 830,500
Lighting	$ 5.00	$ 1,510,000
Devices	$ 1.25	$ 377,500
Equipment	$ 1.50	$ 453,000
Basic Material	$ 2.00	$ 604,000
Fire Alarm	$ 1.25	$ 377,500
Generator	$ 0.75	$ 226,500
UPS	$ 0.50	$ 151,000
Phasing and Demolition	$ 3.00	$ 906,000
Total Electrical Construction		$ 5,436,000

7.4 CODE

INTRODUCTION

The following documentation of existing conditions at the Marriott Library at the University of Utah is intended to be used in the Statement of Conditions report prepared by Cooper Roberts Simonsen Architects. This revision reflects the understandings and agreements of an October 16, 2001 meeting with the Department of Environmental Health and Safety at the University of Utah.

SURVEY SUMMARY

The fire and life safety survey performed by Rolf Jensen & Associates, Inc. (RJA) for the Marriott Library documents key issues pertaining to the fire protection systems, fire partitions, the general egress system, and key building features. The purpose of the analysis presented in this document is threefold:

1. Describe existing conditions in the original building and the addition,

2. Identify the primary trigger mechanisms associated with the proposed architectural program as well as with the areas of non-compliance with the base codes that may necessitate changes to the current configuration, and

3. Make recommendations based on the trigger mechanisms in the context of the standard of care in the fire and life safety industry.

It has been assumed that where significant modifications to the existing building are required, such modifications will be required to comply with the 2000 Edition of the International Building Code (IBC). Key costing figures related to the fire protection systems described in this survey are disclosed in other sections of this report.

BACKGROUND

The original building was constructed from 1967-1969 under the 1964 Uniform Building Code (UBC), and was subsequently expanded from 1994-1996, using the 1994 UBC. The main tower has an area of approximately 300,000 gross square feet, and the addition has an approximate area of 212,000 gross square feet. The building is not a high-rise, though it is considered to have five stories based on the number of levels and orientation of the building.

The original structure has been provided with several important fire and life safety system upgrades within the last several years. Of note, the entire Library was provided with a sprinkler system upgrade approximately three years ago, effectively providing total sprinkler coverage. Additionally, during the 1996 addition, an FCI fire alarm panel was installed with the intent of serving select areas within the original structure, and a

Notifier panel was put in place to serve the 212,000 square foot addition. Other than as a direct result of the 1996 addition, which resulted in the removal of a stairwell on the west side of the building, RJA is only aware of two major revisions to the egress system that substantially altered circulation. Subsequent to the 1996 expansion, two interior stairs between the 2nd and 3rd levels were removed, altering interior circulation, but not necessarily resulting in a reduction of legal exit width from the building.

The occupancy of the Library has not been altered since the facility was constructed, but the nature of use has changed in subtle ways during the last few years. The trend in combustible loading has been that more computers and similar fuel loads with proximate ignition sources have been added as the demand for more interactive spaces within the Library has increased. Simultaneously, it appears as though the number of seats and desks has decreased over time, as the demand for and/or availability of study areas has apparently diminished. For future renovations, it is our understanding that the user group has recommended that more area be devoted to congregational activities, potentially resulting in larger occupant densities and a more significant combustible loading.

ANALYSIS

This analysis focuses on the primary active and passive fire protection systems that are currently in place at the Marriott Library. The comments and recommendations arising from this analysis are based on an assumption that the specific aspects of the proposed scope will act as trigger mechanisms, necessitating varied responses by the design team. The nature and scope of the responses as outlined in the recommendations contained in this report will be based on (1) the standard of care for the fire and life safety industry, (2) miscellaneous requirements arising from past alterations to the building, and (3) proposed uses or methods of occupancy that are dissimilar to those originally proposed for the original building and its addition (based on the 1964 UBC, and 1994 UBC, respectively).

CONSTRUCTION TYPE AND ASSOCIATED LIMITATIONS

A detailed analysis for construction type has been performed by Cooper Roberts Simonsen Architects in order to better understand the limitations associated with the existing conditions. It is the goal of the analysis presented in this section to document the nature of the existing and proposed use in the context of the requirements set forth in the 2000 IBC. Current compliance with the relevant editions of the UBC is assumed.

Existing Conditions. The original 1967 facility is of a non-combustible nature, and appears to be of Type I construction as outlined in the 1964 UBC as well Type I A or Type I B construction as defined the 2000 IBC. The 1996 addition is Type I construction (1994 UBC), which is assumed to be equivalent to Type I A or Type I B construction as outlined in the IBC.

Based on the construction classification of the existing building as Type I, it is the understanding of the design team that no separation between the original 1967 facility and the 1996 addition is required. The building is viewed as one structure from the standpoint of allowable area, height, as well as the number of stories.

A discussion of potential trigger mechanisms and the corresponding recommendations associated with construction type follows:

Construction Type and Area Limitations. Collectively, the total building area is 512,000 square feet. Assuming predominantly A-3 occupancies, the allowable area is unlimited pursuant to Table 503 (2000 IBC).

Construction Type and Height Limitations. The two primary concerns associated with height limitations and construction type are (1) overall building height, and (2) height of specific occupancies within the building.

Table 503 of the 2000 IBC indicates that buildings of Type I A construction are unlimited, and Type IB construction are limited to 160 feet in height. Assuming that the building will remain fully sprinklered, the base height may be increased by 20 feet, thereby bringing the total allowable height to 180 feet, assuming the most restrictive type of construction. Therefore the overall height of the building is in compliance with previous codes as well as the 2000 IBC.

A-3 occupancies may not be located above the 11th story of a Type I B building. The current configuration and proposed scheme are limited to five stories, and are therefore compliant with the 2000 IBC, as well as previous codes.

INTENDED USE AND OCCUPANCY

The intended use and occupancy refers to the nature of the different occupancy uses within the Library, as well as the associated occupant loads that correspond with those uses.

Existing Conditions. The Marriott Library serves the student population and professional staff at the University of Utah. In addition to reading areas and book stacks, the Library contains computer workstation spaces, classrooms, study areas, offices, and conference rooms. It is significant to note that the original occupancy assumptions are not positively known at this time, but it is likely that the use of the original building was viewed as a B-2 occupancy (1964 UBC), and that the expansion was classified as a B or A-3 occupancy (1994 UBC).

The primary occupancy is library assembly (A-3), as defined in Section 303 of the IBC. Ancillary uses within the library include Business (B), and Storage (S-1 and S-2). A discussion of potential trigger mechanisms and the corresponding recommendations associated with occupancy and intended use follows:

Intended Use and Occupancy Separation. Assuming that there was little need for separation of specialized occupancies (other than the atrium) in the original building, there would be few requirements for occupancy separation assemblies outlined in the previous editions of the UBC. Based on the assumption of homogeneous use of the space as a library, it is unlikely that any additional occupancy separations would have been required as a matter of course. Clearly, however, if the proposed changes significantly alter the layout of any floor, then it may be necessary to provide occupancy separations in the context of the overall building construction. The potential for these changes would not likely be driven by non-compliant features of the original construction, but would instead arise out of the need to comply with specific local requirements set forth by the Department of Environmental Health and Safety at the University of Utah. Since the time that the original building was first constructed, the code requirements pertaining to compartmentation have evolved. A specific discussion of the potential occupancy separation issues follows.

Depending on specific agreements reached with the Authority Having Jurisdiction (AHJ), it may be necessary to use the separated-use approach as outlined in Section 302.3.3 of the IBC. Please note, however, that per the 2000 IBC, the non-separated use method for classifying mixed occupancy would be valid since the entire building is built according to the most restrictive construction type (Type I).

The IBC has more stringent requirements for occupancy separations than the UBC. However, due to the presence of sprinklers in the facility, Section 302.3.3 allows the designer to reduce the required separation rating by one hour. At this time, the precise nature of construction between occupancies is not quantified. The required occupancy separations between the occupancies identified above are listed below:

Occupancy 1	Occupancy 2	Required Separation*
A-3	A-3	1 hr**
A-3	B	1 hr
A-3	S-1	2 hr
A-3	S-2	1 hr
B	B	1 hr
B	S-1	2 hr
B	S-2	1 hr

*One-hour reduction for fully sprinklered building taken.
**Based on use of spaces of same occupancy classification.

Incidental occupancy separations will also be required for the boiler/chiller rooms that are significantly modified, as well as new storage rooms greater than 100 square feet in area. One-hour enclosures are required for both of these uses.

Intended Use and Occupant Loading. The key issue associated with occupant loading and intended use arises from an examination of the changing nature of the Library. Many of the original uses that were provided for in the original building are still appropriate today. The 1964 UBC recognized library-reading rooms, but does not clearly define requirements for stack areas, or specialized interactive assembly spaces like those that have been proposed. Alternatively, the occupant loading would either fall generically under "other" or "assembly areas." Based on the number and size of stairs, it is likely that only ancillary assembly use was considered throughout the original building. It is therefore likely that the introduction of significant assembly areas on the 2nd , 3rd , or 4th levels would necessitate a study of the impact of such occupant loads on the existing egress system. At this time, it is our understanding that the occupant loads on Levels 2 and 3 may exceed 1,000, while the load on Level 4 will not likely be in excess of 500 occupants per the intended program.

Occupant load factors (square feet per person) and occupancy classifications of areas within the Library are listed below. Floor plates are provided in the architectural overview within this report. The impact of certain occupant loads on each floor is discussed in the egress systems section of this document.

Area Description	Occupancy Classification	Occupant Load Factor
Administrative Offices	B	100 gross
Library Classroom Areas	A-3	20 net
Conference Rooms (less than 50)	B	15 net
Conference Rooms (50 or more)	A-3	15 net
Electrical Closets, Mechanical	S-2	300 gross
Library Study Rooms	A-3	100 gross
Library Group Study	A-3	15 net
Reading Rooms	A-3	50 net
Stack Areas	A-3	100 gross
Storage Areas	S-1	300 gross
Interactive Student Spaces	A-3	15 net

FIRE RATED ASSEMBLIES AND SMOKE BARRIERS

The fire barriers of interest include those used for the separation of exit enclosures, exit passageways, incidental uses, occupancy separations, and other separations such as fire walls. Smoke barriers will be required to separate out portions of the atrium from adjacent spaces where those spaces are not designed to exhaust or relieve smoke. Some form of area separation appears to have been originally intended between the original building and the addition.

Existing Conditions. The principal fire and smoke rated assemblies that were examined were the separation between the atrium and adjacent spaces, as well as the stair enclosures and similar exit enclosures. While the requirements for atriums were not explicitly developed at the time of the original building construction, the use of wired glass set in a metal frame appears to have been an acceptable means of separating the shaft of the atrium from the adjacent spaces, similar to the separation of elevator shaft allowances in the 1964 UBC. Similarly, the use of one-hour fire-resistive enclosures would appear to conform with the requirements for stairways. Special allowances for open stairs, or stairs with significant use of glass were not noted, but may have been permitted based on a demonstration of equivalency.

The atrium is separated from the adjacent spaces by wired glass, presumed to have a rating of 20 to 45 minutes. Doors were not all provided with labels, and so it was not possible to determine the level of protection associated with the openings between the atrium and the adjacent library spaces.

The fire rating of the exit enclosures was examined, and did not appear to be deficient for most exits in the context of the original code requirements. The Grand Stair, however, was noted as being open to the atrium on the second and third levels (to the east side of the facility). Furthermore, while compliance with the 1964 codes may have been achieved, door hardware and door swing appears to have been altered since the

original construction. As a result, compliance with the original and current codes for doors is not achieved.

It is important to note that the use of the Grand Stair as a legitimate means of egress is crucial to overall functionality of the egress system. To maintain this as a legal exit based on the current standard of care as well as due to occupant load increases, it will be necessary to maintain some form of enclosure around the stair. Possible methods for enclosure will include the installation of transparent wall assemblies (glass with listed sprinkler application), and the implementation of pocket door assemblies to achieve the required degree of enclosure during fire emergency conditions. If stair enclosure is not achieved, the stair will not be considered as a legal means of egress, independent of other fire protection features provided in the building.

The continuity of the other exit stairs is discussed elsewhere in this report.

Fire Rated Assemblies and Stair Enclosure Requirements. Upgrades to the stairways may be required as a result of either (1) alteration of the stair enclosure, such as proposed changes at the Grand Stair, or (2) consideration of the overall level of safety required to accommodate the anticipated building occupant load in the context of the proposed modifications to the building program. It is important to note that such requirements for upgrading the stair enclosures are not automatic. Nevertheless, it is not uncommon for the AHJ to require more substantial upgrades to key egress components where significant renovations or new space allocations are made.

The specific concern relating to the stairs at the Marriott Library is with those stairs that are required for egress, but which do not discharge directly to the exterior of the building. If extensions for those egress elements were required as a result of the occupant loading or altered distribution, such extensions might necessitate a more complete upgrade of the stair shafts being affected. The 2000 IBC would minimally require that the stair enclosures be provided with a two-hour fire-resistive assembly.

Fire Rated Assemblies and Atrium Enclosure Requirements. Upgrades to the atrium fire protection systems will be required if the current fire and smoke separation is removed or significantly altered. Section 404 of the IBC outlines several requirements arising from the presence of an atrium, including:

1. A smoke control system complying with Section 909

2. A sprinkler system installed in accordance with NFPA 13

3. Enclosure of the atrium (three levels may be unenclosed provided that the smoke control system is designed to accommodate smoke produced in the adjacent areas).

EGRESS SYSTEM

The egress analysis focused on primary egress enclosures, exit capacity and width, exiting from individual spaces, travel distance, area of refuge, and intervening rooms. Where appropriate, requirements for alterations or additions have been disclosed.

Existing Conditions. The egress systems in the original and expanded Library portions are distinct. During the survey, it was noted that the primary vertical enclosures serving the tower do not discharge to the exterior of the building, creating significant exiting challenges on the east side of the Library, where the opportunity to exit is limited in part as a result of the terrain and building configuration. Similar issues exist for the Grand Stair, and so some form of mitigation will be required in order to use this stair for egress.

Accounting for the cascading requirements, as well as the requirements associated with base width from a space as outlined in the 1964 UBC, it was determined that the provided width was likely intended to accommodate approximately 300 occupants for conservative loading conditions. A complete egress analysis of the existing facility has not been performed to check compliance with the original codes.

Egress System General Considerations. Some handrails are not compliant or present potentially unsafe conditions. Many of these conditions are noted in the architectural survey. Additionally, some panic hardware is not compliant or is not adequate. Some doors appear to be in need of repair with respect to achieving the fully closed position. Regardless of the modifications made, it would appear prudent to repair or replace malfunctioning equipment and unsafe arrangements.

One stair between Levels 1 and 2 only connect those two levels. Similarly, one stair connects Levels 2 and 3 only. While these stairs have been designed for staff circulation only, this is a potential concern because occupants using the stair will have to transfer to another exit stair through an unprotected space once they have exited their respective floors. Because of this condition, as well as the fact that occupant loads on Levels 2 and 3 will likely exceed 1,000 (occupant load on Level 4 will not likely exceed 500), the level of continuity of the existing exit enclosures will not meet the current standard of care, unless significant improvements are made to the Grand Stair.

Egress System and Available Width. Based on discussions with the Division of Environmental and Life Safety at the University of Utah, it is the understanding of the design team that if the total number of occupants are not increased on any one level, it will not be necessary to modify the existing exiting from those levels. Alternatively, if the total proposed number of occupants is greater than the existing anticipated number of occupants, then alterations to the egress serving the level in question will be required. To this end, Coopers Roberts Simonsen Architects conducted a seat review of the original furniture plans to identify the original anticipated loads on each level. This number is presented with the current proposed programmatic loads in the table below:

Proposed and Existing Occupant Loading

Level	Proposed Programmatic Load*	Original Seating Count
1	1019	456
2	1115	584
3	1115	950
4	97	1100
5	165	165

*(includes loading of the addition to the Marriott Library, 212,000 s.f.)

From these figures, it is apparent that revised exiting on Levels 1 and 2 will be required, while Levels 3 through 5 may not require any modifications, depending on the final program.

Considering individual floor size, number of floors, and various occupancies of the Library, it is clear that the exit stairs and ramps available need to be able to accommodate a large capacity of occupants. A minimum stair width of 44 inches is required for stairs used by more than 50 occupants per Section 1003.3.3.1. of the IBC. Some stairs between Levels 1 and 2, as well as the stairs that connect all five levels, do not meet that minimum width requirement. If these stairs are modified, it is very likely that they will have to be upgraded.

A summary of available widths (IBC method) is presented in the egress width table below:

Level	Exit to Out-Side?	Stair	Stair Width	Stair Exit Capacity	Door	Door Width	Door Exit Capacity	Limiting Capacity
1	Y	1004B*	42”	210	----	36”	240	210
	Y	----	----	----	1004B	48”	320	320
		1003B*	66”	330	----	----	----	330
		1007S*	42”	210	----	----	----	210
		1003S*	66”	330	----	----	----	330
	Y	1004M	57”	285	----	36”	240	240
	Y	1004S	57”	285	----	36”	240	240
		1004N*	156”	780**	----	----	----	780
		1000	180”	800**+	----	----	----	800
		1007R*	42”	210	----	----	----	210
		1005F*	66”	330	----	----	----	330
	Y	1004Z*	44”	220	----	36”	240	220
	Y	----	----	----	1004Z	48”	320	320
		1001A*	63”	315	----	36”	240	240

Level	Exit to Out-Side?	Stair	Stair Width	Stair Exit Capacity	Door	Door Width	Door Exit Capacity	Limiting Capacity
		1000T	42”	210	----	36”	240	210
		1000Z	42”	210	----	36”	240	210
		1001Y	42”	210	----	36”	240	210
2		2000A	180”	800**+	----	----	----	800
		2000X	42”	210	----	36”	240	210
	Y	2000Y	42”	210	***DS***	36”	240	210
	Y	2000Z	42”	210	***DS***	36”	240	210
		2000T	42”	210	***DS***	36”	240	210
	Y	2004S	57”	285	----	36”	240	240
	Y	2004M	57”	285	----	36”	240	240
		2001A	60”	300	----	----	----	300
		2004B	42”	210	----	36”	240	210
		2003G	72”	360	----	----	----	360
		2005S	72”	360	----	----	----	360
3	Y	----	----	----	3000J	272”	1,813	1,813
4		4000T	42”	210	----	36”	240	210
	Y	4000Y	42”	210	----	36”	240	210
	Y	4000Z	42”	210	----	36”	240	210
	Y	4000A	180”	800**+	----	---	---	800
5		5000T	42”	210	----	36”	240	210
	Y	5000Y	42”	210	----	36”	240	210
	Y	5000Z	42”	210	----	36”	240	210
	Y	5000A	180”	800**+	----	---	---	800

*stairs that only connect Levels 1 and 2
**per Section 1003.3.3.11.2, stair width beyond 30 inches from handrails does not count toward required exit capacity
+ open stair, and will not generally be permitted as egress stair
DS = Door swing is not in the direction of egress per Section 1003.3.1.2

Ramps that lead from the addition to the main tower at Levels 1 and 2 may be used as exits from one portion of the Library to another. These ramps lead to an exit on the north side on Level 1 and on the south side on Level 2. Therefore, exit capacity needed to accommodate occupants traveling from one portion to the other may be limited at those levels.

Assuming the building will remain fully sprinklered, the factors of 0.15 for doors and ramps, and 0.2 for stairs, from Table 1003.2.3 of the IBC were used to calculate the exit capacity of all the egress components per floor. Please note that in general, the more liberal factors outlined in the IBC result in available exiting width in excess of that for which the structure was originally designed. However, width will not be usable in stairs

that do not discharge to the exterior of the building, or these unenclosed stairs, regardless of the extent of changes made to the stairs.

Egress System and Minimum Number of Exits. The egress system requirements for the number of exits from each floor has not changed since the original building was completed. When the occupant load exceeds 500, three exits are required. When more than 1,000 occupants are present on a floor, at least four exits must be provided.

Similar requirements related to the number of exits exist in the 2000 IBC. A minimum of two exits are required from each space when the number of occupants exceeds the maximum numbers from Table 1004.2.1, as presented below:

Spaces with one means of egress

Occupancy	Maximum Occupant Load
A,B	50
S	30

Table 1005.2.1 states that a minimum of three exits are required for an occupant load between 501 and 1,000, and a minimum of four exits are required for a load greater than 1,000. Based on this information, it is apparent that the addition of occupants above and beyond that for which the building was originally designed would necessitate the addition of exit enclosures on some floors.

Egress System and Travel Distance Requirements. The extent to which modifications to the egress system are required as a result of travel distance is dependent on how the integrity of the existing exits is viewed in the context of any new exits that may be required. Additionally, where significant alterations to the floor arrangement are made, it may be necessary to consider the 2000 IBC travel distance requirements. Table 1004.2.4 allows the following travel distances for fully sprinklered buildings:

Occupancy	Travel Distance
A, S-1	250 ft.
B	300 ft.
S-2	400 ft.

A discussion of potential concerns follows.

On Levels 1 and 2, many of the rooms on the north end of the Level 1 addition have limited access to exits within the travel distances above, if not already exceeding the

travel distance to the nearest exit (this assumes that the Grand Stair will not be usable as a legal exit). Exiting on the unenclosed stairs between these two levels will be included in the travel distance as well per Section 1004.2.4. Travel distances are no longer measured once occupants reach enclosed, fire-rated spaces such as exit stairs and exit passageways, or cross through a horizontal exit.

Level 3 contains the main entrance to the plaza, which is the only exit provided from the building as a whole at this level. Exiting at this level requires occupants to leave a protected enclosure, through an intervening room, to the outside, which does not follow exit continuity per Section 1005.2.3, and is not consistent with the standard of care in the industry.

On Levels 4 and 5, if the continuity of critical egress stairs is maintained, and the occupant loads are not significantly increased, it is likely that travel distance will not be a concern. This assumes the Grand Stair is returned to compliance as an egress stair.

ACTIVE FIRE PROTECTION SYSTEMS

Existing Conditions. The building is fully sprinklered, and has been provided with a limited fire detection and alarm system. The main riser for the system is located on Level 1 adjacent to the mechanical room. This riser serves the original building as well as the addition. The building has been sprinklered as an Ordinary Hazard Group 1. The presence of the sprinkler system is in full compliance with the 2000 IBC, though it is unknown what, if any, seismic upgrades to the existing system would be required per NFPA and local amendments.

The existing portion of the building is served by an FCI panel, which communicates with a notifier fire alarm system that serves the addition. Limited detection in corridors and select spaces is intended to improve the occupant notification abilities via the horn and strobe system throughout the building.

Sprinkler Requirements and Active Fire Protection Systems. No specific additional requirements will result from the proposed renovation. It is important to note, however, that an automatic sprinkler system is required throughout the building as a result of the presence of an Atrium (Section 404.3) and the nature of the assembly occupancy (Section 903.2.1). Consideration should be made for some moving and addition of fire sprinklers in the 1996 addition where compact shelving will be placed. A recall of sprinkler heads within the Marriott Library will require removal and replacement. Confirm type and location with AHJ.

Fire Alarm Requirements and Active Fire Protection Systems. Changes to the fire alarm system will be precipitated by (1) changes in the number of occupants, and (2) alterations to the atrium space. A discussion of these requirements follows. If the number of occupants is not significantly altered, and no changes are made to the

existing atrium, upgrades to the existing detection and notification systems may not be required.

Pursuant to Section 907.2.1, a manual voice alarm system complying with NFPA 72 is required for assembly occupancies having more than 1000 people. Section 907.2.13 required smoke detection in and around the Atrium. A voice alarm signal (907.2.13.2) will have to be initiated in accordance with Section 907.6. It will be necessary to combine spot and beam detectors to activate the smoke control system. Because the Library is considered an assembly occupancy, the specific requirements for the fire alarm will have to be more closely examined. Depending on the extent of work required, the existing node capacity of the FCI and Notifier panels will have to be reviewed by the consultants or contractors.

Smoke Control Requirements and Active Fire Protection Systems. There is not currently a smoke control system for the atrium. Pursuant to Section 404 of the IBC, an exhaust system complying with Section 909 will be required, if the existing smoke control system is moved or if the atrium is connected to any other space that could be connected by more than two floors vertically. The overall system will include a system of passive barriers at the perimeter of the atrium, as well as provisions for mechanical (and natural) supply and exhaust. Preliminary calculations demonstrate that minimally 170,000 cfm of exhaust and 170,000 cfm of supply will be required (340,000 cfm total). This determination has been made based on an application of the axisymmetric plume algorithms for a fire at the base of the atrium. Depending on the configuration of adjacent spaces, additional exhaust on each level (between15,000 cfm and 30,000 cfm per level) may be required.

In addition to the mechanical systems, the smoke control system will have to be provided with standby power (emergency generator). The controls system will have to be interfaced with the existing fire alarm panels, and a fire fighter's control panel will have to added at an agreed upon location. Additional early detection in the atrium may be required. The entire system will have to be listed for smoke control purposes.

As an alternative to implementing a conventional smoke control system, the design team may wish to pursue an alternate means and methods approach. One example of such an approach include providing upgraded separations (typically two-hour fire-resistive assemblies) between the atrium and the adjacent spaces. Another option may be to introduce some level of smoke clearance via natural ventilation.

RECOMMENDATIONS

Recommendations presented in this section have been made based on an examination of the critical active and passive systems at the Marriott Library in the context of (1) the standard of care for the fire and life safety industry, (2) miscellaneous requirements arising from non-compliant alterations to the building, and (3) proposed uses or methods of occupancy that are dissimilar to those originally proposed for the original

building and its addition.

Specific trigger mechanisms associated with the following recommendations have been discussed in detail in the report.

1. The design team should pursue the non-separated mixed-use approach for classification of occupancy to minimize the required fire barriers. Incidental occupancy separations will still be required pursuant to the 2000 IBC and the preferences of the AHJ.

2. It will likely be necessary to restructure (add and modify) the primary exit enclosure system to address exit capacity issues on those levels where the proposed occupant load will exceed the allowable occupant load established by the existing exit systems. To maximize the effectiveness of the existing system, the Grand Stair should be enclosed per the requirements of the 2000 IBC. With respect to those modifications that may be required as a result of increased occupant loads all primary exit enclosures should lead directly to the exterior of the building.

3. Examine all doors in rated systems for integrity and listing. It is likely that many unlisted doors will have to be replaced with current listed assemblies. Such upgrades will be required based on the standard of care.

4. A smoke control system complying with Section 909 of the IBC will be required if the atrium is open to the remaining portions of the building. A combination of passive barriers and active systems may be used to achieve compliance with the Code. Additional egress stairs may be required depending on the nature of enclosure around the Grand Stair and the relationship of that enclosure with the atrium volume.

5. Review the fire alarm system requirements with the AHJ to determine the extent of improvements that will be required for the occupant notification system. Automatic initiation of the smoke control system in the atrium will be required. Due to the existing configuration of detection devices as well as the additional requirement for voice evacuation, it may be appropriate to provide full automatic detection throughout (including early warning in stack areas).

SUMMARY OF COSTS

A summary of costs for the systems described in this document has been accounted for by the cost estimators as well as the other trades (mechanical and electrical).

7.5 TECHNOLOGY REPORT

A Survey Summary

Introduction

The significance of technology in the library has emerged clearly in the period following the construction of the original building, and technology has moved forward rapidly even in the period since the design of the 1996 addition. The library today contains significant areas dedicated to technology including (1) the multimedia center (MMC) which houses media and technology classrooms, a computer lab and seminar rooms together with a multimedia collection comprising videos, CDs, tapes and records; (2) the technology assisted curriculum center (TACC) which provides instructional technology oriented services to faculty members; (3) library computing which includes systems/network staff offices and labs and the main computer room (4) public computing facilities and (5) network access points throughout the library.

The library is served by a data network based on Cat 5 cabling that was installed during a cable upgrade project about 4 years ago. As a recent addition to the library technology, the building is now about 20% covered by a wireless data network with in excess of 200 users.

Whilst technology throughout the library is heavily used, the Library Computing staff expresses frustrations relating to the lack of flexible infrastructure and the difficulty in adding to and revising cable layouts within the building whilst updating to new technologies. This results in unnecessary expense, extended installation schedules, limits on the functionality of rooms and compromised location of equipment, all of which hinders the installation and utilization of new technology.

Voice and Data Network Overview

The main incoming phone and data services enter the building in two locations.

(1) Fiber enters the building from manhole 3 on the SW side of the building. Once inside the building the incoming services are routed in pipe located beneath the floor before rising vertically up into the mdf room in multiple 4 inch conduits.

(2) Fiber and a 600pair telephone cable enters the building from manhole 31 on the SE side. Once inside the building the incoming services are routed in cable tray and conduit in the ceiling void before rising vertically up into the MDF room in multiple 4 inch conduits.

The MDF room is the point of demarcation between campus systems and building systems for services including the Local Exchange Carrier (U.S. West), the campus Fiber Optic Network, the Building Maintenance Systems and campus Security Systems.

Exact routing of the incoming services to the MDF should be determined and documented prior to demolition.

Both incoming services route to the same MDF room. This arrangement introduces a single point of failure into the network connection serving the 24 attached campus buildings, the off campus users and the international users. From the MDF room the campus backbone is routed to the data center and out to other buildings, whilst the building backbone is routed to the IDF closets.

At the time of the survey there were 14 IDF closets located throughout the building in rooms 106, 202, 220, 328, 406, 432,545,586, 1004e, 1004t, 1004k, 2004e, 2004k, 2004v, 1705d. As of June

2002, there are currently 16 closets in operation, and three additional closets not in use because they are not wired.

The IDF closets are floor-serving (as opposed to building-serving) facilities that provide a connection point between backbone and horizontal distribution pathways for voice equipment (e.g., KSUs, etc.), data equipment (switches, hubs, etc), cable terminations (both horizontal and backbone), fiber optic terminations (both horizontal and backbone) and cross-connect wiring.

Many of the IDF's installed about four years ago as part of the cabling upgrade project fall short of the campus standards in size, provision of mechanical systems, and access.

In the horizontal distribution, Cat 5e cabling installed about four years ago as part of a cabling upgrade project is employed.

Currently some of the the cable plant is reported to be in "untidy bundles in the ceiling void". In all cases the cable runs in the ceiling void of the level it serves, with the exception of the third floor atrium that is served from the second floor ceiling. In this instance only, the cable is contained in a conduit home run to the IDF.

There is no building wide distribution of video, but there is local distribution of video on coaxial cable within the multimedia center (MMC).

The library is 20% covered by a wireless network overlay. Current access points locations and coverage are documented. There are currently over 200 users, up from 4 users in Jan 2001.

The network supports 281 staff PCs, and 138 public PCs located in the library public areas and designated as either "Web Reference" or "Catalog Stations".

In addition there are 110 open network access ports for laptop users available at carrels throughout the library using an authentication process to log on. These are not heavily used at this time.

Data Center

The 1991 campus network project established a campus network node in the library data center. The node serves 24 other campus buildings. There have been several upgrades to the campus network and the library is now served by 400 to 500 fibers. The campus network fiber is stable and said to have an expected 10+ year lifespan.

The Library data center occupies about 1700 sq ft in a facility based on a 12 inch rasied floor system. The data center is served by two existing Liebert HVAC units each operating at about half of its rated capacity, ie one unit could sustain the entire load of the data center for a limited period. The data center is served by two existing UPS's each operating at about 50% of its rated capacity. One unit is old and in need of replacement, the other (35KVA) unit is fairly new and continues to be serviceable.

The data center houses critical central campus services including email and web servers, serves many internal library functions by housing servers for multiple departments, and serves external clients around the world via the Internet eg the Overseas Research Centers (CAORC), American Overseas Digital Library (AODL). In serving external Clients system reliability and 24 hour availability are an important issues.

Two years ago the data room was one third full. Today it looks full although additional equipment space could be made available with consolidation of the existing equipment. Rearrangement and

racking would probably accommodate a 50% increase in the amount of equipment accommodated within the space through revised layout and closer packing of boxes within the racks. Even so, the future will continue to make increasing demands on space in the data center.

Security is a necessity in the data center and needs improvement. There are currently no formal security measures and security relies on staff vigilance.

Multimedia Center

The multimedia center (MMC) houses media and technology classrooms, a computer lab and seminar rooms together with a multimedia collection comprising videos, CDs, tapes and records.

The computer lab is open from 7am to 2 am five days per week and includes over 200 macintosh and PC systems together with B&W and color laser printing, flatbed scanners and ADA-equipped systems. The demand for computer labs is increasing significantly even though 80% of the students own their own computer. In 1998, 210,000 user hours were logged, whereas over 200,000 hours were logged in just the first 6 months of 1999. A survey of user counts carried out in April 2001 identified 25,561 PC users and 15,844 Mac users. During 2001, usage surveys indicate over 412,000 user hours per year with the labs regularly experiencing 100% capacity typically between 9am to noon during the semester.

The regular carrel layout results in inefficient use of the desk space, precludes opportunities to collaborate and does not permit the simultaneous use of a computer workstation and another piece of equipment, e.g. a video editing station or laptop computer.

The MMC includes 10 multimedia classrooms with between 15 and 50 seats. All rooms incorporate video projection, and available videoconferencing. However, the layout and existing infrastructure in the multimedia classrooms does not permit easy upgrading or installation of new technologies. As a result many of the rooms exhibit unwieldy and untidy cabling solutions together with non-ideal placement of equipment.

The MMC also acts as the central support point for labs located in the Engineering and Mines Classroom Building and in the Student Union Lab. The network connections and switches serving the MMC lab are located in an old classroom without specialized air conditioning. This results in the equipment operating under non-ideal thermal conditions a situation which will limit its useful life.

Usage of the the Engineering and Mines Classroom Building and in the Student Union Lab computer labs is also high. Surveys indicate 90 to 96% average computer utilization for at least four hours during the morning in both labs.

B Vision for Technology in the Marriott Library

A research library without fast, 24 x 7 high bandwidth Internet access is not capable of handling modern technological demands. Every information system for users and every processing system for staff depend on network and Internet access. The library's web portal, which thousands of users now access, day and night, from locations around the globe is only slightly less significant in the library's overall mission than is the library building itself. Even tasks as straightforward as locating titles in the book and journal collections are dependent on the Web-based catalog. With the network and Internet's centrality to all Library functions, effective technology infrastructure is a, if not the, top priority.

The Marriott Library is an institution that adopts and embraces technology for the purpose of accessing, searching and cataloging information and sees educating users in the use of technology as an integral part of it's purpose. In line with the campus as a whole, the library sees itself as an important node on the campus network and seeks to integrate its systems with the campus network community.

Application of technology in the library is directed at enhancing the learning environment by improving real time access to and organization of information; by permitting offline access to learning materials for asynchronous study; and by facilitating access to outside experts and opinion through Internet access, videoconferencing and (in future) tele-presence. Continued advancement of technology in the library will enhance research by supporting powerful library searches, data mining techniques, and sophisticated analysis and visualization tools. In addition technology will support a range of collaborative online working environments to facilitate group study and participation in inter disciplinary research both on and off campus.

Upgraded technology will also enhance administration and provide efficiencies by automating processes, making processes "self service" wherever possible, and providing central online storage areas for faculty administration and students.

Wherever possible technology will take on a transparent quality, providing the mechanisms to accomplish the necessary background tasks and transactions to facilitate the required outcome without conscious user effort. In essence the technology should be intelligent enough to adapt itself to individual users work patterns and preferences. In situations where human intervention is required, the systems will be designed to respond to a consistent and intuitive user interface designed for use by non-technical personnel. The control systems will adapt themselves to the users competence level and provide appropriate and intelligent feedback to assist the users in accomplishing the desired task.

The library is already forward looking with respect to technologies. The staff is proactive, working to test validate, pilot and demonstrate technology which is not currently demanded, but which is likely to become an integral part of the function with respect to library information access and retrieval or the teaching process with a period of about two years. To accommodate new technologies, the buildings will be required to adapt continually to accommodate advanced technology and the data network will be used as the common information transport to support a wide range of technology systems throughout the building. As such, the installation of other system specific or proprietary distribution systems will be avoided wherever possible. The network and the facilities will be designed to accommodate an anticipated shift from a majority of users who depend on cabled networking to an increasing proportion who depend on wireless networking.

A prime requirement of the program is that the building will facilitate flexibility and adaptability to provide for expansion and adaptation in the systems installed on completion and also provision to accommodate future generations of technology with a minimum of cost and disruption.

The vision is open to wider input and is subject to periodic review and revision in light of advances in technology.

C Recommendations

Introduction

Where the recommendations refer to Campus Standards, the Standards referenced are included in the University Of Utah Design Standards and Recommendations for Communications Wiring Systems Prepared by the University Of Utah Network and Communication Services (NetCom), December 1999 and revised September 2001. The standards can be referenced at www.netcom.utah.edu/info/wiring_standards.html

Data Center

The renovation project includes the relocation of the data center.

Whilst being a significant exercise, relocation of the data center offers the opportunity to respond to the current and future demands for equipment space and enhanced environmental resilience required to serve 24 x7 operations for off campus and international users.

Area allocated to the data center should be based on two factors. (1) a consolidation of the existing equipment into an orderly rack mount format, and (2) a prediction of expansion space required over the life of the data center. The prediction of expansion space is potentially increased by the demands for additional services, but is also potentially reduced by increasing processor power and reduction in server physical size. The data center size requires further study, but in a growing organization, 250% to 300% increase in rack space over a 15 year period is considered typical. In the absence of specific information regarding future requirements, and taking into account the possibilities for consolidation of the existing equipment described above, this would indicate a suitable area between 150% and 200% of the existing ie 2200 to 2600 sq ft. This area, depending on configuration, could accommodate 40 to 50 racks full of equipment together with supporting mechanical systems and electrical UPS equipment.

The data center should be designed according to the following standards and the campus standards.

The room should be outfitted with a computer grade access floor with a 12 to 18 inch floor cavity.

The data center areas should include adjacent staff areas, staging area and equipment test lab.

Design Criteria – Mechanical
24 hour/7 day operation, design for two or more units sized to maintain the required conditions under full heat load while one unit is out of commission, provide remote indication of failure.
Room Temp: less than 75 F
Humidity 30% to 50%
Heatload Based on 8000btu/fully loaded cabinet – 50 cabinets produce 400,000btu maximum possible load.

Design Criteria – Electrical
Duplicate supplies with changeover switch and generator backup
Design for two or more UPS units and sized to maintain power for 30 minutes at full load while one of the UPS units is out of commission.
Provide remote indication of failure
110V and 208V power supplies

Isolated technical power and technical ground

Design Criteria – Fire Protection
Dual action dry pipe with both smoke and heat detectors and manual hold off
Provide remote indication of alarm
Fire Alarm

Design Criteria – Security
Card Reader and PIN pad, security cameras

Relocation of the data center requires extensive planning and coordination, identification of the potential for a two to four day system shutdown period for a move. If the shutdown period must be shorter, some (temporary) duplication of critical network equipment is likely to be required. The move cannot commence until the room, its mechanical and electrical systems and cabling are fully complete and tested.

Incoming Services and Redundant MDF Room

To enhance the resilience (reliability) of the data center, provision of a second (redundant) mdf room is recommended to secure the network connections for essential campus services and access for off campus and international users.

The library is served by fiber entering the building from two locations:

1 Fiber from manhole 3 on the SW side of the building which is routed in 4 inch sub grade pipes before rising vertically into the MDF room.

2 Fiber and approximately 600 pair telephone cable from manhole 31 on the SE side of the building that is routed in cable tray and/or conduit in the ceiling void before rising to the MDF room.

The two incoming service lines are combined at the current mdf room. If the current mdf room is relocated, it is proposed to separate the services each with an independent feed to the data center in order to improve network resilience. The second MDF room may also be utilized to facilitate the phased approach to the construction work in the remodeled building and the relocation of the data center.

New mdf' s shall be designed according to the following standards and the Campus Standards.

Establish a minimum floor area of 500 sq ft with no dimension less than 15 feet. Establish the minimum floor to ceiling height to suit local building codes and to be not less than 9ft.
The wall finish shall comprise ¾ inch plywood.

Design Criteria – Mechanical
24 hour/7 day operation, provide two units each operating at 50% capacity
Room Temp: less than 75 F
Humidity 30% to 50%
Heatload Based on 5000btu/fully loaded cabinet – 8 cabinets produce 40,000btu maximum possible load

Design Criteria – Electrical
110V and 208V supplies
Isolated technical power and technical ground
Local UPS housed in equipment rack 30 minutes duration on full load with Generator back up to support essential services including future VoIP.

Design Criteria - Fire protection
Dual action dry pipe with both smoke and heat detectors and manual hold off
Provide remote indication of alarm
Fire Alarm

Design Criteria – Security
Card Reader and PIN pad, security cameras

Upgrading IDF Closets

Re-establish the IDF closets according to the following standards and the Campus Standards

Locate IDFs, one or more per floor, stacked vertically and located to ensure a maximum horizontal distance less than 90m (290ft) to the furthest outlet to be served on the floor. Preliminary analysis indicates a requirement for not less than three IDFs on level one and level two, and at least one IDF is required on each level, at level 3 and above depending on location. Provide a minimum floor area of 100 sq ft in each IDF with no dimension less than 8 feet. Provide a minimum floor to ceiling height to suit local building codes, not less than 9ft. Provide direct access from a hallway, not through another occupied room.

Design Criteria – Mechanical
24 hour/7 day operation, provide two units each operating at 50% capacity
Room Temp less than 75 F
Humidity 30% to 50%
Heatload approx 12,000btu

Design Criteria - Electrical
110V and 208V supplies
Isolated technical power and technical ground
Local UPS housed in equipment rack 30 minutes duration on full load.

Design Criteria – Fire protection
Dual action dry pipe
Fire alarm

Design Criteria – Security
Card Reader and PIN pad

Cabling Standards

Cat 5e cable, whilst offering a viable operating environment for the majority of current technologies is no longer a recommended standard for new installations. Install new cabling in refurbished areas according to the following guidelines and in accordance with campus standards. Cat5e is established as the campus standard, but Cat6 cable (or better) should be considered in order to extend the life of the installed cable plant. Fiber in the horizontal should also be incorporate to serve specific locations including multimedia classrooms the café, the cyber living room, the information commons, the electronic education center and other areas with the potential for future high bandwidth applications. The MMC is preparing to deploy video distribution over the network, and pilot programs deploying Voice over IP (VoIP) are underway. Cable infrastructure in within the library should anticipate the migration of these and similar technologies to the mainstream, which may require the deployment of more fiber than anticipated at this time.

The University standard outlet includes three cables comprising 3 copper cables, Cat5e or better. An alternate standard comprising 2 copper data cables plus one pair fiber is recommended for some areas. As the project develops it may be prudent and become financially viable to adopt this configuration as a standard. Areas specifically identified with high bandwidth requirements will require modification and upgrading of the standard outlet configuration to be determined during the design stage.

Density of outlets will be developed during the design, guided by the following recommended preliminary standards:

Location	Outlets per room
Small Office	1
Med/Large Office	2
Conference room	14 including 6 in the floor
Open Study and Reader Areas	1 per 64sq ft or 1 pair per table which ever is greater
Computer Lab/Multimedia classroom	1 per seat
Cubicles, Carrels	1 per seat

Thorough review of outlet density will be undertaken as the design solution emerges to account for population density, room and furniture configuration.

Wireless Overlay

Established standards for wireless network connections and the imminent appearance of next generation technology to increase wireless network speed make them a viable, and essential component of the network infrastructure for the new building. Whilst the need for cabled connections will not disappear within the foreseeable future, the project should anticipate a growing community of wireless users. Wireless connections offer users with a wireless device a infinite choice of study location within the library and offers the library the potential for a faster wider ranging reconfiguration of reader seating areas.

The remodel should anticipate wireless connectivity for mobile users throughout the library (including throughout the stack areas and in classrooms).

Based on the emerging generation of wireless technology (802.11a, b, g), wireless access points (WAP) will be integrated with the ceiling and/or located at high level on the walls. WAPs will be located at 50 to100ft centers and each will provide access for at least 20 simultaneous users. Because of the lack of a large number of “clear channels” in current wireless implementations, care must be taken in the deployment to avoid limiting the available bandwidth. In particular the WAPs should be sited to avoid the shadow and reflection zones created by existing core structures and the stacks. Each WAP location will be provided with one pair of cables (Cat 5e or better) and two electrical outlets.

Wireless network access is currently one of the fastest developing areas of technology. The project must assume that the wireless network to be installed will be many generations ahead of the current state of the art.

The library is currently running a wireless pilot program and the project should build on the experience gathered from these studies to extend wireless connectivity throughout the building.

Cable Containment

Cable will be routed horizontally from the IDF in easily accessible and oversized cable tray located over circulation corridors.

Each outlet will be housed in a 21/2 inch deep box with two 3/4inch conduits stubbed up to the accessible ceiling void. Cable will be routed on J hooks at not more than 4 ft on center from the conduit to the cable tray (minimum size 24 inches by 4inches deep). For inaccessible ceiling or no ceiling, provide home run conduit to the IDF. Open plan workstations will be served through the furniture via drops in adjacent partitions or columns where available. In areas, where adjacent drops are not available floor connection will be employed, based on new conduit chases in the floor or poke thru connections from the floor below.

Open plan areas with significant computer usage will be served from below the floor, using either low profile access floor, a grid of low profile Walker duct housed in a built up slab or from the ceiling void of the floor below using poke thru connections in a minimum 8 by 8 ft grid.

Multimedia classrooms, computer labs and other enclosed areas subject to frequent changes in technology should incorporate low profile access floor with a fire rated modular base and fiber cement composite panels within the room to provide future flexibility. A mechanism to deal with the 2 inch change in floor height is required. A low profile access floor or poke thru solutions are recommended for the MMC, the Electronic Education Center, the Café and Student Multi-Use room, the Information Commons and the Information Technology Staff offices depending on their location.

The data center should incorporate a full specification computer room access floor system with an underfloor cavity between 12 and 18 inches.

Computer Labs, Information Commons

The usage statistics demonstrate that open access computer labs are an essential component of the library (and the campus) and that demand for time in computer labs outstrips current capacity. None of the studies made available for the programming exercise attempted to predict the future demand for lab space, nor to establish whether the computer labs should be concentrated in the library or distributed across campus. On a campus the size of University of Utah it is likely that there is significant undocumented demand and that the demand will continue to increase. If the current (conservative) 5% growth rate is maintained, demand for access to computers will increase by 63% over 10 years.

In our opinion, demand for access to computers on campus will grow at a rate greater than 5% per year. However it is also likely that personal computing devices coupled to a wireless infrastructure will satisfy some of the demand for pure computing use. Consequently, the computer labs should be flexible enough to adapt to provide a different balance of uses, perhaps, for example, focusing more on multimedia and audiovisual workstations and the provision of peripherals (including printers, scanners etc).

The unpredictable nature of the long term future of technology and the time, expense and limitations imposed by inappropriate, static facilities justifies investment in flexible and accessible infrastructure. Low profile access floor comprising a fire rated modular base and fiber cement composite panels is recommended within the room to provide future flexibility. A mechanism to deal with the change in floor height (approximately 2 inches) is required.

Trends are indicating that users prefer to work with books and a computer side by side, and that computing is becoming an integral part of collaborative work environments. A carrel format that breaks away from the “one seat per computer” is necessary to facilitate this, so a mix of single seat and multi-seat workstations is necessary. The flexibility provided by the low profile access floor solutions also allows workstations to be set out in arrangements other than a rigid rectangular grid to enhance the environment.

Multimedia Classrooms, Electronic Education Center, Café, Student Multi-Use

The application of technology in multimedia classrooms is one of the fastest developing areas on campus. Multimedia classrooms range from the projection of an image derived from a computer or audiovisual equipment located at the podium, to mediated computer labs in which the output of any or all of the students computers may be directed to the display, to full participative distance learning classrooms, video production "studios" and visualization cave environments. Usually a suite of rooms with varying capabilities makes best use of available real estate, funding and technical support whilst also providing the best defense against simultaneous obsolescence.

Consequently, the approach to design of multimedia classrooms is directed at providing flexible infrastructure capable of supporting a day one system, and several generations of upgrade over subsequent years as technology and funding permit. Using this approach it is not necessary to program the rooms in detail except in terms of seat numbers, sightlines and viewing angles, equipment space, cable infrastructure and lighting requirements.

Key elements to be considered in the design are:

- To provide the ultimate flexible cable infrastructure a low profile access floor is recommended.
- Provide a closet (12 sq ft) as part of each room to house local audiovisual and networking equipment.
- Make provision for production lighting and video camera locations for future distance learning applications, and provide daylight control and zoned dimmable room lighting.
- Make provision for up to three front projection/display systems, to show different program visible from all seats, assuming a maximum viewing distance of 6 times the screen height. Locate the screens to avoid projection onto the presenter and integrate the screens with whiteboard space and other wall mounted teaching equipment.
- Provide a podium to house integrated control systems and a video monitor for the presenter to allow the room to be entirely self operated without the need for a technician.
- Current wisdom suggests network cabling to every seat in the classroom, but wireless network capabilities may require less cabling in multi-media classrooms in the future.
- Electrical and mechanical services should be designed to accommodate a computer at every seat and also to make an allowance for production lighting beyond normal room lighting levels.

Technology Support Space

Technology support areas including storage, staging and network development and troubleshooting labs are required as part of the Library Computing Area. Facilities to accommodate storage and staging of up to 100 computers should be provided. Network development and support will be enhanced by a network lab area able to accommodate up to 20 PCs to simulate network conditions.

7.6 ALTERNATE PLANNING OPTIONS

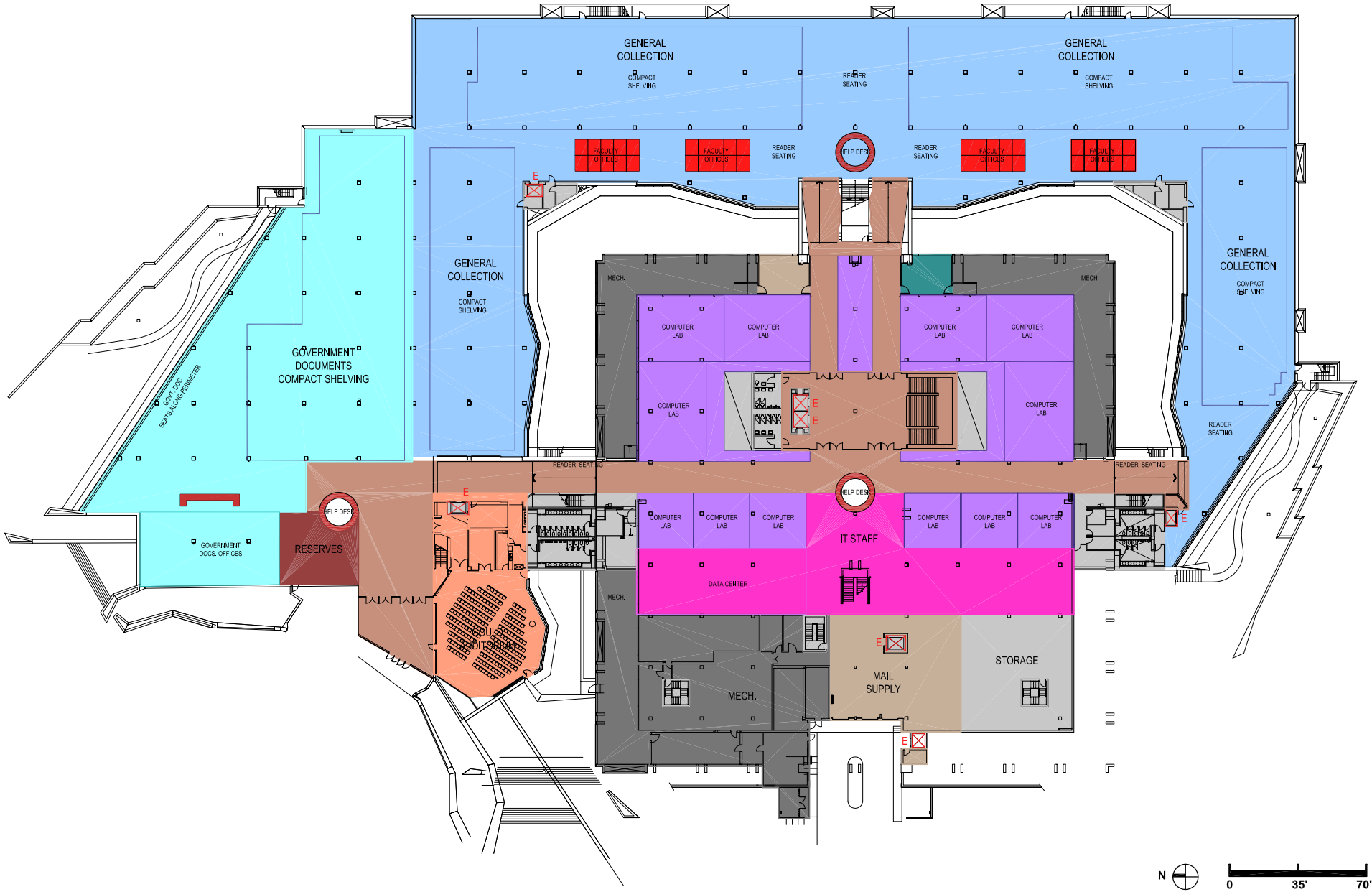
Three other organizational alternatives were developed and evaluated, as described in the Planning Options B, C, and D plans. In each, a substantially greater amount of re-planning and renovation work is needed in the 1996 addition, and as a result these options were not selected for further consideration as the costs were prohibitive within the current budget.

Planning Option B, the entire first floor of the addition is devoted to compact shelving, moving the Multimedia Center and integrating it with the Information Commons and Cyber Living Room on the second and third floors. In this option, Special Collections is substantially renovated on the fifth level of the original building.

In Planning Option C, a more dramatic re-organization is proposed, with Special Collections re-locating to the first floor of the addition. On the first floor, Special Collections can then take advantage of the potential for compact shelving and would be housed in a more secure location within the building. In this option, new environmental control systems would need to replace the existing HVAC system to respond to temperature and humidity criteria and needs in this area. This option also proposes renovating the area currently occupied by the Multimedia Center as the Student Multi-Use area, taking advantage of the natural light, and integrating the Information Commons, the TACC, and the Electronic Education Center all on the second floor. Levels 3, 4, and 5 of the original building are re-planned and renovated for General Collections and staff.

Planning Option D also includes the Student Multi-Use area on the first level of the addition, and renovates the first level of the original building for the information commons, making this space easily accessible from the library's main entrance. In this option the Electronic Education Center also moves to a desirable location near the TACC in the addition on the second level. Special Collections is shown occupying all the remaining second floor of the addition (Special Collections could also be housed on the first floor in a similar configuration). Again, an enhanced environmental control system would need to be installed for Special Collections in this area.

While aspects of each of these options are highly desirable, the cost of renovating recently constructed space is prohibitively expensive within the framework of the current project.



MARRIOTT LIBRARY RENOVATION
SALT LAKE CITY, UTAH

PLANNING OPTION B
CONCEPTUAL ADJACENCY DIAGRAMS

LEVEL 1
JUNE, 2002

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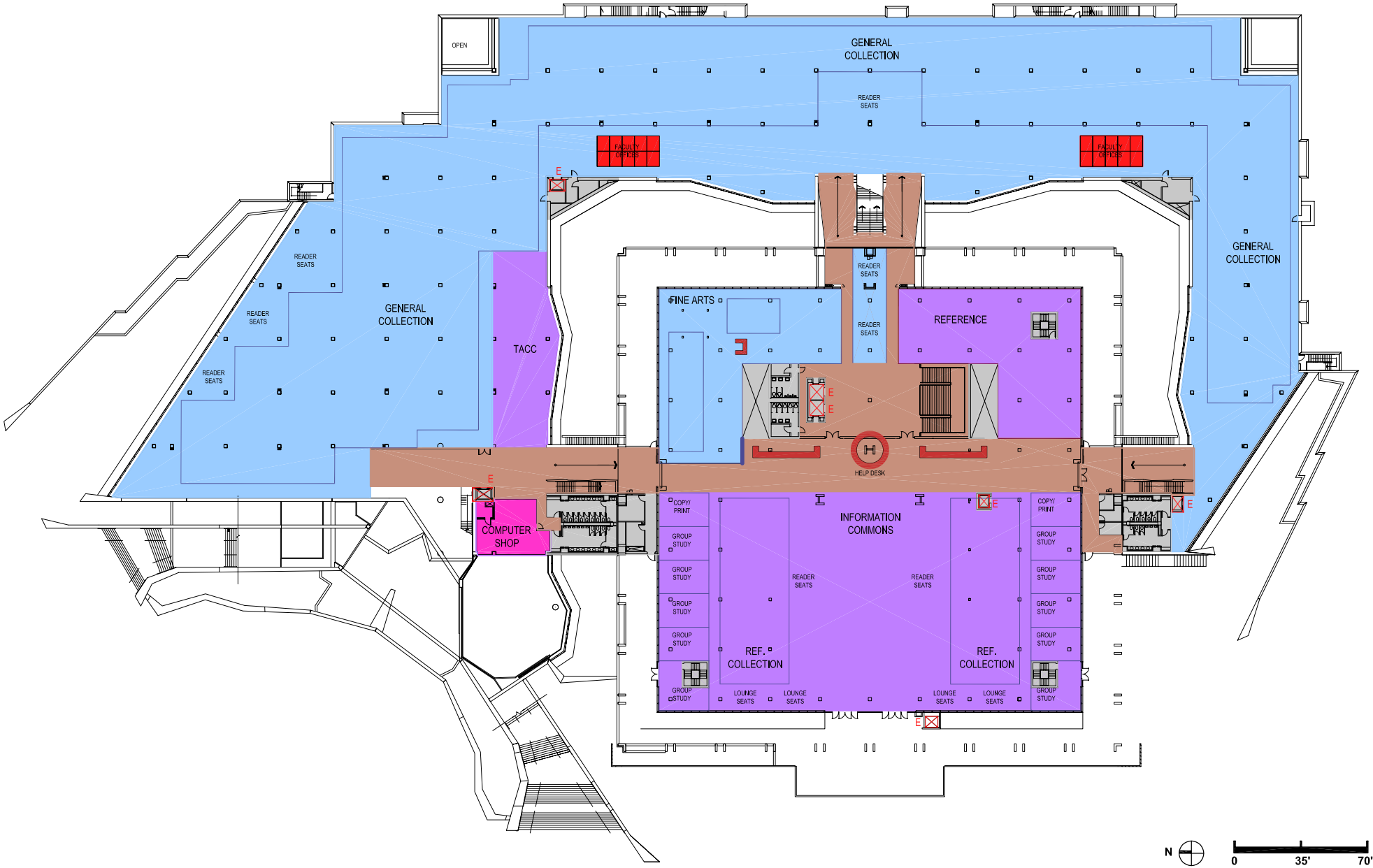

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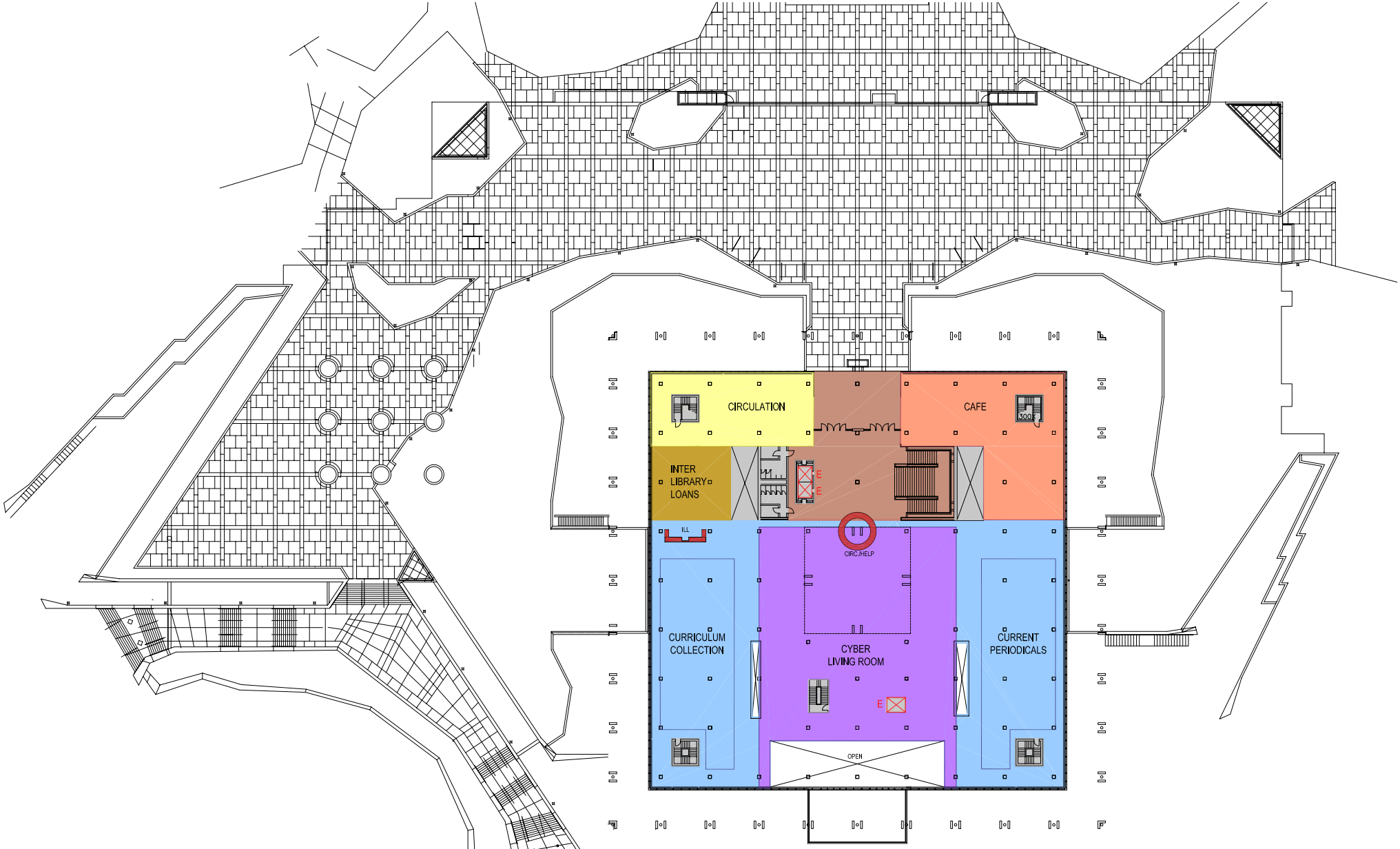
PLANNING OPTION B
CONCEPTUAL ADJACENCY DIAGRAMS
LEVEL 2
JUNE, 2002



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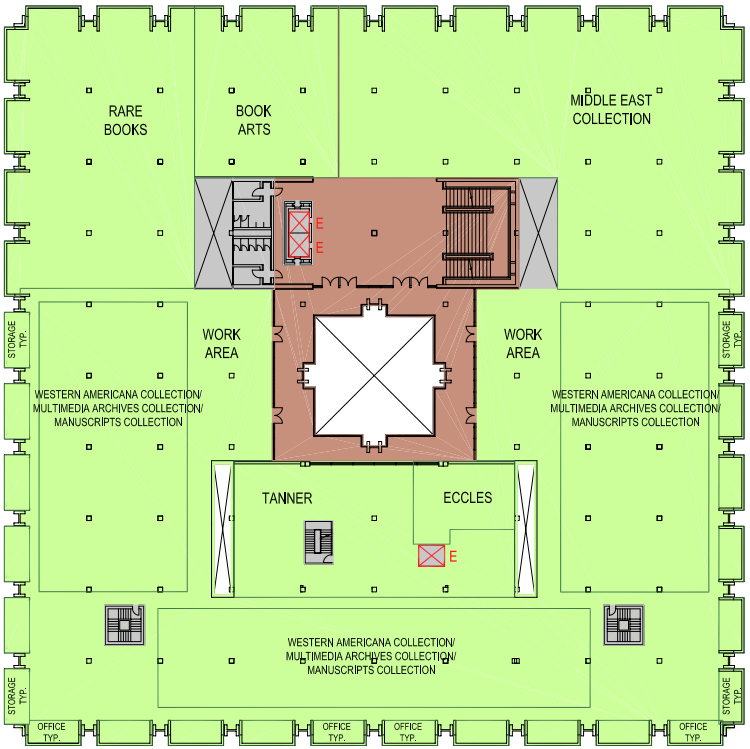
PLANNING OPTION B
CONCEPTUAL ADJACENCY DIAGRAMS

LEVEL 3
JUNE, 2002



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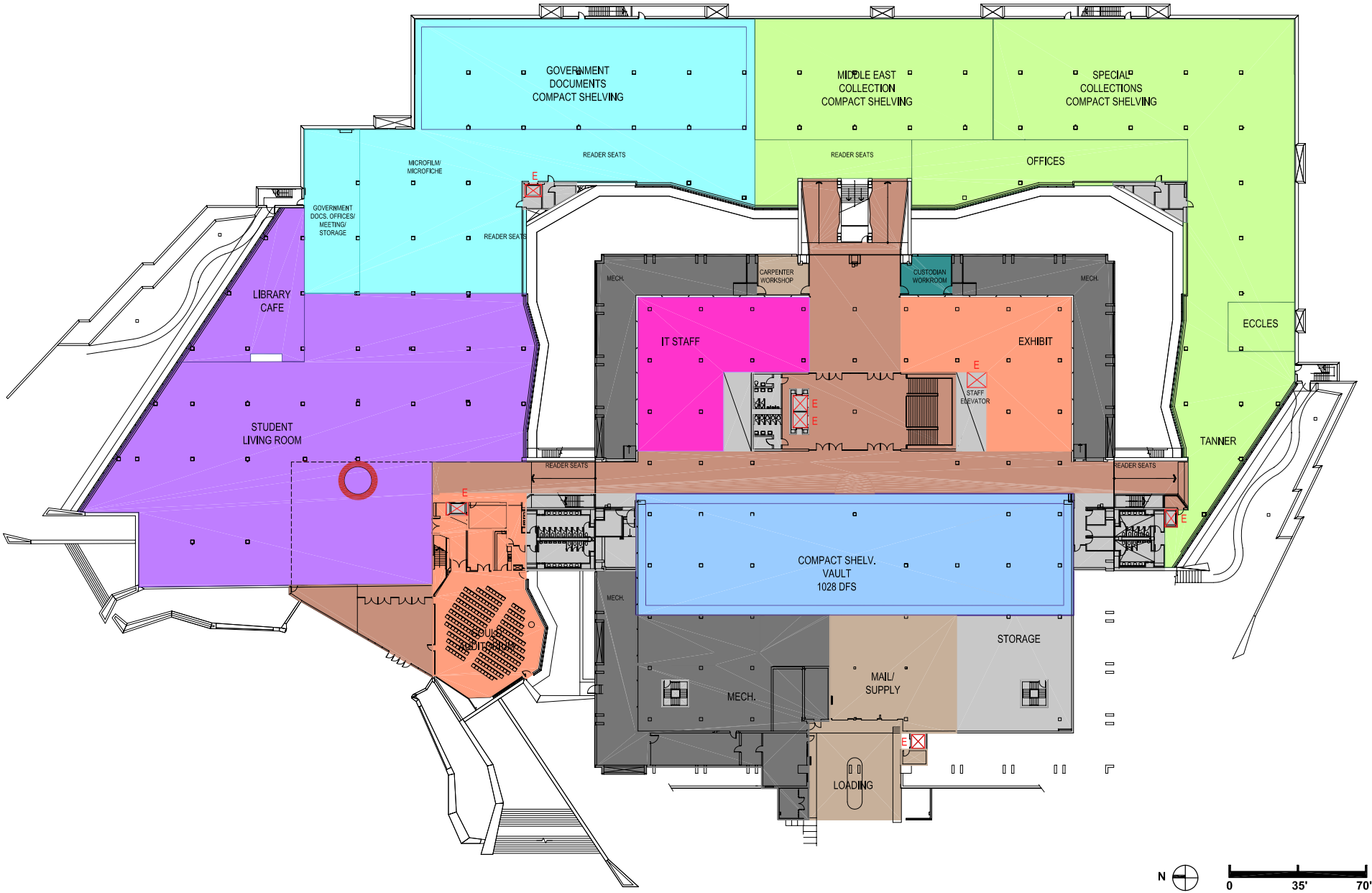
PLANNING OPTION B
CONCEPTUAL ADJACENCY DIAGRAMS
LEVEL 4 & 5
JUNE, 2002



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PLANNING OPTION C
CONCEPTUAL ADJACENCY DIAGRAMS

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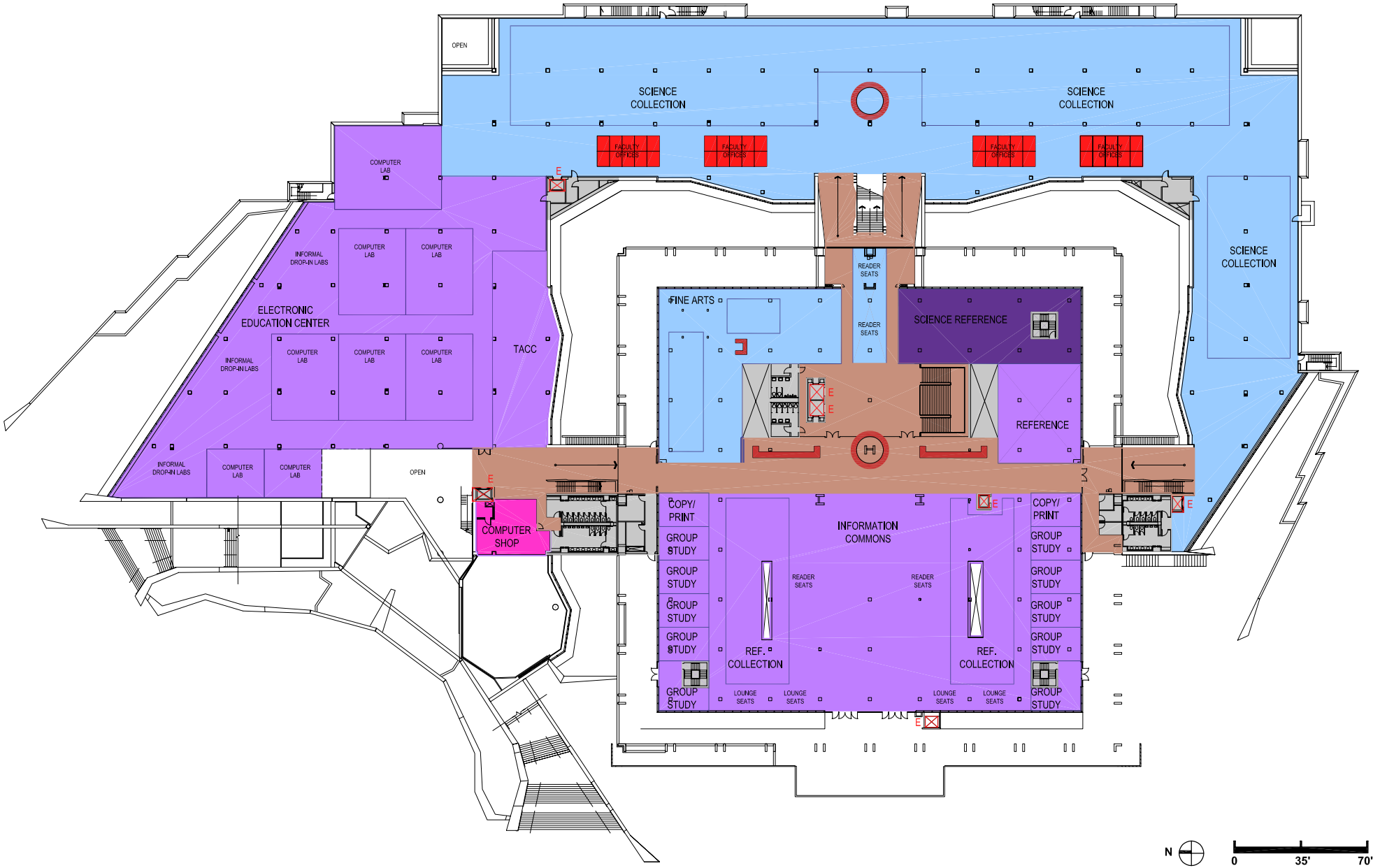
LEVEL 1
JUNE, 2002



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PLANNING OPTION C
CONCEPTUAL ADJACENCY DIAGRAMS

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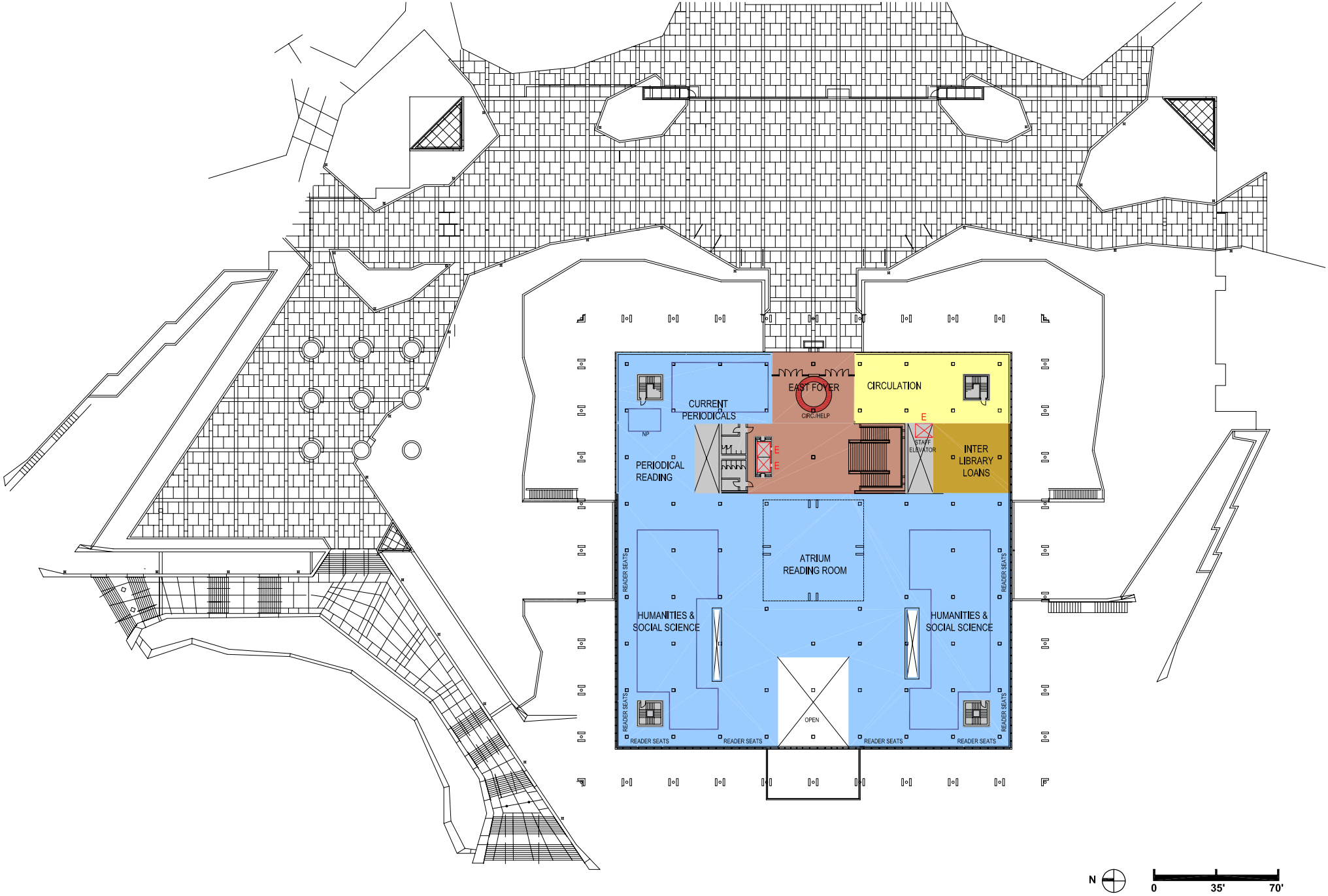
LEVEL 2
JUNE, 2002



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PLANNING OPTION C
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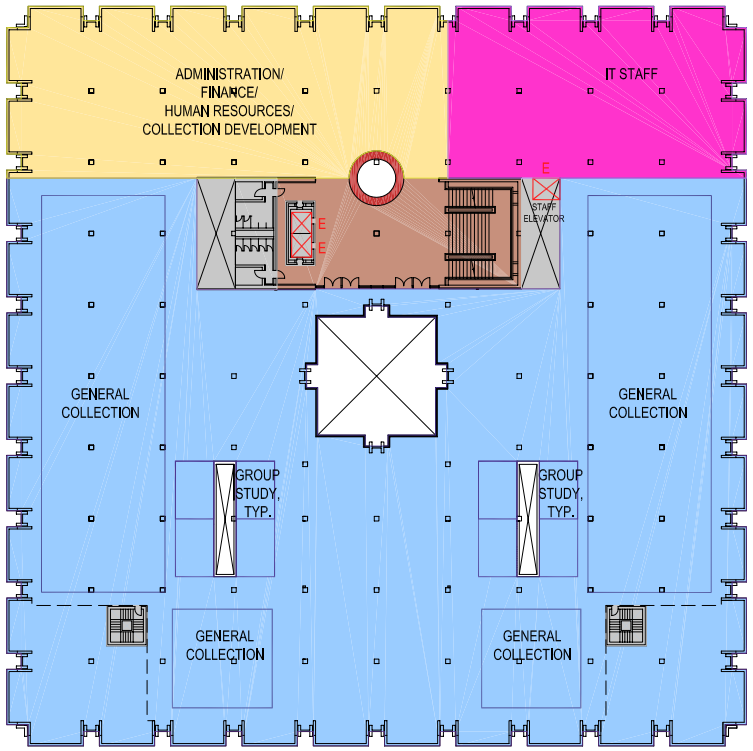
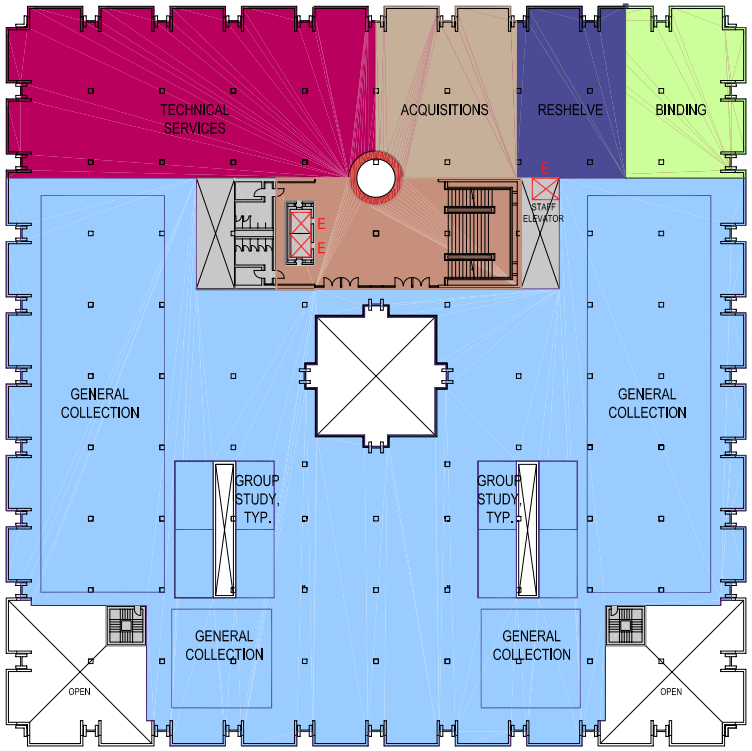
JUNE, 2002





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PLANNING OPTION C
CONCEPTUAL ADJACENCY DIAGRAMS
LEVEL 4 & 5
JUNE, 2002

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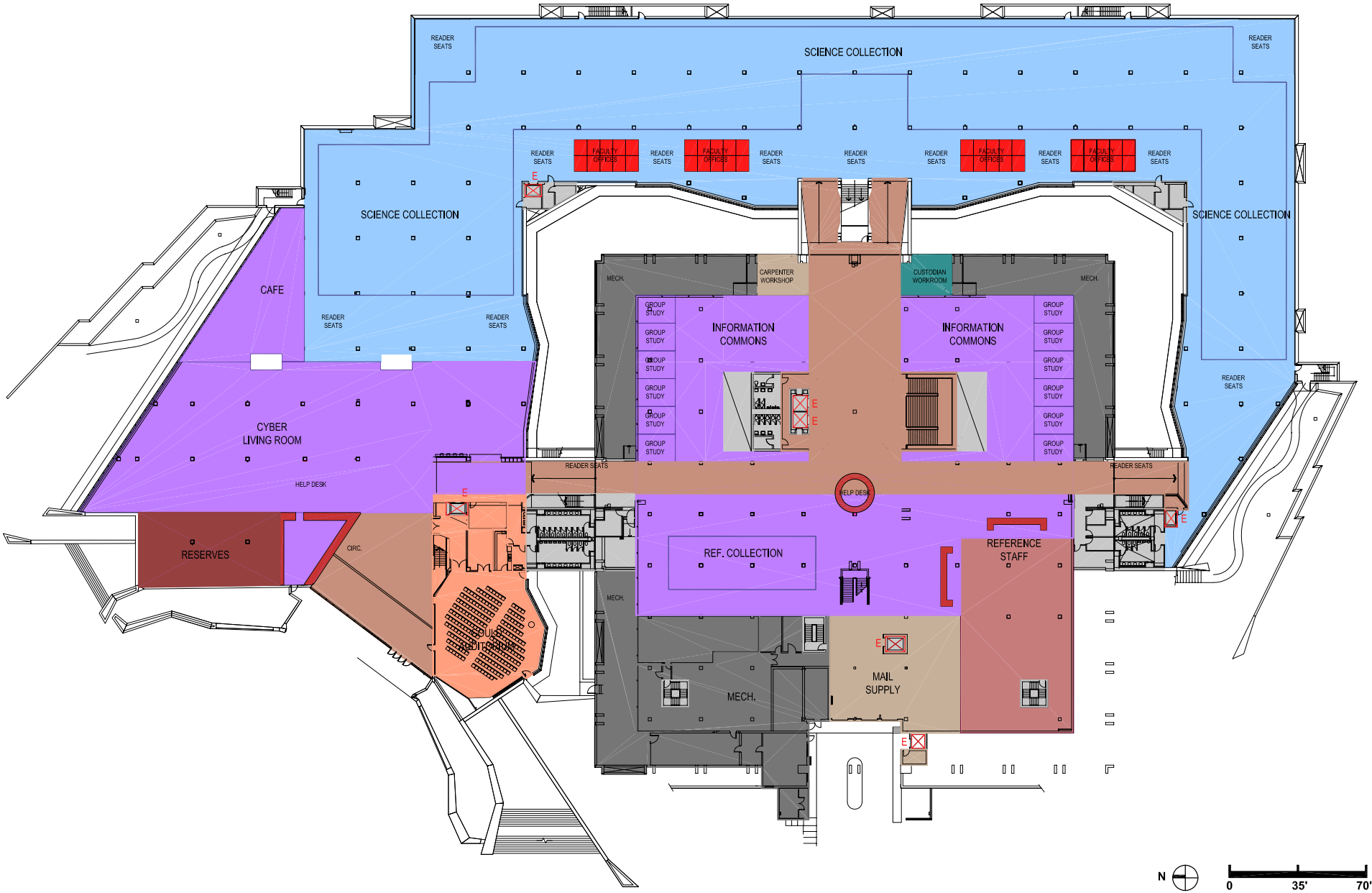

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PLANNING OPTION D
CONCEPTUAL ADJACENCY DIAGRAMS
LEVEL 1
JUNE, 2002

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PLANNING OPTION D
CONCEPTUAL ADJACENCY DIAGRAMS

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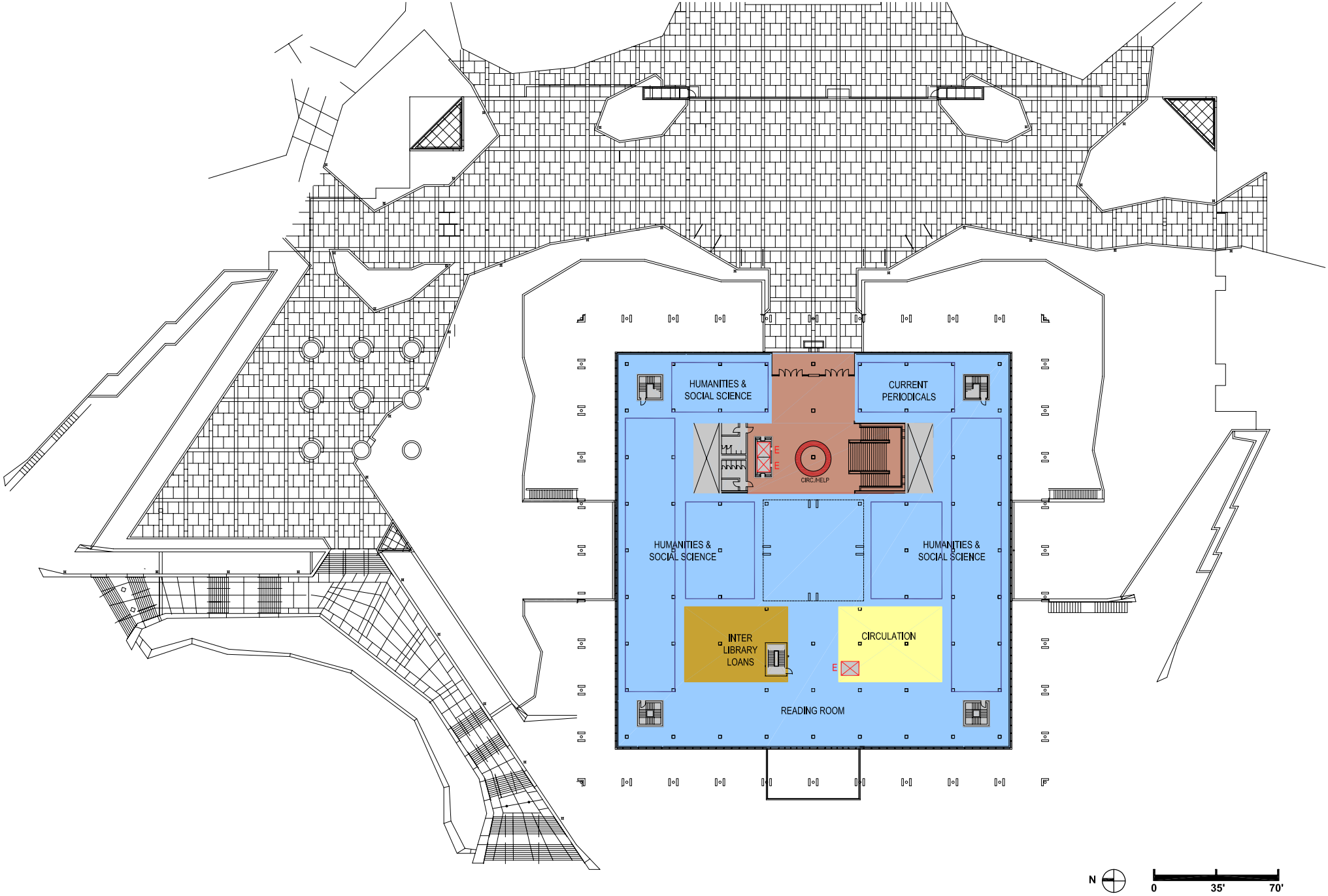
LEVEL 2
JUNE, 2002



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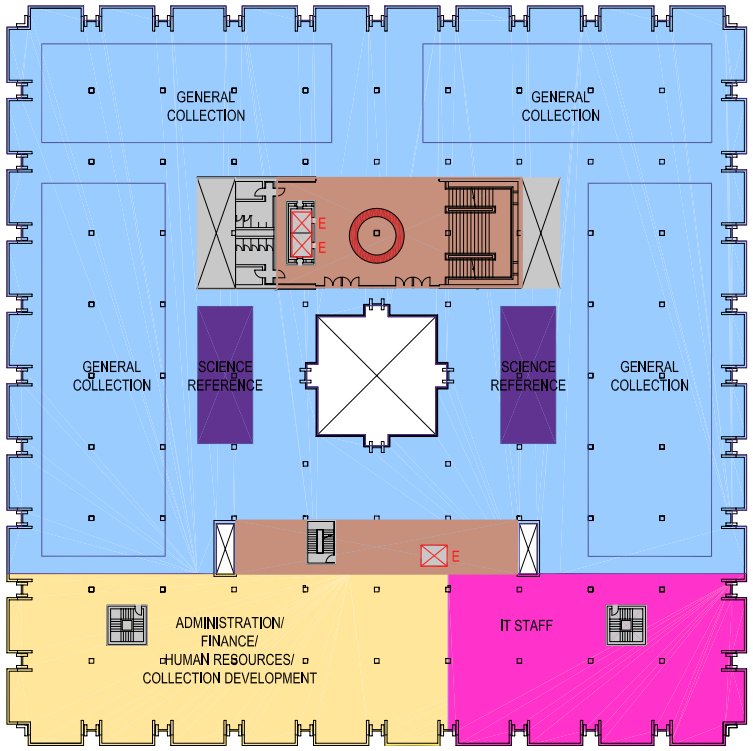

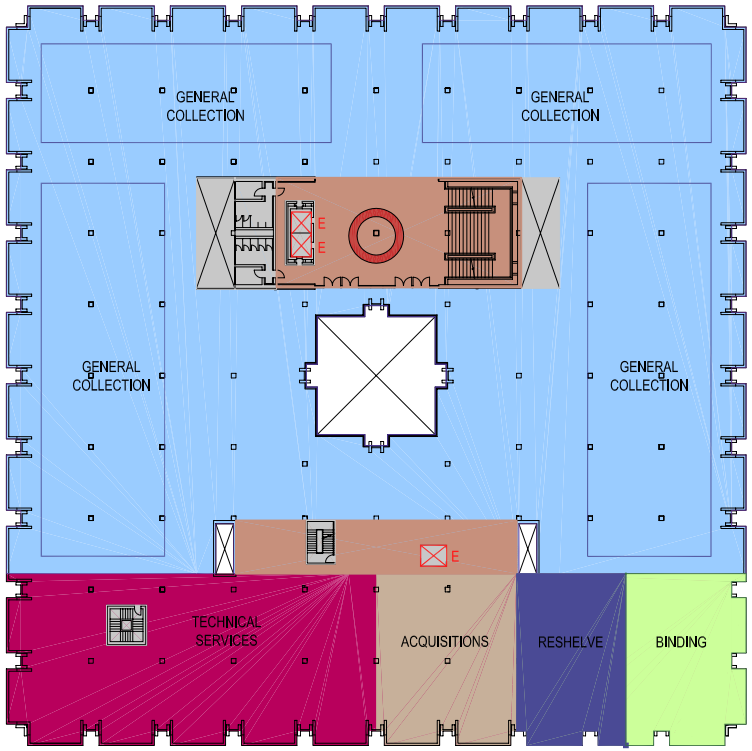

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