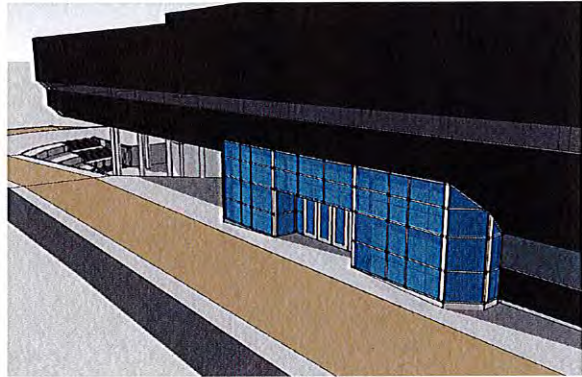
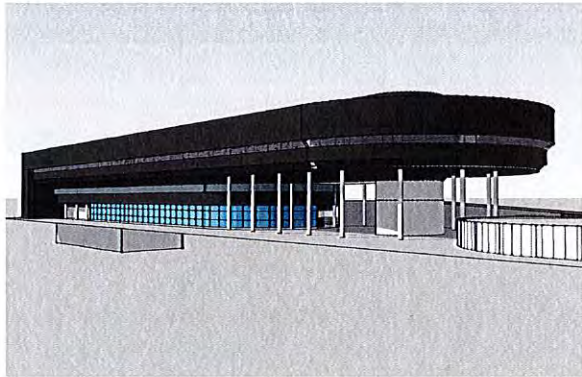


Duluth Main Library Renovation Study



Final Study for City of Duluth

Date: January 27, 2016

Project No. 15811.001



11 East Superior Street, Suite 340
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January 27, 2016

Mr. Erik Birkeland
City of Duluth
1532 West Michigan Street
Duluth, Minnesota 55806

Re: Duluth Library Renovation Feasibility Study

Dear Mr. Birkeland,

Enclosed you will find the results of TKDA's study to determine the feasibility of renovating the existing Downtown Main Library to meet the following criteria:

1. Total project cost under \$20M dollars.
2. Improve the library program in areas currently lacking.
3. Improve the deteriorating/decaying exterior shell.
4. Bring the existing building up to energy, life safety and accessibility codes, including at a minimum:
 - a. Improve thermal control and mitigate air leakage of building envelope to prevent the current 44% leakage, including window and exterior panel replacement.
 - b. Replace the HVAC system and all controls, which are well beyond their useful life.
 - c. Upgrade the electrical system to meet the needs of the 21st century library.
 - d. Upgrade data infrastructure, telephone and PA system.
 - e. Bring all building elements up to ADA codes.

This study has accomplished all of the above goals and the following report includes all elements of the analysis, design, and cost estimating while documenting them for the record as follows:

1. Written Narrative
2. Demolition Plans
3. Proposed Floor Plans
4. Proposed Reflected Ceiling Plans
5. Exterior elevations
6. Building and Wall Sections
7. Images
8. Mechanical Plans
9. Electrical Plans
10. Cost Estimate with Multiple Options

It has been our pleasure to serve the City of Duluth on this matter, and it is our hope that this report will aid the City in determining the future of the Downtown Main Library.

Sincerely,

A handwritten signature in black ink, appearing to read 'Kenneth Johnson'.

Kenneth Johnson, AIA

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NARRATIVE OVERVIEW

The concept plans developed for this study use the percentage ratio for space allocation as a guide established in the Vision section of the Duluth Public Library Facilities Alternate Study completed in January 2015. While the amount of floor area dedicated to each function was adjusted to conform to existing conditions, the intent and ability to deliver quality library service has been maintained. The final configuration of the floors and distribution of functions will need to be refined and adjusted with input from library staff and administration. There are some aspects of these proposed configurations that will generate healthy discussion; particularly around location of department areas and collection sizes. The library planning and organization seeks to leverage the existing architecture with contemporary library practices and improved user experience.

The most significant change begins with placement of the Youth Services area at the West Michigan Street level. The existing space, currently occupied by staff areas, will be renovated and enhanced with a modest building expansion. This change increases space for youth, contains noise, improves user access, and humanizes the West Michigan Street approach experience. The staffing implications will be expanded roles for the Youth Services area to potentially include checking out materials.

Efficient utilization of space drives consolidation of staff areas to the south end of the Superior Street level, combining Youth Services, Adult Services and Administration in the West Michigan Street zone, and Circulation and Technical Services on the Superior Street Zone. Planning within each zone will allow for departmental unity and shared common services. It is acknowledged that it may be more convenient and familiar for staff to be located adjacent to their service point; the proposed organization prioritized increased seating and collections for users. While this approach is a basis for study, it should be within the established budget and design process to engage in more detailed discussions with library personnel. The Circulation service point will be in approximately the same location, with Circulation and Technical Services areas connected and adjacent to the elevator.

The north portion of the Superior Street level will form the “hub” of the library. The “hub” can be defined as a community activity center which contains the Market Place, Teen Area and Café. This area will be a place to investigate new ideas, meet with friends, and will provide a safe learning environment for teens. The amount of activity and proximity to other activities will inherently supply some level of self supervision. The combination of activity generated by the “hub”, building entrance and Circulation service point will generate significant noise; therefore, acoustical treatments will be planned in consideration to minimize sound transmission up the stair.

The upper floor remains focused on Adult Services: collections, computers, reading and study spaces. This area is to be “quieter” than the Superior Street level. The quantity of shelving and organization suggested are an attempt to find a balance that “feels” appropriate for the space and supports supervision. The goal is to provide collections in the most efficient manner possible while enhancing the amount and quality of space available for study, reading and computer use. Final configuration and quantity of collection shelving provided will be refined with input from library personnel.



Michigan Street Level

Youth Room

The Youth Services department is being proposed at the West Michigan Street level of the building. Moving the youth to this level will enhance the library's image and its ability to service this age group.

A primary parking area for the library is located southeast of the library across West Michigan Street. Use of this lot creates an entrance pathway along the east side of the building. Along this pathway the concept proposes the first floor exterior be expanded outward to capture more floor space. This wall is intended to be predominately glass - improving views to the exterior and visibility into the Youth Services area. At night the glow from inside the Youth Services area will add visual warmth to the exterior and provide observation of people entering the building, both improving security and the entry experience.

The Youth Services department is broken into three user groups, each defined by age groups. The areas will be planned and designed around each user group and care-givers' needs. Areas will have specific colors, forms and furnishings appropriate for each age group, but each will contribute to a consistent overall vocabulary.

A dedicated children's programming / activity room will be provided, freeing up main meeting rooms for other programming. The summer reading programs currently are held on the West Michigan Street level; once relocated to this level, the relationship between the department and programming will be enhanced.

This area will receive new furniture and furnishings.

Meeting Rooms

Library programming is an integral part of servicing the community. The existing program rooms will be refreshed and updated technology integrated. Included in the Youth Services area is a programming / activity room, which will minimize usage of space by Youth Services programming. This change will offer more opportunity for community group use and other programmed events. If there is an occasion where Youth Services needs a larger space, the meeting rooms are conveniently located across the hall and will not disrupt the upper floors.

This area will reuse existing furniture.

Vehicular Garage and Storage

This space is located adjacent to the proposed Youth Services department at the West Michigan Street level. This space is primarily used by the City of Duluth engineering services, and has at least two viable future uses if ever vacated. The most obvious is the expansion of the Youth Services department, while a second use might create a dedicated Local History and Genealogy space. Relocation of Local History and Genealogy functions to this location would create more room on the upper floor for Adult Services. It would be anticipated that displays and topical elements would be distributed on the upper floor to help market this service. While it is not viable to capture this space now, it does offer some potential future expansion.



Staff and Building Support

The existing service entrance, staff locker room and storage space will remain in their current locations. These areas will receive updated mechanical and electrical systems along with minor finishes refreshed.

Superior Street

Market Place

The Market Place will serve as the central hub of the library. The Market Place is planned near the main entry lobby and is one of the first spaces to be encountered. The Market Place will be illuminated by a combination of general ambient lighting and task lighting. The space will extend from the existing main stairway north to the "prow" of library. This location will be designed and organized for convenience of use, offer exterior views and increase the amount of natural light. The Market Place will be heavily used, generate significant activity and will be organized in a manner to allow for ease of movement through the space.

The Market Place will contain the browsing and media collections, a public service desk, self-checkout stations, patron holds, and Internet stations - both standup for quick use and sit-down for longer use. Located within will be a self-service zone which will be supported with copy machines and other equipment, functioning like a small business center. Included within the self-service zone will be patron holds and self-checkout stations.

There will be a select amount of shelving and display fixtures arranged in a very low-density configuration to encourage and facilitate browsing. Shelving and displays in this area will be shorter in order to allow visibility across the space, and easily movable for reconfiguration. This is an area where topical or seasonal displays are most likely to occur.

There will be computers located within this area, although located and positioned to encourage shorter use periods. Computers will be offered in a combination of standup and sit-down stations along counter space, and seating provided for those bringing their own mobile devices.

This area will receive new furniture and furnishings.

Café / Refreshment Center

A café or refreshment center will be provided, although exact details will need to be worked out. The goal of this area is to provide healthy beverages and nourishment consistent with promoting prolonged stays in the library. The intent of this area is to be open during library hours. There will be space provided for the Friends of the Library in the general area of the refreshment center.

This area will receive new furniture and furnishings.

Maker Space

A Maker Space, or hands-on lab, will be designed to accommodate a wide variety of maker activities on a changing basis, from digital explorations (creating, editing, and recording) to craft-based activities. This space should be flexible to reconfigure and supported by various lighting configurations. Finishes should allow for a variety of functions, heavy use, durability, and ease of maintenance. This area is intended to be variable and experimental, so finishes do not need to be elaborate.



The space will have the ability to accommodate traditional activities, experimentation opportunities and hands-on learning, all of which will be instrumental in keeping the library's new facility relevant in the future.

This area will receive new furniture and furnishings.

Teen Center

The Teen Services area will be directly adjacent to the Market Place and located along the West Michigan Street side of the building. This location will be clearly visible from the entrance, readily identifiable and have some sense of separation. This space is intended to be visually distinct but still complementary to the overall building. The furniture and furnishings will be predominately populated with booths, couches and small, interactive tables and will house a variety of shared computer equipment. Both collaboration and individual work should be accommodated. A group study room with technology will also be part of this space.

The location of the Teen Center will allow for direct observation from a service point, but the elongated configuration will support peer observation. The elongated nature of the space will help disperse the "pack" nature of teenagers by creating smaller clusters of activities. It's also intended for this area to be active, vibrant and a source of noise generation. This is a place where it is comfortable to be in a learning and social environment with peers.

This area will receive new furniture and furnishings.

Staff Areas

The Staff Areas will be a combination of open office furniture systems and closed offices. The staff functions will be organized into two separate areas on the Superior Street level in space currently occupied by Youth and Teen spaces. The Circulation and Technical Services departments will be located along the West Superior Street side of the building. This area will have direct relationship with the Circulation service desk and convenient access to the elevator. This area will receive high performance acoustical ceilings for noise control and some degree of vertical separation between Technical Services and Circulation Services.

The West Michigan Street side of the building will house Library Administration and departmental functions. At this time, the intent is to locate enclosed spaces in the center of the building with glass walls facing the exterior. The perimeter of the building will be open office work stations. This area will receive a high performance noise reducing acoustical ceiling. Lighting will be provided through a combination of ambient and task lighting. Departmental areas will be clustered and shared resources centrally located.

The consolidation of staff areas in this location is an attempt to maximize the amount of collection and seating space that can be provided in Adult Services on the upper floor and Youth Services on the lower floor. This approach should help reduce the amount of space dedicated to staff, but will receive robust commentary from staff. It is anticipated a fair amount of discussion will be required during the next phase of the study.

For the study it is assumed that existing furniture and furnishings will be reused in the staff and administration areas.



Upper Level

General

This floor of the building is intended to receive upgrades to building infrastructure, lighting and finishes. The furniture and furnishings for this area will be existing furniture reused. It is assumed the existing shelving and end panels can be reconfigured and reused without refinishing. Subsequent phases will allow for upgrades in furnishings and shelving.

Adult Services

Suggested modifications to the upper level seek to optimize existing space and leverage the positive attributes of the architecture. The collections are distributed with a manageable aisle spacing and length of ranges. The length of each range is eight sections, which allows for a friendly browsing experience within the collections while maximizing collection density. Lighting the collection is a very high priority. An acoustically sound absorbent ceiling will be placed over the collections and lighting will be distributed down the center of each aisle. The light fixtures selected will have photometric characteristics specifically designed to illuminate the entire face of each shelving unit.

A subtle change in the upper floor has to do with where the primary circulation path is located. When originally designed, the circulation was located in the central space, under the clerestory. In the proposed plan, this circulation is located under the lower ceiling, freeing up more of the central space for seating and other uses. This approach optimizes how the collection is organized and turns more of the taller central space over to seating and study space.

The plan proposes eliminating taller shelving from the “prow” of the building, allowing more views to the outside and making the area feel more expansive. This change will assist in supervision, particularly for the three proposed study rooms. The study rooms will be as transparent as possible, allowing for both staff supervision from a service point and peer observation from adjacent seating areas.

The central space and prow have been populated with a regular pattern of power and data locations to allow for a functional degree of flexibility. Incorporated into the planning will be improvements to the “feel” of the space through changes in how the space is illuminated and controlling the use of natural light. The clerestory windows will be equipped with remotely operated blinds. Artificial lighting will be a combination of ambient light, accent lighting and task lighting at tables when possible. The proposed approach will improve the quality of the experience, allow for reconfiguration, and support the migration to mobile computing as a primary source of information access.

Local History and Genealogy

The Local History and Genealogy collections are intended to occupy the same general location that they currently do. The enclosure for the special collections will remain with minor upgrades. It should be noted the current placement of shelving for collections within this area do not conform to ADA standards; therefore, a reduction in the amount of collections or quantity of seating provided in this location will be required (the details of which are beyond the scope of this study and require staff input).

This area will reuse existing furniture and furnishings.



Demolition of Exterior Building Systems

Remove Existing Metal Panel System

Completely remove and properly dispose of the existing metal panel system down to the existing steel framing and concrete floor systems. This work shall include all vertical wall panels, all horizontal wall panels (soffits), all column wraps, and all associated accessories.

Remove Existing Aluminum Framed Windows and Storefronts

Completely remove and properly dispose of all existing aluminum framed windows and storefronts. This work shall include removing aluminum stick frames, glazing, gaskets, doors, and hardware associated with the system on all levels of the library.

New Construction of Exterior Building Systems

Provide and Install Exterior Envelope System Consisting of the Following Components:

- Non-insulated dry seal metal panel
- Fluid applied weather barrier
- Exterior grade plywood sheathing
- Continuous poly-iso insulation
- Gypsum sheathing
- Light gauge metal studs

Provide and Install Window and Curtainwall Systems

Provide and install aluminum clad wood composite window and door units and all associated accessories in the same locations as previously removed windows and entrances. This work shall include all existing fenestration of the building envelope and the newly proposed Superior Street entrance lobby.

Work Not Included

Demolition of existing roof system

Construction of new roof system



MECHANICAL NARRATIVE

Demolition of Mechanical and Plumbing Systems

Subbasement and Lower Level

Remove all existing grilles, registers and diffusers, ductwork, (supply, return and exhaust), heating and cooling piping, steam and condensate piping, fin tube radiation, unit heaters, air handling units, temperature controls, pumps, heat exchangers, etc., and all related systems in these areas. Remove all plumbing fixtures, and hot and cold copper piping. Valve and cap existing steam, condensate, domestic water piping back to building outside wall or water meters, and prepare piping for connection to new mechanical systems. Sanitary sewer and storm sewer piping to remain and to be reused. Reconnect new plumbing systems as required to existing waste and vent system. Repair and replace as required.

1st and 2nd levels

Remove all existing grilles, registers and diffusers, ductwork (supply, return and exhaust), heating piping, fin tube radiation, unit heaters, vav boxes, temperature controls, etc., and all related mechanical systems in the area. Remove all existing plumbing fixtures and copper hot and cold piping.

Demolition of Fire Protection System

Remove and replace sprinkler heads, arm-overs, and branch lines as required to match new architectural ceiling layout throughout building. Modify the existing dry-pipe system located in the garage and shipping and receiving areas as required and replace with new wet-pipe system.

Add Restrooms

Add new domestic hot, cold, and recirculating copper water piping throughout the building. All domestic water piping shall be insulated.

Add new, high-quality, low-flow plumbing fixtures with trim for toilet rooms and janitor closets. Use wall mounted, automatic flush valve-type toilets and urinals, and wall mounted lavatories with automatic faucet controls. Bi-Level water coolers where required. Water and waste piping for accessible lavatories will be insulated. Provide floor sinks in all janitor closets. All fixtures shall be ADA as required.

Add unisex toilets to meet ADA requirements.

(1) 80 gallon electric domestic water heater.

(1) Domestic hot water circulation pump.

Type L copper domestic hot water, hot recirculation water and cold water piping will be extended to the plumbing fixtures. Provide isolation valves at each toilet room. Insulate all piping.

Connect to existing domestic water service meters in the subbasement mechanical room.



The central exhaust system for the building will be provided through a dedicated outside air system (DOAS) unit located in the basement mechanical equipment room. Exhaust ductwork shall be ducted through the ceiling with low leakage galvanized ductwork back to the (DOAS) unit for heat recovery and then exhausted to the outdoors.

Toilet Room(s) shall have ceiling mounted exhaust grille connected to the central building exhaust system, maintaining a negative pressure for odor and humidity control.

New Children's Area at Lower Level

The heating, cooling, and ventilation system for this area will be provided from the DOAS unit, fin tube radiation, and variable refrigerant flow (VRF) fan coil units. The VRF fan coil units shall be located above the ceiling and ducted to ceiling diffusers to provide spot heating and cooling to the spaces. A return air plenum will be utilized. Fin tube radiation will be used at the perimeter for comfort. Plumbing fixtures as required per layout.

New Market Place at First Level

The heating, cooling, and ventilation system for this area will be provided from the DOAS unit, fin tube radiation, and VRF fan coil units. The VRF fan coil units shall be located above the ceiling and ducted to ceiling diffusers to provide spot heating and cooling to the spaces. A return air plenum will be utilized. Fin tube radiation will be used at the perimeter for comfort. Plumbing fixtures as required per layout.

Mechanical Equipment Access

The DOAS unit, pumps, heat exchangers, etc., will be lifted into the building through the existing wall louver opening, or through the existing floor opening in the shipping/receiving room by a crane hoist, and lowered into the subbasement.

New Mechanical Equipment (DOAS, AHU, Pumps, etc.)

Ventilation air for the building will be provided by one DOAS unit, located in the sub-basement mechanical equipment room. The DOAS unit will use an air-to-air heat exchanger in order to recover heat from toilet room exhaust air and ventilation air to provide pre-cooling and pre-heating of incoming ventilation supply air to the building. The unit will have a chilled water cooling coil and a hot water heating coil, with glycol solution for freeze protection, to condition the air before ducting ventilation air to the space.

The building DOAS unit and fin tube radiation system will use district hot water, if available in the adjacent street by the proposed 2017-2018 construction date. A shell and tube heat exchanger will be used to exchange heat between the district and building heating systems. If district hot water is not available, the heating system will use the existing district steam system with a new shell and tube heat exchanger with glycol solution for heating. The hot water heating system will be pumped throughout building.

The building DOAS unit will use district chilled water if available in the adjacent street by the proposed 2017-2018 construction date. If chilled water is not available, the cooling system will consist of a roof-mounted air-cooled condensing unit providing DX cooling for the DOAS unit.

Water cooled DX chillers located in the subbasement equipment room will be used for heating and cooling of the VRF fan coil units located throughout the building for heating and cooling.



A closed loop cooling tower located on the roof of the building will be used to reject excess building heat from the VRF condensing units to the outdoors.

New VRF Fan Coil units at all Levels

VRF fan coil units shall be located above the ceiling and ducted to ceiling diffusers to provide spot heating and cooling to the spaces. Small spaces will use ceiling mounted cassette units that are non-ducted style units. The VRF fan coil units will be piped with DX refrigerant from the condensing units to provide heating and cooling to each individual unit, and will have individual, dedicated thermostats for temperature control. The VRF fan coil units will be interlocked with their respective controls system, and monitored by the Building Automation System (BAS) temperature controls.

Rooms shall have individual zone control temperature sensors with VRF fan coil units with DX heating and cooling for temperature control. Multiple temperature sensors will be used in larger areas, and smaller rooms will have one temperature sensor per every three to four rooms.

New Ventilation Ductwork at All Levels

Extend new DOAS unit supply air ventilation ductwork throughout the building to provide conditioned ventilation air to all occupied spaces.

All ductwork shall be low leakage, galvanized sheet metal built per SMACNA standards. Supply air ductwork shall be insulated with flexible fiberglass wrap. Flexible insulated duct will be allowed to supply diffusers, with 5'-0" maximum length.

The central exhaust system for the building will be provided through a dedicated outside air unit (DOAS) unit, located in the basement mechanical equipment room. Exhaust ductwork to be ducted through the ceiling with low leakage aluminum ductwork back to the DOAS unit for heat recovery and then exhausted to the outdoors.

Outside air ventilation for the building will be provided through a sidewall louver ducted down to the DOAS unit via low leakage, insulated ductwork. Intake and relief air louvers shall be sized at a velocity of 500 fpm.

The entire building will utilize ceiling return air plenums for return air.

The entire building will utilize perimeter fin tube radiation for comfort.

Testing, adjusting, and balancing of systems will be per AABC, NEBB, or SMACNA.

New DDC Controls

The entire building is to be upgraded to a new direct digital controls (DDC) system.

Fire Protection

Remove and replace sprinkler heads, arm-overs, and branch lines as required to match new architectural ceiling layout throughout building. Modify existing garage and shipping and receiving dry-pipe system as required and replace remodeled area with new wet-pipe system.



ELECTRICAL NARRATIVE

Demolition of Lighting Systems

The building lighting systems are a mix of surface mounted fluorescent strips in large open areas, and a mix of track lighting and can lights in corridors, toilet rooms, and offices. The track lighting was used heavily back in the 1990s, but is not well suited for general illumination and gives the perception of low ceilings and under-lit areas. Some meeting rooms currently contain large incandescent dimmer racks. In general, all lighting systems should be removed. The energy savings and LED rebates offered by the utility make the use of LED attractive.

Replacement of Lighting Systems

Install LED lighting systems with integral dimming of each fixture.

For large open areas, the light fixtures should be 2x4 troffers in ACT ceilings.

For large open stacks areas, the light fixture should be 4 foot linear LED suspended by aircraft cables. Spacing of lighting to match shelving system spacing.

For large open areas in the center, seating areas, and the help desk, the light fixtures should be linear LED suspended by air craft cables from structural horizontal beams.

For large open areas with windows, the row of fixtures close to the windows must be controlled by a daylight harvesting system. On bright sunny days, the lights near the windows will dim automatically.

In staff offices and small areas, occupancy sensors and room controllers will be used to turn off the lights when vacant.

A centralized lighting controls system will be installed to allow for systematic shutting off of lights in preparation for library closing. Staff may turn off the upper floor lights once they have verified the upper floor is vacant. This may be done through a series of lighting contactors connected to wall switches, or to the building automation system or other dedicated lighting controller.

Lighting Efficiency Rebate from MN Power

Minnesota Power is offering a custom rebate to install LED lights. Craig Kedrowski at MN Power has described the lighting rebate program as \$200 for each KW saved and 3.5 cents for each KWh saved. The lighting rebate system for MN Power is administered by a third party company called Energy Insights. The contact name is Tanuj Gulati.

Replacement of Electrical Panels and Switchgear

All branch circuit panelboards to be replaced with new. All 480VAC panels serving lighting and branch loads to be replaced.

1000 Amp main switchboard to be replaced. By adding chiller and cooling towers to the building, the switchboard does not have enough circuit spaces.



The motor control center (MCC) will be removed and replaced with a less expensive large panel and individual VFDs. All VFDs for mechanical equipment will be provided by the Division 26 contractor. VFDs will be mounted near air handlers and pumps.

The chiller on the roof will get a new feeder from the main switchboard to the roof.

The cooling tower on the roof will get a new feeder from the main switchboard to the roof.

Additions to Electrical Power System

Electrical panels will be added to the building at a few locations.

Market Place area: Add branch panelboards for coffee shops and retail area. Provide electrical connections to coffee machines, refrigerators, and other food service equipment.

Children's area: Add branch panelboard for children's computer stations. Provide outlets for 30 new computers.

All branch circuit panelboards to be replaced with new. See attached riser diagram.

The single large transformer that serves the 120vac panels will be replaced.

Connections to new 80 gallon electric water heater at 480 volts.

Connection to new domestic hot water circulation pump.

Additional Outlets for Public Seating Areas

At each table or seating area (sized at 64 square feet each), a floor outlet will be available for laptop computers. The floor box (poke thru) will be divided to allow power and data connections. At the ground floor, floor boxes must be cast into the floor. Saw cutting of the floor and patching will be required. At upper floors, an X-RAY will be required prior to any core drilling.

Fire Alarm Systems

Existing addressable fire alarm systems are to be replaced with a new panel (head end equipment). All existing horns/strobes are to be removed and replaced to accommodate the new room layouts. All horns/strobes are to be replaced with speaker strobes to allow for emergency notification throughout the building. Speaker spacing to be 30 feet on center to allow for intelligible voice messages.

Sound Masking Systems

A new sound masking system will be installed in the following areas:

- Market Place Area
- Adult Services Area
- Staff Office and Administration Area
- Public Circulation Area



Areas not needing sound masking:

- Children's Services Area
- Teen Services Area
- Meeting Rooms
- Toilet Rooms
- Corridors
- Mechanical Rooms

Phone and Data Systems

The existing analog phone system wiring is still intact in the building and is widely unused. Most of the phone handsets in the building are VOIP handsets. The active phone lines are for the emergency systems, fire systems, security systems, and dial out functions.

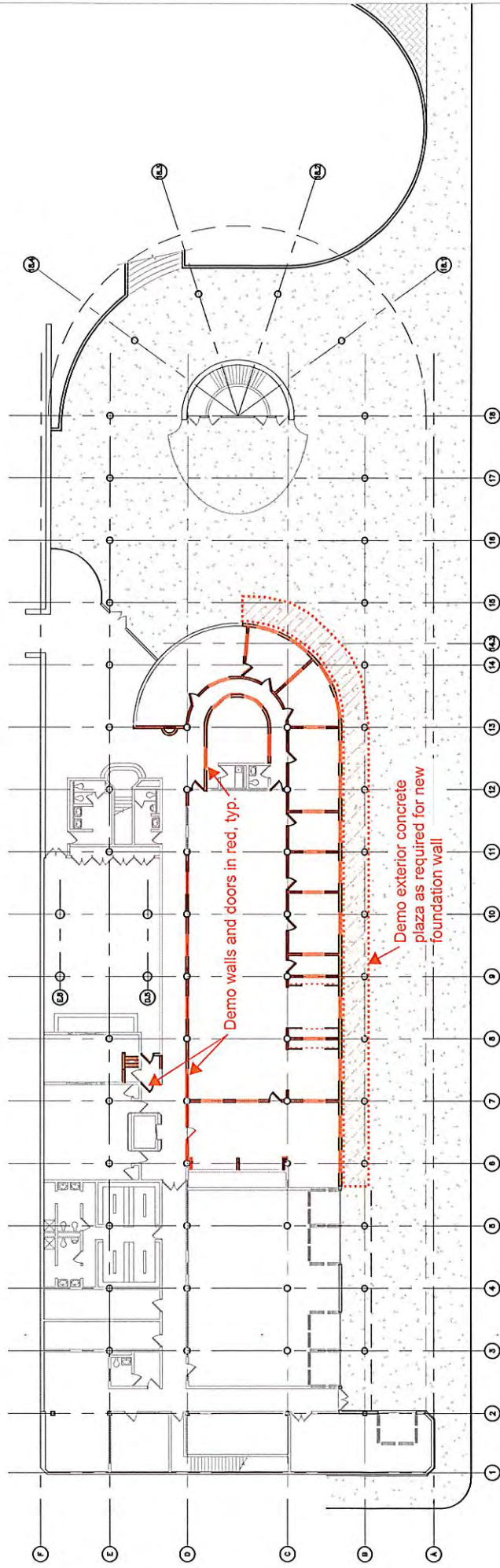
Add WIFI coverage throughout the building. Add WIFI in the Market Place.

Add floor outlets in the Market Place, one for each 64 square-foot area or one at each table and seating area.

Add computer data jack connections in the new Children's Services area. Due to the large number of connections, a telecomm closet will be required.

Add computer data jacks in the open seating area, one jack for each 64 square-foot area.



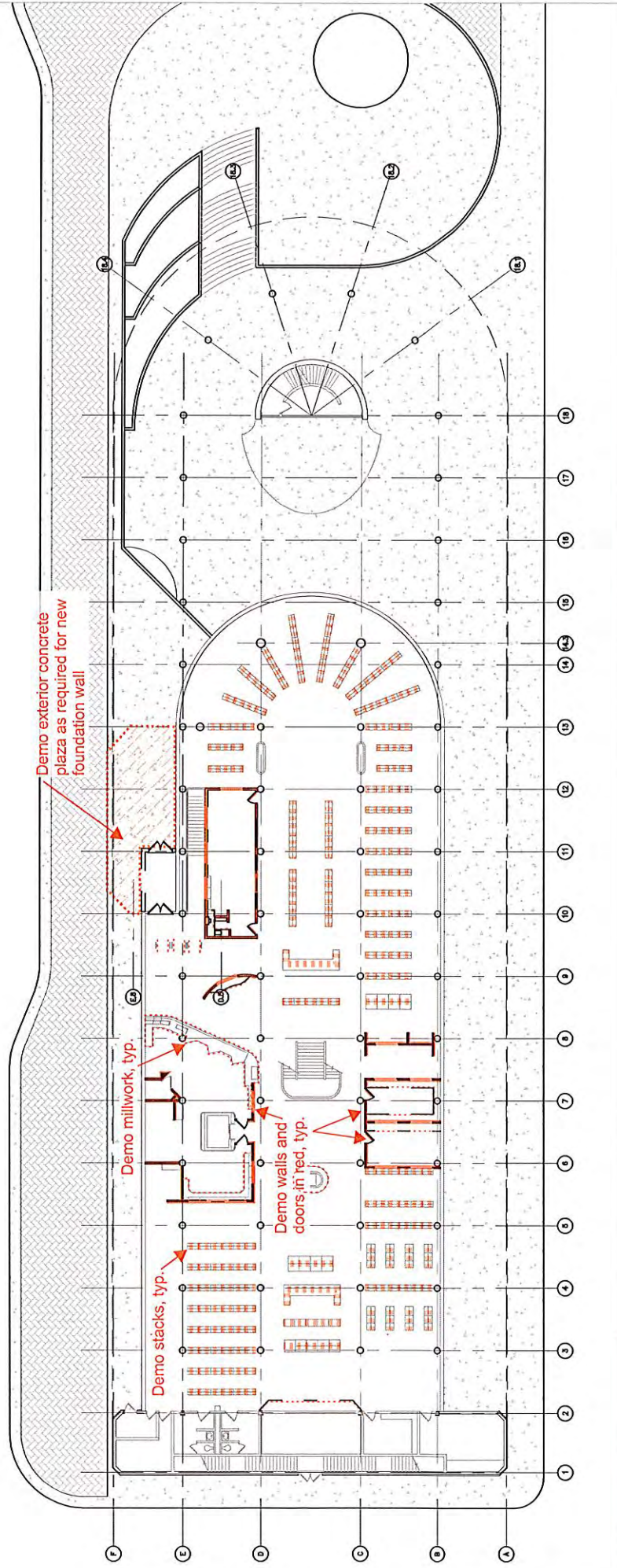


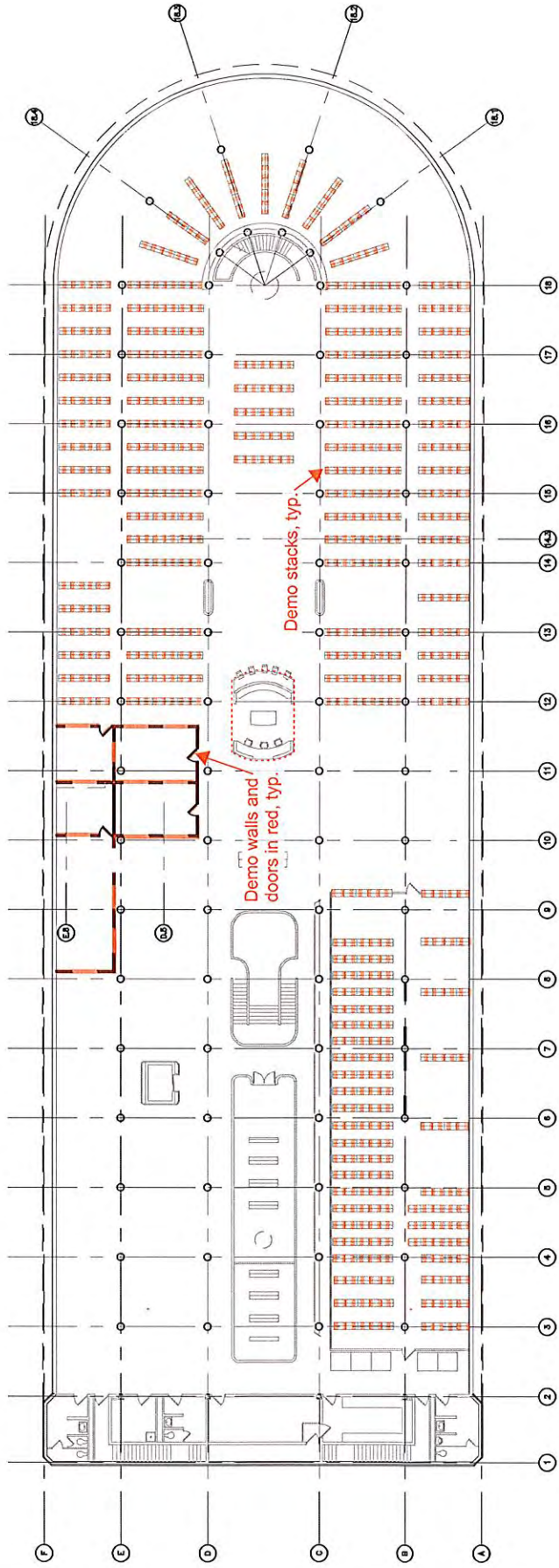
Michigan Street Level Demolition Plan



Scale: 1" = 25'
0 25' 50'

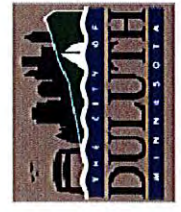


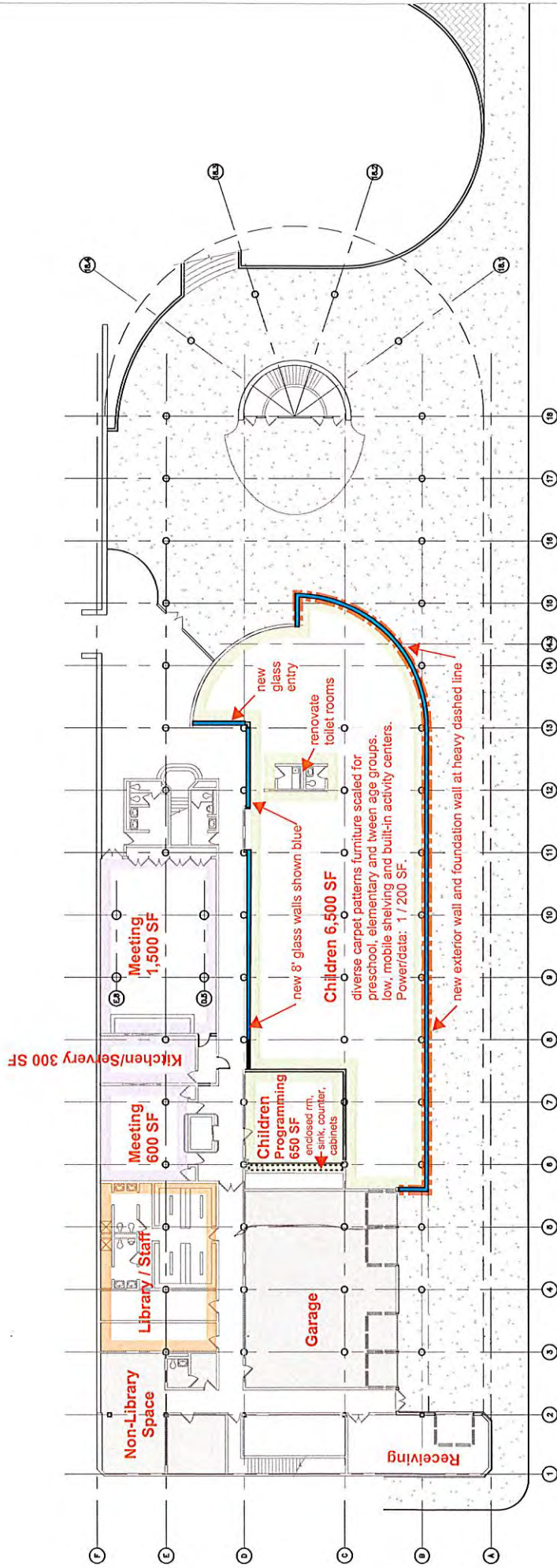




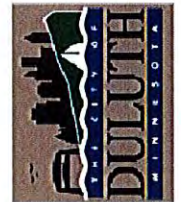
Demo walls and doors in red, typ.

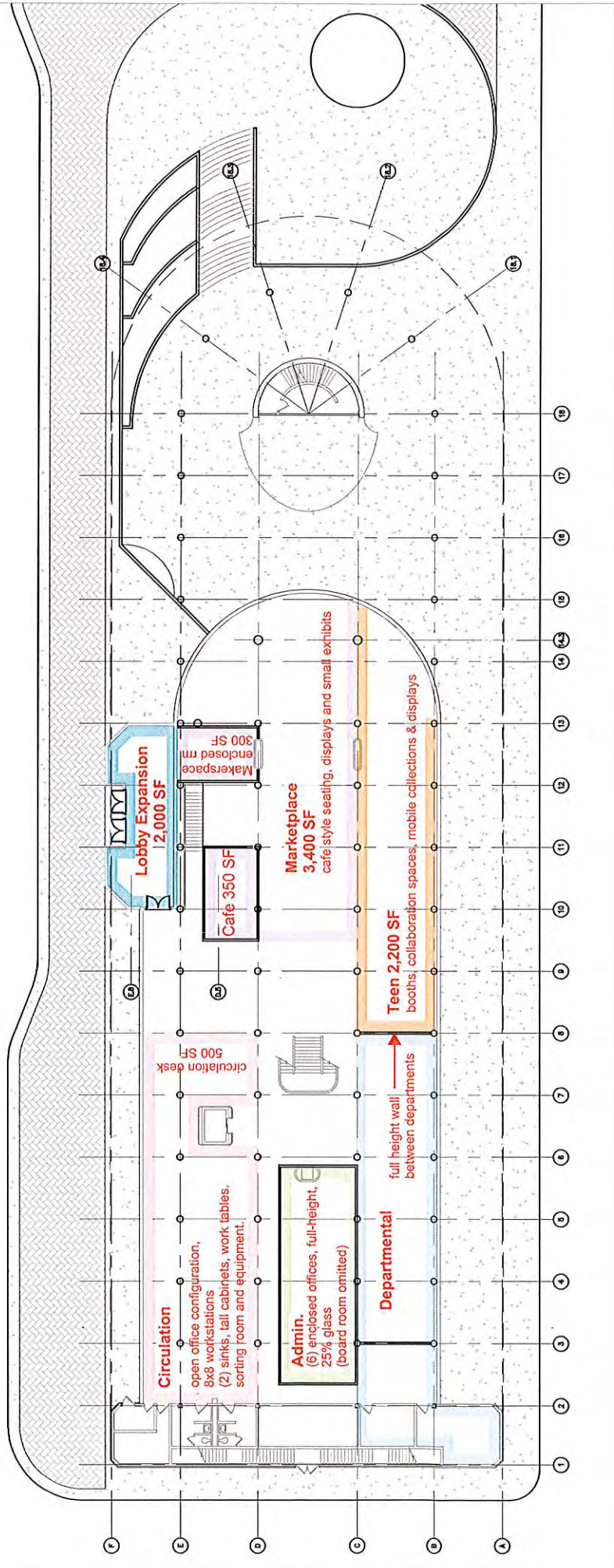
Demo stacks, typ.





Michigan Street Level Floor Plan

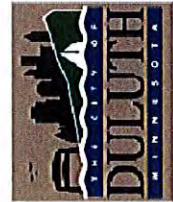


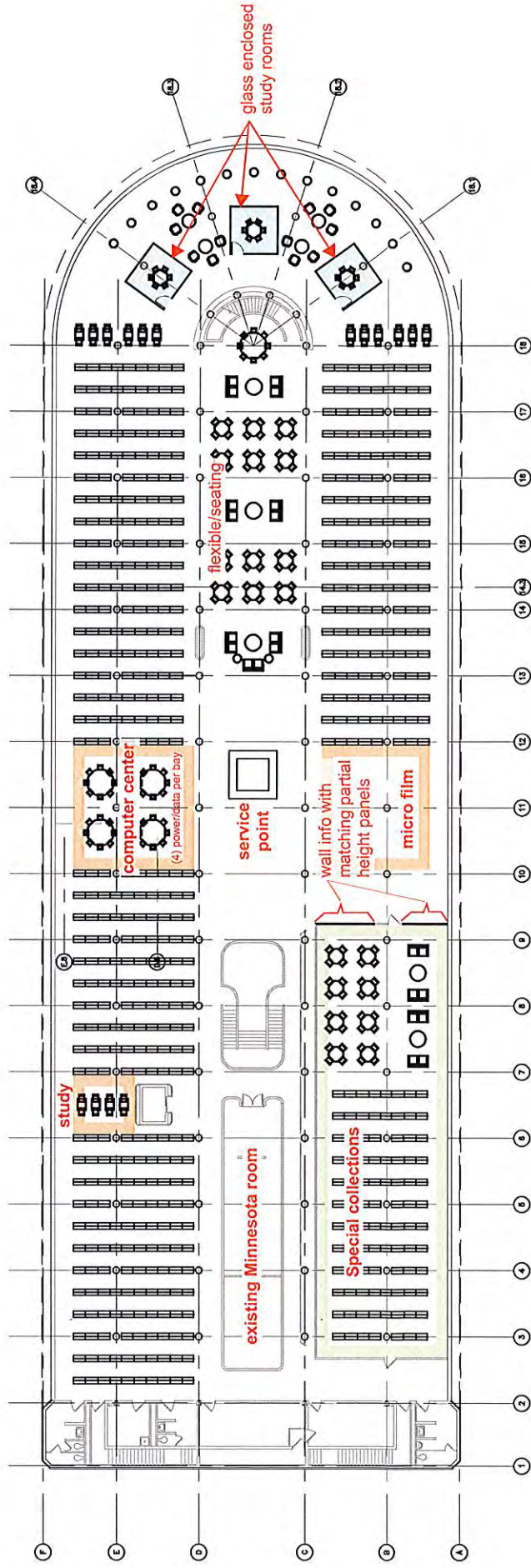


Superior Street Level Floor Plan



Scale: 1" = 25'





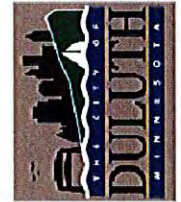
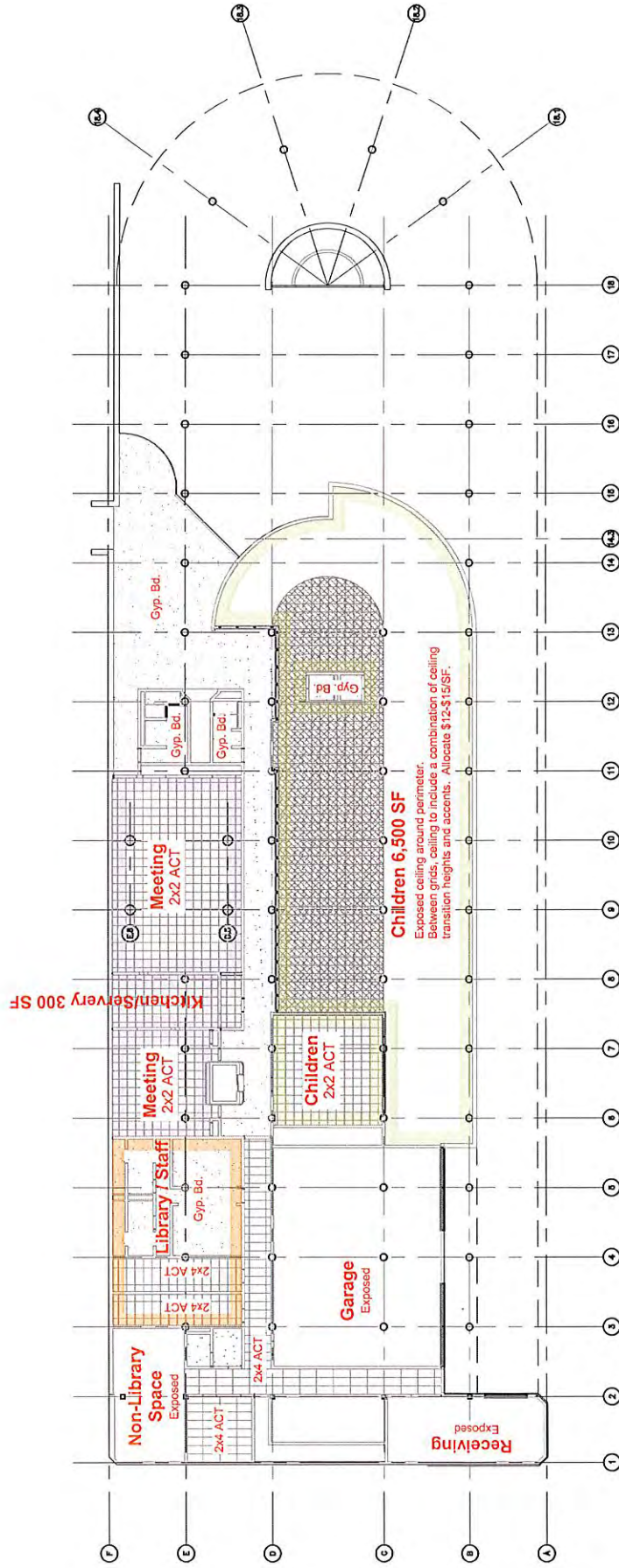
Upper Level Floor Plan

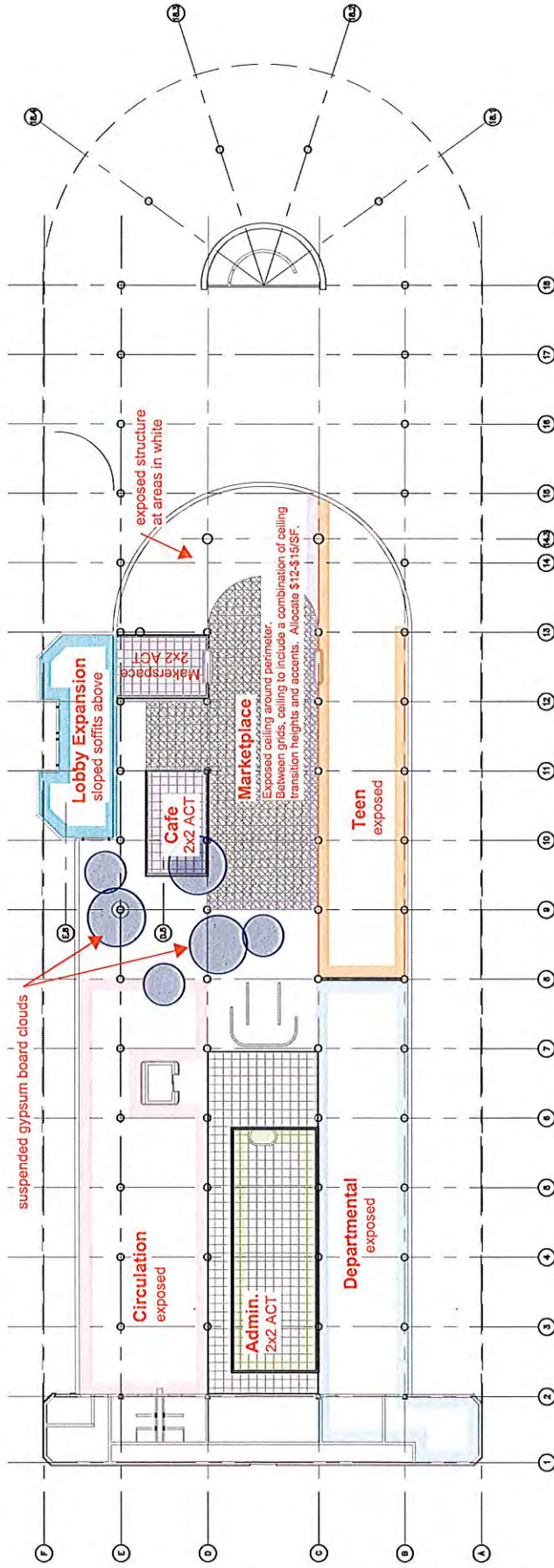
Scale: 1" = 25'
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TKDA

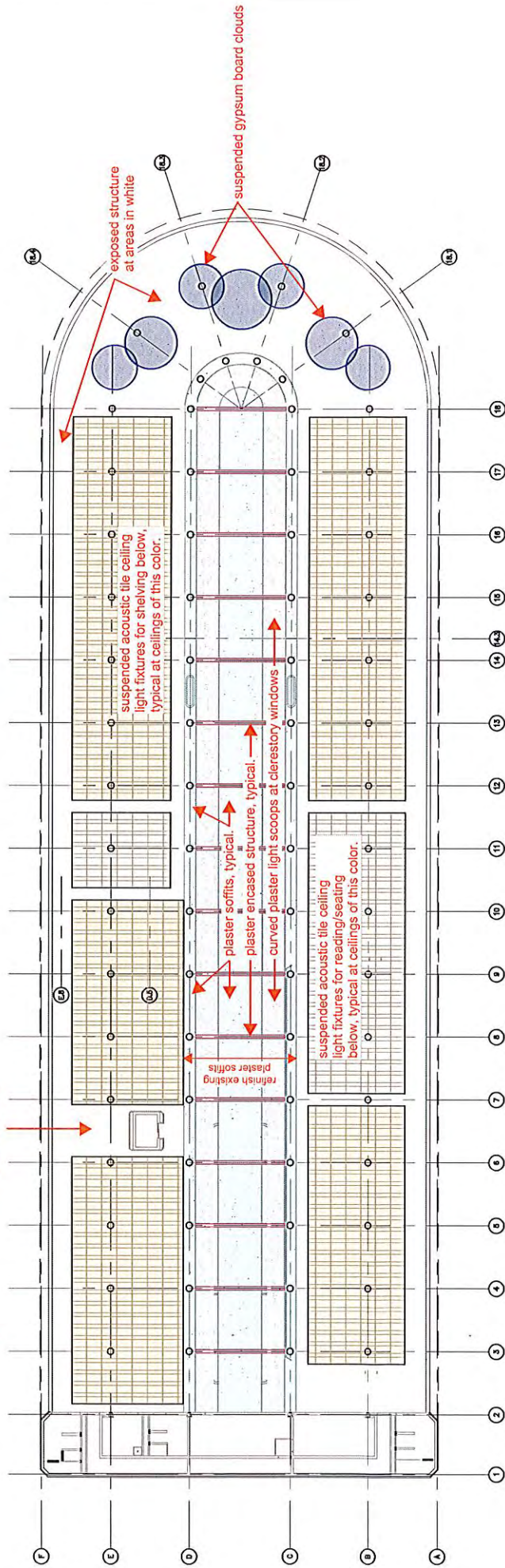




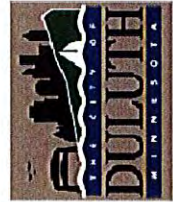


note: suspended acoustic tile ceiling systems consist of alternating 12" wide and 24" wide panels to align with existing structural grid.

exposed structure at areas in white



Upper Level Reflected Ceiling Plan





Gunter Birkenfeld
and
Associates
Architects

Robert M. Davies &
Associates
Professional Engineers
and Architects
Hoyano-Basso
Associates
Incorporated
Professional Engineers
and Architects

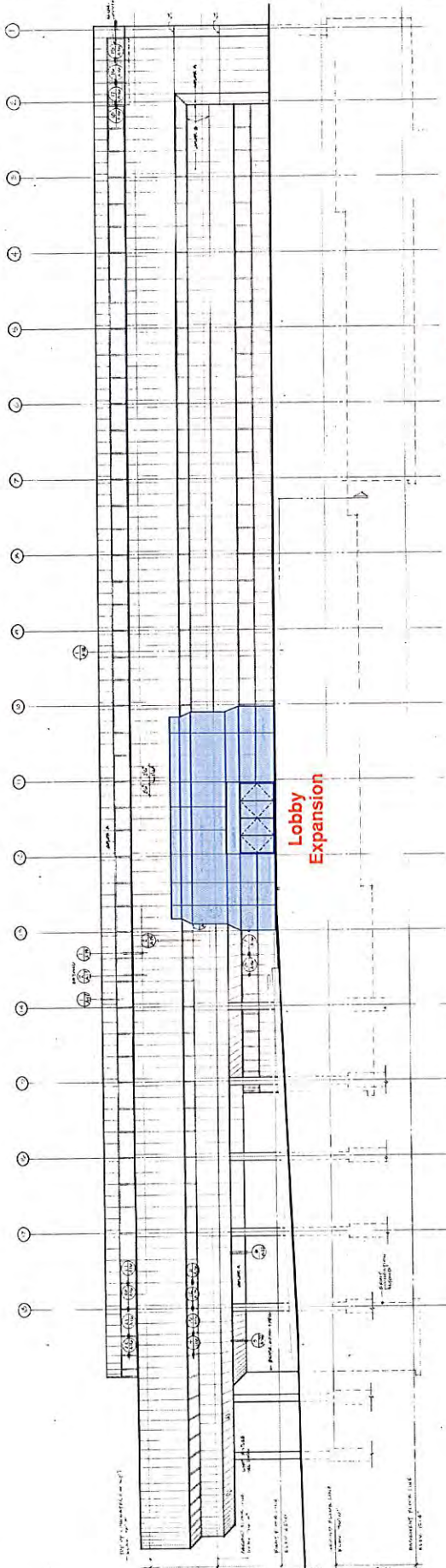
DATE	NO.

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Public
Library

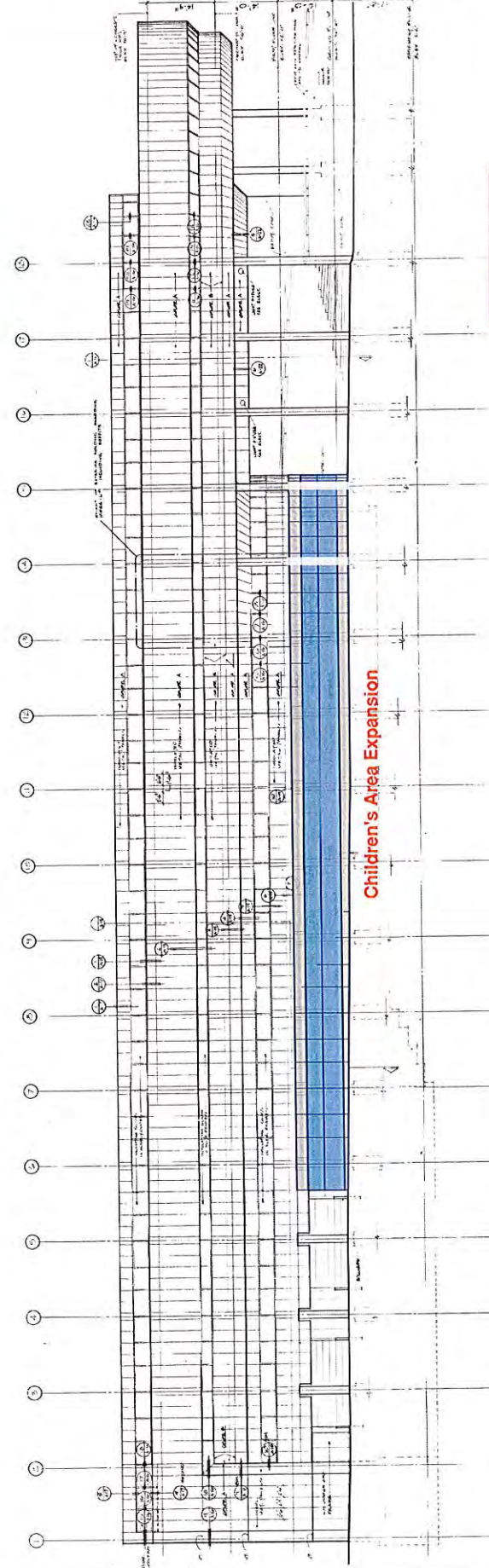
PROJECT	DATE

PROJECT	DATE

7012 A-9



LOBBY EXPANSION



CHILDREN'S AREA EXPANSION



Gumar Birkerts
and
Associates
Architects

1000 Franklin Avenue, Suite 200
Duluth, MN 55812
Tel: 218/825-1111
Fax: 218/825-1112

Robert M. Durvas
Associates
Professional Services
1000 Franklin Avenue, Suite 200
Duluth, MN 55812
Tel: 218/825-1111
Fax: 218/825-1112

PROJECT NO. 15-01-0001
DATE: 10/15/15
DRAWN: JMB
CHECKED: JMB
SCALE: AS SHOWN

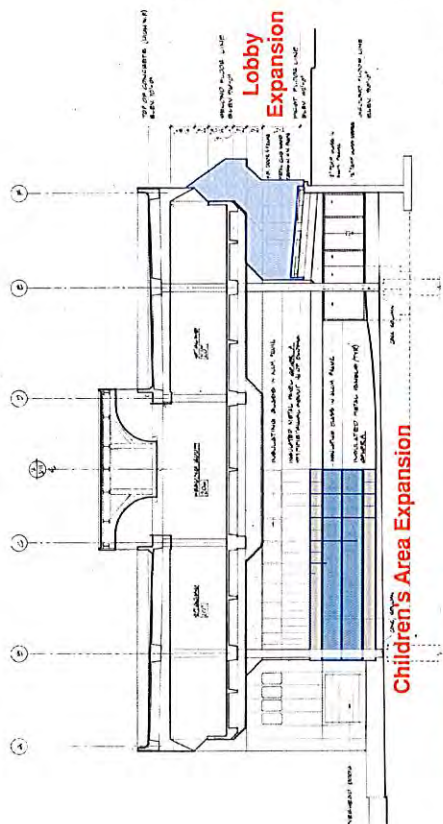
Duluth
Public
Library
DULUTH, MINNESOTA

BUILDING SECTION
DATE: 10/15/15

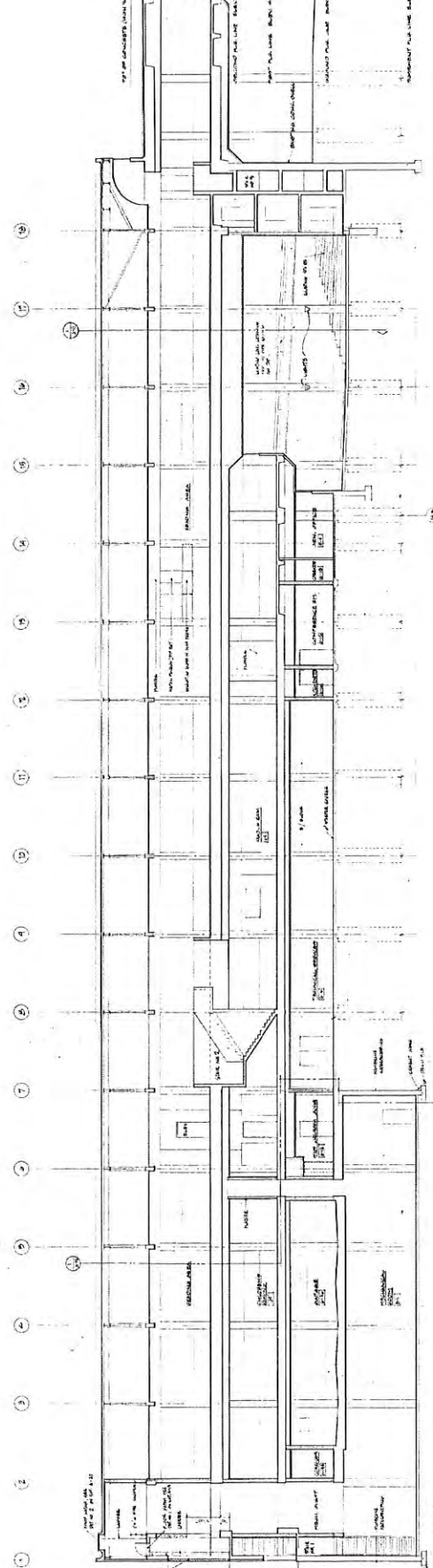
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PROJECT NO. 15-01-0001
DATE: 10/15/15
DRAWN: JMB
CHECKED: JMB
SCALE: AS SHOWN

7912 A-11



1 BUILDING SECTION



2 BUILDING SECTION



**Kumar Birkers
and
Associates
Architects**

**Robert M. Derr
Associate
Structural Engineers
and Civil Engineers**
**Hoyem-Basso
Associates
Interior Design
Architecture & Interiors**
MANAGED BY A. BERKELEY

NO.	DATE	DESCRIPTION
01	11/15/11	ISSUED FOR PERMIT
02	01/10/12	REVISIONS
03	02/01/12	REVISIONS
04	02/15/12	REVISIONS
05	03/01/12	REVISIONS
06	03/15/12	REVISIONS
07	04/01/12	REVISIONS
08	04/15/12	REVISIONS
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12	06/15/12	REVISIONS
13	07/01/12	REVISIONS
14	07/15/12	REVISIONS
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20	10/15/12	REVISIONS

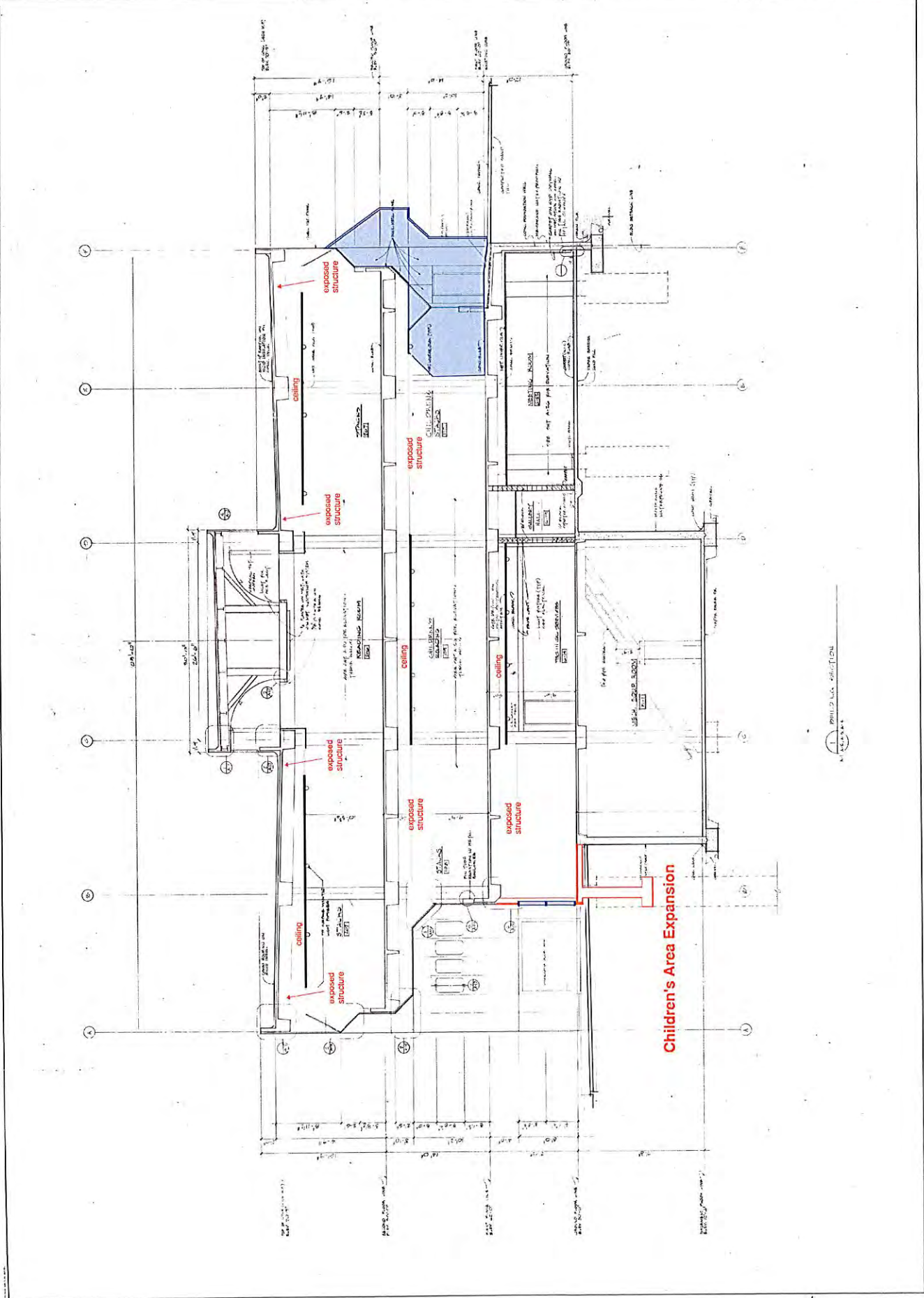
**Duluth
Public
Library**
DULUTH, MINNESOTA

PHILIP LIAISON
PHILIP LIAISON ARCHITECTS
1001 NEW HAVEN STREET
DULUTH, MN 55812

NO.	DATE	DESCRIPTION
1	11/15/11	ISSUED FOR PERMIT
2	01/10/12	REVISIONS
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4	02/15/12	REVISIONS
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6	03/15/12	REVISIONS
7	04/01/12	REVISIONS
8	04/15/12	REVISIONS
9	05/01/12	REVISIONS
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11	06/01/12	REVISIONS
12	06/15/12	REVISIONS
13	07/01/12	REVISIONS
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19	10/01/12	REVISIONS
20	10/15/12	REVISIONS

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NO. 10/01/12
NO. 10/15/12

7812 A-12



PHILIP LIAISON ARCHITECTS

EXIST. PARKING METER
TO REMAIN

A-2

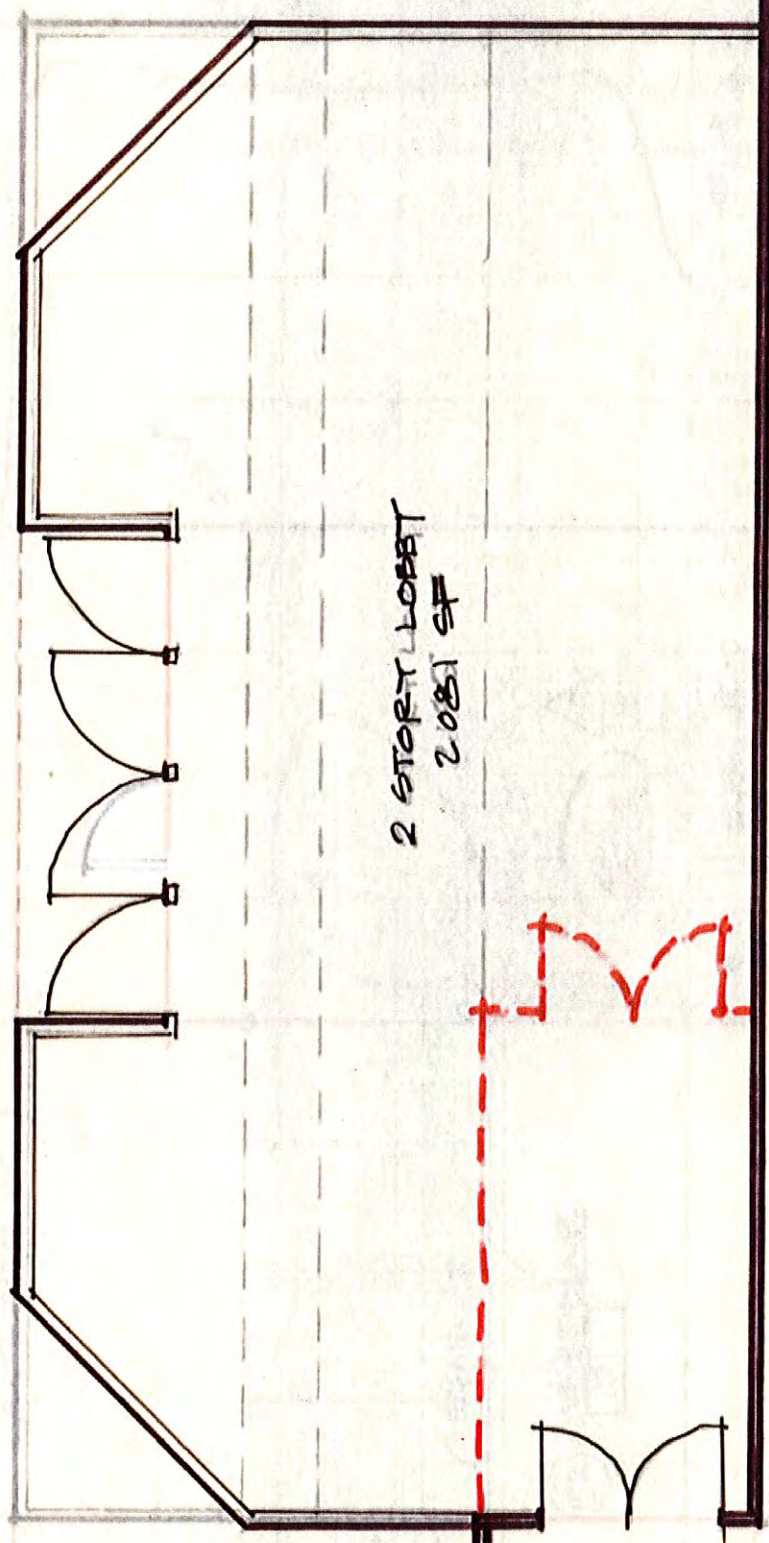
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Lobby Expansion - Plan



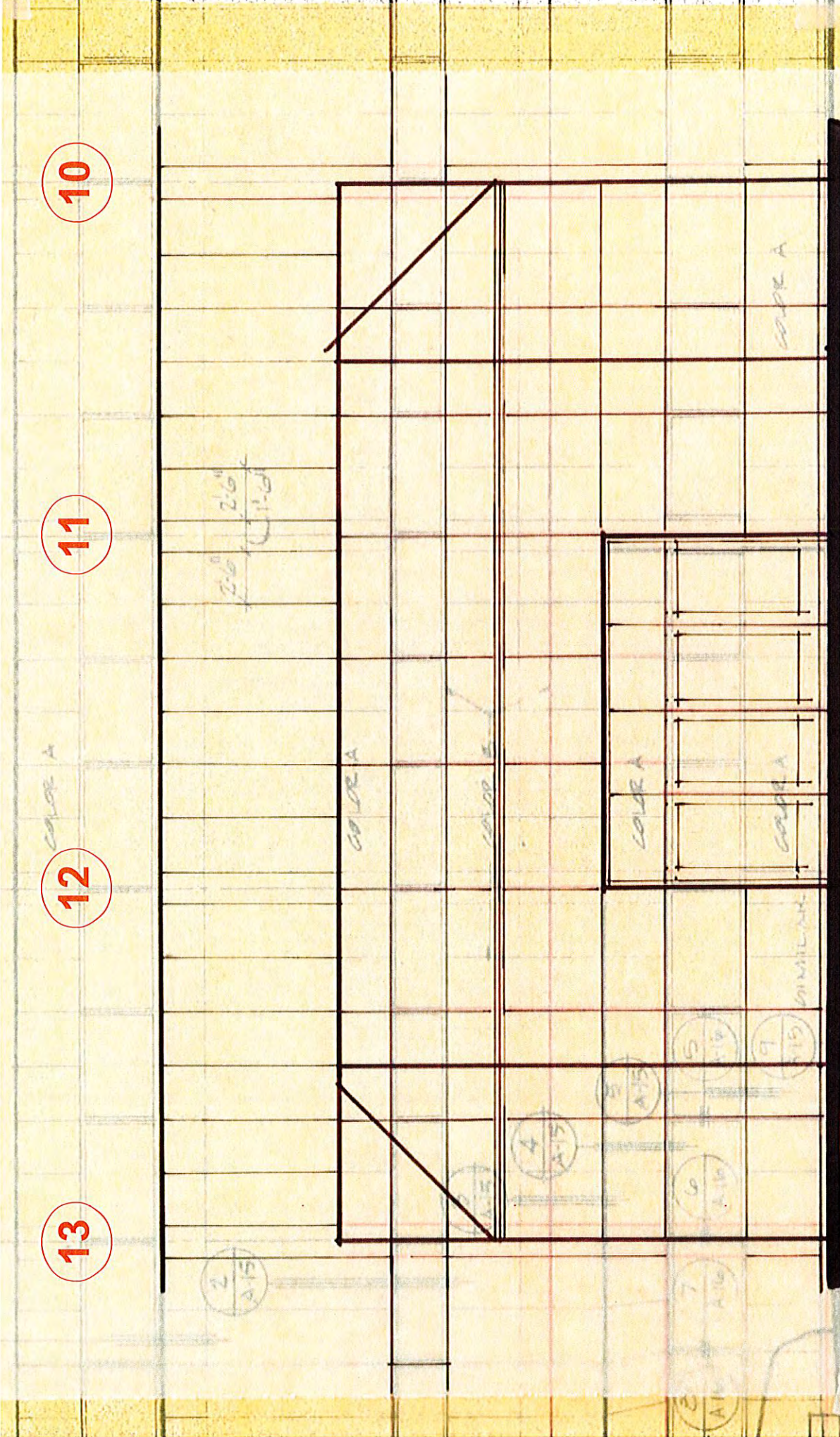
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Lobby Expansion - Elevation

2015-11-30

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INSULATING METAL PANEL CURIA

INSULATING GLASS UNIT

SYMMETRICAL ABOUT G. OF FINISH

INSULATED METAL PANELS CURIA 5

INSULATED METAL LIGHT FIXTURE

PAVING
SLAB

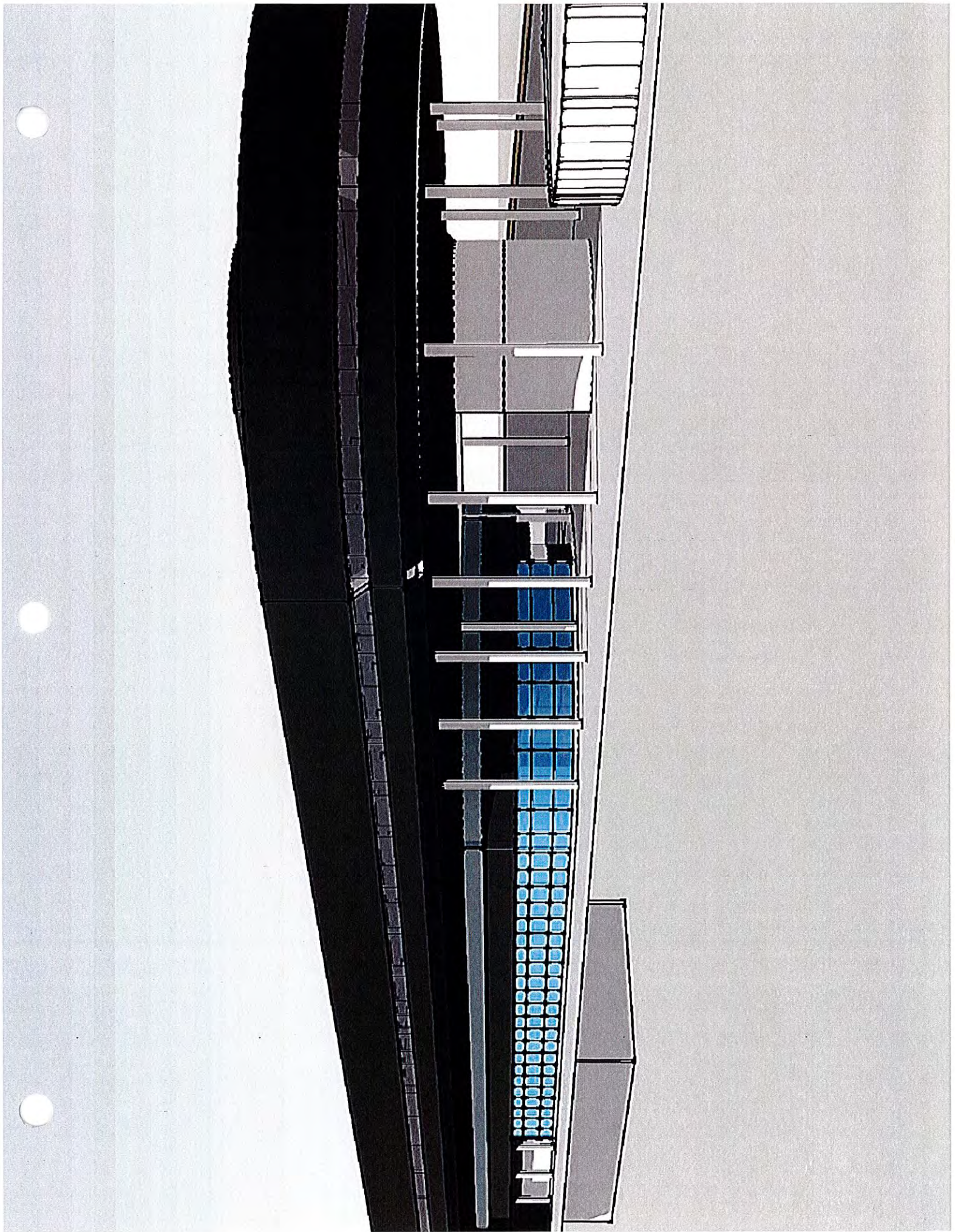
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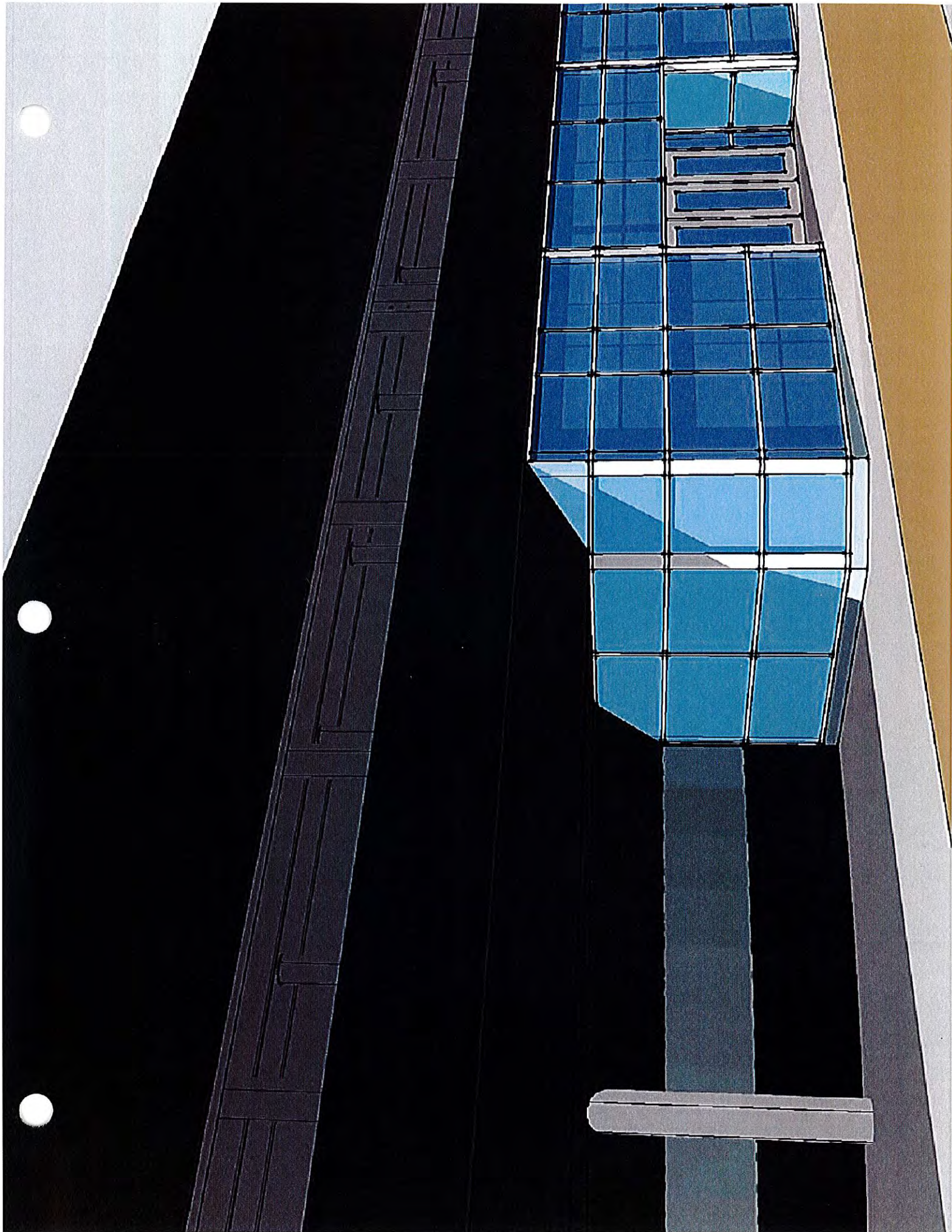
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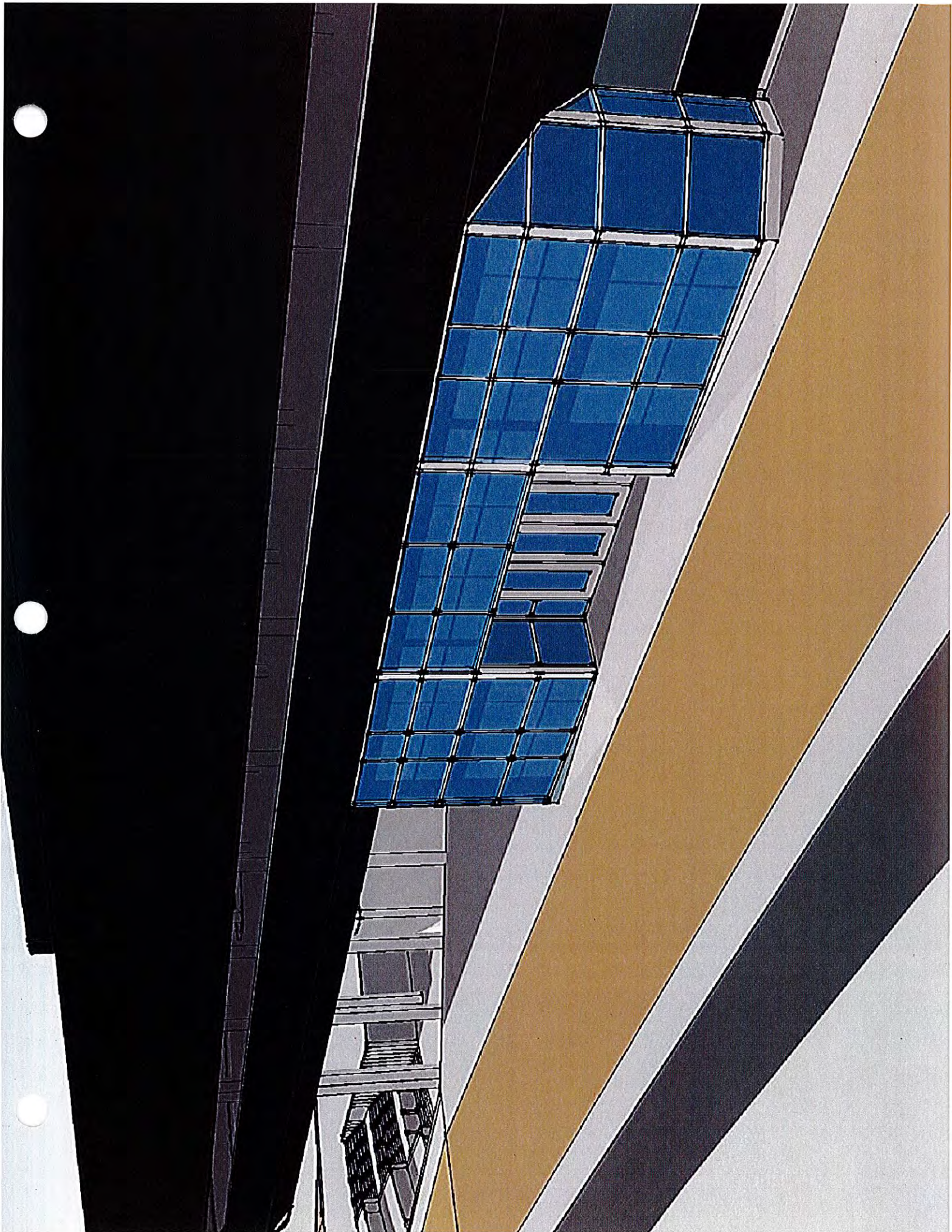
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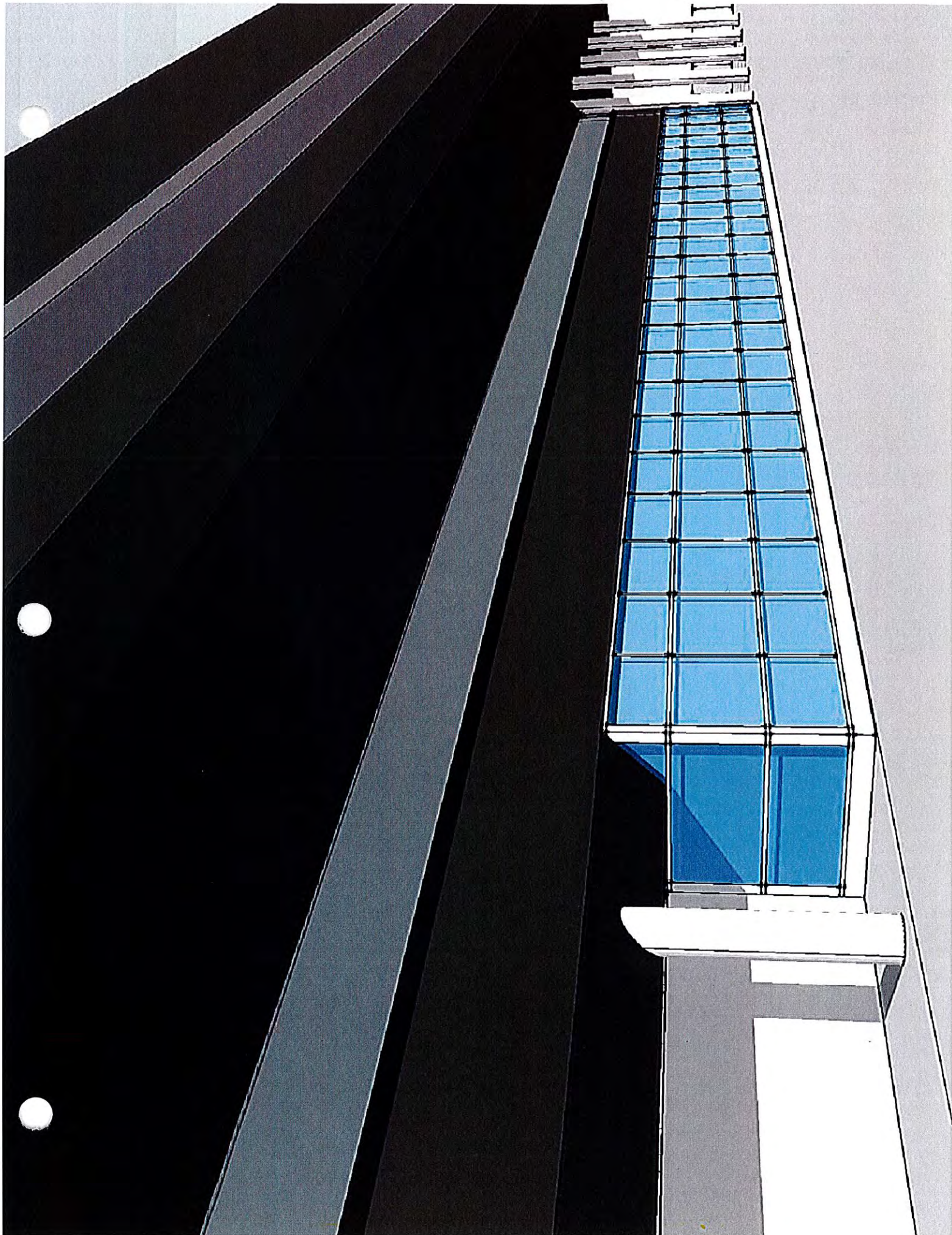
Lobby Expansion - Section

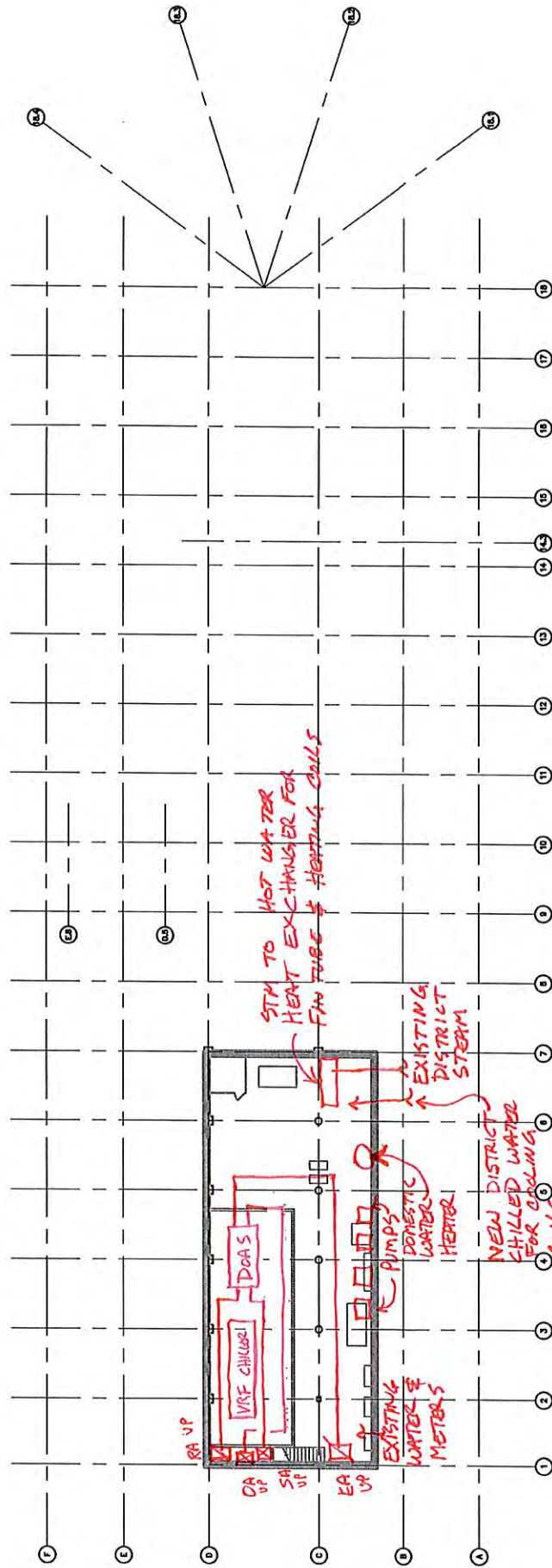
2015-11-30



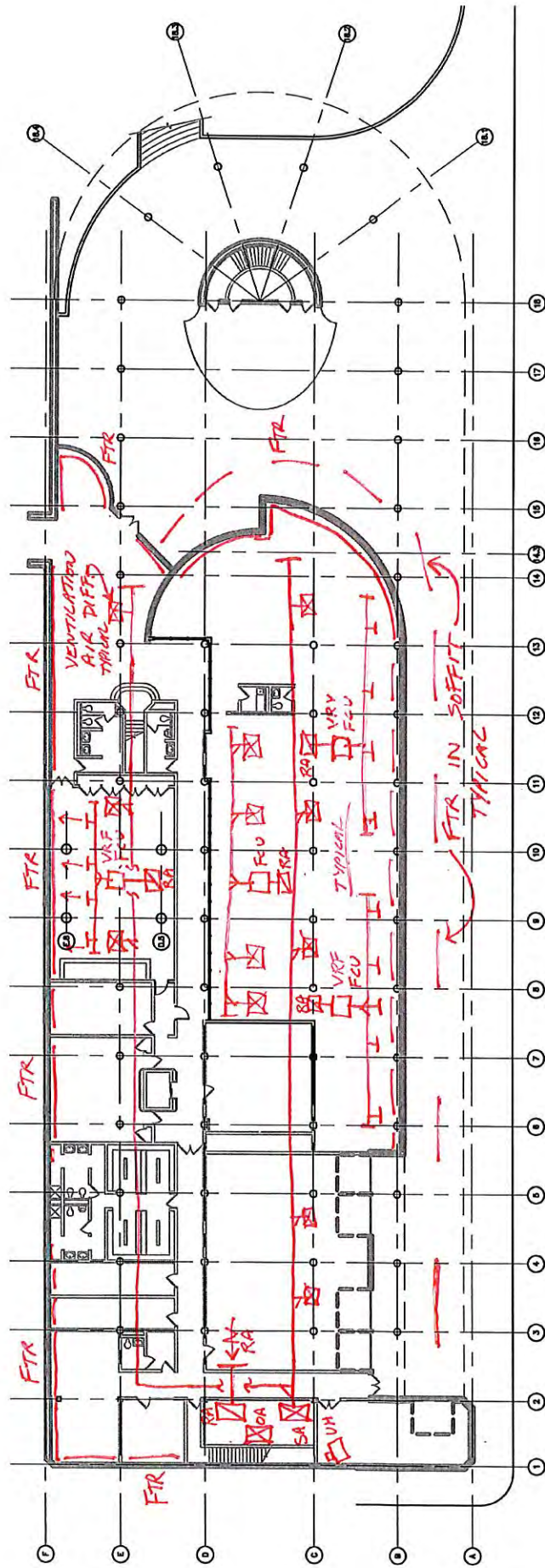




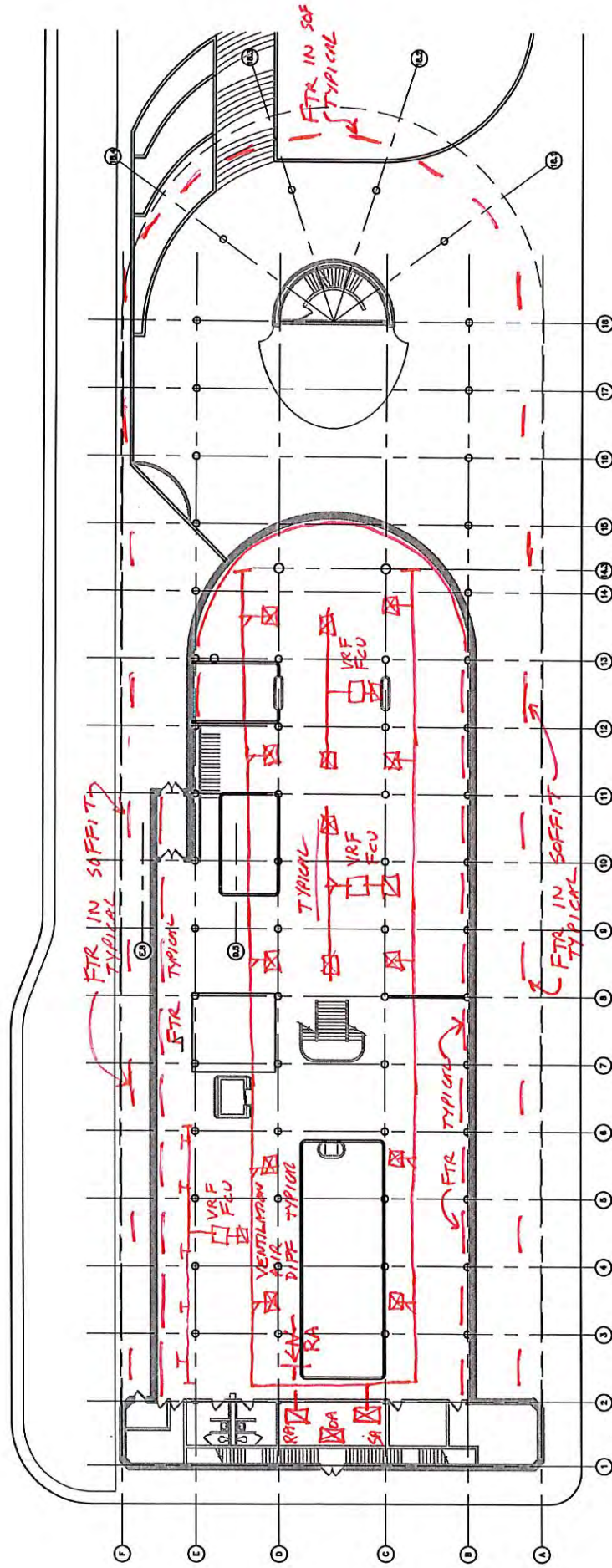




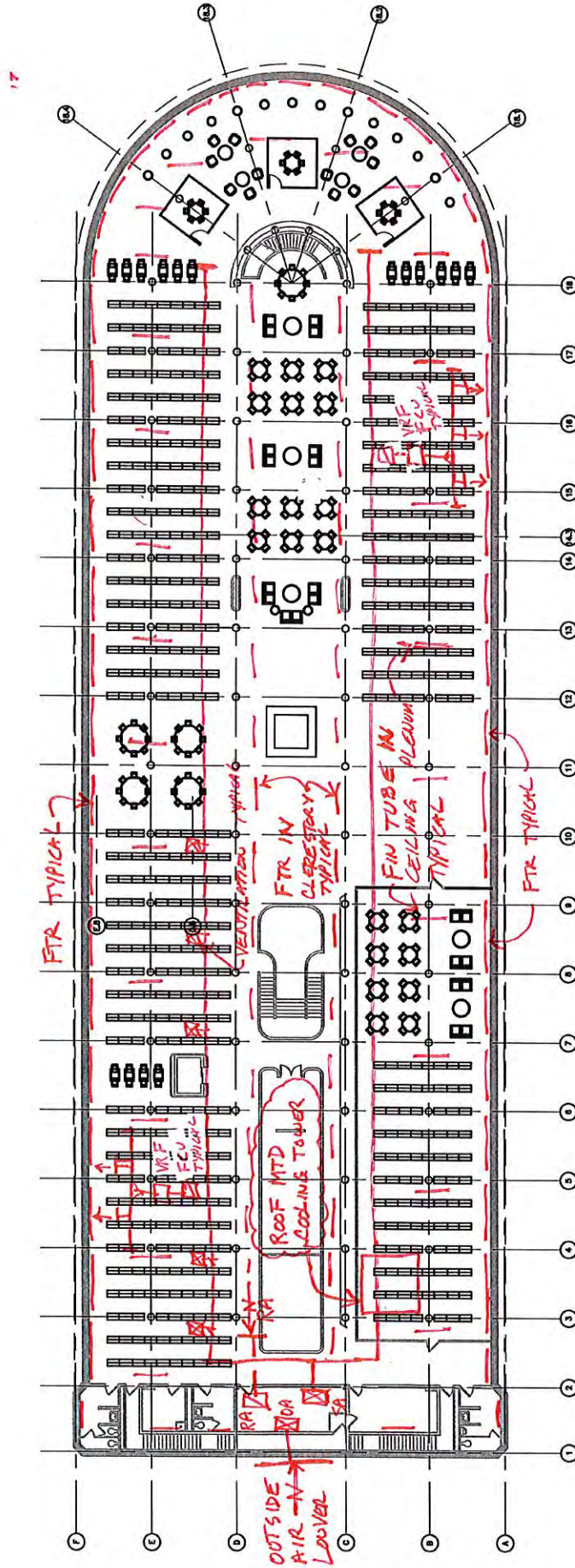
M-0 BASEMENT LEVEL



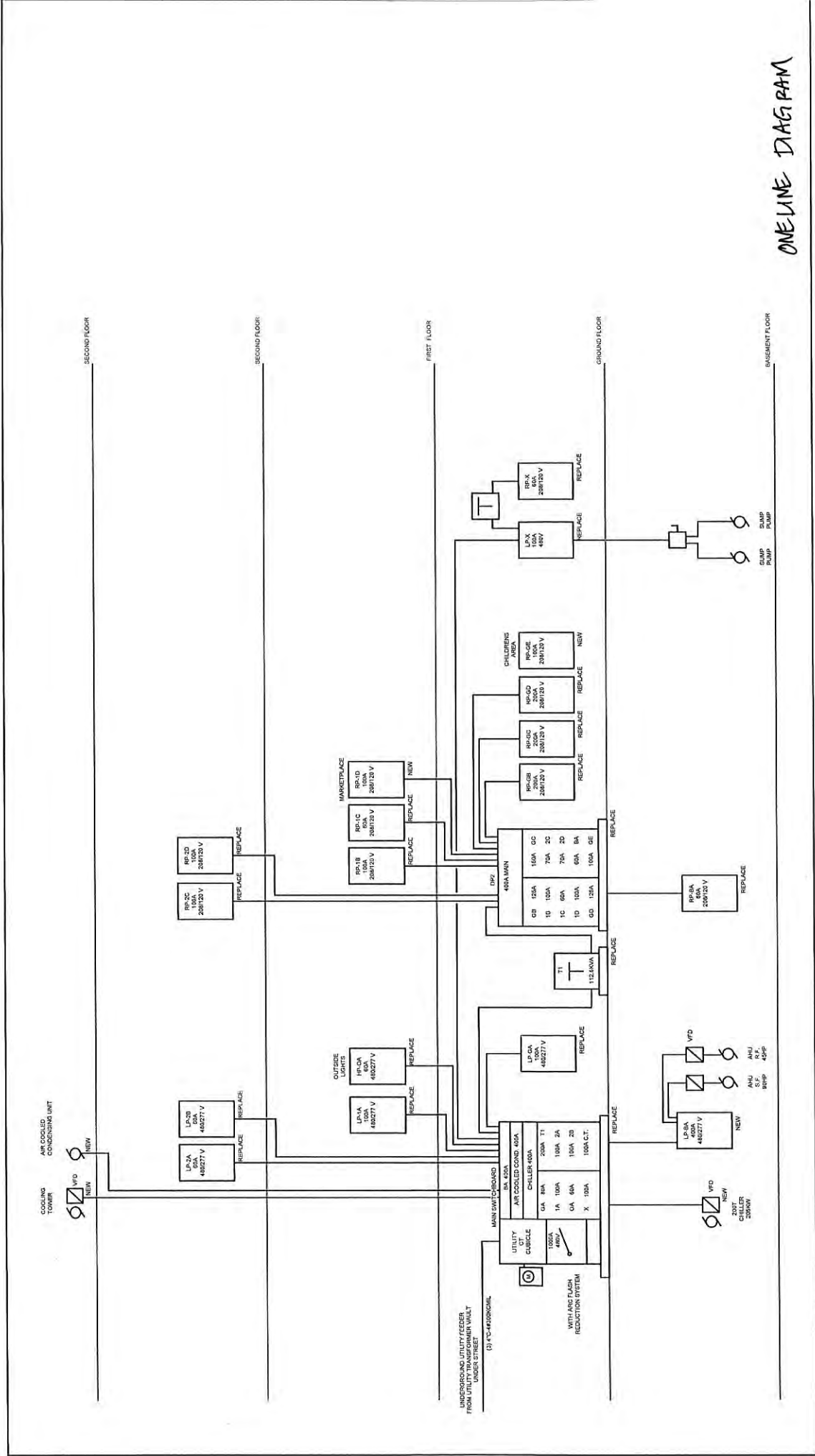
M-1 LOWER LEVEL



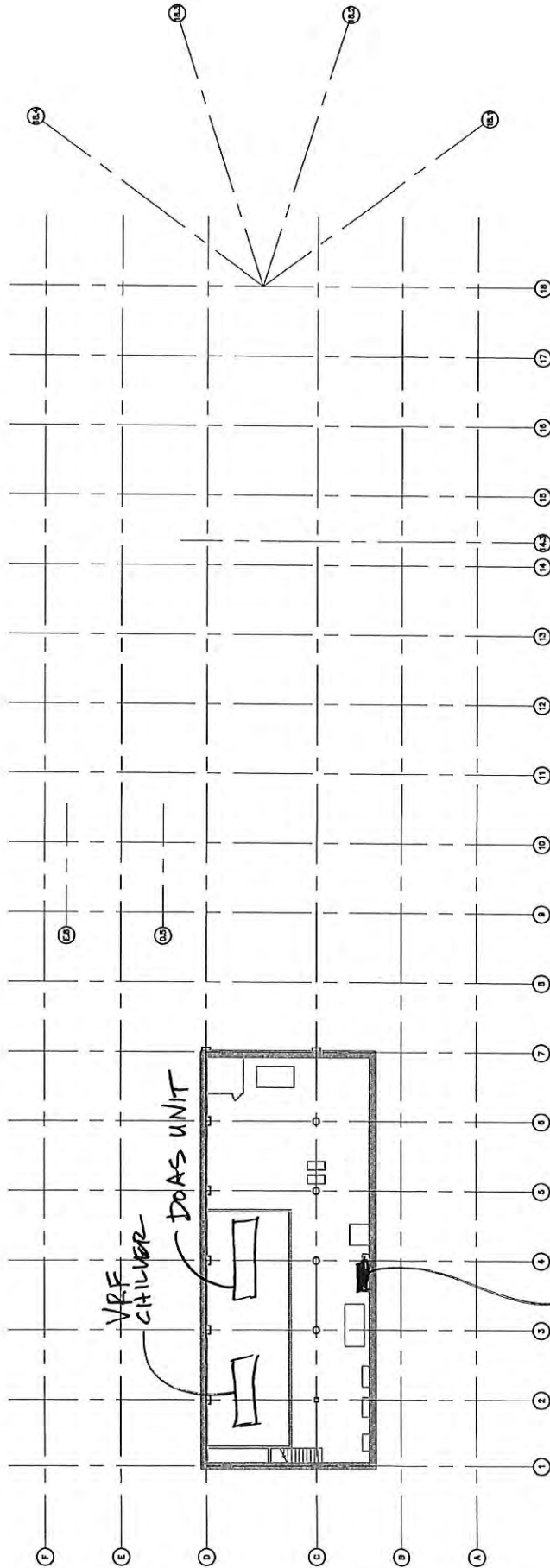
M-2 MID LEVEL



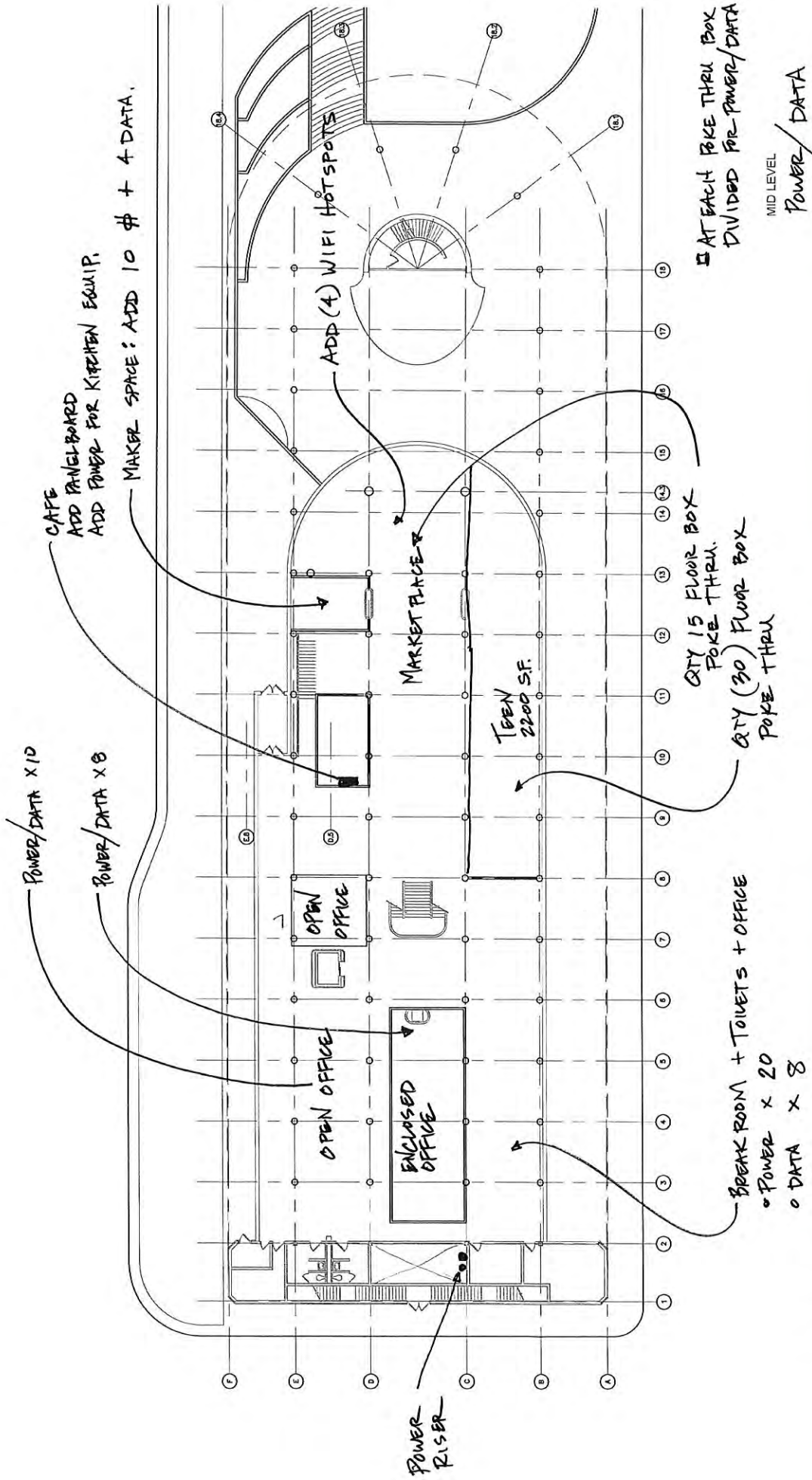
M-3 UPPER LEVEL



ONE LINE DIAGRAM



BASEMENT LEVEL
POWER



PENDANT FIXTURES
EXPOSED CORR IDOR

2x2 LAY-IN
MAKER SPACE

PENDANT FIXTURES IN LOBBY
DECORATIVE FIXTURES

2x2 LAY-IN

300 SF

CAFE
250 SF

MARKETPLACE
3400 SF

TEEN
2200 SF

OFFICE

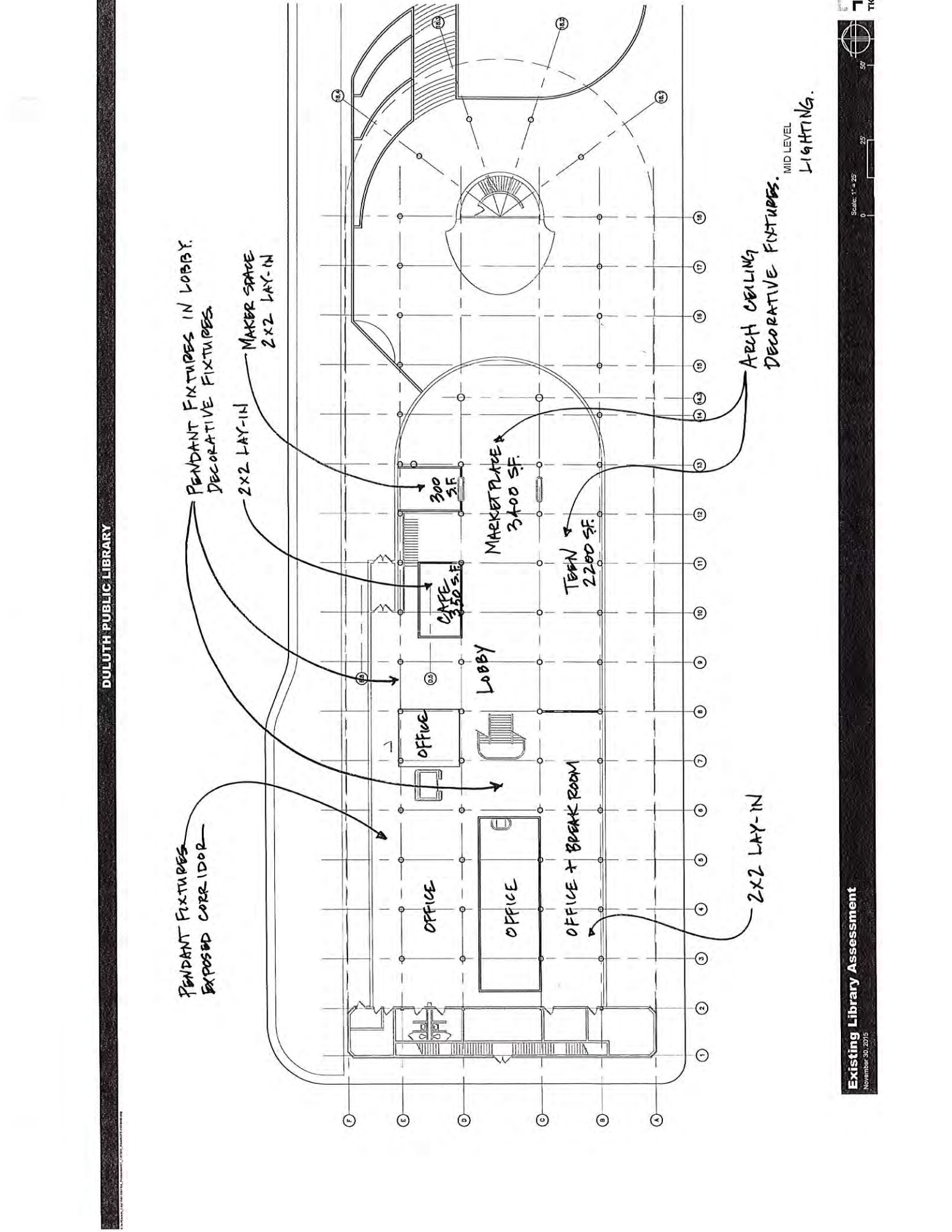
OFFICE

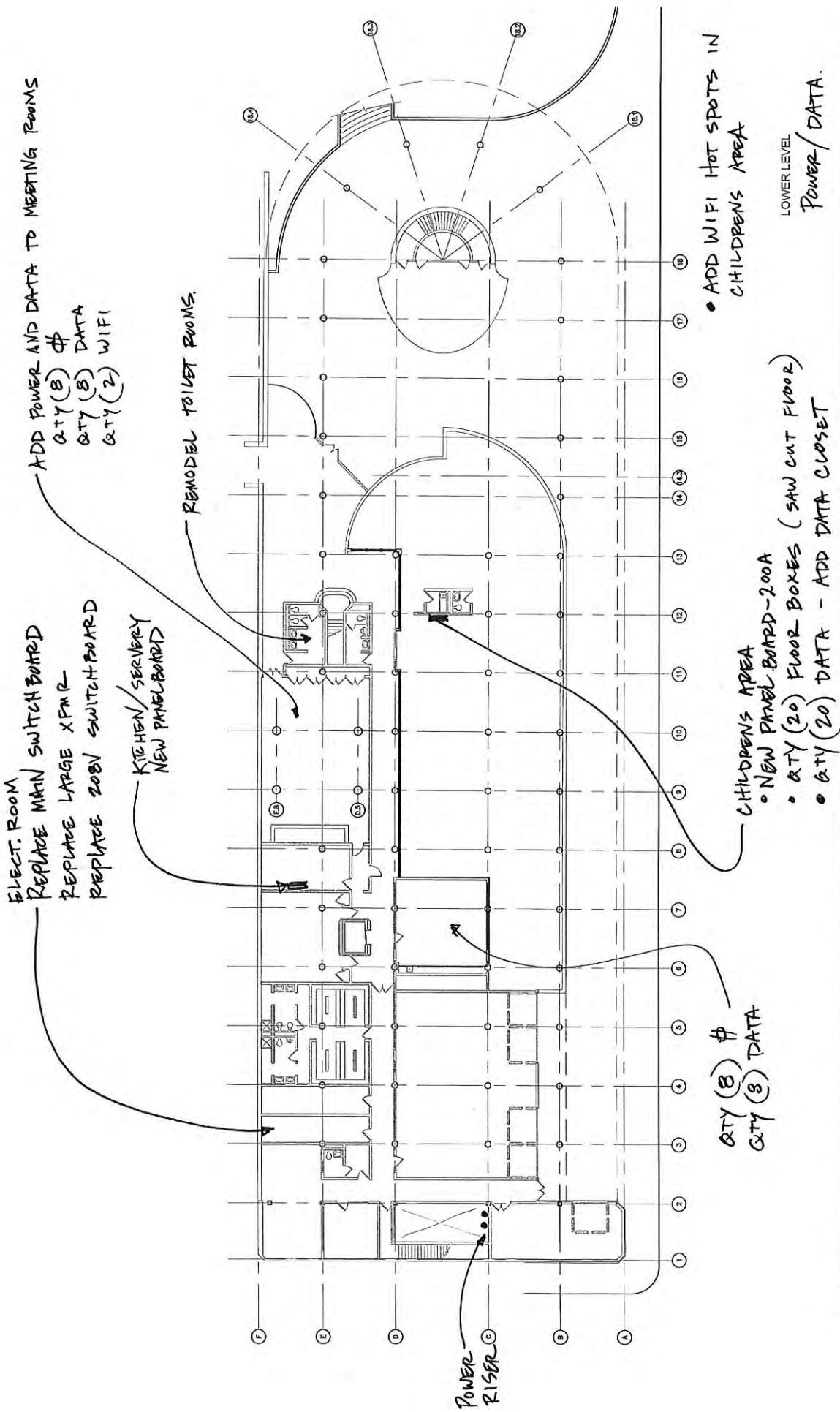
OFFICE + BREAK ROOM

2x2 LAY-IN

ARCH CEILING
DECORATIVE FIXTURES.

MID LEVEL
LIGHTING.





ELECT. ROOM
 REPLACE MAIN SWITCHBOARD
 REPLACE LARGE XFMR
 REPLACE 208V SWITCHBOARD

ADD POWER AND DATA TO MEETING ROOMS
 QTY (8) #
 QTY (8) DATA
 QTY (2) WIFI

KITCHEN/SERV'RY
 NEW PANEL BOARD

REMODEL TOILET ROOMS.

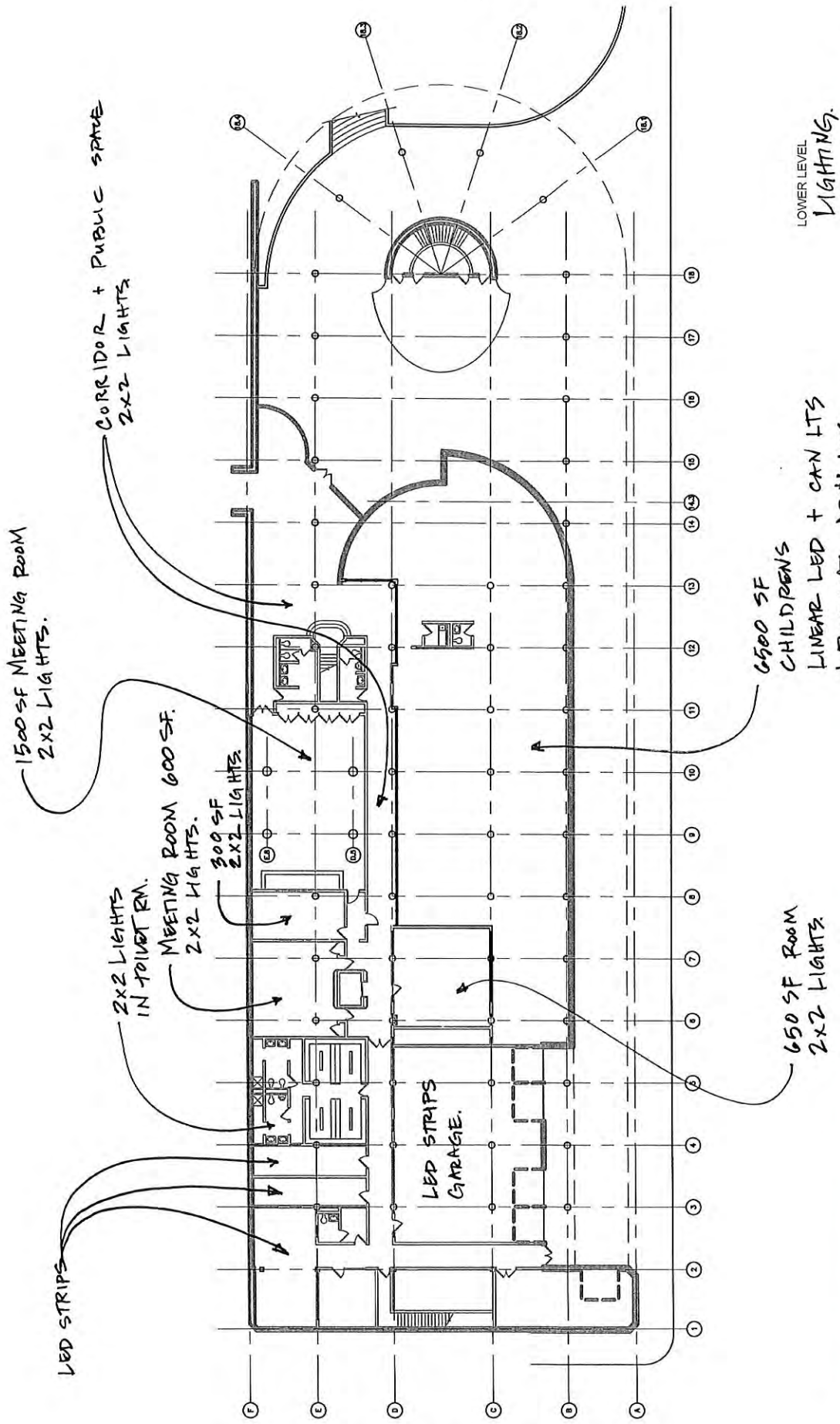
POWER RISER

QTY (8) #
 QTY (8) DATA

CHILDREN'S AREA
 • NEW PANEL BOARD - 200A
 • QTY (20) FLOOR BOXES (SAW CUT FLOOR)
 • QTY (20) DATA - ADD DATA CLOSET

• ADD WIFI HOT SPOTS IN CHILDREN'S AREA

LOWER LEVEL
 POWER/DATA.



QTY (4) FLOOR BOX
POKE THRU

QTY (6) POKE THRU

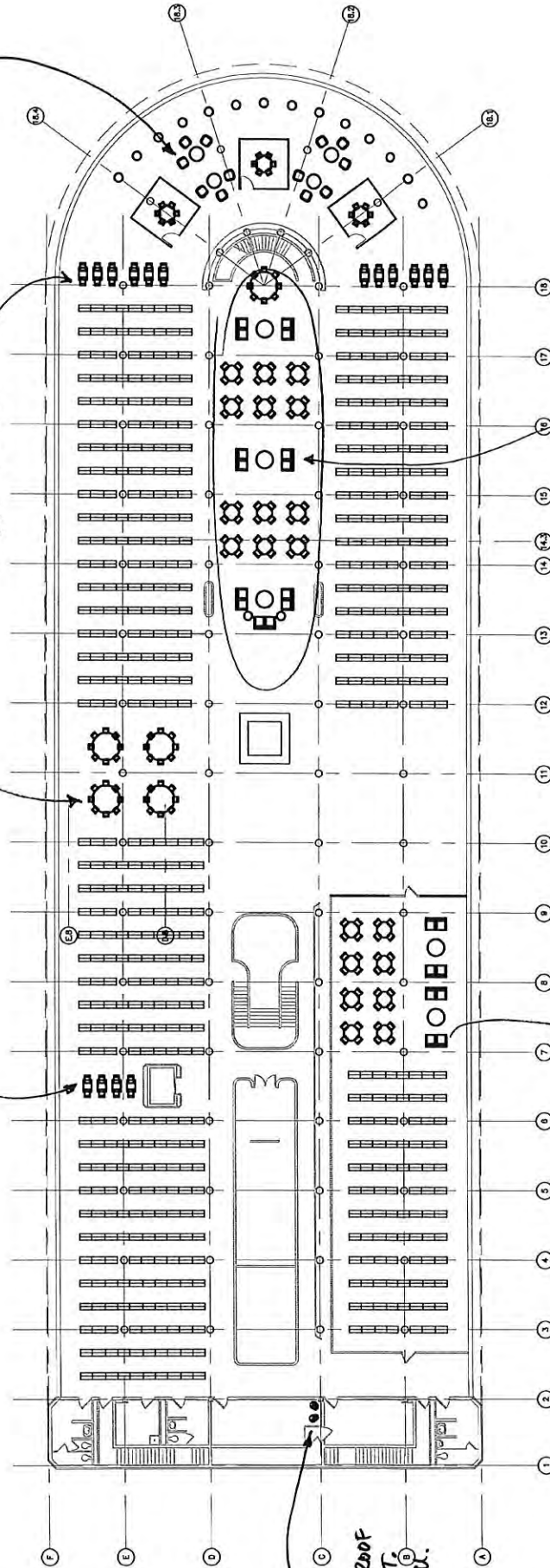
QTY (7)

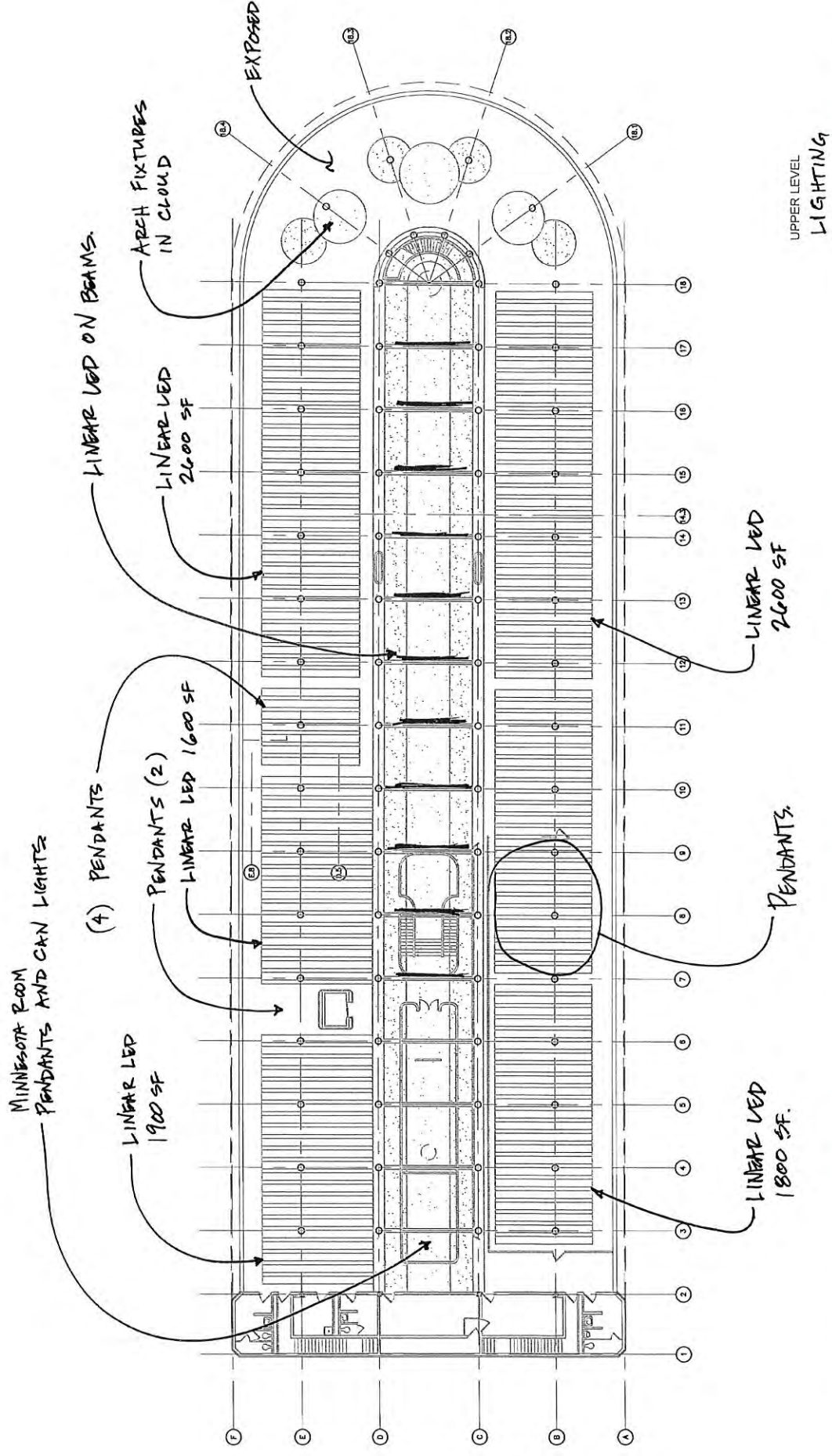
POWER
RISER
UP TO ROOF
FOR C.T.
+ ACCU.

□ AT EACH TABLE.
TYPICAL POKE THRU BOX
DIVIDED FOR POWER/DATA
UPPER LEVEL
POWER / DATA

QTY (18)
POKE THRU

QTY (12) FLOOR BOX
POKE THRU.





UPPER LEVEL
LIGHTING

City of Duluth
 Conceptual Estimate #1
Duluth Public Library
 1/27/2016

Item	Description	Totals	Recommended Priority Level	
			Must Have	Nice to Have
Construction				
<u>1</u>	Replace Exterior Glass and Glazing - Triple Pane	\$1,316,000		\$139,000
<u>2</u>	Replace Exterior Glass and Glazing - Double Pane	\$1,177,000	\$1,177,000	
<u>3</u>	Replace Exterior Wall Assembly with Metal Panels	\$3,086,000	\$3,086,000	
<u>4</u>	Replace Roofing	\$1,248,000		\$1,248,000
<u>5</u>	Replace Entrance Doors and Vestibule	\$72,000	\$72,000	
<u>6</u>	Superior Street Lobby Expansion	\$949,000	\$949,000	
<u>7</u>	Michigan Street Expansion	\$654,000	\$654,000	
<u>8</u>	Children's Area - Michigan Level	\$1,403,000	\$1,403,000	
<u>9</u>	Library/Staff - Michigan Level	\$300,000	\$300,000	
<u>10</u>	Meeting/Kitchen - Michigan Level	\$303,000	\$303,000	
<u>11</u>	Main Entrance/Corridor Enchantments - Michigan Level	\$284,000	\$284,000	
<u>12</u>	Teen Area - Superior Level	\$307,000	\$307,000	
<u>13</u>	Marketplace/Café - Superior Level	\$599,000	\$599,000	
<u>14</u>	Dept./Admin - Superior Level	\$639,000	\$639,000	
<u>15</u>	Circulation/Open Office - Superior Level	\$434,000	\$434,000	
<u>16</u>	Corridor Enhancements - Superior Level	\$394,000	\$394,000	
<u>17</u>	Upper Level	\$3,462,000	\$3,462,000	
<u>18</u>	Add Restrooms Men's & Women's - (Includes MEP)	\$412,000		\$412,000
<u>19</u>	Code Upgrade to Stairs	not required	\$0	
<u>20</u>	Sub-Basement Mechanical (removal)	\$91,000	\$91,000	
<u>21</u>	Domestic Water & Waste (remove and replace)	\$1,385,000		\$1,385,000
<u>22</u>	VRV System to VAV	(\$373,000)		
<u>23</u>	Chiller Support & Screening	\$135,000	\$135,000	
Subtotal Construction Costs			\$14,289,000	\$3,184,000
Soft Costs				
1	Furniture, Fixtures and Equipment	\$1,000,000	\$1,000,000	
2	Computers	\$360,000	\$360,000	
3	Design Fees	\$1,400,000	\$1,400,000	
4	Testing	\$100,000	\$100,000	
5	Temporary Facilities	\$200,000	\$200,000	
6	Moving Costs	\$150,000	\$150,000	
7	Hazardous Material Testing and Removal	\$50,000	\$50,000	
8	Owner Project Contingency	\$1,350,000	\$1,350,000	
Subtotal Soft Costs			\$4,610,000	\$0
Grand Total Construction and Soft Costs			\$18,899,000	\$3,184,000
Escalation of Costs				
9	Year #1 - at 4%	\$0	\$19,655,000	\$3,311,000
10	Year #2 - at 4%	\$0	\$20,441,000	\$3,443,000

Basis of Estimate:

- * Existing Library Assessment dated November 30, 2015
- a) Superior Street Level Demolition, Floor Plan and Reflected Ceiling
- b) Michigan Street Level Demolition, Floor Plan and Reflected Ceiling
- c) Upper Level Demolition, Floor Plan and Reflected Ceiling
- d) Superior Street Lobby Expansion Plan, Elevation and Section
- e) New Building Envelope Section (not dated)
- * Mechanical Pricing Narrative dated November 30, 2015
- * Electrical Pricing Narrative dated November 30, 2015
- * Single Phase of Construction
- * Building is Unoccupied During Construction

City of Duluth

Conceptual Estimate #1

Duluth Public Library
1/27/2016

Alternates

Description	Quantity	Unit	Unit Price	Amount
Replace Exterior Glass and Glazing - Triple Pane				
Removal of Existing Glass	4,800	sf	8.00	38,400
Removal of Existing Framing	4,800	sf	7.00	33,600
Removal of Interior Window Sills	2,000	lf	2.00	4,000
Rough Carpentry	4,800	sf	5.00	24,000
Patching at Head & Sill of Window	4,000	sf	10.00	40,000
Furnish & Install Glass and Glazing	4,800	sf	132.00	633,600
New Window Sills	2,000	lf	75.00	150,000
Security / Weather Conditions	4,800	sf	10.00	48,000
General Conditions	8%	%	923,600.00	73,888
Subtotal Construction Costs	4,800	SF	\$217.81	\$1,045,488
Misc. Costs				
Permit Fees	1.25%	%	1,045,488.00	13,069
SAC/WAC Fees			0.00	0
Surveying/Layout			0.00	0
Testing (Soil/Steel/Exterior Wall/Etc.)			0.00	0
Builder's Risk & Deductibles			0.00	0
Performance Bond	1%	%	1,259,377.00	12,594
Subcontractor Default Insurance	1%	%	1,045,488.00	10,455
Pre-Construction Services			0.00	0
General Liability Insurance	0.95%	%	1,081,605.25	10,275
Subtotal Construction & Misc. Items	4,800	SF	\$227.48	\$1,091,880
Fees & Contingency				
Design Contingency	10%	%	1,091,880.50	109,188
Construction Contingency	7%	%	1,091,880.50	76,432
Escalation: Mid Pt of Construction	0%	%	0.00	0
Construction Fee	3%	%	1,277,500.18	38,325
Grand Total Construction Costs	4,800	SF	\$274.13	\$1,315,825

City of Duluth

Conceptual Estimate #1

Duluth Public Library
12/17/2015

Alternates

Description	Quantity	Unit	Unit Price	Amount
Replace Exterior Glass and Glazing - Double Pane				
Removal of Existing Glass	4,800	sf	8.00	38,400
Removal of Existing Framing	4,800	sf	7.00	33,600
Removal of Interior Window Sills	2,000	lf	2.00	4,000
Rough Carpentry	4,800	sf	5.00	24,000
Patching at Head & Sill of Window	4,000	sf	10.00	40,000
Furnish & Install Glass and Glazing	4,800	sf	110.00	528,000
New Window Sills	2,000	lf	75.00	150,000
Security / Weather Conditions	4,800	sf	10.00	48,000
General Conditions	8%	%	866,000.00	69,280
Subtotal Construction Costs	4,800	SF	\$194.85	\$935,280
Misc. Costs				
Permit Fees	1.25%	%	935,280.00	11,691
SAC/WAC Fees			0.00	0
Surveying/Layout			0.00	0
Testing (Soil/Steel/Exterior Wall/Etc.)			0.00	0
Builder's Risk & Deductibles			0.00	0
Performance Bond	1%	%	1,126,623.00	11,266
Subcontractor Default Insurance	1%	%	935,280.00	9,353
Pre-Construction Services			0.00	0
General Liability Insurance	0.95%	%	967,590.03	9,192
Subtotal Construction & Misc. Items	4,800	SF	\$203.50	\$976,782
Fees & Contingency				
Design Contingency	10%	%	976,782.14	97,678
Construction Contingency	7%	%	976,782.14	68,375
Escalation: Mid Pt of Construction	0%	%	0.00	0
Construction Fee	3%	%	1,142,835.10	34,285
Grand Total Construction Costs	4,800	SF	\$245.23	\$1,177,120

City of Duluth

Conceptual Estimate #1

Duluth Public Library

12/17/2015

Alternates

Description	Quantity	Unit	Unit Price	Amount
Replace Exterior Wall Assembly with Metal Panels				
Removal of Existing Metal Panels	28,200	sf	3.00	84,600
Cold Metal Framing with Dens Glass Sheathing	28,200	sf	18.00	507,600
Spray Applied Vapor Barrier	28,200	sf	6.00	169,200
3" Rigid Insulation	28,200	sf	3.50	98,700
Composite Metal Panels	28,200	sf	45.00	1,269,000
Security / Weather Conditions	28,200	sf	5.00	141,000
General Conditions	8%	%	2,270,100.00	181,608
Subtotal Construction Costs	28,200	SF	\$86.94	\$2,451,708
Misc. Costs				
Permit Fees	1.25%	%	2,451,708.00	30,646
SAC/WAC Fees			0.00	0
Surveying/Layout			0.00	0
Testing (Soil/Steel/Exterior Wall/Etc.)			0.00	0
Builder's Risk & Deductibles			0.00	0
Performance Bond	1%	%	2,953,286.00	29,533
Subcontractor Default Insurance	1%	%	2,451,708.00	24,517
Pre-Construction Services			0.00	0
General Liability Insurance	0.95%	%	2,536,404.29	24,096
Subtotal Construction & Misc. Items	28,200	SF	\$90.80	\$2,560,500
Fees & Contingency				
Design Contingency	10%	%	2,560,500.13	256,050
Construction Contingency	7%	%	2,560,500.13	179,235
Escalation: Mid Pt of Construction	0%	%	0.00	0
Construction Fee	3%	%	2,995,785.15	89,874
Grand Total Construction Costs	28,200	SF	\$109.42	\$3,085,659

City of Duluth

Conceptual Estimate #1

Duluth Public Library

12/17/2015

Alternates

Description	Quantity	Unit	Unit Price	Amount
Replace Roofing				
Removal of Existing Roofing	34,000	sf	4.00	136,000
Rough Carpentry	34,000	sf	3.00	102,000
New Roofing	34,000	sf	18.00	612,000
Security / Weather Conditions	34,000	sf	2.00	68,000
General Conditions	8%	%	918,000.00	73,440
Subtotal Construction Costs	34,000	SF	\$29.16	\$991,440
Misc. Costs				
Permit Fees	1.25%	%	991,440.00	12,393
SAC/WAC Fees			0.00	0
Surveying/Layout			0.00	0
Testing (Soil/Steel/Exterior Wall/Etc.)			0.00	0
Builder's Risk & Deductibles			0.00	0
Performance Bond	1%	%	1,194,272.00	11,943
Subcontractor Default Insurance	1%	%	991,440.00	9,914
Pre-Construction Services			0.00	0
General Liability Insurance	0.95%	%	1,025,690.12	9,744
Subtotal Construction & Misc. Items	34,000	SF	\$30.45	\$1,035,434
Fees & Contingency				
Design Contingency	10%	%	1,035,434.18	103,543
Construction Contingency	7%	%	1,035,434.18	72,480
Escalation: Mid Pt of Construction	0%	%	0.00	0
Construction Fee	3%	%	1,211,457.99	36,344
Grand Total Construction Costs	34,000	SF	\$36.70	\$1,247,802

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Alternates

Description	Quantity	Unit	Unit Price	Amount
Replace Entrance Doors and Vestibule				
Remove Alum Doors and Hardware	4	pair	300.00	1,200
Remove Interior Vestibule Glass and Glazing	200	sf	10.00	2,000
New Alum Doors and Hardware	4	pair	9,000.00	36,000
New Vestibule Glass and Glazing	200	sf	45.00	9,000
Paint HM Doors	6	ea	200.00	1,200
Paint OH Doors	4	ea	400.00	1,600
Security / Weather Conditions	200	sf	10.00	2,000
General Conditions	8%	%	53,000.00	4,240
Subtotal Construction Costs	200	SF	\$286.20	\$57,240
Misc. Costs				
Permit Fees	1.25%	%	57,240.00	716
SAC/WAC Fees			0.00	0
Surveying/Layout			0.00	0
Testing (Soil/Steel/Exterior Wall/Etc.)			0.00	0
Builder's Risk & Deductibles			0.00	0
Performance Bond	1%	%	68,950.00	690
Subcontractor Default Insurance	1%	%	57,240.00	572
Pre-Construction Services			0.00	0
General Liability Insurance	0.95%	%	59,217.40	563
Subtotal Construction & Misc. Items	200	SF	\$298.90	\$59,780
Fees & Contingency				
Design Contingency	10%	%	59,780	5,978
Construction Contingency	7%	%	59,780	4,185
Escalation: Mid Pt of Construction	0%	%	0	0
Construction Fee	3%	%	69,943	2,098
Grand Total Construction Costs	200	SF	\$360.20	\$72,041

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Alternates

Description	Quantity	Unit	Unit Price	Amount
Superior Street Lobby Expansion				
Removal of Existing Vestibule & Sidewalk	2,485	sf	2.00	4,970
Removal of Existing Sidewalk Pavers	700	sf	5.00	3,500
Excavation & Backfill for Foundations	2,081	sf	10.00	20,810
Relocation of Site Utilities - Not Included		NIC	0.00	0
Footings (Form, Place & Finish)	8	cy	450.00	3,567
Foundation Walls (Form, Place & Finish)	535	sf	35.00	18,725
Slab on Grade (Form, Place & Finish)	2,081	sf	6.00	12,486
Patching Existing Sidewalk	404	sf	6.00	2,424
Patching Pavers	700	sf	35.00	24,500
Structural Steel Material	12	tons	3,200.00	39,955
Structural Steel Labor	12	tons	2,000.00	24,972
Cold Metal Framing with Dens Glass Sheathing	2,140	sf	18.00	38,520
Rough Carpentry	2,996	sf	2.00	5,992
Spray Applied Vapor Barrier	2,140	sf	6.00	12,840
3" Rigid Insulation	2,140	sf	3.50	7,490
Composite Metal Panels	2,140	sf	45.00	96,300
Glass and Glazing - Curtainwall - to 8'	856	sf	132.00	112,992
Roofing - underlayment for sloped roof - incl. plywood	963	sf	16.00	15,408
Alum. Entrance Doors	3	pair	9,000.00	27,000
Interiors	2,081	sf	25.00	52,025
Mechanical	2,081	sf	45.00	93,645
Fire Protection	2,081	sf	3.00	6,243
Electrical	2,081	sf	26.00	54,106
Security/ Weather Conditions	2,081	sf	10.00	20,810
General Conditions	8%	%	678,469.87	54,278
Subtotal Construction Costs	2,081	SF	\$362.11	\$753,557

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Alternates

Description	Quantity	Unit	Unit Price	Amount
Misc. Costs				
Permit Fees	1.25%	%	753,557.46	9,419
SAC/WAC Fees			0.00	0
Surveying/Layout			0.00	0
Testing (Soil/Steel/Exterior Wall/Etc.)			0.00	0
Builder's Risk & Deductibles			0.00	0
Performance Bond	1%	%	937,366.00	9,374
Subcontractor Default Insurance	1%	%	753,557.46	7,536
Pre-Construction Services			0.00	0
General Liability Insurance	0.95%	%	779,886.16	7,409
Subtotal Construction & Misc. Items	2,081	SF	\$378.33	\$787,295
Fees & Contingency				
Design Contingency	10%	%	787,295.08	78,730
Construction Contingency	7%	%	787,295.08	55,111
Escalation: Mid Pt of Construction	0%	%	0.00	0
Construction Fee	3%	%	921,135.24	27,634
Grand Total Construction Costs	2,081	SF	\$455.92	\$948,769

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Alternates

Description	Quantity	Unit	Unit Price	Amount
Michigan Street Expansion				
Sawcut and Remove Plaza/Sidewalk	4,700	sf	2.00	9,400
Removal of Metal Panels	2,660	sf	3.00	7,980
Removal of Glass and Glazing	950	sf	15.00	14,250
Excavation & Backfill for Foundations	1,400	sf	20.00	28,000
Relocation of Site Utilities - Not Included		NIC	0.00	0
Footings (Form, Place & Finish)	14	cy	450.00	6,333
Foundation Walls (Form, Place & Finish)	950	sf	35.00	33,250
Slab on Grade (Form, Place & Finish)	1,400	sf	6.00	8,400
Patching Existing Sidewalk	3,300	sf	6.00	19,800
Cold Metal Framing with Dens Glass Sheathing	950	sf	18.00	17,100
Rough Carpentry	2,850	sf	2.00	5,700
Spray Applied Vapor Barrier	950	sf	6.00	5,700
3" Rigid Insulation	950	sf	3.50	3,325
Composite Metal Panels	950	sf	45.00	42,750
Glass and Glazing - Curtainwall Full Height	1,900	sf	132.00	250,800
Interiors Included with Children's Area			0.00	0
Mechanical - Included with Children's Area			0.00	0
Fire Protection - Included with Children's Area			0.00	0
Electrical - Included with Children's Area			0.00	0
Security / Weather Conditions	2,850	sf	10.00	28,500
General Conditions	8%	%	481,288.33	38,503
Subtotal Construction Costs	1,400	SF	\$371.28	\$519,791
Misc. Costs				
Permit Fees	1.25%	%	519,791.40	6,497
SAC/WAC Fees			0.00	0
Surveying/Layout			0.00	0
Testing (Soil/Steel/Exterior Wall/Etc.)			0.00	0
Builder's Risk & Deductibles			0.00	0
Performance Bond	1%	%	626,132.00	6,261
Subcontractor Default Insurance	1%	%	519,791.40	5,198
Pre-Construction Services			0.00	0
General Liability Insurance	0.95%	%	537,748.03	5,109
Subtotal Construction & Misc. Items	1,400	SF	\$387.75	\$542,857

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Alternates

Description	Quantity	Unit	Unit Price	Amount
Fees & Contingency				
Design Contingency	10%	%	542,857	54,286
Construction Contingency	7%	%	542,857	38,000
Escalation: Mid Pt of Construction	0%	%	0	0
Construction Fee	3%	%	635,142	19,054
Grand Total Construction Costs	1,400	SF	\$467.28	\$654,197

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Alternates

Description	Quantity	Unit	Unit Price	Amount
Children's Area - Michigan Level				
Temp. Provisions	7,150	sf	1.00	7,150
Demolition - Architectural	7,150	sf	10.00	71,500
Demolition - MEP	7,150	sf	4.00	28,600
Renovate Toilet Rooms in children's area	100	sf	300.00	30,000
Interiors	7,150	sf	50.00	357,500
Ceiling Allocation per Drawings	6,500	sf	15.00	97,500
Mechanical	7,150	sf	32.50	232,375
Fire Protection	7,150	sf	3.00	21,450
Electrical	7,150	sf	26.00	185,900
General Conditions	8%	%	1,031,975.00	82,558
Subtotal Construction Costs	7,150	SF	\$155.88	\$1,114,533
Misc. Costs				
Permit Fees	1.25%	%	1,114,533.00	13,932
SAC/WAC Fees			0.00	0
Surveying/Layout			0.00	0
Testing (Soil/Steel/Exterior Wall/Etc.)			0.00	0
Builder's Risk & Deductibles			0.00	0
Performance Bond	1%	%	1,342,548.00	13,425
Subcontractor Default Insurance	1%	%	1,114,533.00	11,145
Pre-Construction Services			0.00	0
General Liability Insurance	0.95%	%	1,153,035.47	10,954
Subtotal Construction & Misc. Items	7,150	SF	\$162.80	\$1,163,989
Fees & Contingency				
Design Contingency	10%	%	1,163,989.31	116,399
Construction Contingency	7%	%	1,163,989.31	81,479
Escalation: Mid Pt of Construction	0%	%	0.00	0
Construction Fee	3%	%	1,361,867.49	40,856
Grand Total Construction Costs	7,150	SF	\$196.19	\$1,402,724

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Alternates

Description	Quantity	Unit	Unit Price	Amount
Library/Staff - Michigan Level				
Temp. Provisions	1,400	sf	1.00	1,400
Demolition - Architectural	1,400	sf	10.00	14,000
Demolition - MEP	1,400	sf	10.00	14,000
Interiors	1,400	sf	75.00	105,000
Mechanical	1,400	sf	32.50	45,500
Fire Protection	1,400	sf	3.00	4,200
Electrical	1,400	sf	26.00	36,400
General Conditions	8%	%	220,500.00	17,640
Subtotal Construction Costs	1,400	SF	\$170.10	\$238,140
Misc. Costs				
Permit Fees	1.25%	%	238,140.00	2,977
SAC/WAC Fees			0.00	0
Surveying/Layout			0.00	0
Testing (Soil/Steel/Exterior Wall/Etc.)			0.00	0
Builder's Risk & Deductibles			0.00	0
Performance Bond	1%	%	286,859.00	2,869
Subcontractor Default Insurance	1%	%	238,140.00	2,381
Pre-Construction Services			0.00	0
General Liability Insurance	0.95%	%	246,366.74	2,340
Subtotal Construction & Misc. Items	1,400	SF	\$177.65	\$248,707
Fees & Contingency				
Design Contingency	10%	%	248,707.22	24,871
Construction Contingency	7%	%	248,707.22	17,410
Escalation: Mid Pt of Construction	0%	%	0.00	0
Construction Fee	3%	%	290,987.45	8,730
Grand Total Construction Costs	1,400	SF	\$214.08	\$299,717

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Alternates

Description	Quantity	Unit	Unit Price	Amount
Meeting/Kitchen - Michigan Level				
Temp. Provisions	3,400	sf	1.00	3,400
Demolition - Architectural	2,400	sf	5.00	12,000
Demolition - MEP	2,400	sf	4.00	9,600
Interiors - Meeting	2,100	sf	40.00	84,000
Interiors - Kitchen/Servery	300	sf	125.00	37,500
Mechanical	2,400	sf	45.00	108,000
Fire Protection	2,400	sf	3.00	7,200
Electrical	2,400	sf	26.00	62,400
General Conditions	8%	%	324,100.00	25,928
Subtotal Construction Costs	2,400	SF	\$100.43	\$241,028
Misc. Costs				
Permit Fees	1.25%	%	241,028.00	3,013
SAC/WAC Fees			0.00	0
Surveying/Layout			0.00	0
Testing (Soil/Steel/Exterior Wall/Etc.)			0.00	0
Builder's Risk & Deductibles			0.00	0
Performance Bond	1%	%	290,338.00	2,903
Subcontractor Default Insurance	1%	%	241,028.00	2,410
Pre-Construction Services			0.00	0
General Liability Insurance	0.95%	%	249,354.51	2,369
Subtotal Construction & Misc. Items	2,400	SF	\$104.88	\$251,723
Fees & Contingency				
Design Contingency	10%	%	251,723.38	25,172
Construction Contingency	7%	%	251,723.38	17,621
Escalation: Mid Pt of Construction	0%	%	0.00	0
Construction Fee	3%	%	294,516.35	8,835
Grand Total Construction Costs	2,400	SF	\$126.40	\$303,352

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Alternates

Description	Quantity	Unit	Unit Price	Amount
Main Entrance/Corridor Enchantments - Michigan Level				
Temp. Provisions	2,600	sf	1.00	2,600
Demolition - Architectural	2,600	sf	4.00	10,400
Demolition - MEP	2,600	sf	4.00	10,400
Interiors	2,600	sf	20.00	52,000
Mechanical	2,600	sf	32.50	84,500
Fire Protection	2,600	sf	1.00	2,600
Electrical	2,600	sf	18.00	46,800
General Conditions	8%	%	209,300.00	16,744
Subtotal Construction Costs	2,600	SF	\$86.94	\$226,044
Misc. Costs				
Permit Fees	1.25%	%	226,044.00	2,826
SAC/WAC Fees			0.00	0
Surveying/Layout			0.00	0
Testing (Soil/Steel/Exterior Wall/Etc.)			0.00	0
Builder's Risk & Deductibles			0.00	0
Performance Bond	1%	%	272,289.00	2,723
Subcontractor Default Insurance	1%	%	226,044.00	2,260
Pre-Construction Services			0.00	0
General Liability Insurance	0.95%	%	233,852.88	2,222
Subtotal Construction & Misc. Items	2,600	SF	90.80	\$236,074
Fees & Contingency				
Design Contingency	10%	%	236,074.48	23,607
Construction Contingency	7%	%	236,074.48	16,525
Escalation: Mid Pt of Construction	0%	%	0.00	0
Construction Fee	3%	%	276,207.14	8,286
Grand Total Construction Costs	2,600	SF	\$109.42	\$284,493

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Alternates

Description	Quantity	Unit	Unit Price	Amount
Teen Area - Superior Level				
Temp. Provisions	2,200	sf	1.00	2,200
Demolition - Architectural	2,200	sf	6.00	13,200
Demolition - MEP	2,200	sf	4.00	8,800
Interiors	2,200	sf	30.00	66,000
Mechanical	2,200	sf	32.50	71,500
Fire Protection	2,200	sf	3.00	6,600
Electrical	2,200	sf	26.00	57,200
General Conditions	8%	%	225,500.00	18,040
Subtotal Construction Costs	2,200	SF	\$110.70	\$243,540
Misc. Costs				
Permit Fees	1.25%	%	243,540.00	3,044
SAC/WAC Fees			0.00	0
Surveying/Layout			0.00	0
Testing (Soil/Steel/Exterior Wall/Etc.)			0.00	0
Builder's Risk & Deductibles			0.00	0
Performance Bond	1%	%	293,364.00	2,934
Subcontractor Default Insurance	1%	%	243,540.00	2,435
Pre-Construction Services			0.00	0
General Liability Insurance	0.95%	%	251,953.29	2,394
Subtotal Construction & Misc. Items	2,200	SF	\$115.61	\$254,347
Fees & Contingency				
Design Contingency	10%	%	254,346.85	25,435
Construction Contingency	7%	%	254,346.85	17,804
Escalation: Mid Pt of Construction	0%	%	0.00	0
Construction Fee	3%	%	297,585.81	8,928
Grand Total Construction Costs	2,200	SF	\$139.32	\$306,513

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Alternates

Description	Quantity	Unit	Unit Price	Amount
Marketplace/Café - Superior Level				
Temp. Provisions	4,050	sf	1.00	4,050
Demolition - Architectural	4,050	sf	7.00	28,350
Demolition - MEP	4,050	sf	4.00	16,200
Interiors - Café	350	sf	300.00	105,000
Interior - Marketplace	3,700	sf	35.00	129,500
Mechanical	4,050	sf	45.00	182,250
Fire Protection	4,050	sf	3.00	12,150
Electrical	4,050	sf	26.00	105,300
General Conditions	8%	%	582,800.00	46,624
Subtotal Construction Costs	4,050	SF	\$117.49	\$475,824
Misc. Costs				
Permit Fees	1.25%	%	475,824.00	5,948
SAC/WAC Fees			0.00	0
Surveying/Layout			0.00	0
Testing (Soil/Steel/Exterior Wall/Etc.)			0.00	0
Builder's Risk & Deductibles			0.00	0
Performance Bond	1%	%	573,170.00	5,732
Subcontractor Default Insurance	1%	%	475,824.00	4,758
Pre-Construction Services			0.00	0
General Liability Insurance	0.95%	%	492,261.74	4,676
Subtotal Construction & Misc. Items	4,050	SF	\$122.70	\$496,938
Fees & Contingency				
Design Contingency	10%	%	496,938.23	49,694
Construction Contingency	7%	%	496,938.23	34,786
Escalation: Mid Pt of Construction	0%	%	0.00	0
Construction Fee	3%	%	581,417.73	17,443
Grand Total Construction Costs	4,050	SF	\$147.87	\$598,860

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Alternates

Description	Quantity	Unit	Unit Price	Amount
Dept./Admin - Superior Level				
Temp. Provisions	3,875	sf	1.00	3,875
Demolition - Architectural	3,875	sf	5.00	19,375
Demolition - MEP	3,875	sf	4.00	15,500
Interiors	3,875	sf	50.00	193,750
Mechanical	3,875	sf	32.50	125,938
Fire Protection	3,875	sf	3.00	11,625
Electrical	3,875	sf	26.00	100,750
General Conditions	8%	%	470,812.50	37,665
Subtotal Construction Costs	3,875	SF	\$131.22	\$508,478
Misc. Costs				
Permit Fees	1.25%	%	508,477.50	6,356
SAC/WAC Fees			0.00	0
Surveying/Layout			0.00	0
Testing (Soil/Steel/Exterior Wall/Etc.)			0.00	0
Builder's Risk & Deductibles			0.00	0
Performance Bond	1%	%	524,857.00	5,249
Subcontractor Default Insurance	1%	%	508,477.50	5,085
Pre-Construction Services			0.00	0
General Liability Insurance	0.95%	%	525,166.81	4,989
Subtotal Construction & Misc. Items	3,875	SF	\$136.81	\$530,156
Fees & Contingency				
Design Contingency	10%	%	530,155.90	53,016
Construction Contingency	7%	%	530,155.90	37,111
Escalation: Mid Pt of Construction	0%	%	0.00	0
Construction Fee	3%	%	620,282.40	18,608
Grand Total Construction Costs	3,875	SF	\$164.88	\$638,891

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Alternates

Description	Quantity	Unit	Unit Price	Amount
Circulation/Open Office - Superior Level				
Temp. Provisions	2,835	sf	1.00	2,835
Demolition - Architectural	2,835	sf	6.00	17,010
Demolition - MEP	2,835	sf	4.00	11,340
Interiors	2,835	sf	40.00	113,400
Mechanical	2,835	sf	32.50	92,138
Fire Protection	2,835	sf	3.00	8,505
Electrical	2,835	sf	26.00	73,710
General Conditions	8%	%	318,937.50	25,515
Subtotal Construction Costs	2,835	SF	\$121.50	\$344,453
Misc. Costs				
Permit Fees	1.25%	%	344,452.50	4,306
SAC/WAC Fees			0.00	0
Surveying/Layout			0.00	0
Testing (Soil/Steel/Exterior Wall/Etc.)			0.00	0
Builder's Risk & Deductibles			0.00	0
Performance Bond	1%	%	414,922.00	4,149
Subcontractor Default Insurance	1%	%	344,452.50	3,445
Pre-Construction Services			0.00	0
General Liability Insurance	0.95%	%	356,351.90	3,385
Subtotal Construction & Misc. Items	2,835	SF	\$126.89	\$359,737
Fees & Contingency				
Design Contingency	10%	%	359,737.24	35,974
Construction Contingency	7%	%	359,737.24	25,182
Escalation: Mid Pt of Construction	0%	%	0.00	0
Construction Fee	3%	%	420,892.58	12,627
Grand Total Construction Costs	2,835	SF	\$152.92	\$433,519

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Alternates

Description	Quantity	Unit	Unit Price	Amount
Corridor Enhancements - Superior Level				
Temp. Provisions	3,600	sf	1.00	3,600
Demolition - Architectural	3,600	sf	4.00	14,400
Demolition - MEP	3,600	sf	4.00	14,400
Interiors	3,600	sf	20.00	72,000
Mechanical	3,600	sf	32.50	117,000
Fire Protection	3,600	sf	1.00	3,600
Electrical	3,600	sf	18.00	64,800
General Conditions	8%	%	289,800.00	23,184
Subtotal Construction Costs	3,600	SF	\$86.94	\$312,984
Misc. Costs				
Permit Fees	1.25%	%	312,984.00	3,912
SAC/WAC Fees			0.00	0
Surveying/Layout			0.00	0
Testing (Soil/Steel/Exterior Wall/Etc.)			0.00	0
Builder's Risk & Deductibles			0.00	0
Performance Bond	1%	%	377,015.00	3,770
Subcontractor Default Insurance	1%	%	312,984.00	3,130
Pre-Construction Services			0.00	0
General Liability Insurance	0.95%	%	323,796.29	3,076
Subtotal Construction & Misc. Items	3,600	SF	\$90.80	\$326,872
Fees & Contingency				
Design Contingency	10%	%	326,872.35	32,687
Construction Contingency	7%	%	326,872.35	22,881
Escalation: Mid Pt of Construction	0%	%	0.00	0
Construction Fee	3%	%	382,440.66	11,473
Grand Total Construction Costs	3,600	SF	\$109.42	393,914

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Alternates

Description	Quantity	Unit	Unit Price	Amount
Upper Level				
Temp. Provisions	30,600	sf	1.00	30,600
Demolition - Architectural	30,600	sf	4.00	122,400
Demolition - MEP	30,600	sf	4.00	122,400
Interiors	30,600	sf	25.00	765,000
Mechanical	30,600	sf	32.50	994,500
Fire Protection	30,600	sf	3.00	91,800
Electrical	30,600	sf	22.00	673,200
General Conditions	8%	%	2,799,900.00	223,992
Subtotal Construction Costs	30,600	SF	\$89.82	\$2,748,492
Misc. Costs				
Permit Fees	1.25%	%	2,748,492.00	34,356
SAC/WAC Fees			0.00	0
Surveying/Layout			0.00	0
Testing (Soil/Steel/Exterior Wall/Etc.)			0.00	0
Builder's Risk & Deductibles			0.00	0
Performance Bond	1%	%	3,509,832.00	35,098
Subcontractor Default Insurance	1%	%	2,748,492.00	27,485
Pre-Construction Services			0.00	0
General Liability Insurance	0.95%	%	2,845,431.39	27,032
Subtotal Construction & Misc. Items	30,600	SF	\$93.87	\$2,872,463
Fees & Contingency				
Design Contingency	10%	%	2,872,462.99	287,246
Construction Contingency	7%	%	2,872,462.99	201,072
Escalation: Mid Pt of Construction	0%	%	0.00	0
Construction Fee	3%	%	3,360,781.70	100,823
Grand Total Construction Costs	30,600	SF	\$113.12	\$3,461,605

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Alternates

Description	Quantity	Unit	Unit Price	Amount
Add Restrooms Men's & Women's - (Includes MEP)				
Demolition	750	sf	6.00	4,500
Architectural	750	sf	300.00	225,000
Mechanical	750	sf	80.00	60,000
Fire Protection	750	sf	3.00	2,250
Electrical	750	sf	15.00	11,250
General Conditions	8%	%	303,000.00	24,240
Subtotal Construction Costs	750	SF	436.32	\$327,240
Misc. Costs				
Permit Fees	1.25%	%	327,240.00	4,091
SAC/WAC Fees			0.00	0
Surveying/Layout			0.00	0
Testing (Soil/Steel/Exterior Wall/Etc.)			0.00	0
Builder's Risk & Deductibles			0.00	0
Performance Bond	1%	%	394,188.00	3,942
Subcontractor Default Insurance	1%	%	327,240.00	3,272
Pre-Construction Services			0.00	0
General Liability Insurance	0.95%	%	338,544.78	3,216
Subtotal Construction & Misc. Items	750	SF	\$455.68	\$341,761
Fees & Contingency				
Design Contingency	10%	%	341,760.96	34,176
Construction Contingency	7%	%	341,760.96	23,923
Escalation: Mid Pt of Construction	0%	%	0.00	0
Construction Fee	3%	%	399,860.32	11,996
Grand Total Construction Costs	750	SF	\$549.14	\$411,856

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Alternates

Description	Quantity	Unit	Unit Price	Amount
Code Upgrade to Stairs				
			0.00	0
			0.00	0
			0.00	0
			0.00	0
General Conditions		%	0.00	0
Subtotal Construction Costs			0.00	0
Misc. Costs				
Permit Fees	1.25%	%	0.00	0
SAC/WAC Fees			0.00	0
Surveying/Layout			0.00	0
Testing (Soil/Steel/Exterior Wall/Etc.)			0.00	0
Builder's Risk & Deductibles			0.00	0
Performance Bond	1%	%	0.00	0
Subcontractor Default Insurance	1%	%	0.00	0
Pre-Construction Services			0.00	0
General Liability Insurance	0.95%	%	0.00	0
Subtotal Construction & Misc. Items			0.00	0
Fees & Contingency				
Design Contingency	10%	%	0.00	0
Construction Contingency	7%	%	0.00	0
Escalation: Mid Pt of Construction	0%	%	0.00	0
Construction Fee	3%	%	0.00	0
Grand Total Construction Costs			0.00	0

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Alternates

Description	Quantity	Unit	Unit Price	Amount
Sub-Basement Mechanical (removal)				
Sawcut and Remove Plaza/Sidewalk	400	sf	2.00	800
Excavation & Backfill for Foundations	80	sf	50.00	4,000
Relocation of Site Utilities - Not Included		NIC	0.00	0
Footings (Form, Place & Finish)	2	cy	450.00	933
Foundation Walls (Form, Place & Finish)	224	sf	35.00	7,840
Slab on Grade (Form, Place & Finish)	80	sf	6.00	480
Patch Sidewalks	320	sf	6.00	1,920
Cut Louvers in Existing Foundation Walls	2	ea	750.00	1,500
Waterproofing at Existing Foundation Wall	100	sf	10.00	1,000
Grating at Top of Area Well	80	sf	100.00	8,000
Louvers at Existing Exterior Wall	30	sf	75.00	2,250
Removal of Mechanical & Electrical Equipment	4,752	sf	4.00	19,008
Lighting	4,752	sf	4.00	19,008
General Conditions	8%	%	66,739.33	5,339
Subtotal Construction Costs	4,752	SF	\$15.17	\$72,078
Misc. Costs				
Permit Fees	1.25%	%	72,078.48	901
SAC/WAC Fees			0.00	0
Surveying/Layout			0.00	0
Testing (Soil/Steel/Exterior Wall/Etc.)			0.00	0
Builder's Risk & Deductibles			0.00	0
Performance Bond	1%	%	86,825.00	868
Subcontractor Default Insurance	1%	%	72,078.48	721
Pre-Construction Services			0.00	0
General Liability Insurance	0.95%	%	74,568.50	708
Subtotal Construction & Misc. Items	4,752	SF	\$15.84	\$75,277
Fees & Contingency				
Design Contingency	10%	%	75,276.90	7,528
Construction Contingency	7%	%	75,276.90	5,269
Escalation: Mid Pt of Construction	0%	%	0.00	0
Construction Fee	3%	%	88,073.97	2,642
Grand Total Construction Costs	4,752	SF	\$19.09	\$90,716

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Alternates

Description	Quantity	Unit	Unit Price	Amount
Domestic Water & Waste (remove and replace)				
Replace Existing Domestic Water & Waste Above Grade	71,500	sf	12.75	911,625
Remove & Replace Finishes for Access	71,500	sf	1.50	107,250
General Conditions	8%	%	1,018,875.00	81,510
Subtotal Construction Costs	71,500	SF	\$15.39	\$1,100,385
Misc. Costs				
Permit Fees	1.25%	%	1,100,385.00	13,755
SAC/WAC Fees			0.00	0
Surveying/Layout			0.00	0
Testing (Soil/Steel/Exterior Wall/Etc.)			0.00	0
Builder's Risk & Deductibles			0.00	0
Performance Bond	1%	%	1,325,505.00	13,255
Subcontractor Default Insurance	1%	%	1,100,385.00	11,004
Pre-Construction Services			0.00	0
General Liability Insurance	0.95%	%	1,138,398.71	10,815
Subtotal Construction & Misc. Items	71,500	SF	\$16.07	\$1,149,214
Fees & Contingency				
Design Contingency	10%	%	1,149,213.50	114,921
Construction Contingency	7%	%	1,149,213.50	80,445
Escalation: Mid Pt of Construction	0%	%	0.00	0
Construction Fee	3%	%	1,344,579.80	40,337
Grand Total Construction Costs	71,500	SF	\$19.37	\$1,384,917

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Alternates

Description	Quantity	Unit	Unit Price	Amount
VRF System to VAV				
Deduct for VAV	1	Ls	(300,000.00)	(300,000)
General Conditions	0%	%	0.00	0
Subtotal Construction Costs	71,500	SF	(\$4.20)	(300,000)
Misc. Costs				
Permit Fees	1.25%	%	(300,000.00)	(3,750)
SAC/WAC Fees			0.00	0
Surveying/Layout			0.00	0
Testing (Soil/Steel/Exterior Wall/Etc.)			0.00	0
Builder's Risk & Deductibles			0.00	0
Performance Bond	1%	%	0.00	0
Subcontractor Default Insurance	1%	%	(300,000.00)	(3,000)
Pre-Construction Services			0.00	0
General Liability Insurance	0.95%	%	(306,750.00)	(2,914)
Subtotal Construction & Misc. Items	71,500	SF	(\$4.33)	(309,664)
Fees & Contingency				
Design Contingency	10%	%	(309,664.13)	(30,966)
Construction Contingency	7%	%	(309,664.13)	(21,676)
Escalation: Mid Pt of Construction	0%	%	0.00	0
Construction Fee	3%	%	(362,307.03)	(10,869)
Grand Total Construction Costs	71,500	SF	(\$5.22)	(373,176)

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Alternates

Description	Quantity	Unit	Unit Price	Amount
Chiller Support & Screening				
Supports Not Required if Placed Near Main Beams and Columns		NIC	0.00	0
Exterior Platform for Chiller	600	sf	100.00	60,000
Screening - Vertical Supports	100	lf	150.00	15,000
Screening	800	sf	30.00	24,000
General Conditions	8%	%	99,000.00	7,920
Subtotal Construction Costs	600	SF	\$178.20	106,920
Misc. Costs				
Permit Fees	1.25%	%	106,920.00	1,337
SAC/WAC Fees			0.00	0
Surveying/Layout			0.00	0
Testing (Soil/Steel/Exterior Wall/Etc.)			0.00	0
Builder's Risk & Deductibles			0.00	0
Performance Bond	1%	%	128,794.00	1,288
Subcontractor Default Insurance	1%	%	106,920.00	1,069
Pre-Construction Services			0.00	0
General Liability Insurance	0.95%	%	110,613.64	1,051
Subtotal Construction & Misc. Items	600	SF	\$186.11	111,664
Fees & Contingency				
Design Contingency	10%	%	111,664.47	11,166
Construction Contingency	7%	%	111,664.47	7,817
Escalation: Mid Pt of Construction	0%	%	0.00	0
Construction Fee	3%	%	130,647.43	3,919
Grand Total Construction Costs	600	SF	\$224.28	134,567