

April 12, 2015

WARRENVILLE PUBLIC LIBRARY DISTRICT: MASTERPLANNING STUDY

product architecture + design

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INTRODUCTION AND PROJECT DESCRIPTION:

In October 2014, product architecture + design was hired to complete a master plan for the Warrenville Public Library District. The existing facility is a +/- 28,500 sf building with a partial basement that due to the natural topography of the site, creates a lower level entrance to the Library. The majority of the library services including the administrative suite is located on the main level while the lower level is used primarily for storage and mechanical equipment.

The overall interior lighting and finishes currently in the building are in good shape for their age and will require typical updating to remain current in both in terms of function and appearance. The current shelving for the collection is in good shape with recommendations for new types of display shelving for AV and Children's Picture Books.

The building contains a number of unique characteristics that include a central 2 story atrium that links the upper and lower level entrances with an adjacent decorative stair. There is also a large expanse of glass along the east elevation of the building that allows for ample daylighting and pleasant reading spaces.

Concurrent to the master planning exercise, Elara Engineers was hired by the Library to complete a full MEP+FP building assessment along with associated cost representing a 10 year projected cost model for recommended equipment replacement. This document is also included as part of the final report.

This final report is the culmination of a 5 month process that included the review and revision of multiple schemes resulting in a final floor plan. From this floor plan, the team developed phasing and furniture plans, pricing documents, and a final cost estimate representing the scope of work. A series of three dimensional images were also produced and the entire package was presented to Board of Trustees in collaboration with the staff as representing the future vision for the Warrenville Public Library.

PROGRAMMING SESSION MEETING MINUTES

- Library Staff Meeting
- Management Team Meeting

December 15, 2014

Meeting Minutes:

Warrenville Public Library District

Date of Meeting: November 21, 2014

Staff meeting:

Entrances:

- Most people go through upper entrance
- 75% don't know about lower level
- Lower level is uninviting
- Lower level couple be glass enclosure with staff OR it could be an early learning areas for 0-7 due to noise issues when they are upstairs
- People on the lower level think it is private and it is not
- Lower level has a loading dock
- Provide heater in sidewalk (hot water heat)
- Paint on exterior is in bad shape
- Provide café on 1st floor
- Book return on the outside of the building is not in a good spot. Staff has to walk outside to get it.
- Provide self-service holds
- Look at location for donations
- Provide automatic entrance doors
- More bike racks

General:

- Need PA system
- Better lighting in staff parking lot
- Look at getting a generator
- Provide outdoor picnic tables
- Provide keycards on doors
- Need better video monitoring

Lobby area:

- would like a display case for lego's ,etc
- art exhibit
- New material display. Current spot isn't good and is an obstacle. Would like a different type of display. They are too low

Desk:

- Currently cannot see
- Would like a desk in collection area
- If centralized desk, should be more in the middle
- Fix signage and wayfinding

- Circulation: 1.5 spots needed
- Adult and children need 1 person each

Computers:

- If there is going to be a separate lab, they need a staff desk in it
- Would like enclosed medial/training lab: mostly used by teens
- Media Lab is computers, 3D printer, scanning stations
- Gaming is something else

Reading Areas:

- Need quiet spaces. Current space is too loud
- Children and adults need physical separation
- Fix temperature zones
- Fix lighting
- Fix odors

Meeting Rooms:

- Board room needs better furniture
- Study rooms are not sound proof enough
- Need more study rooms for 2-4 people
- There is lots of tutoring at night, and they make noise

Staff areas:

- Staff restroom smell
- Like being near each other
- Returns should go right into workroom
- Mobile device checkout is at front desk
- Pages need an enclosed area
- Circulation workroom needs to be larger and needs a phone
- Staff lounge needs a dishwasher, couches, more comfy chairs, and water doesn't get hot currently
- Provide staff outdoor space, right now they sit by dumpster (if staff is on lower level, this would be easy to do)

Adult Collection area:

- Needs more seating (comfy especially)
- Better lighting
- Teen is nice now because it is bright, attractive, and comfy
- Collections need to be together. They are currently hard to find.
- Provide smaller tables
- Provide collaborative areas
- Provide areas for business use: rooms with monitors, online class
- Have been weeding collection
- Draw more attention to Spanish collection
- Provide designated area for foreign language/citizenship
- Doesn't want to use bottom shelf for any of the collections (especially Large Print)
- Paperback exchange is popular and should be visible
- Adult displays should be more visible
- Historical collection should be more visible

AV

- This is the highest circulating collection
- Staff likes it in the back
- Adult and children's collections to be separate

Teen Collection

- Teen area should be for grades 6-12 with clear division
- Provide gaming area/room with gaming chairs

Children's Collection

- More room for teen collection and more for graphic novels
- Provide glass enclosed room for interactive play, this could be the story room
- Provide more seating options for kids
- Browsable shelving for board books
- Would like some reading nooks
- Provide access to outdoors with reading garden or "pizza garden"
- Craft storage should be by areas where crafts are taking place
- Crafts currently are in meeting rooms
- Collection needs new shelving
- Would like to do picturebook bins
- Provide 2 dedicated computers in interactive learning room
- 6 computers should be dedicated to children
- Study rooms can be shared with adults
- Remove large display case
- Provide larger fish tank

December 15, 2014

Meeting Minutes:

Warrenville Public Library District

Date of Meeting: November 21, 2014

Manager meeting

Entrances:

- Main entry should be more accessible, look at air flow
- Lower level entrance is used when heavy programming is done (for extra parking)
- Restrooms are used by Prairie Path users and should continue to be used for that
- Meeting room lobby is too large and is currently used by people to talk on their phones
- Do not need display cases
- Provide better way to display brochures (than the ones by the restrooms)
- Place new books in entry area, provide more interesting display
- Food could be downstairs on main level, some liked it by new books
- Provide self holds (could use more than 2 units). ILL holds will stay behind desk
- The copier should be by a desk
- Eliminate security gates

Lower Level:

- Could be meeting rooms or staff
- Staff lounge could be there

Desks:

- Current desk looks too messy, too much going on behind desk
- Could see using one for circulation, 1 for consultations
- Adult/children's desk: need to be able to turn monitor and be able to get out. Currently they are running into each other
- Don't want too many service points
- Look at mobile desk
- Most questions are technology related. Look at placing computers near the desk
- Provide 2 self-checks close to staff
- Children's staff desk should be low

General:

- Wiring is in raceway in the floor
- Lighting in stacks is not good
- Bays by the windows are dark
- Skylights are not good on the computers, especially on youth side
- Provide outdoor seating and bike racks by path area
- Provide better rain protection at staff entry
- Current cabling issues
- Look at other types of flooring
- Provide digital displays

Meeting rooms

- Large meeting room could be bigger
- Sound is good in large meeting room now

- Needs wiring for speakers (sound system)
- Wants lights to dim
- Would like it to be divisible (over 100 would be good 4x per year)
- When large meetings occur, parking is in the back
- Needs smaller study rooms
- Also need a 10 person study room
- Provide new mesh stacking chairs in large meeting room
- Provide blackout window shades in large meeting room
- Provide quiet room possible. Library is loud.

Children

- Would like small programming room for all ages a little bit bigger than story room (not in addition to existing story room)
- Provide more display, face out
- Board books are mixed up and not accessible to kids
- New youth AV shelving with face out
- Keep kaleidoscope. Get rid of display case and bulletin board

Teen

- This is more junior high. Look at Elgin's junior high area.
- Would like them enclosed or just better defined (conversations went both ways)

Computers

- Provide 4 express stations
- 4 computers for children
- Would like to enclose a classroom setup
- Wi-Fi is currently not working well
- Currently, they don't like the wiring in the ceiling
- Put opacs on end caps

Adult Collection

- Currently is very confusing
- Place AV in front
- Provide shorter shelves when possible
- ESL and Spanish should be easy to find. Possibly place children and adult together
- Magazines go a little high now. Change to 4 high

Staff

- Likes being together
- Youth needs more storage
- Would like collaborative areas
- Storage in board room has electrical in it (FYI)
- Circulation private office is too large and doesn't work well
- Book return should be into circa workroom
- Admin assistant should have an office
- IT server room needs air conditioning. IT manager could have separate office.
- Staff offices need windows

EXISTING CONDITIONS + DESIGN SCHEMES A-D

The design team completed a full set of documentation drawings of the entire building including all furniture and collection for both levels. These drawings served as the baseline to measure value against during the development of planning schemes.

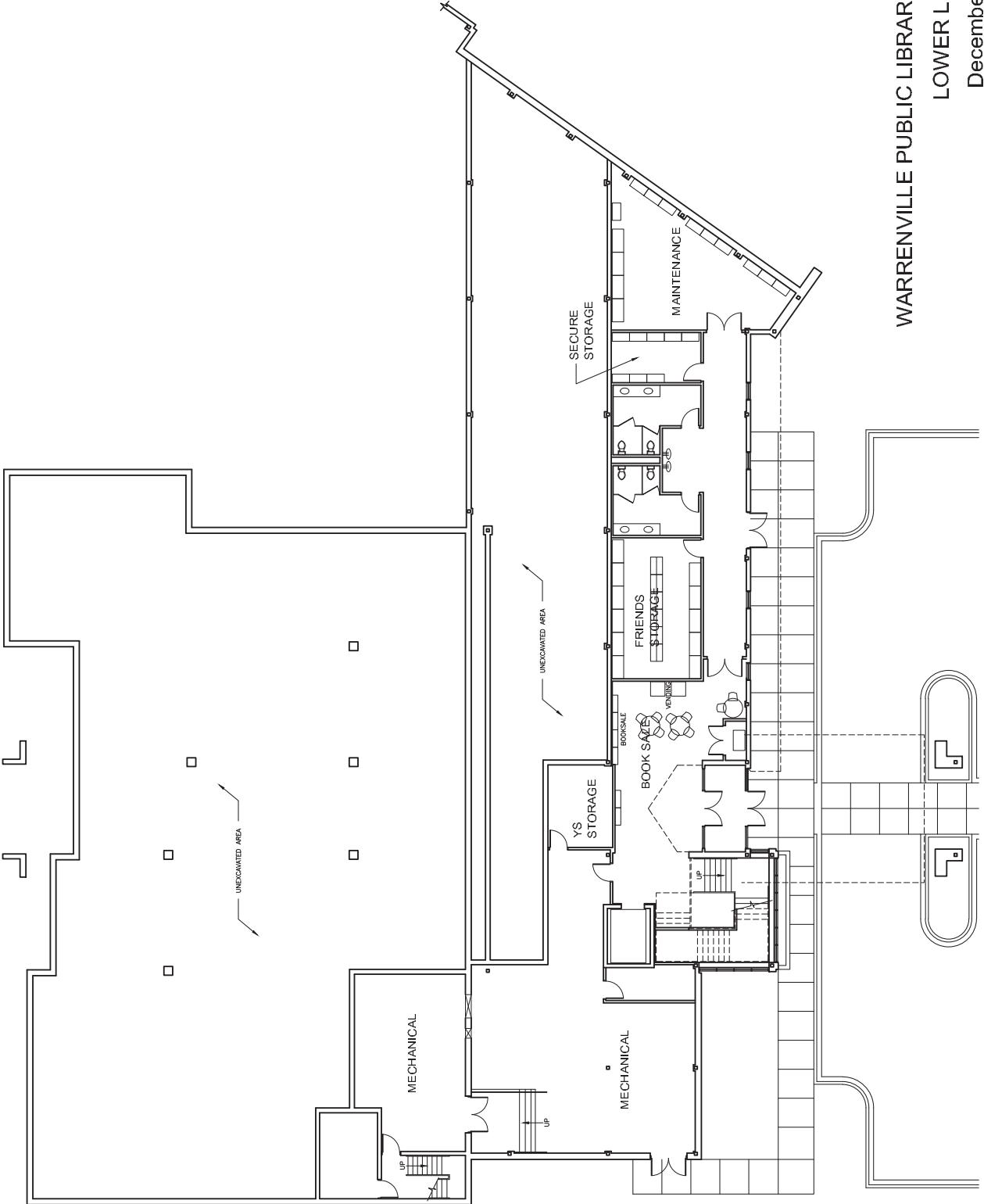
The schemes below A-D dated December 16, 2015 were developed simultaneously and were intended to be compared and contrasted against one another in reference to the project goals established during the staff and administration kick off meetings. Each of the schemes represent a specific solution to the major problems facing the current Library.

The Library also chose to issue a set of written comments dated January 13, 2015 addressing each of the schemes individually that are included at the conclusion of the drawing sets.

- Existing Conditions
 - Scheme A
 - Scheme B
 - Scheme C
 - Scheme D

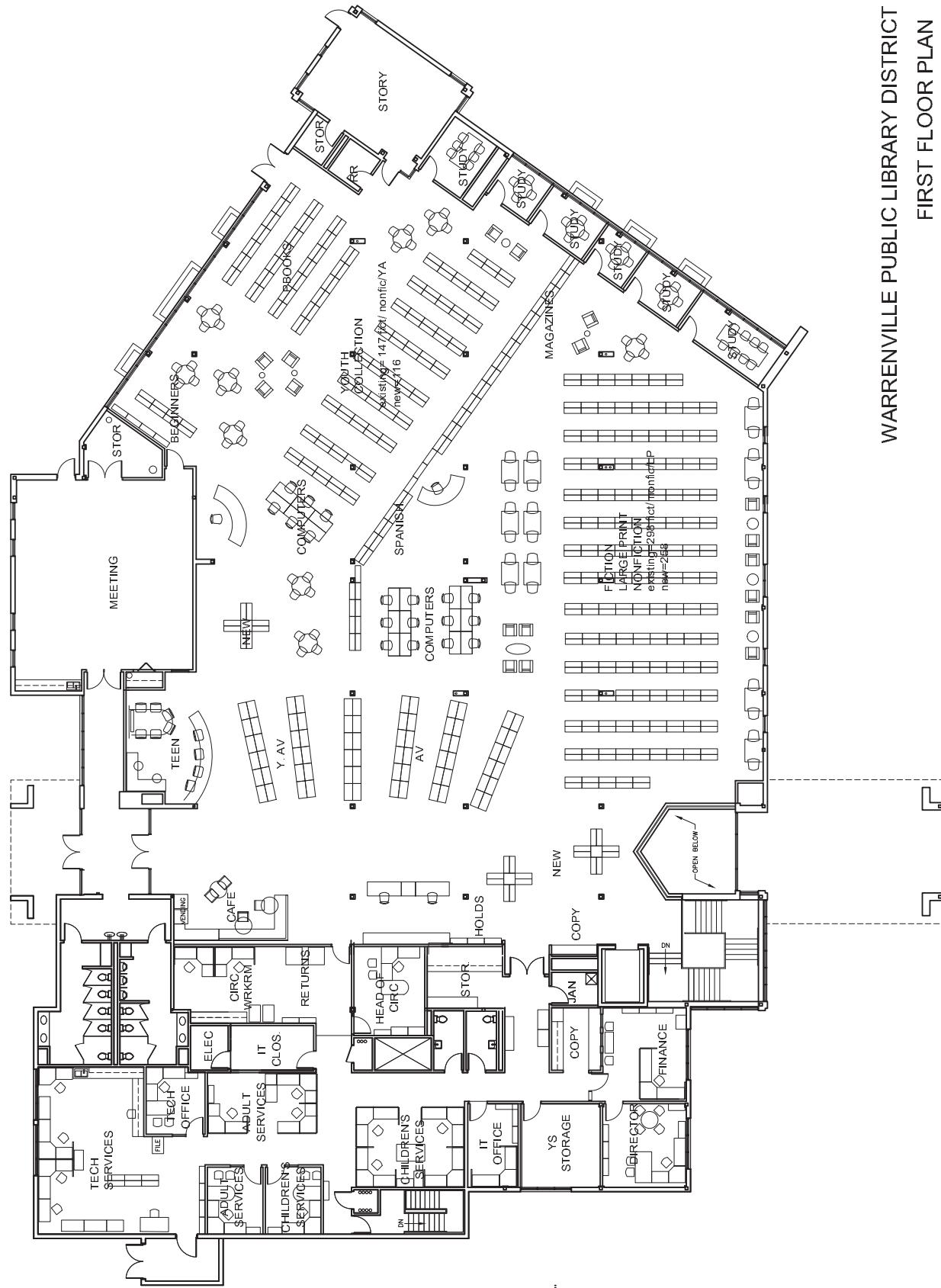
FIRST FLOOR PLAN
December 16th, 2014

EXISTING product architecture + design

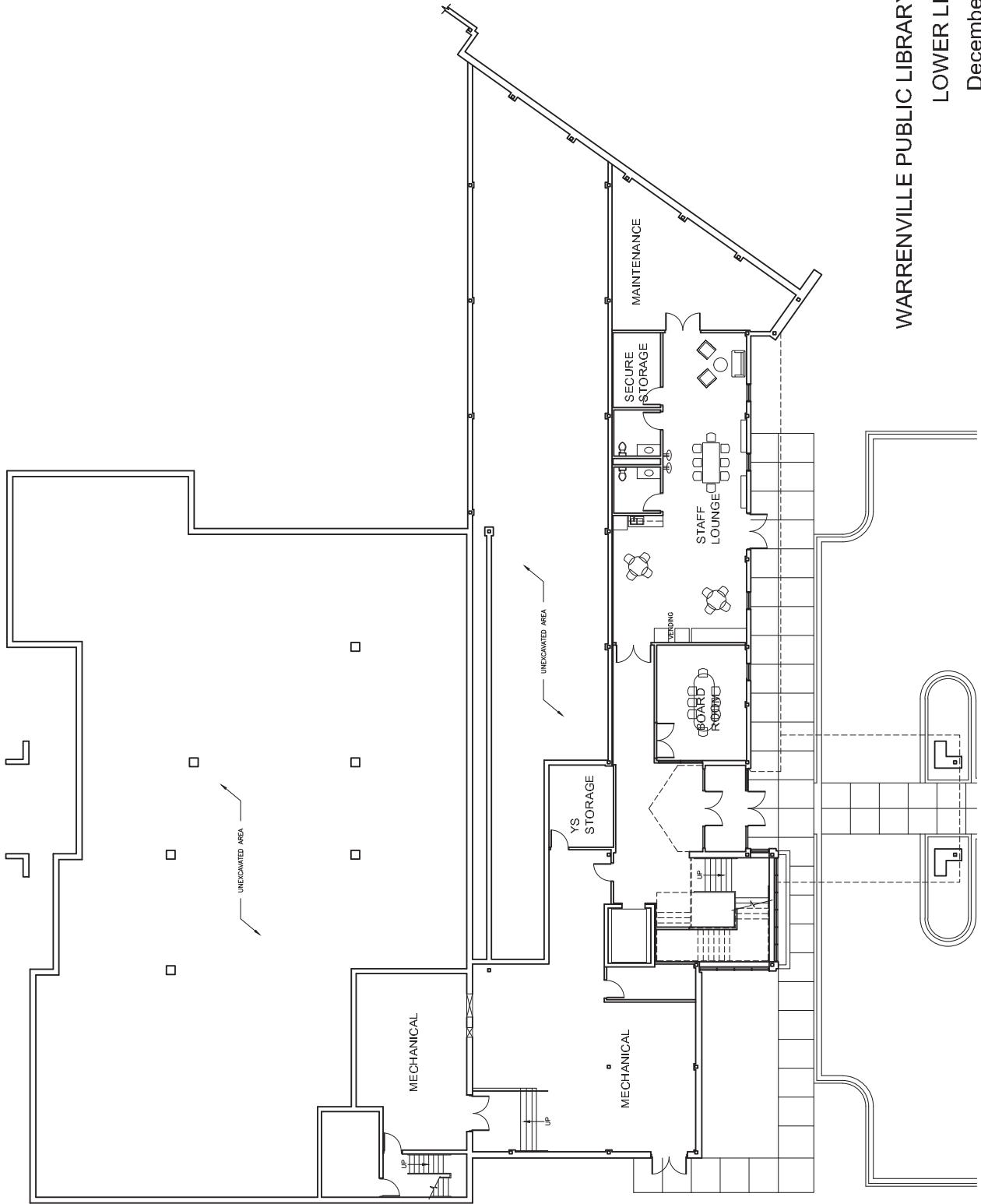


EXISTING
product architecture + design

WARRENVILLE PUBLIC LIBRARY DISTRICT
LOWER LEVEL PLAN
December 16th, 2014

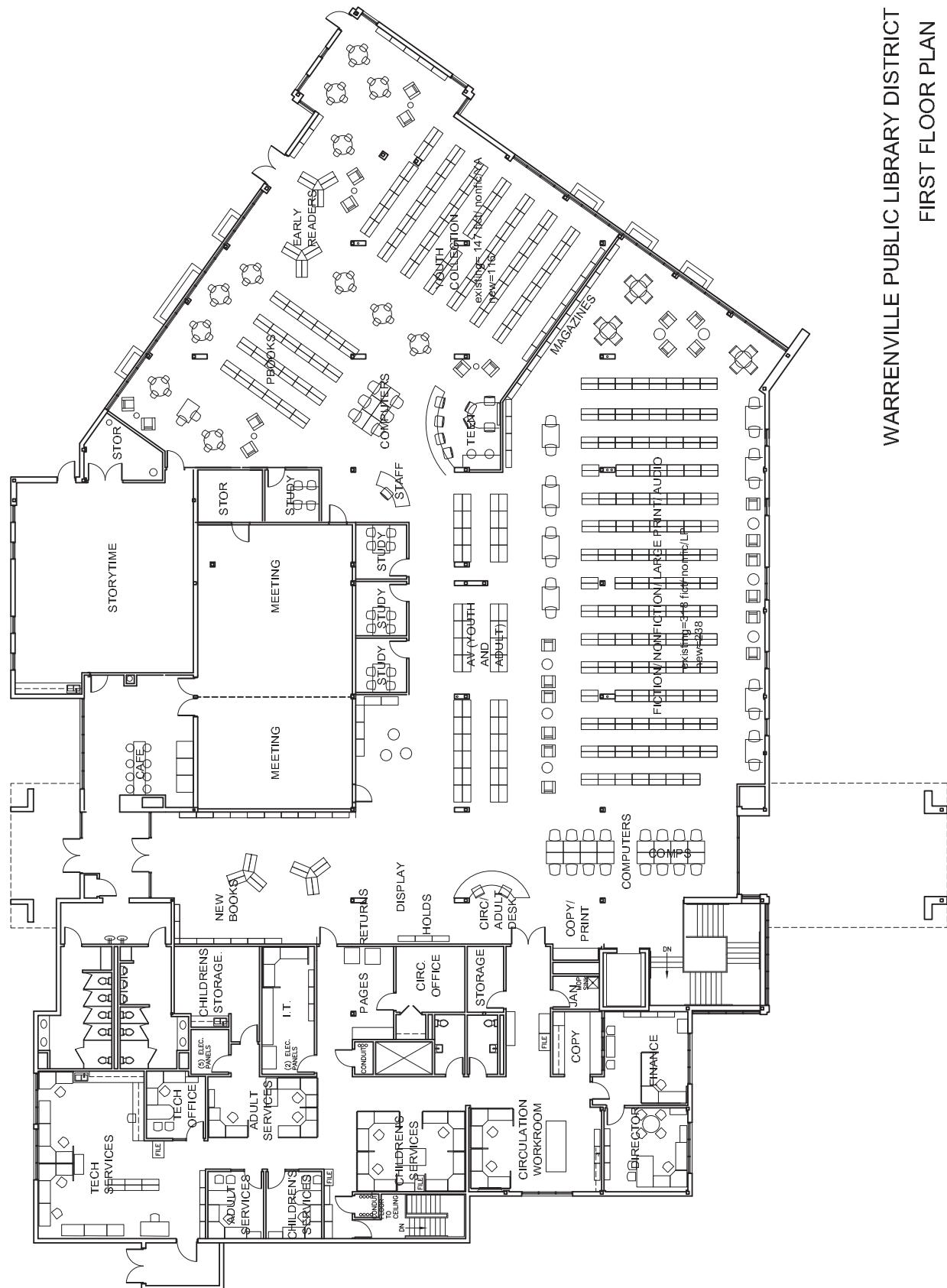


WARRENVILLE PUBLIC LIBRARY DISTRICT
FIRST FLOOR PLAN
December 16th, 2014



SCHEME A

WARRENVILLE PUBLIC LIBRARY DISTRICT
LOWER LEVEL PLAN
December 16th, 2014

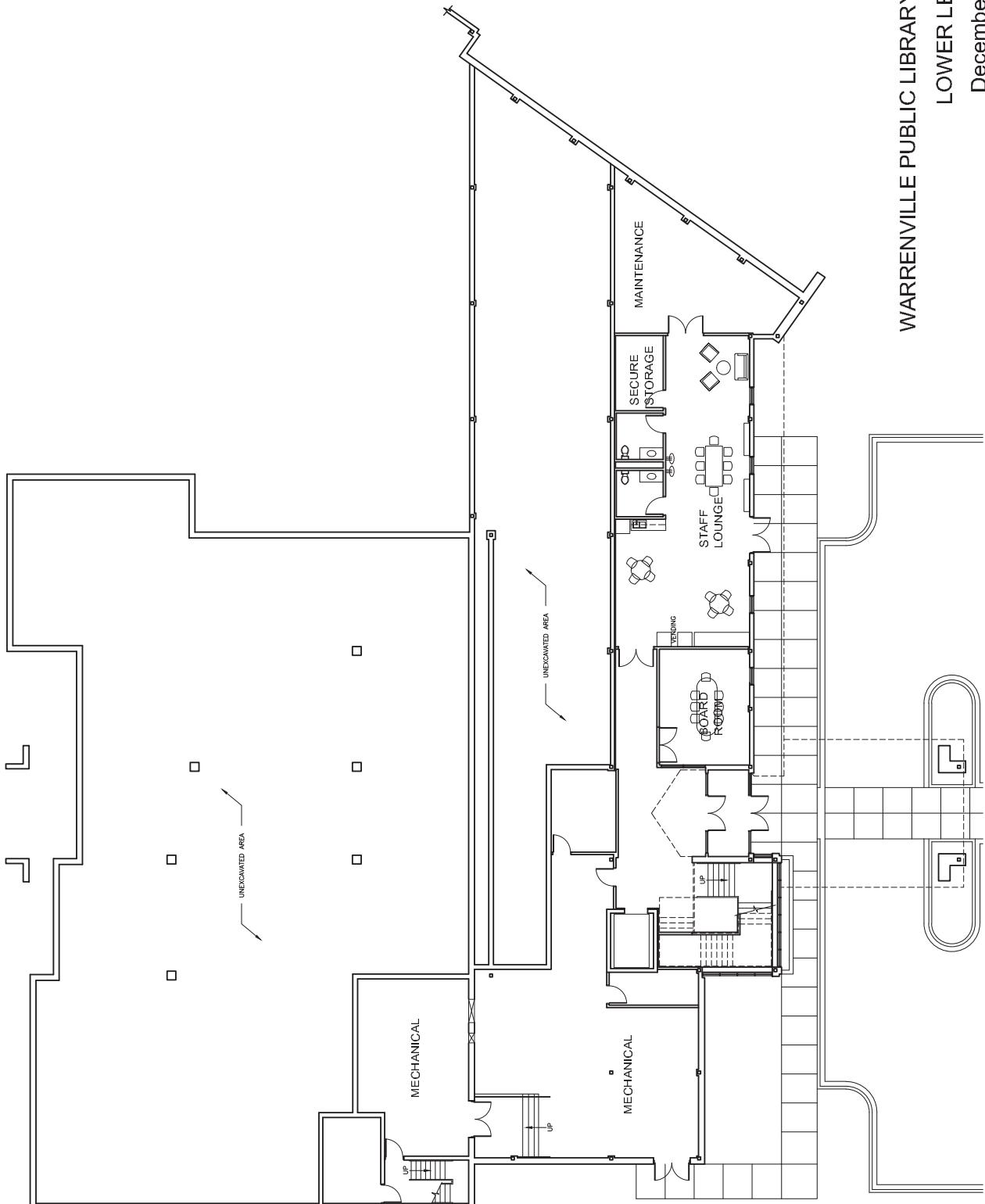


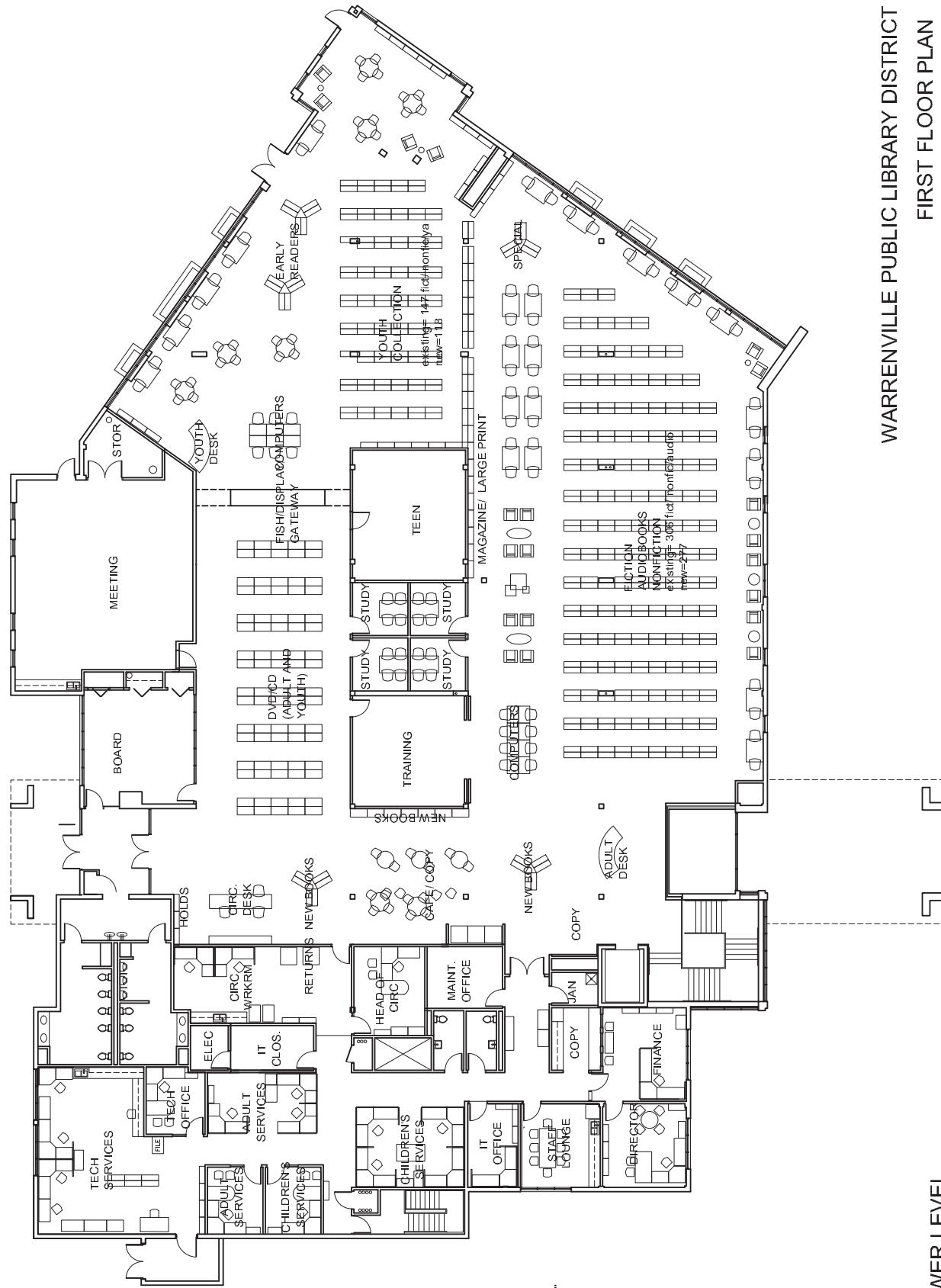
WARRENVILLE PUBLIC LIBRARY DISTRICT
FIRST FLOOR PLAN
December 16th, 2014

**WARRENVILLE PUBLIC LIBRARY DISTRICT
LOWER LEVEL PLAN
December 16th, 2014**

SCHEME B

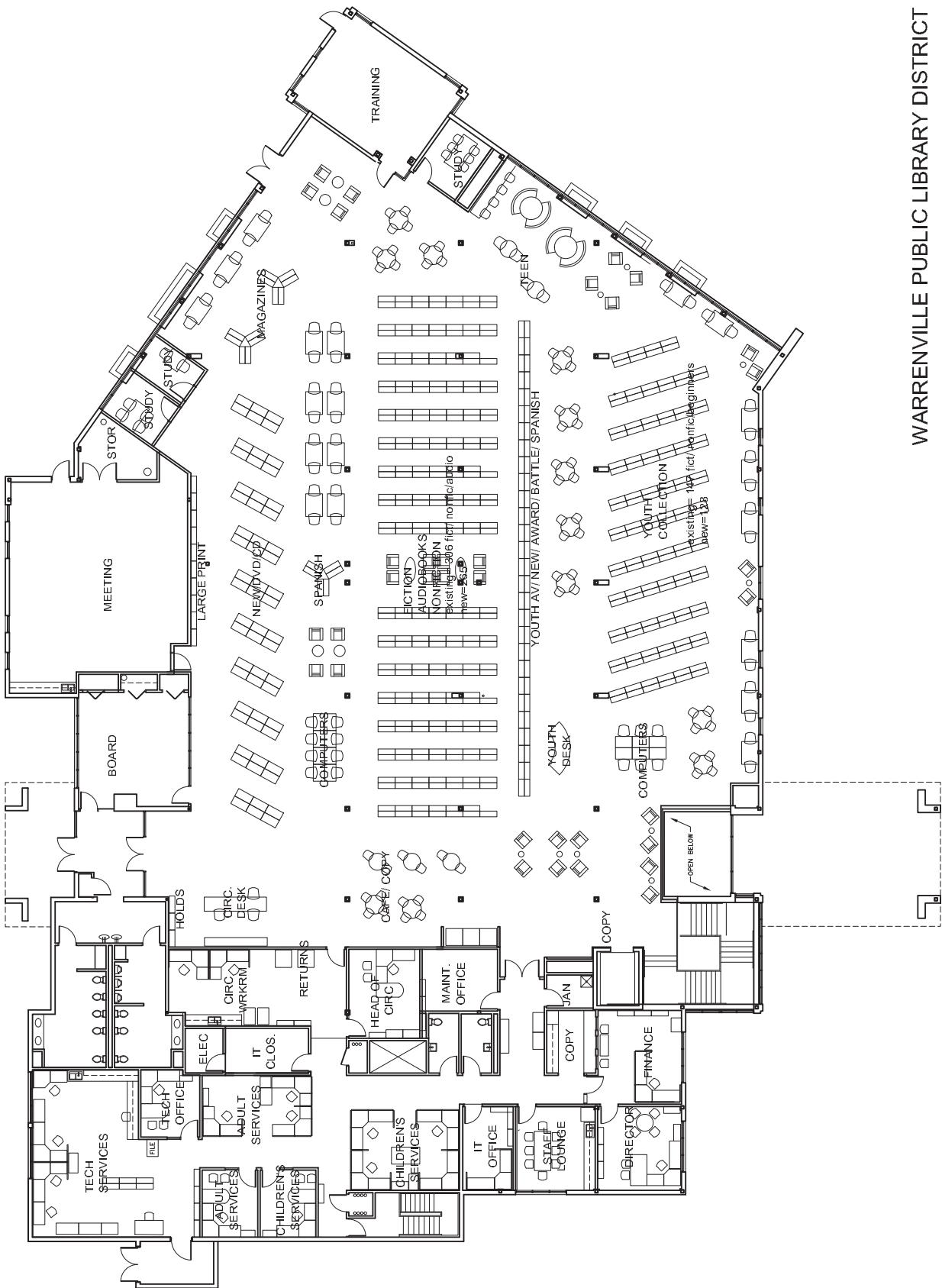
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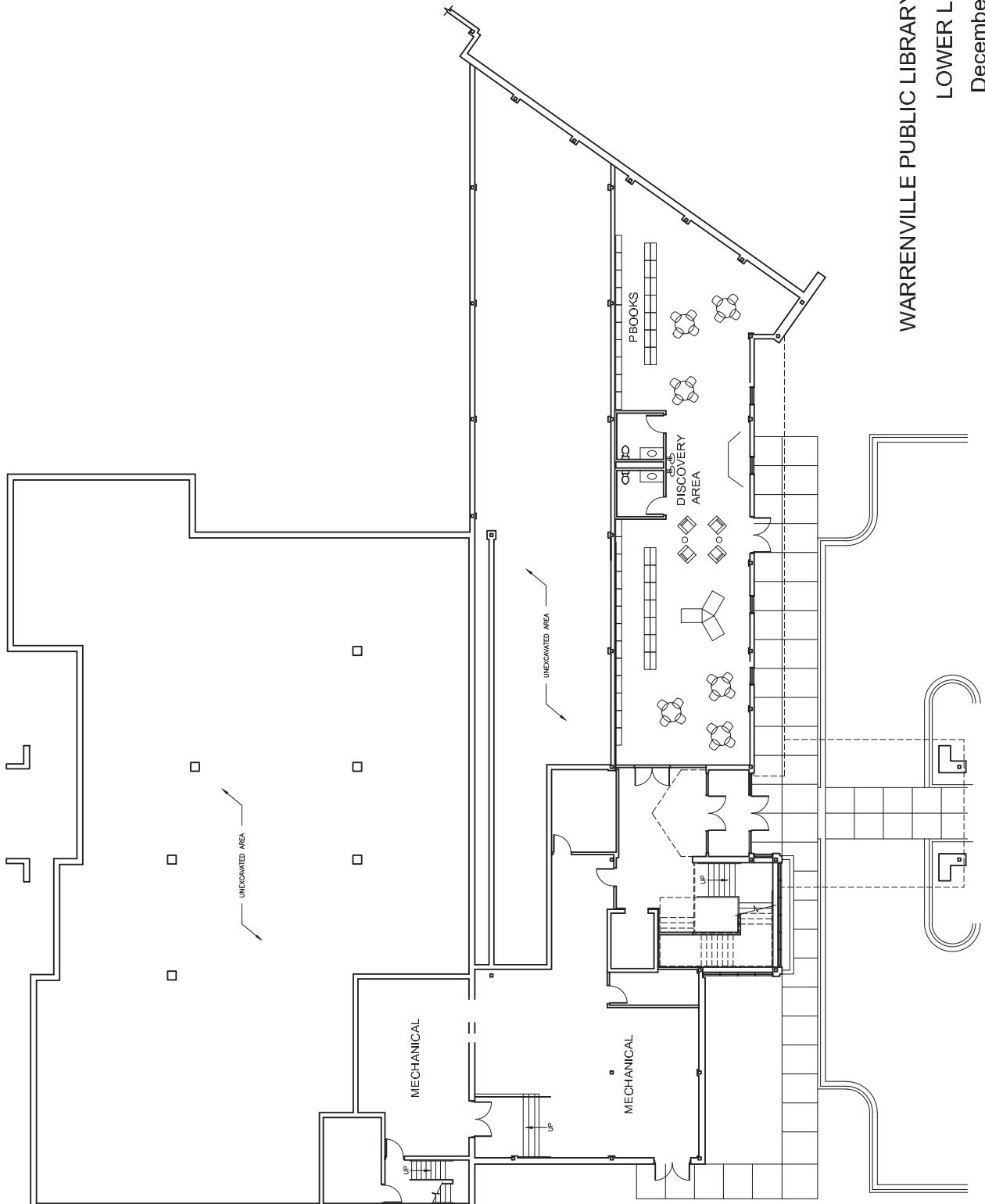
SCHEME C1
*PICTUREBOOKS ON LOWER LEVEL

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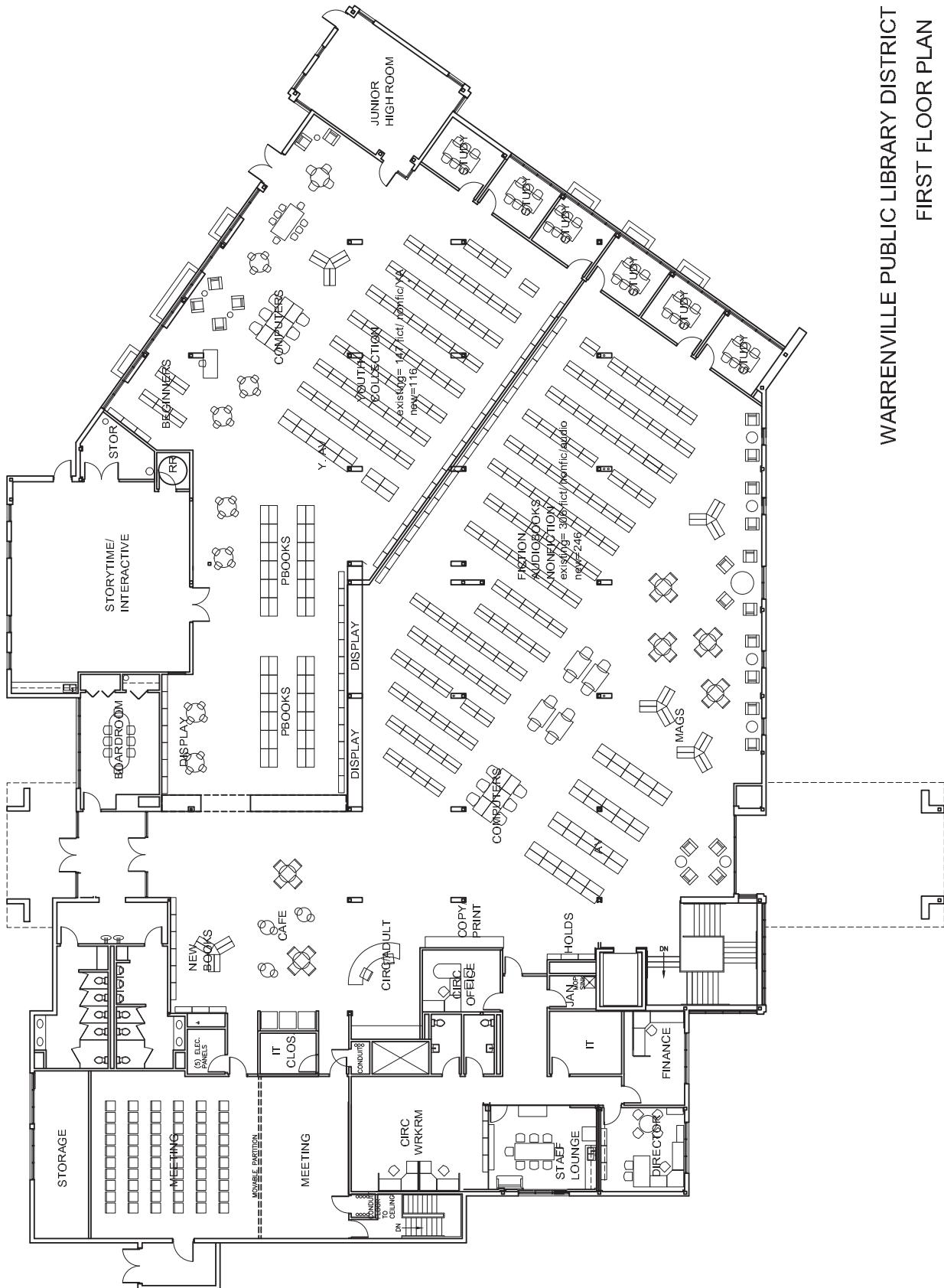


WARRENVILLE PUBLIC LIBRARY DISTRICT
FIRST FLOOR PLAN
December 16th, 2014

WARRENVILLE PUBLIC LIBRARY DISTRICT
LOWER LEVEL PLAN
December 16th, 2014



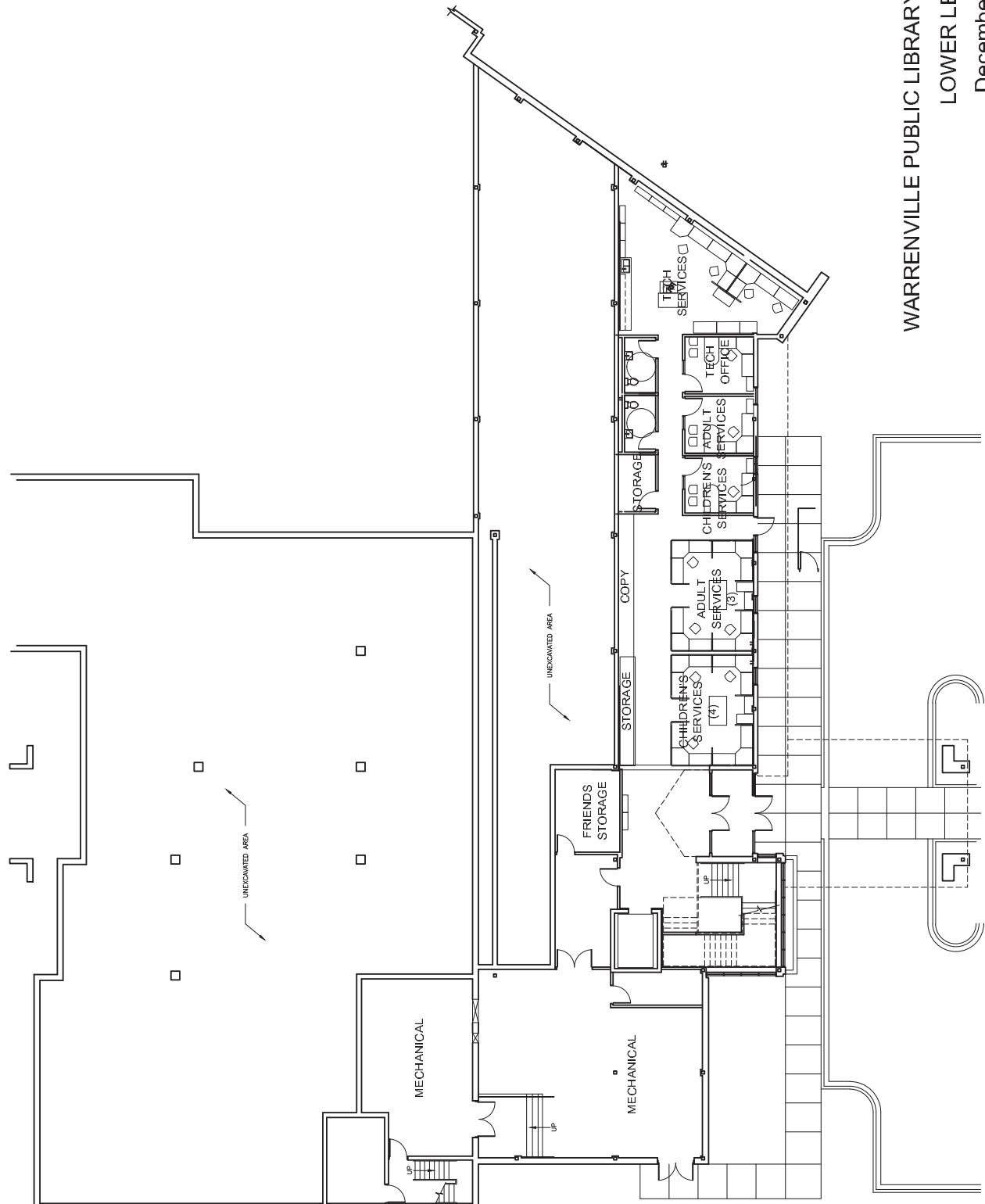
SCHEME C
product architecture + design



CITY LIBRARY DISTRICT
FIRST FLOOR PLAN
December 16th, 2014

SCHEME D

WARRENVILLE PUBLIC LIBRARY DISTRICT
LOWER LEVEL PLAN
December 16th, 2014



DESIGN SCHEMES A-D: COMMENTS

- Management Team
 - Library Staff

Management Team Suggested revisions for Schemes A through D

Management Team Meeting – January 13, 2015, 9:30am

The Management Team met to discuss comments from staff meeting and look closely at plans to suggest relocations, etc. We noted things we liked from different plans that we'd like to pull together in a revised plan.

- If we have a divisible meeting room, then a separate board room is not necessary.
- Is there any scenario in which a divisible meeting room could be placed on the lower level? This would be ideal.
- All are in agreement that the atrium can be filled in to gain additional usable space on first floor.
- Like division of adult and youth services areas –prefer a physical wall to separate the space or a row of study rooms.
- Assuming meeting room can be on lower level, use Scheme A for arrangement of staff work areas with a few changes:
 - YS Storage reverts to staff lounge (See Scheme C1)
 - Children's Office becomes IT Office
 - IT Office becomes Marketing
 - Storage area behind circ desk/adjacent to head of circ office becomes copy room
 - Copy room becomes secure storage for administration
- More study rooms is better – some like them on the east wall (Schemes A, D); others prefer them in the middle (Scheme C1). Some suggested that a row of study rooms might be a good way to divide the adult & youth services areas, but others were concerned that it might mean we'd have to give up more collection space.
- For public spaces, combine elements from A, B, C & D:
 - Public service desk locations and adjacencies are good in Scheme A.
 - Like openness at entrance (café, circ, av collections) in Scheme A.
 - Could we make a small training/computer lab around 6 computers in Scheme A with 6 computers outside of lab?)
 - Keep teen area (middle school) location from Scheme A (we like that the middle school students won't have to walk through the whole children's department to get to their space.)
 - Consider a wall (partial? glass?) to divide middle school space from rest of library
 - Use Scheme D Storytime/Interactive Room with sliding door/partition to open onto public space
 - Restroom in Youth Services should be accessible from floor (not storytime room)
 - Like removal of existing storytime walls as shown in Scheme C1.
 - Can we add a designated quiet room that's separated with a wall? Perhaps atrium area (although concerned about height, noise from elevator, etc.) or along south wall if we remove additional shelving.

- Other comments
 - 2 self check stations
 - Print/copy station for youth computers
 - 8 Youth computers on 2 round tables (like Vernon Area)
 - Incorporate book sale shelves into café area? Or lobby to meeting room in Scheme A?
Need workspace for book sale volunteers?

Staff comments on Schemes A through D
All Staff Meeting – January 13, 2015, 8:00am

SCHEME A

PROS

6 study rooms

Location of study rooms

Division of spaces is good

Adult desk positioned well - easy access to computers, sight lines to study rooms Spanish collection not hidden YS Storage separate from children's services area on first floor Additional YS Storage on Lower level Teen space has tables & technology Location of return slots, circ work room is good Staff parking on lower level - frees up parking on main level for patrons and staff don't have to park so far away Board room location is good for other purposes

CON

study rooms next to storytime

shelving dividing spaces would be better as a wall - to resolve sound problems No good line of site from youth desk to study rooms IT office should be in Children's services office space.

IT office becomes Marketing office (Marketing specialist/graphic designer) Meeting room and storytime room stay the same - both should be expanded Not enough computers in adult area Space for cafe area is too large Not enough shelving for new books Noisy shelving CDS (click click click by computers) Board room on lower level not convenient for book a librarian.

If board room is off limits to public, then need another 10-12 seat room for public use If board room is available for public use, then how do we monitor it?

Doesn't seem like we're gaining much with lower level changes like that we keep storage in lower level odd to have bathrooms opening to area where people are eating

MISSING

enough computer spaces in Youth Services? Where are tumblebooks

Book Sale

self check stations

catalog computers

Where do b-logistics bins go? (current staff entry?)

Staff comments on Schemes A through D
All Staff Meeting – January 13, 2015, 8:00am

SCHEME B

PROS

Bigger meeting room
Divisible meeting room
Returns bins go into page area
Filled in atrium - more floor space gained
Departments separated by physical wall
Windows not taken up by study rooms
Like location of new books
Gain a lot of seating in adult services (too much of a trade off for amount of weeding)
Divisible meeting room - fits smaller groups better.

CONS

If checkins are done in circ work room, the will need to transport materials
Circ work room too far from front desk
Circ work room too far from technical services
(Swap children's services work room and circulation workroom)
No direct supervision of cafe - who teaches patrons to use keurig?
Cafe too big?
Copy print area not big enough?
Adult desk is not in area - can't see what's happening in other areas of Adult Services
Swap childrens services work space and adult services work space (move closer to storage)
Will rolling thunder cart disturb patrons on computers? YES!!!
Too much casual seating, need more tables.
Storytime room doubles, adult meeting room does not gain much square footage

What is space adjacent to meeting room entrance, three study rooms? Read and return?

MISSING

Need Copy/print station in youth services

Staff comments on Schemes A through D
All Staff Meeting – January 13, 2015, 8:00am

SCHEME C

PROS

Rooms (training, study) dividing departments
Training room
Teen space walled in (pro & con)
Gateway / special entry to youth services
Like concept of discovery area/interactivity zone

CONS

Only storage closet/room for entire building is in the meeting room
Lower level children's area – additional staffing required. (For liability reasons, may need 2 staff)
For families with children of varying ages, difficult to have discovery on different level.

Staff comments on Schemes A through D
All Staff Meeting – January 13, 2015, 8:00am

SCHEME D

PROS

Gateway to youth services
Physical wall dividing departments
Like location of jr. high room
study rooms
staff downstairs - gain space for public purposes upstairs

CONS

huge amount of cafe space
not enough shelving for new books
Circ/Adult desk not facing adult areas
Is display space in youth services adjacent to meeting room dead space? too much display?
Restroom in youth services not accessible from outside of the storyroom
If storyroom is open to public, might want to relocate youth services desk
Storage in meeting room can't be in front of windows
Staff concerned about meeting rooms in back area
Adjacency of IT closet and IT Office
Staff downstairs --
If tech services is downstairs, shouldn't be the furthest from the elevator

MISSING

Spanish
Self check
catalogs
return slots

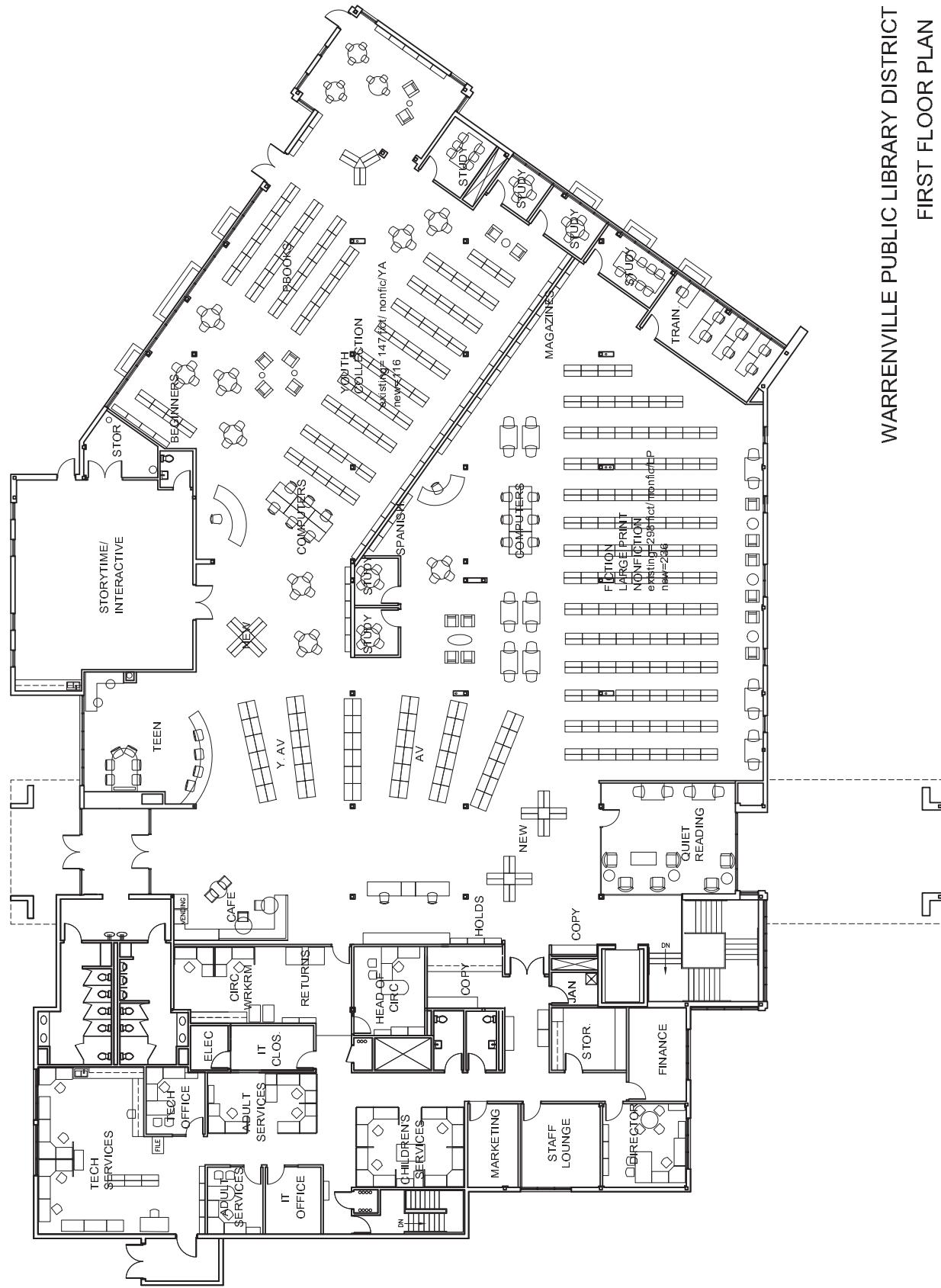
GENERAL NOTES

Ensure soundproofing between meeting and study rooms
Be aware of size of carts, doorways, noise, etc.
Wall dividers must be motorized - easy to operate
Is there any possibility of having the meeting room downstairs
Jackie needs a door
Soundproofing/walls between workpods in existing work areas

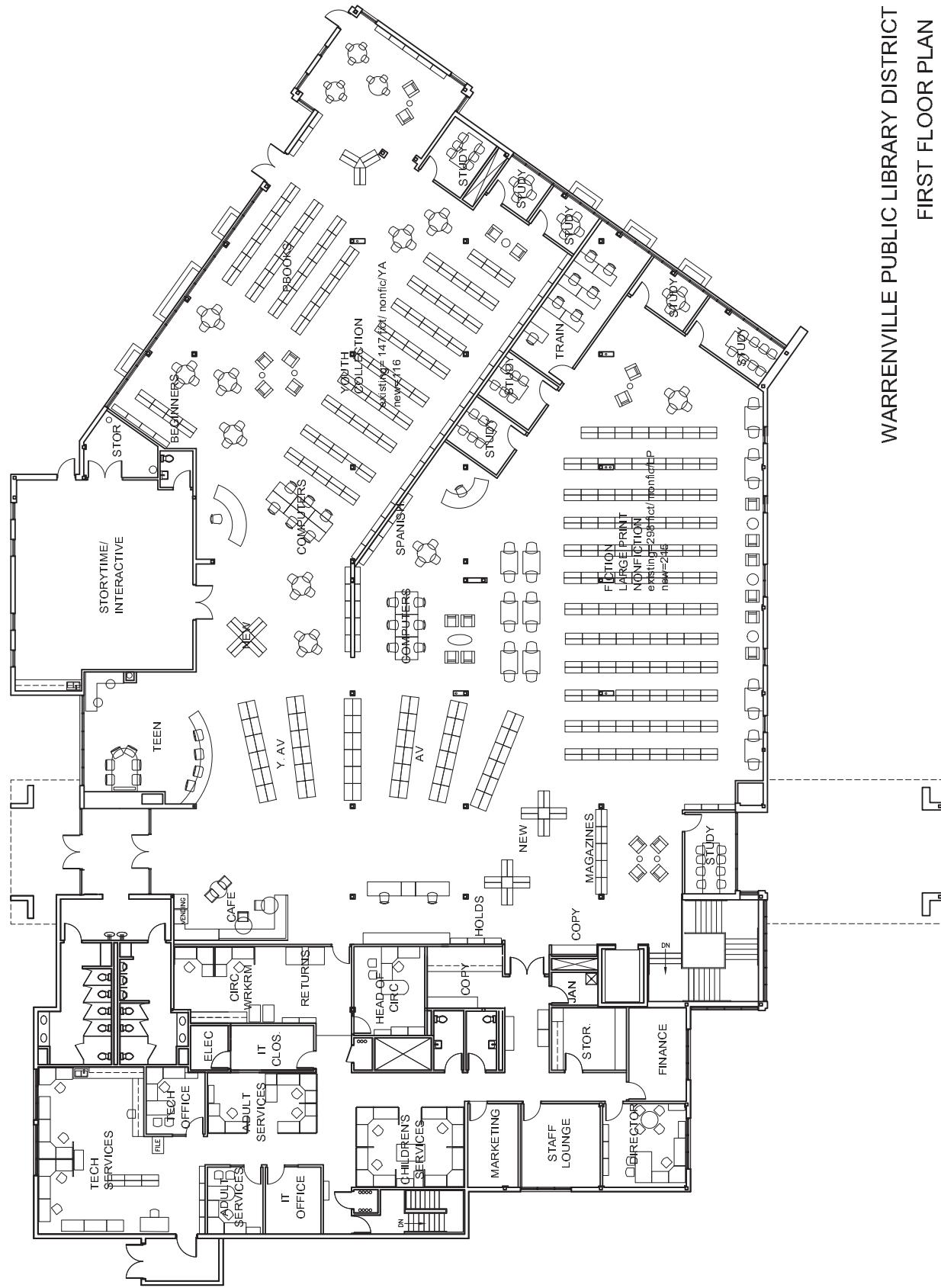
ROUND 2 DESIGN SCHEMES A & B

The design team developed 2 schemes further based on both the written and verbal comments referencing schemes A-D. These two schemes dated January 23, 2015 are the basis for the final design scheme that would be further developed for pricing.

- Scheme A
- Scheme B



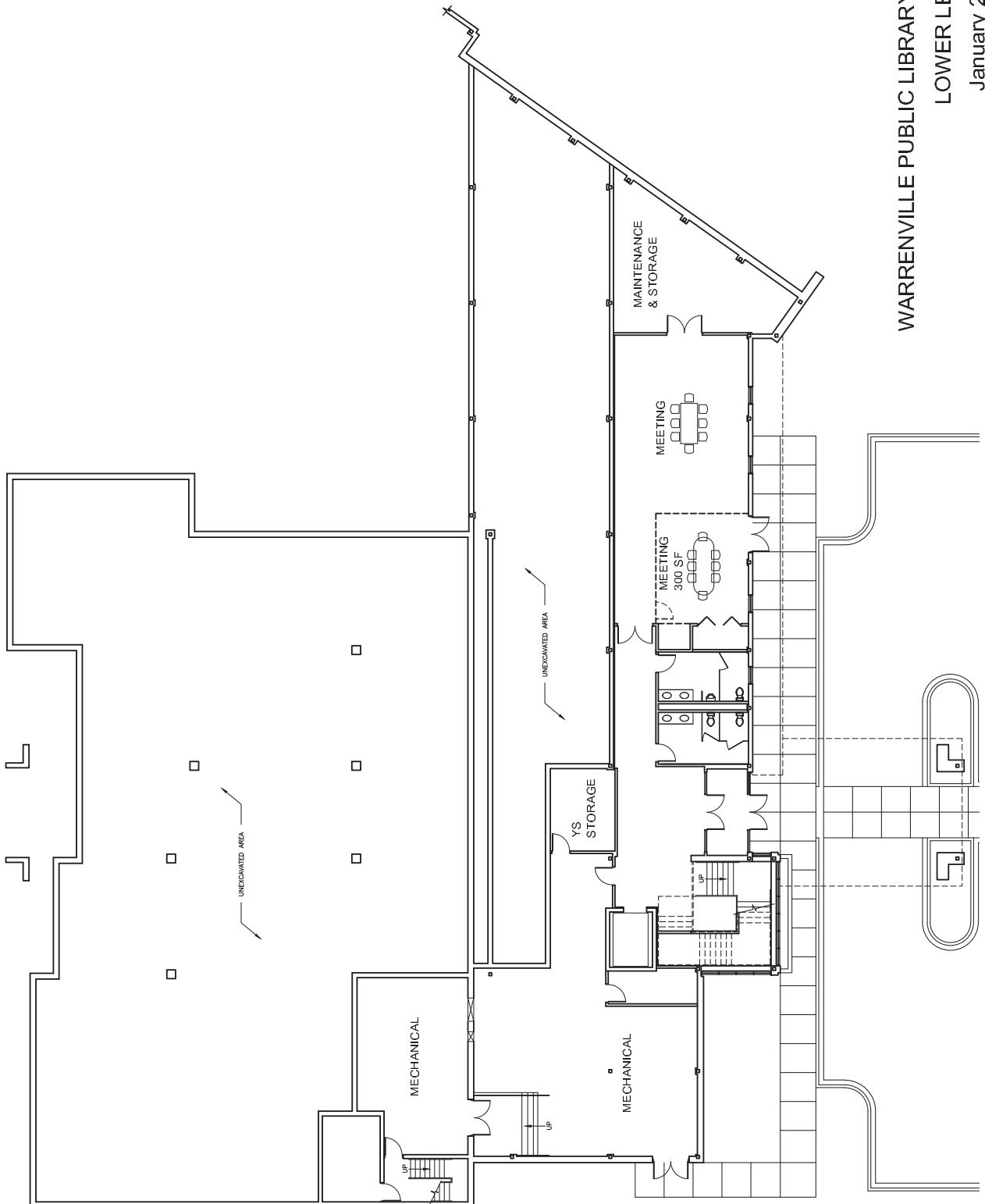
WARRENVILLE PUBLIC LIBRARY DISTRICT
FIRST FLOOR PLAN
January 23rd, 2015



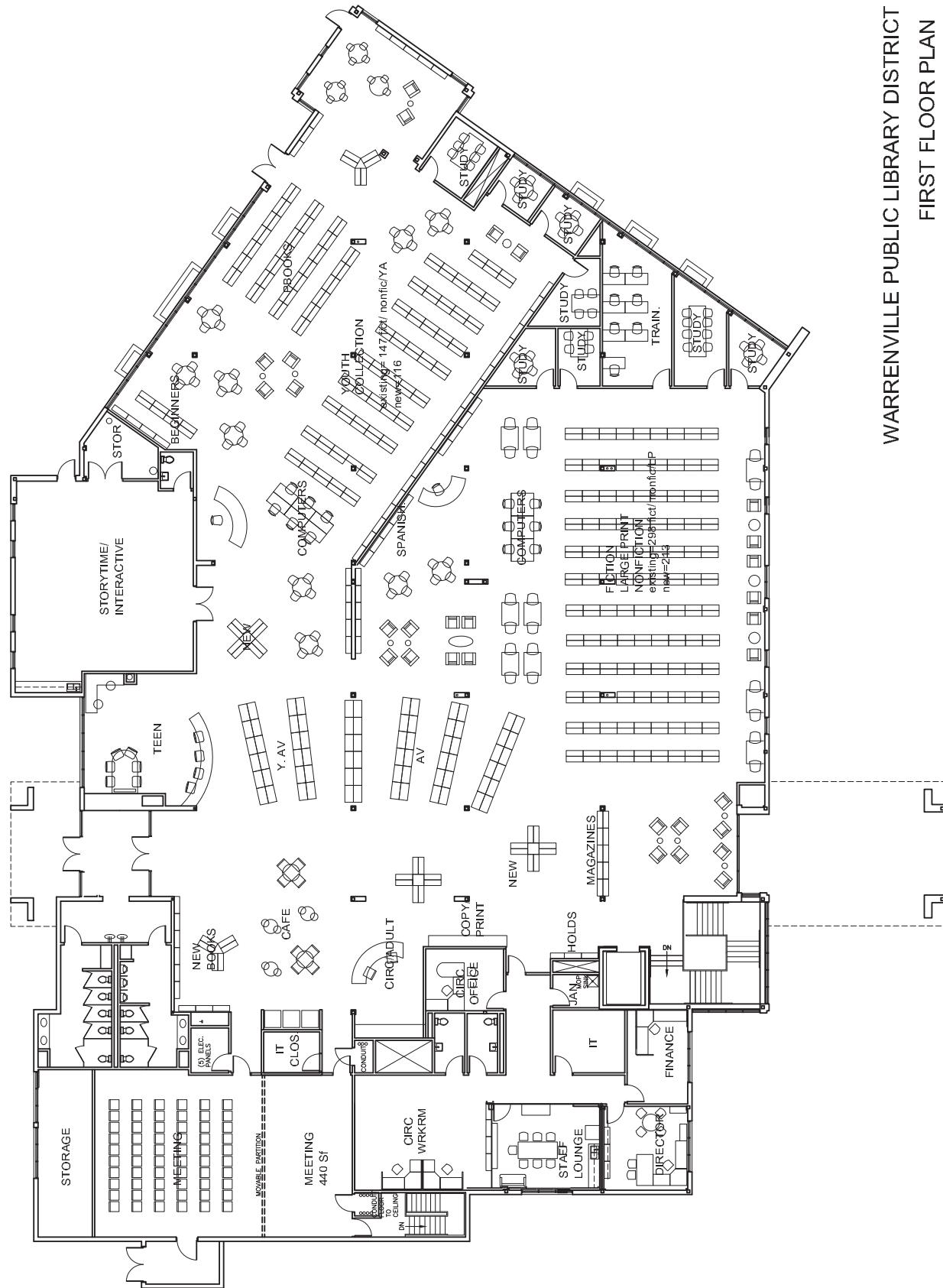
SCHEME A2
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WARRENVILLE PUBLIC LIBRARY DISTRICT
FIRST FLOOR PLAN
January 23rd, 2015

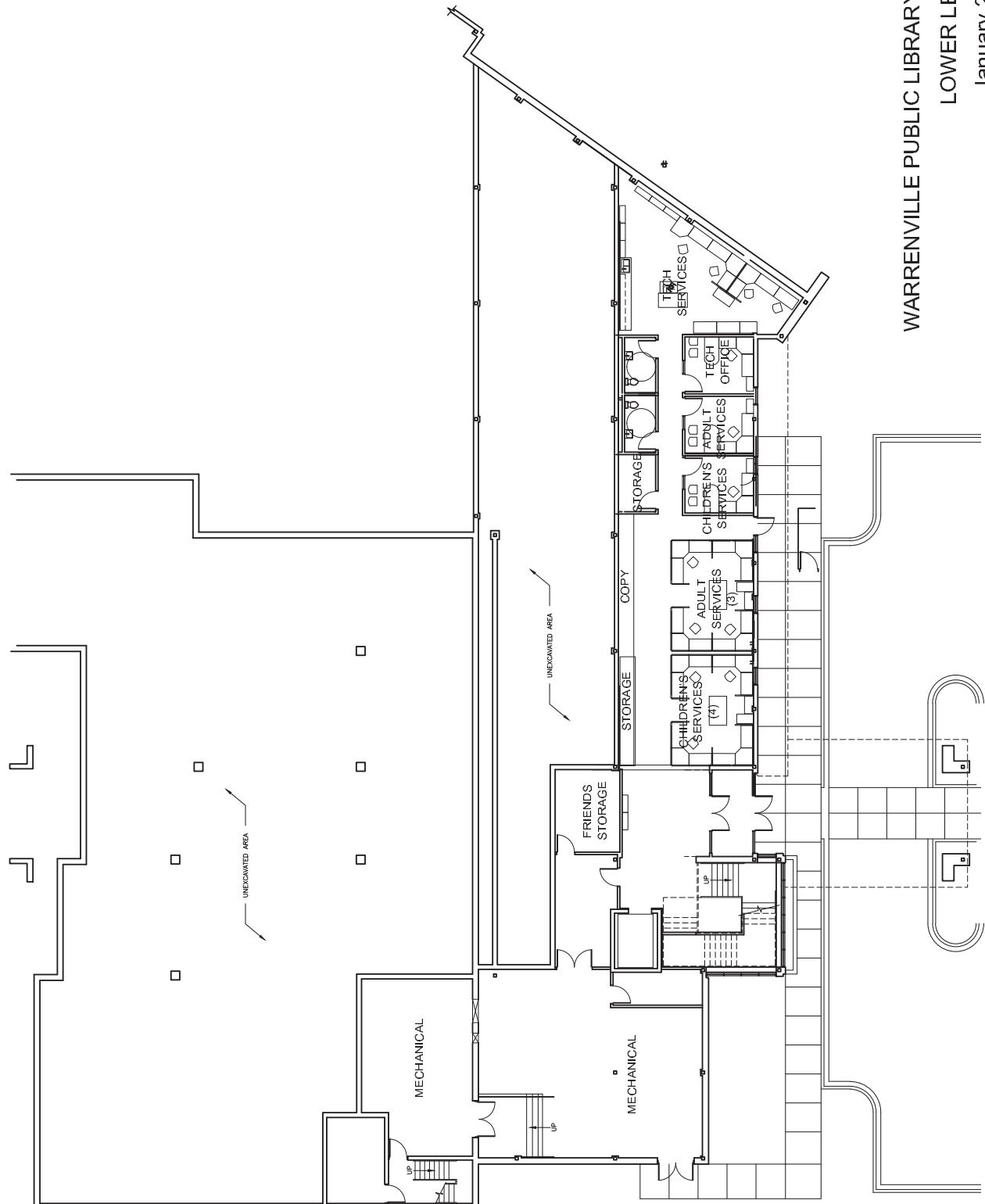
WARRENVILLE PUBLIC LIBRARY DISTRICT
LOWER LEVEL PLAN
January 23rd, 2015



SCHEME A
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WARRENVILLE PUBLIC LIBRARY DISTRICT
FIRST FLOOR PLAN
January 23rd, 2015

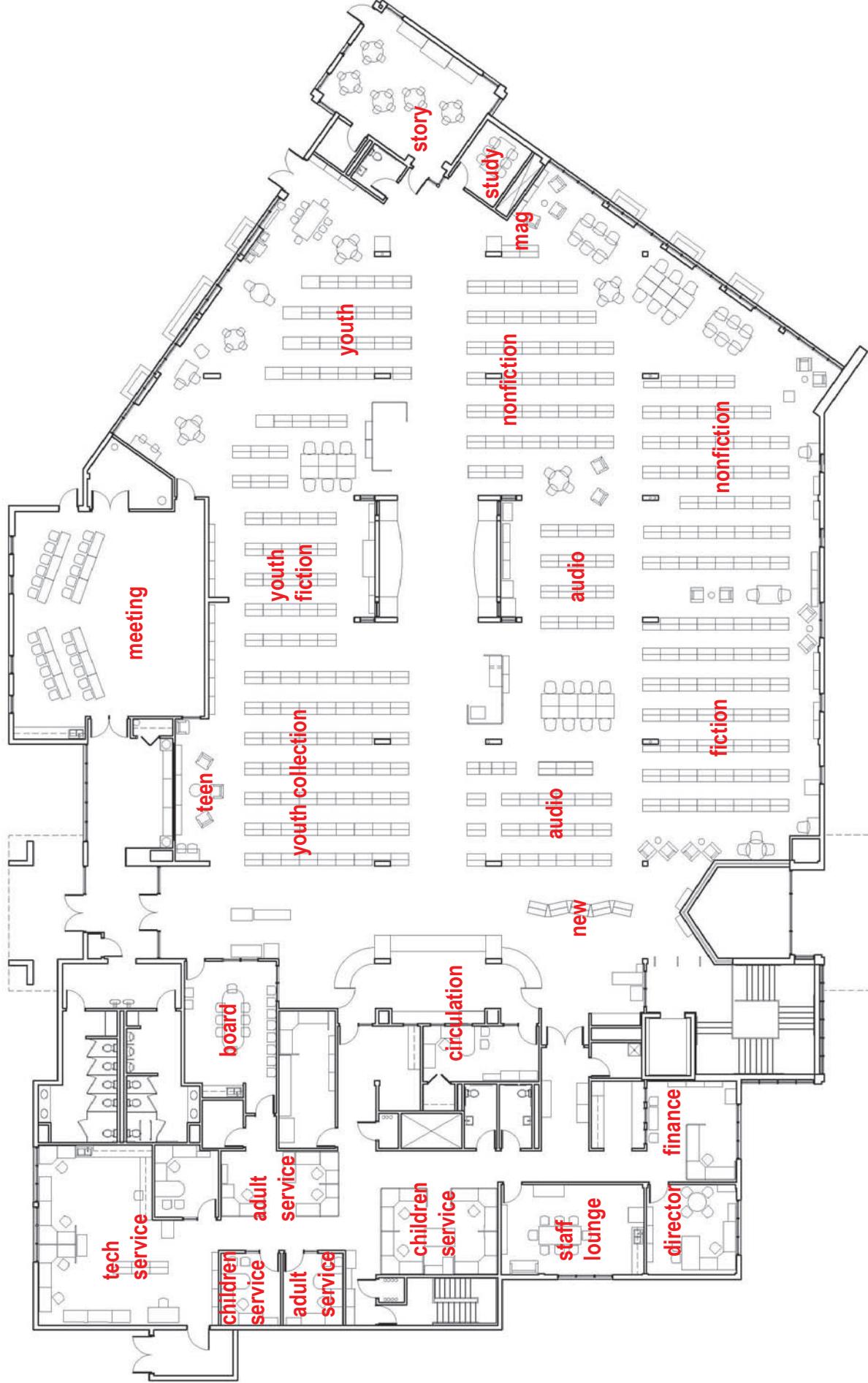


FINAL DESIGN SCHEME:

The final design scheme was developed based on comments from the round 2 design schemes. The floor plan at this point has been set and interior renderings representing the potential space were completed to help patrons, board of trustees, and staff understand visually the full implications of the proposed changes to the Library.

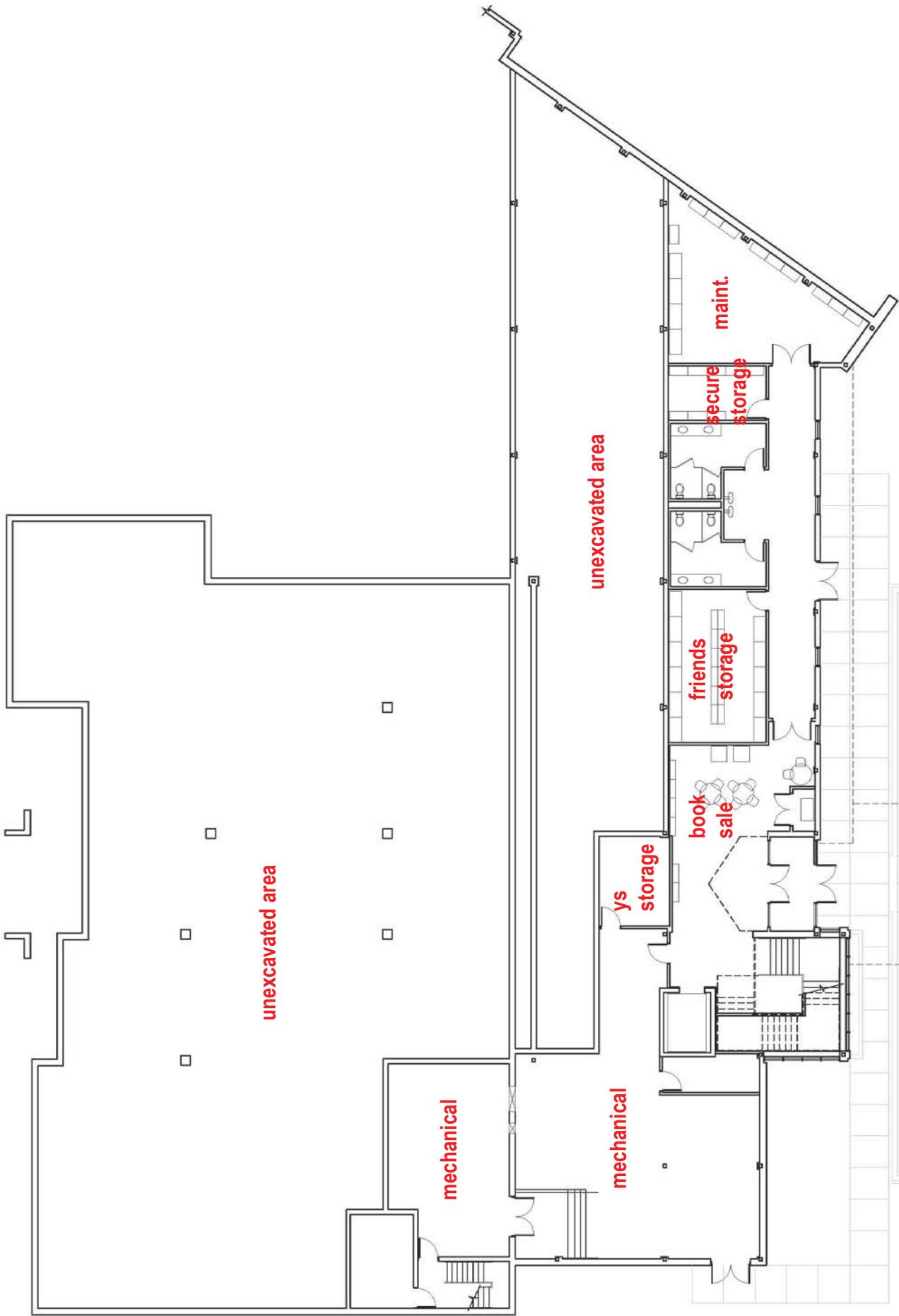
A plan indicating our proposed phasing for the project and also furniture plan and estimate were developed at this time to be included in the final presentation and cost estimate.

- Existing and New Floor Plans
- Interior Rendering Studies
 - Proposed Phasing Plan
 - Proposed New Furniture Plan



FIRST FLOOR EXISTING

Warrenville Public Library Masterplan: 031815
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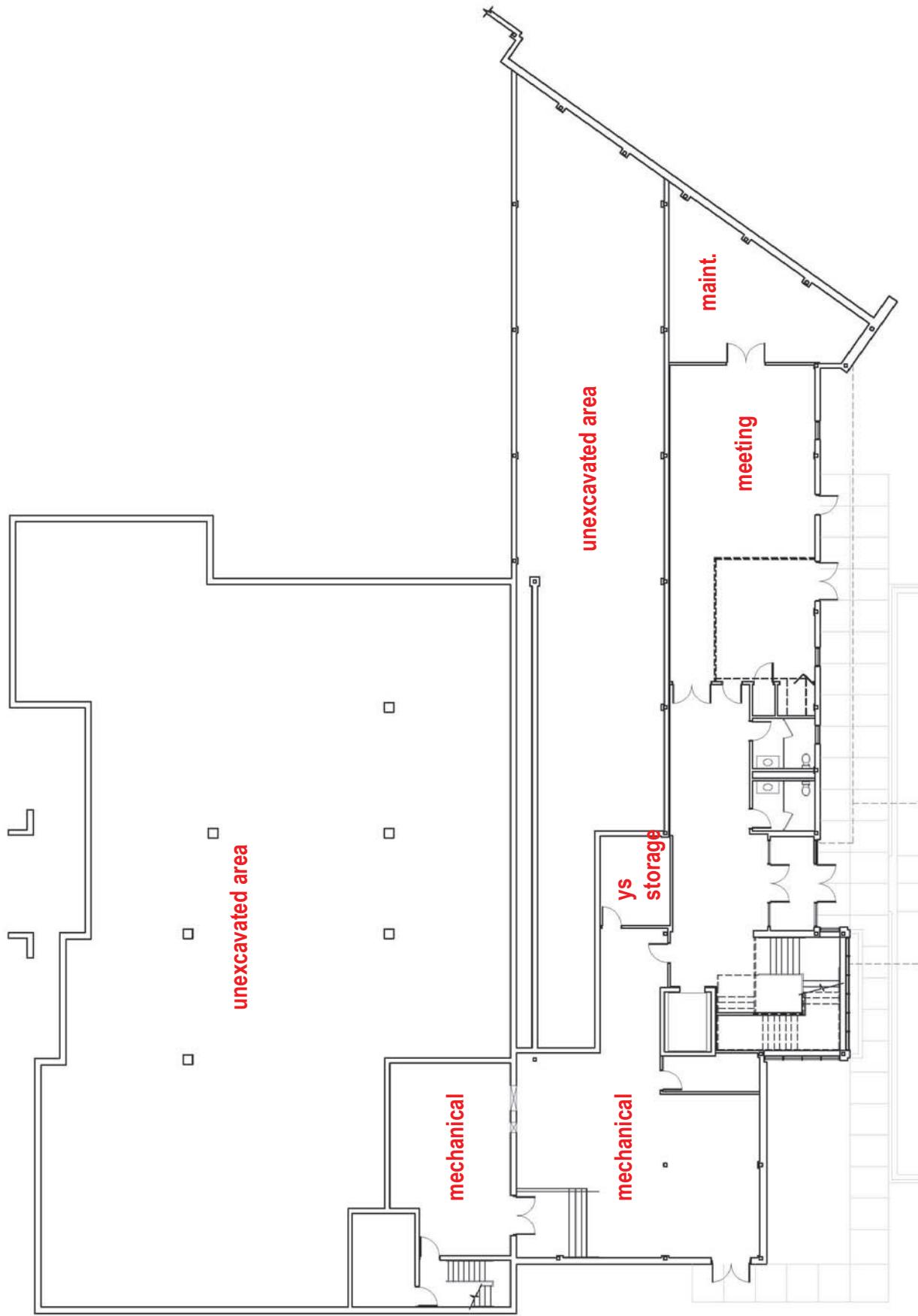


LOWER LEVEL EXISTING

Warrenville Public Library Masterplan: 031815
product architecture + design

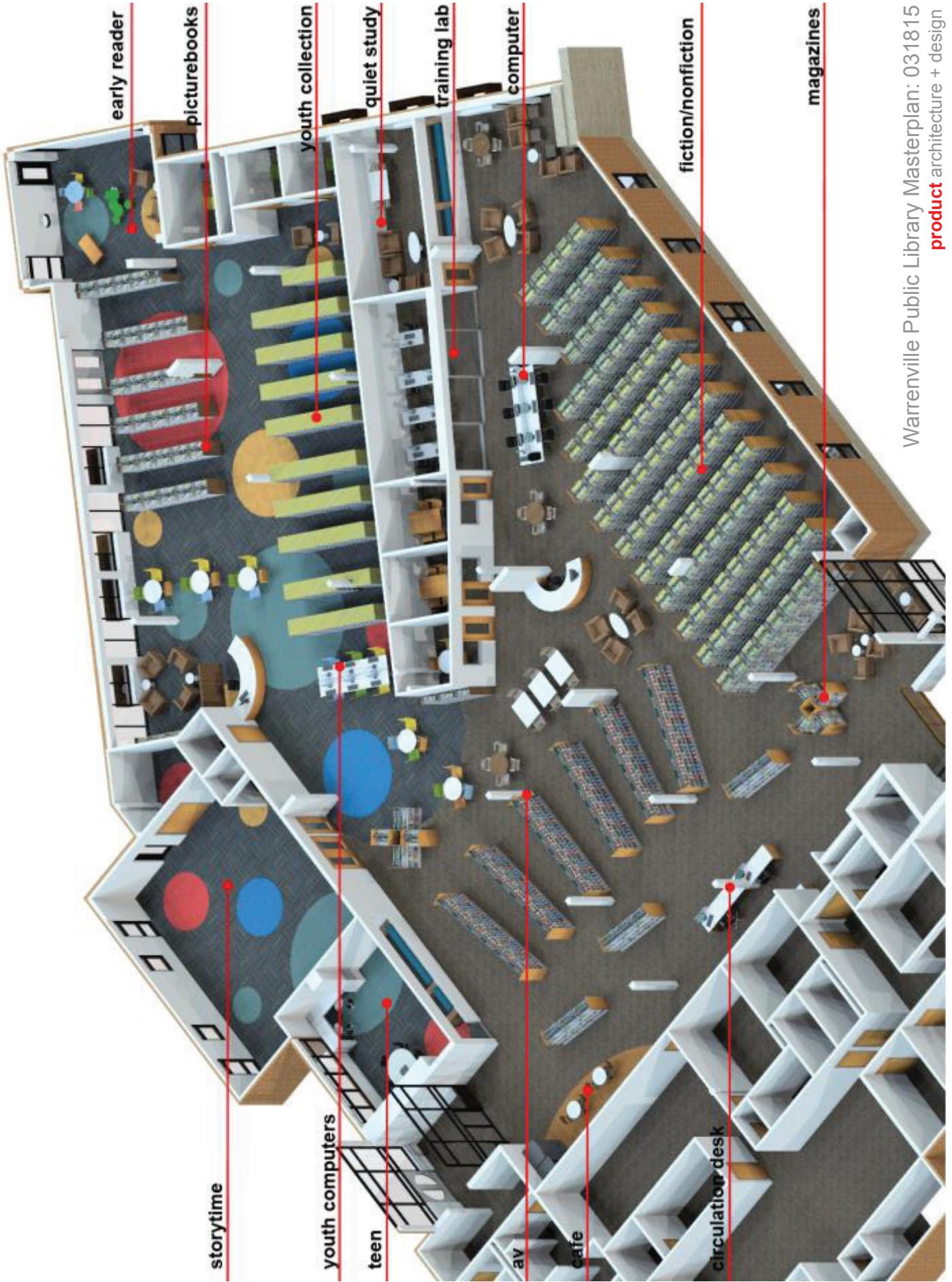


Warrenville Public Library Masterplan: 031815
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LOWER LEVEL NEW

Warrenville Public Library Masterplan: 031815
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Warrenville Public Library Masterplan: 031815
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ENTRY

Warrenville Public Library Masterplan: 031815
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ENTRY



Warrenville Public Library Masterplan: 031815
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ENTRY

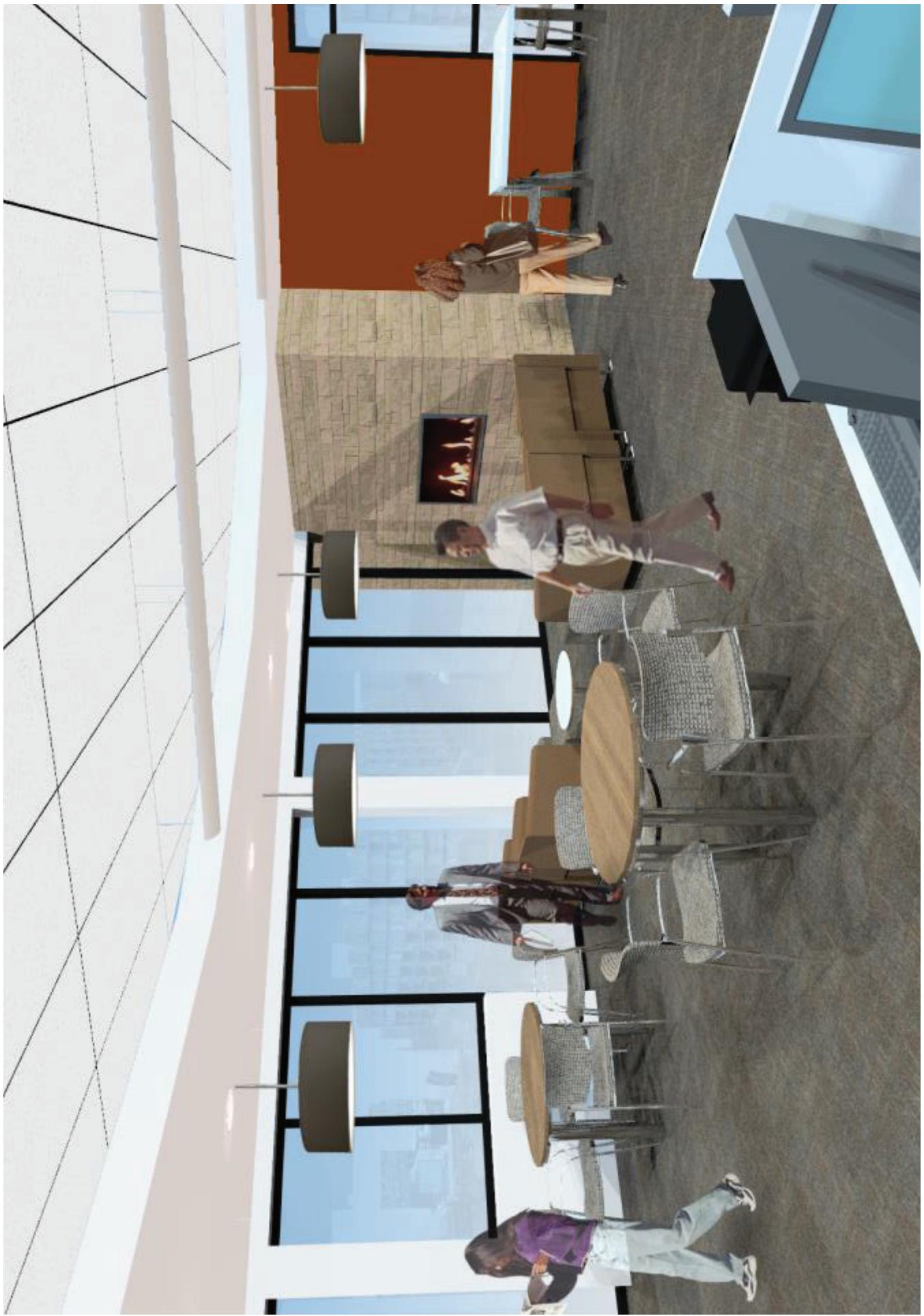
Warrenville Public Library Masterplan: 031815
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REF. DESK



FIREPLACE



Warrenville Public Library Masterplan: 031815
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product architecture + design

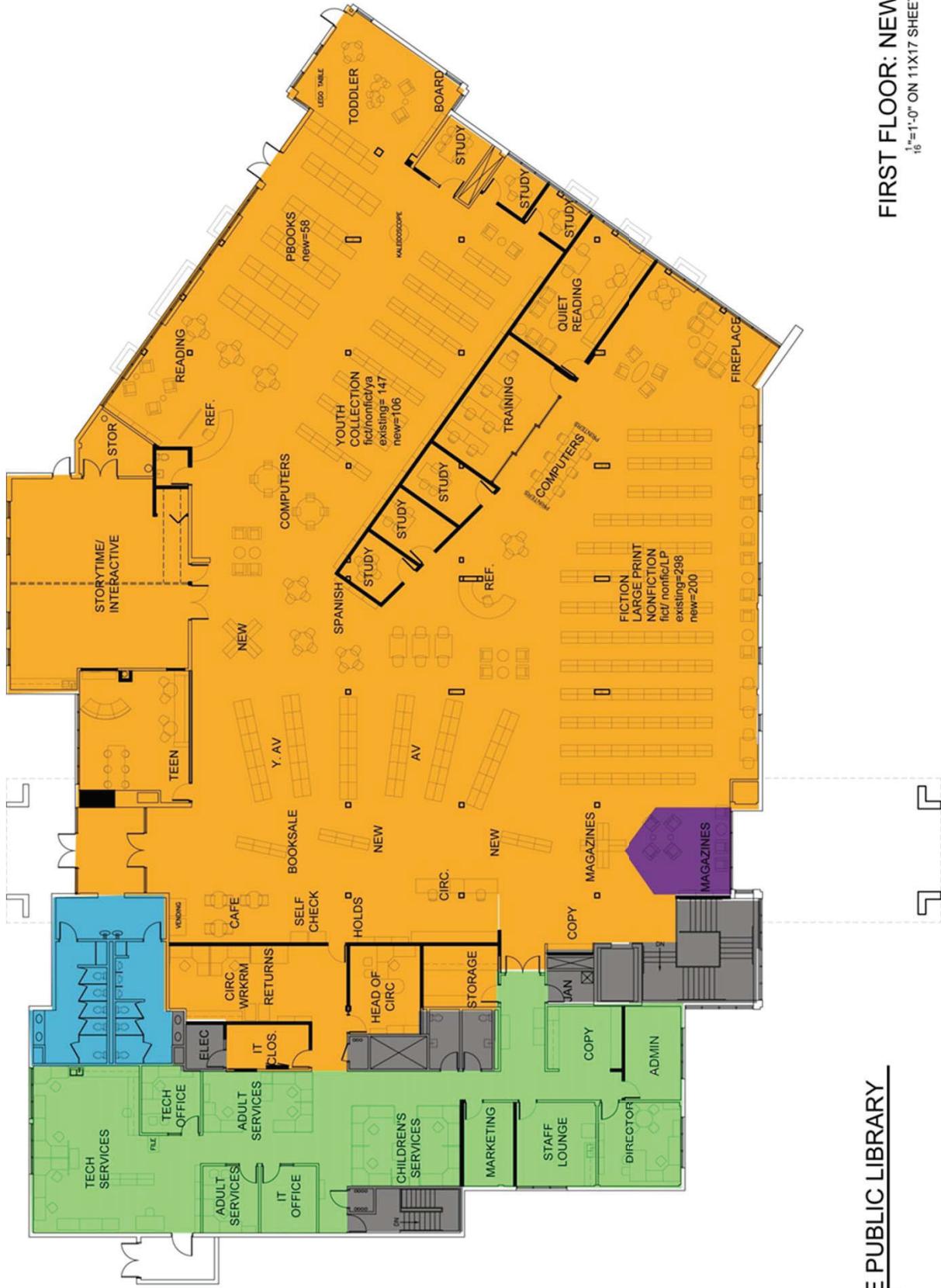


KIDS

EARLY READER

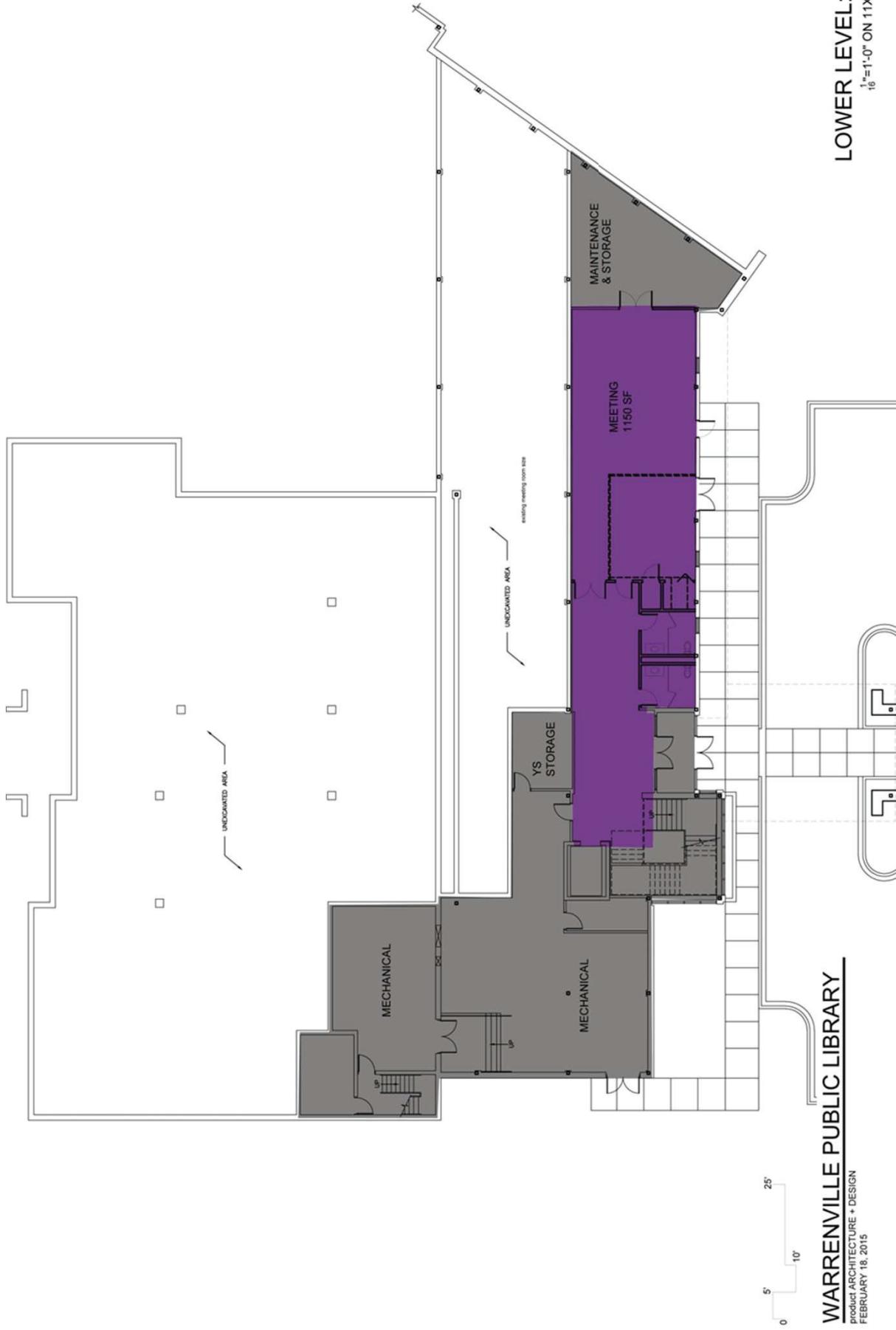


Warrenville Public Library Masterplan: 031815
product architecture + design



WARRENVILLE PUBLIC LIBRARY

product ARCHITECTURE + DESIGN
MARCH 03, 2015

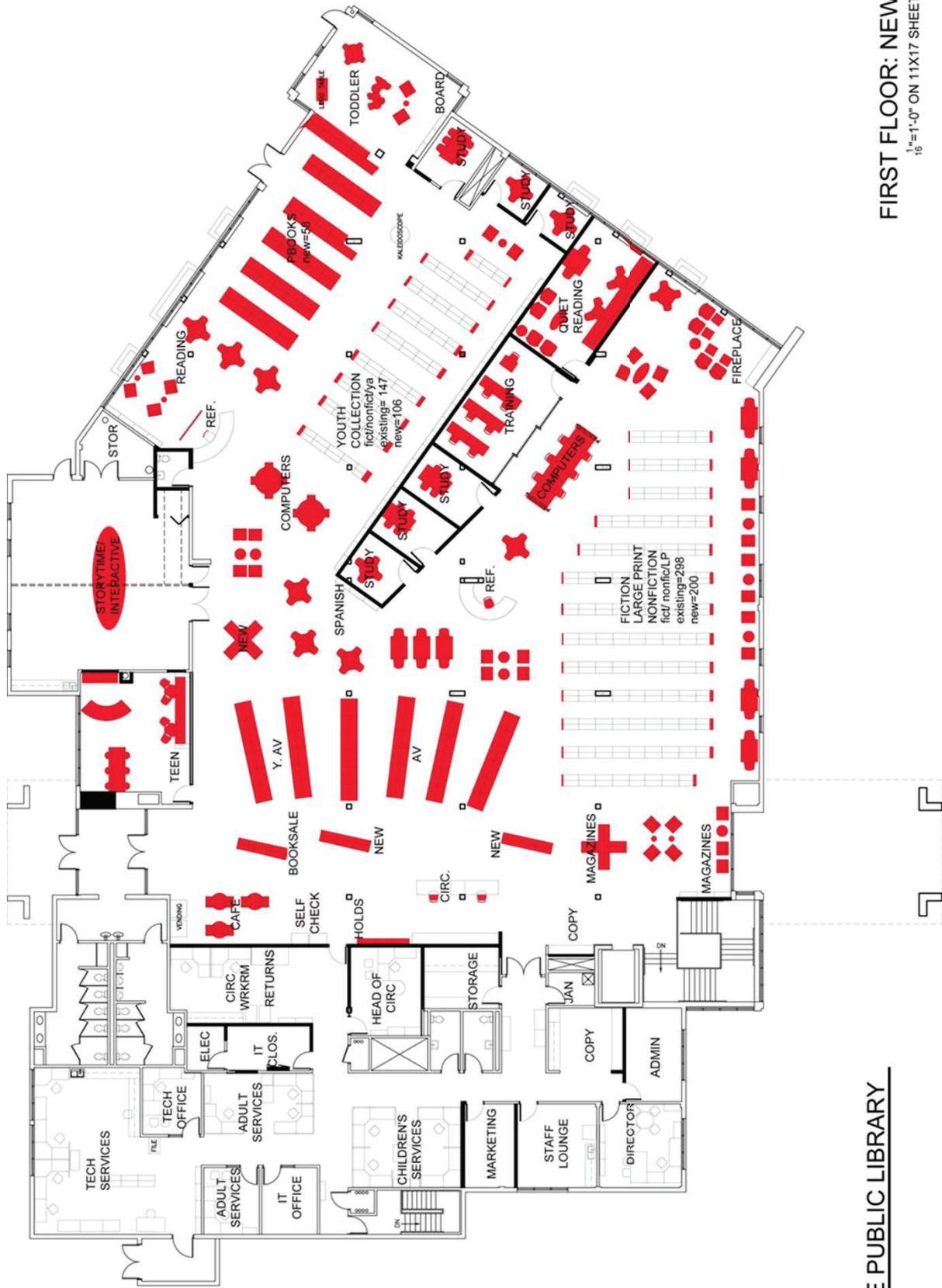


Warrenville Public Library Masterplan: 031815
product architecture + design

FIRST FLOOR: NEW

16"=1'-0" ON 11X17 SHEET

Warrenville Public Library Masterplan: 031815
product architecture + design



WARRENVILLE PUBLIC LIBRARY

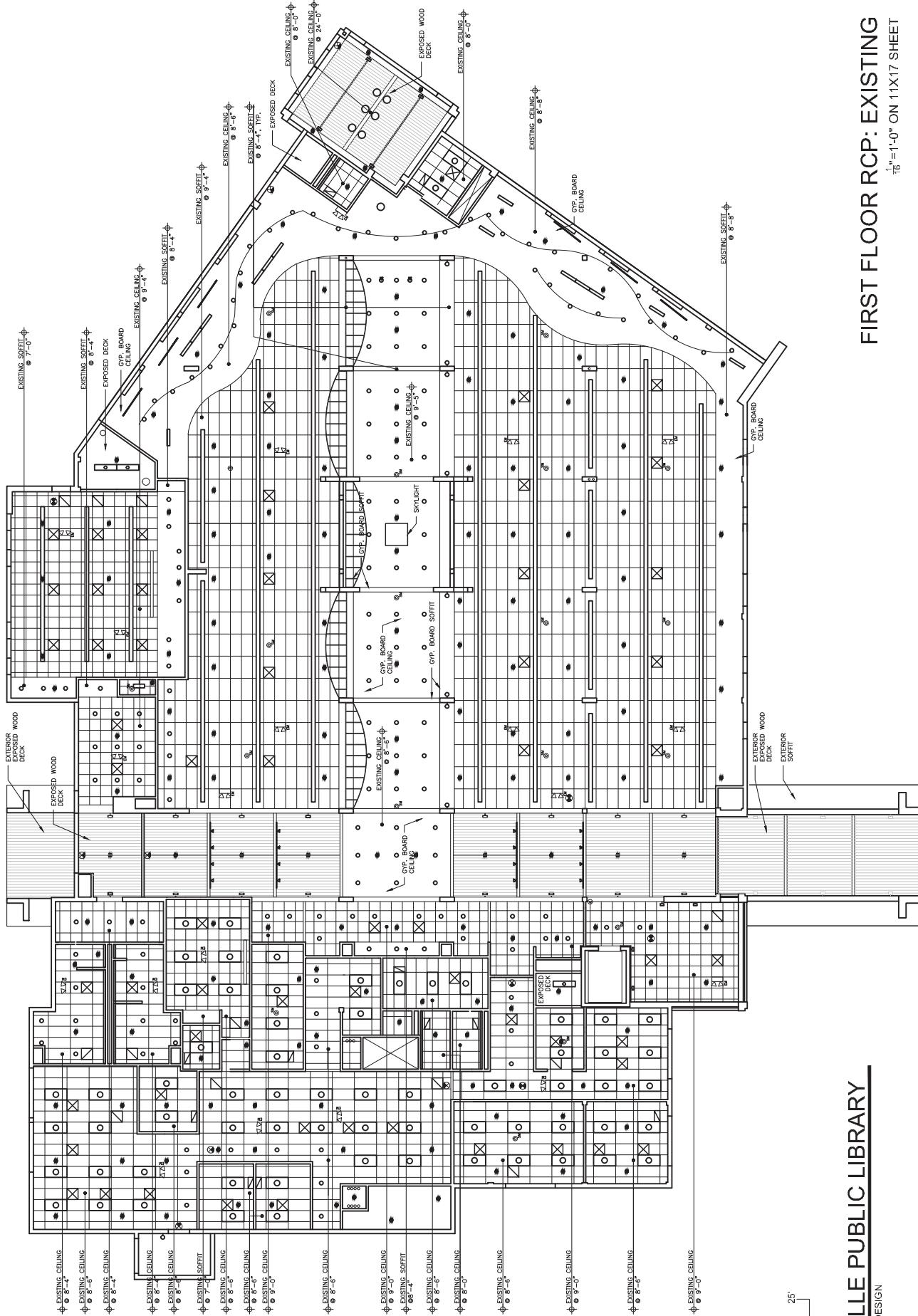
product ARCHITECTURE + DESIGN
MARCH 03, 2015

DOCUMENTATION OF BUILDING PROJECT AND BUILDING SYSTEMS REPORTS FOR PRICING

- Full Building Documentation of Existing Conditions including Proposed Demolition
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FIRST FLOOR RCP: EXISTING

$\frac{1}{16}$ " = 1'-0" ON 11X17 SHEET

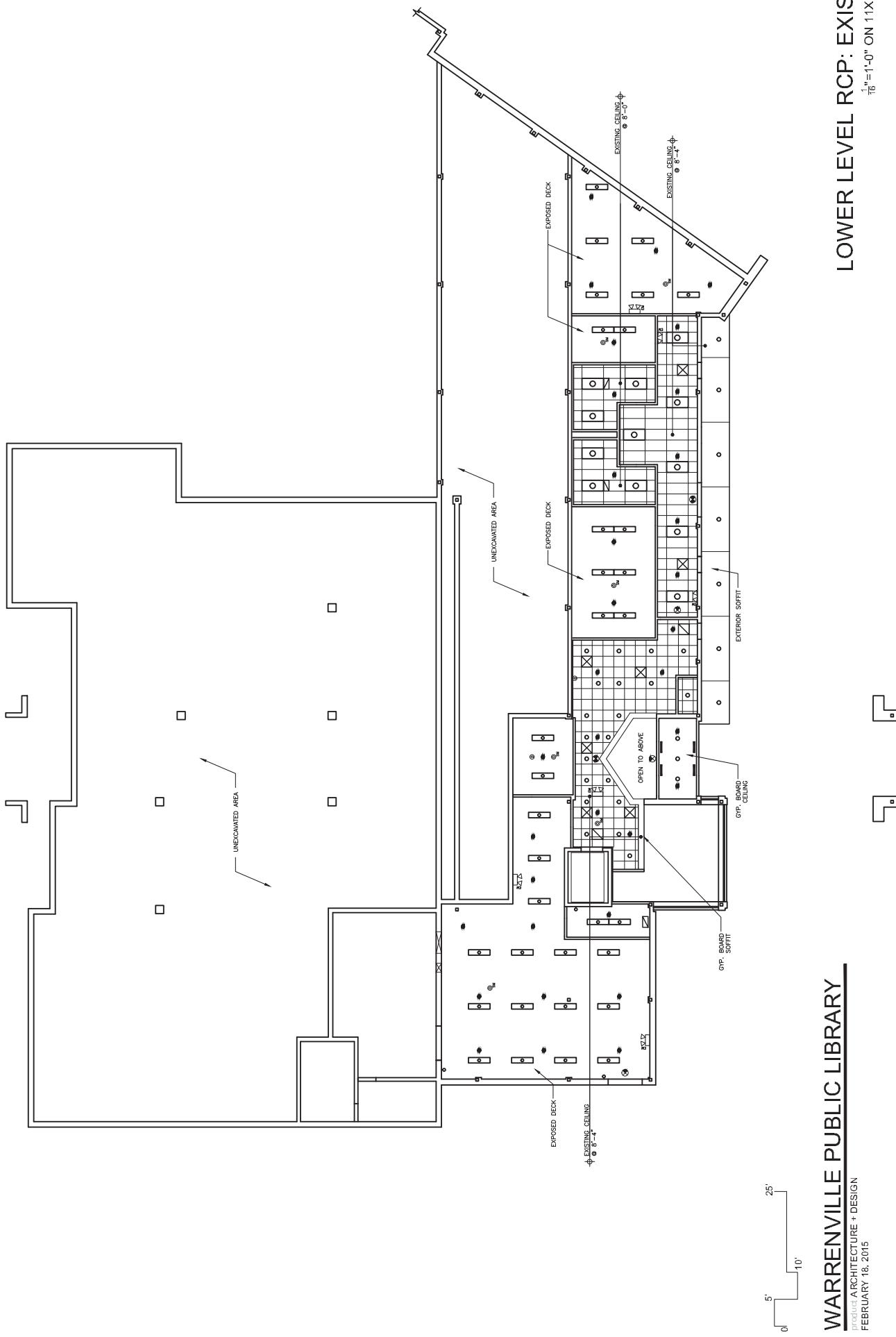


WARRENVILLE PUBLIC LIBRARY

product ARCHITECTURE + DESIGN

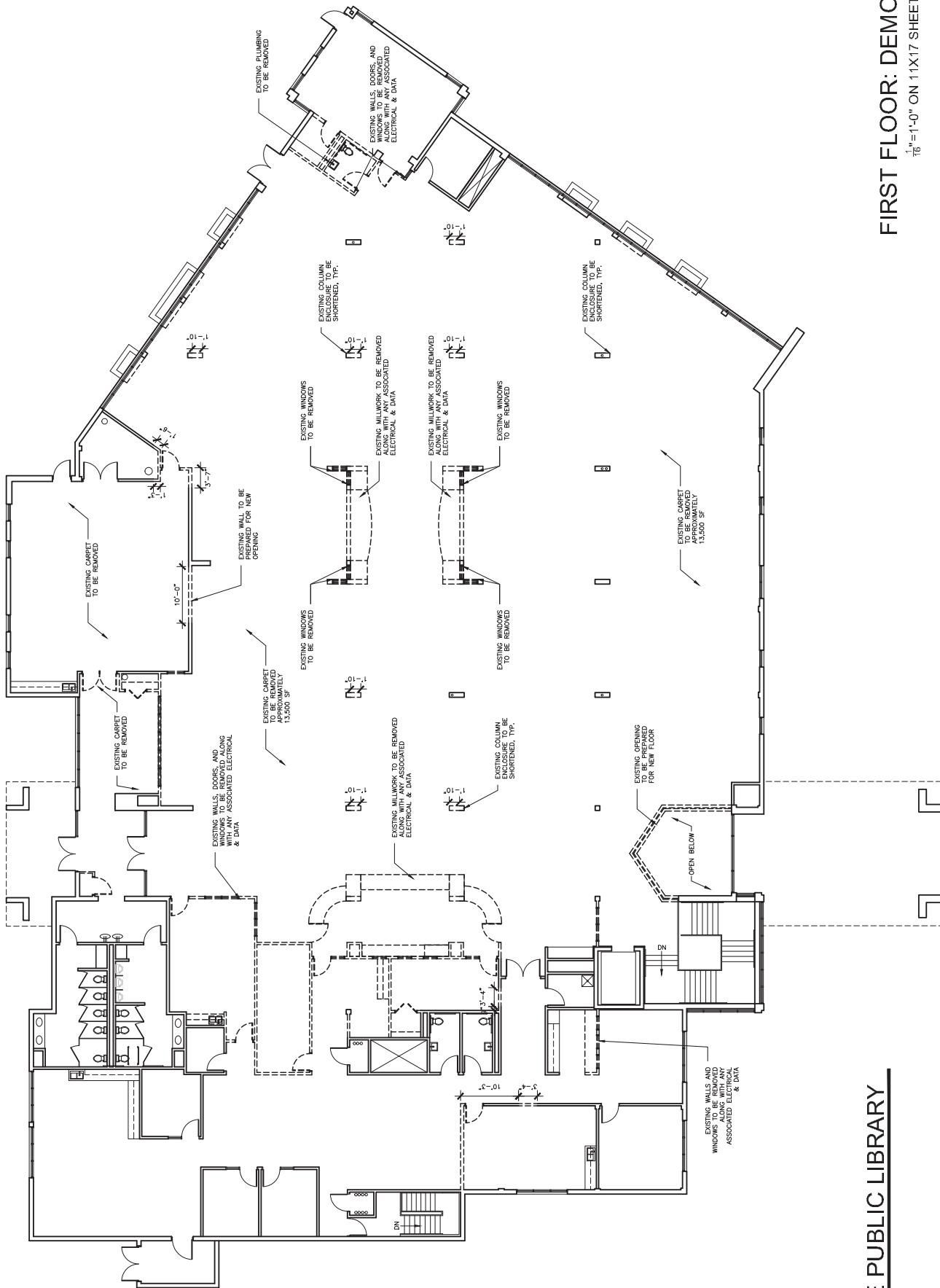
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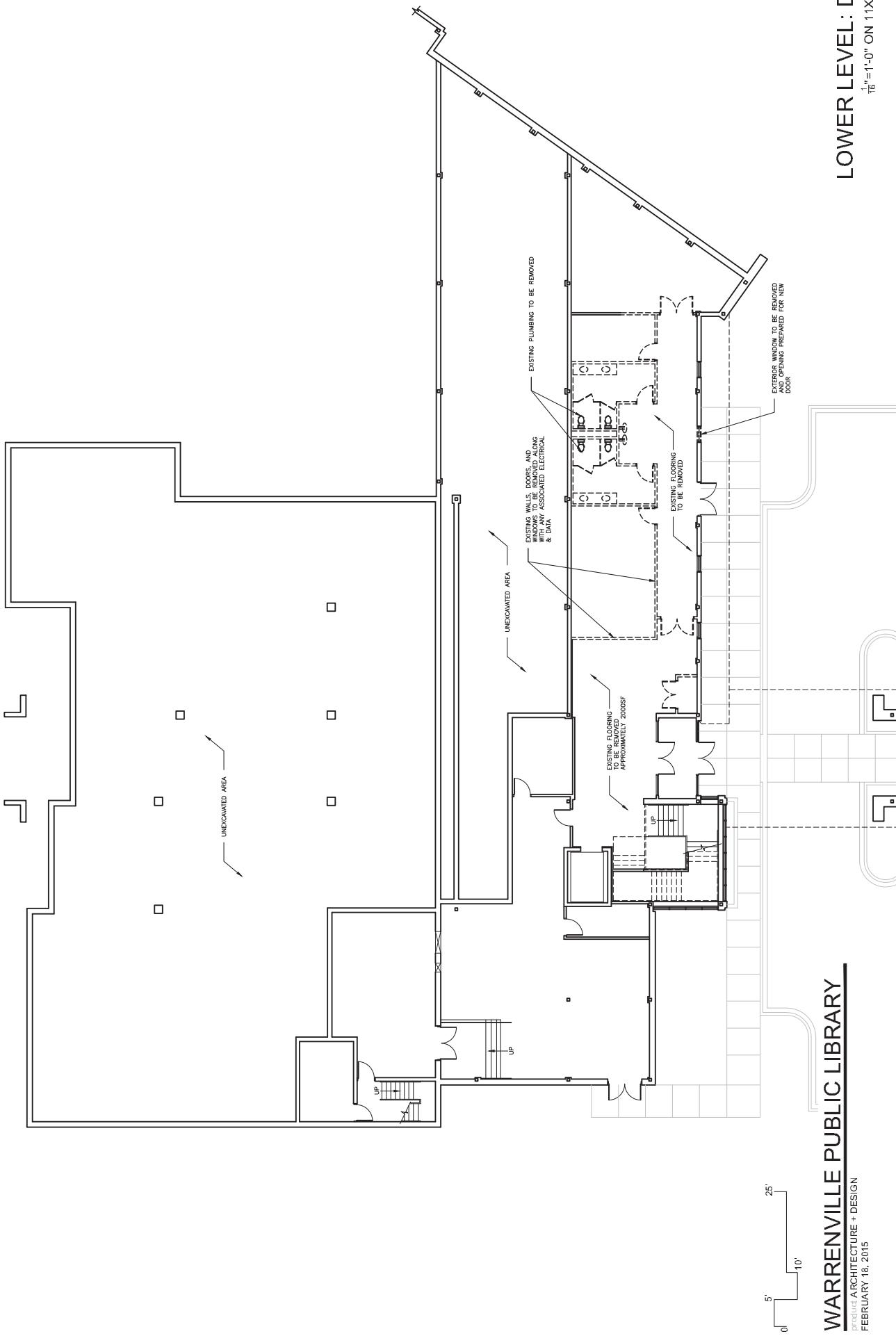


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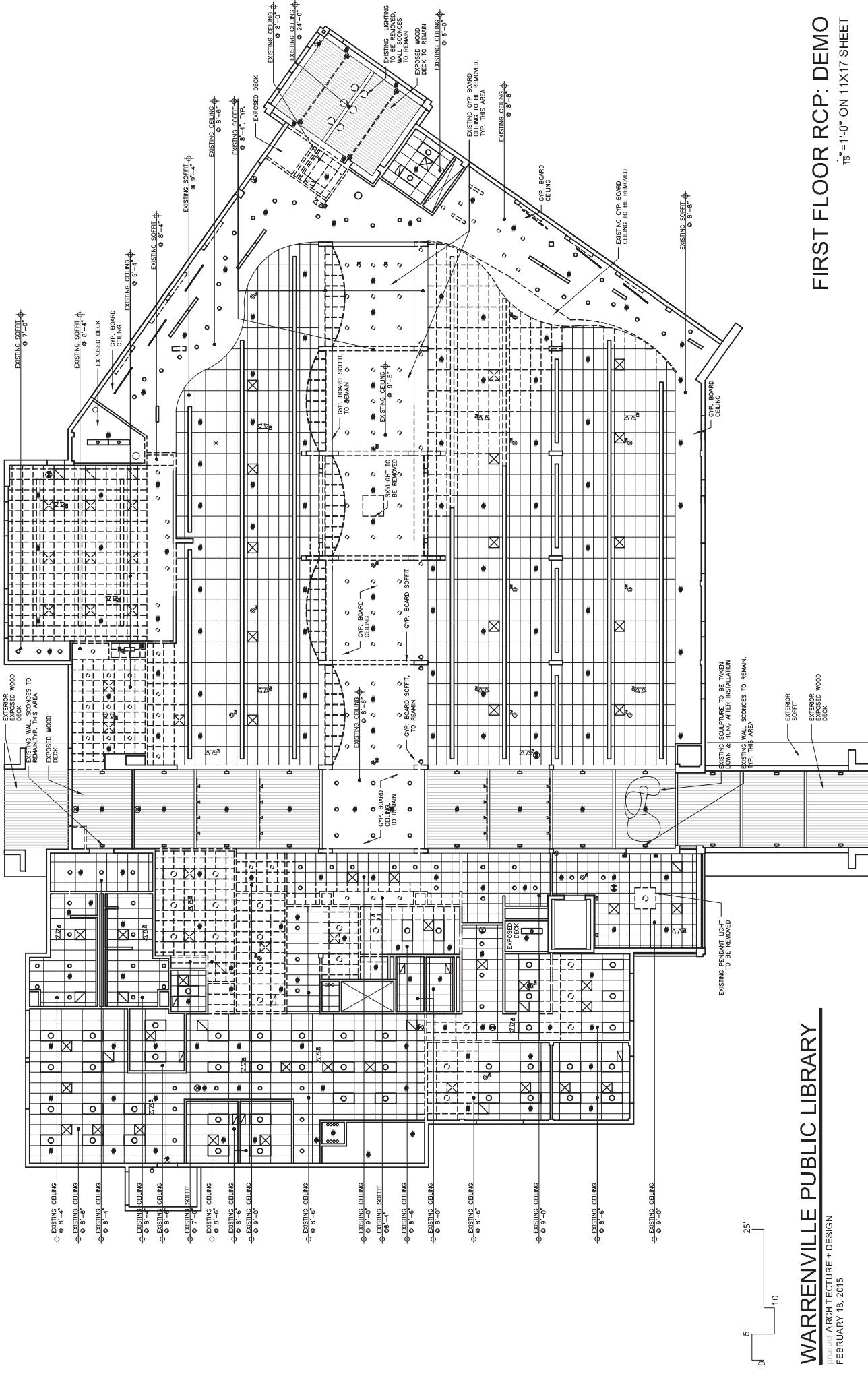
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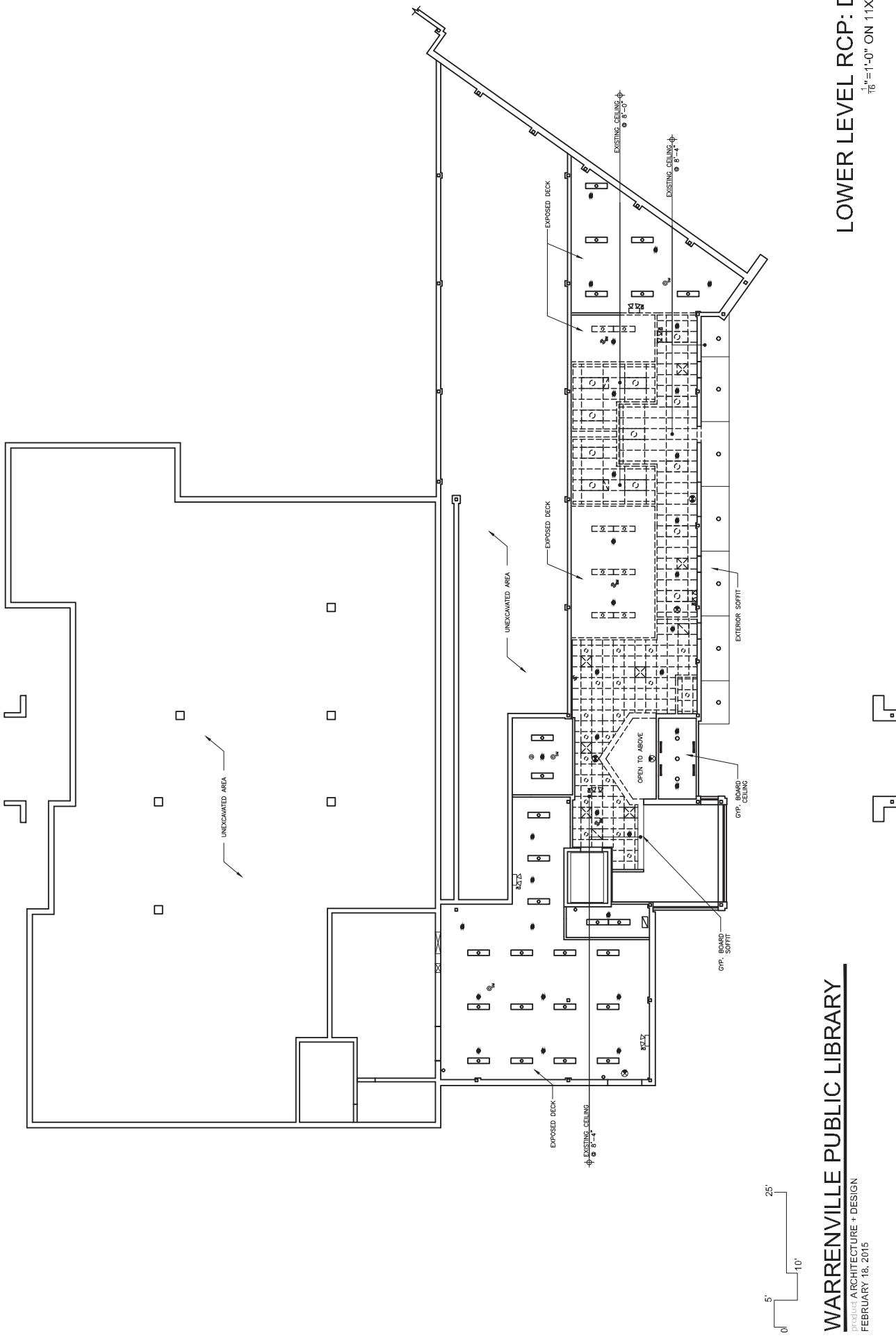
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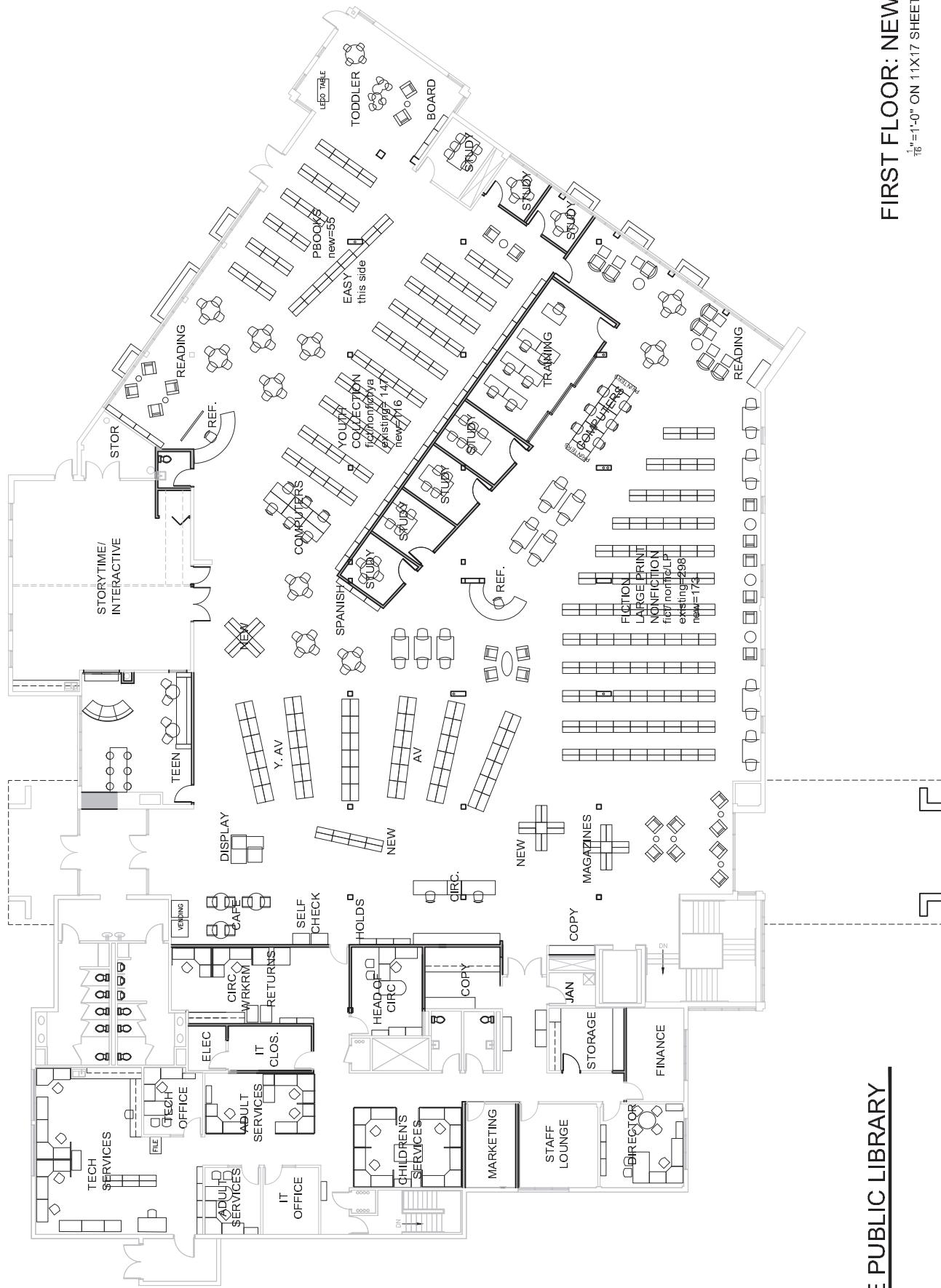


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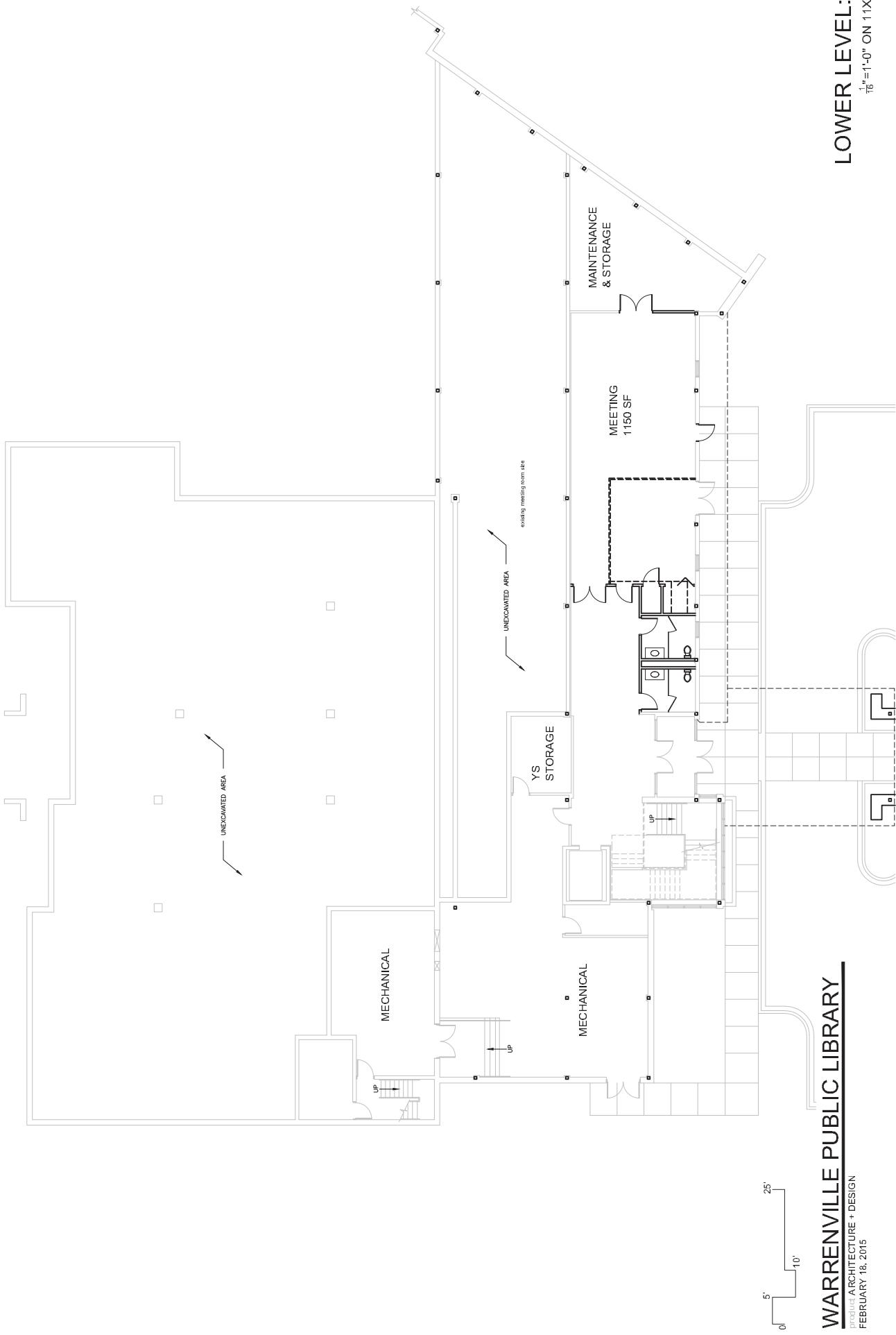


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FEBRUARY 19, 2004

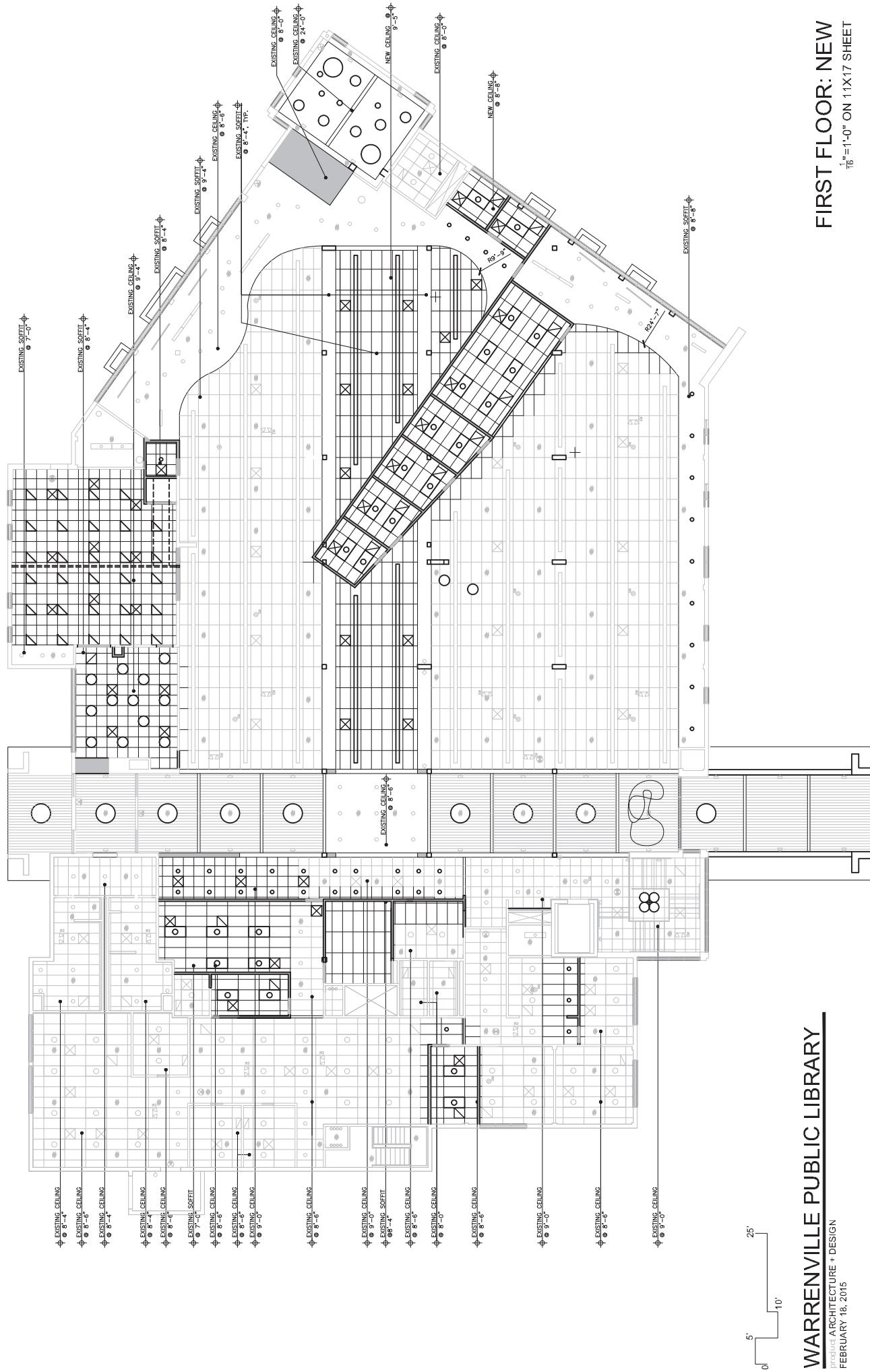
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PROUDLAW ARCHITECTURE + DESIGN
FEBRUARY 18, 2015



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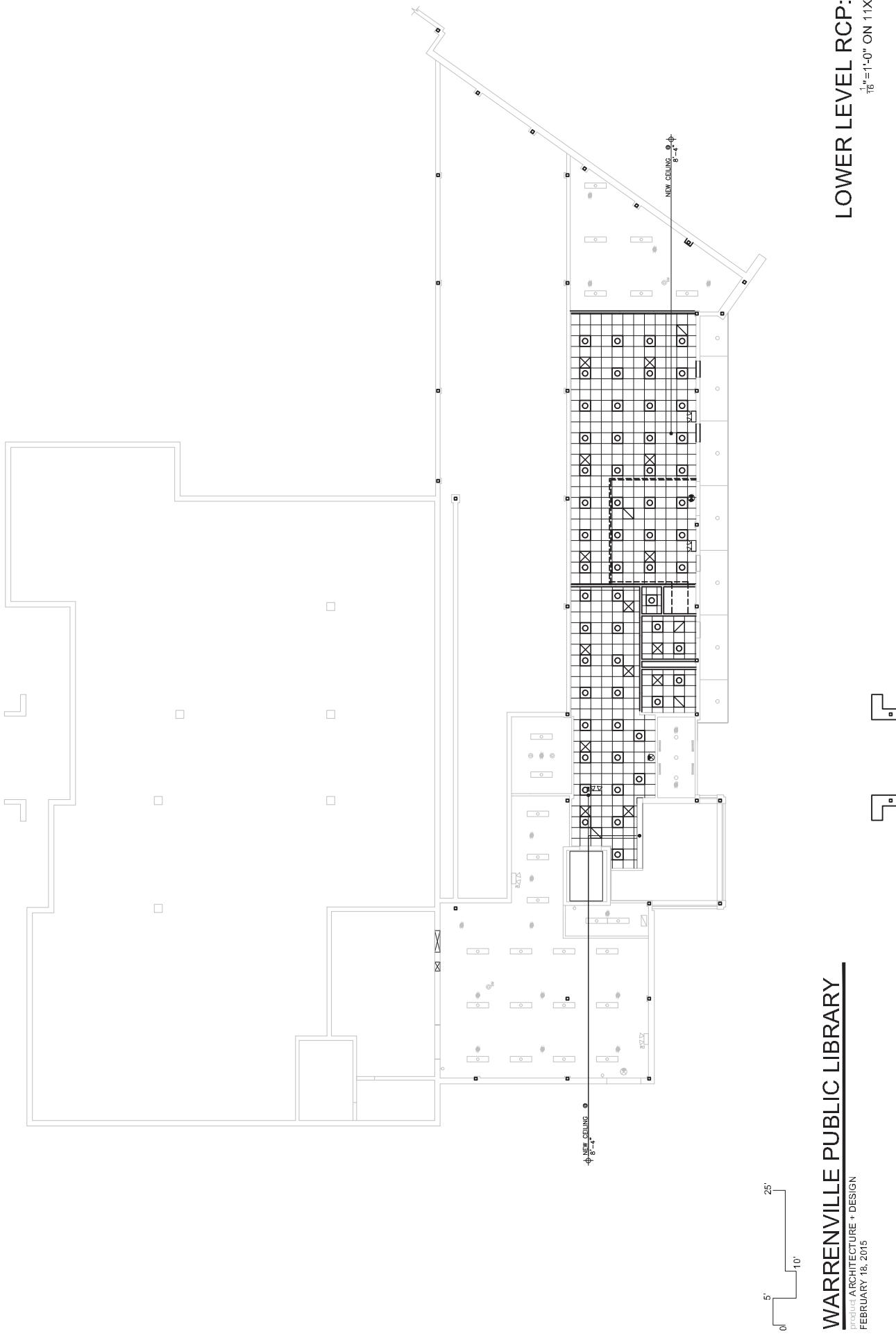
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FEBRUARY 18, 2015

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PROUDLAW ARCHITECTURE + DESIGN
FEBRUARY 18, 2015



WARRENVILLE PUBLIC LIBRARY

MASTER PLAN

March 6, 2015

Page 1 of 8

1. Objective

The objective of this initial phase of engineering is to provide an engineering review of the existing mechanical, electrical, plumbing and fire protection (MEPFP) systems at Warrenville Public Library to review the condition of the major MEPFP equipment and identify likely capital repairs and replacements that may be required in the near future. Additionally, opportunities to improve comfort, reliability and energy efficiency are also analyzed in this report.

2. Building Information

Warrenville Public Library is a single story structure with a partial basement level located in Warrenville, Illinois. The 10,000 ft² library was originally constructed in 1988, with a recent addition in 2003. The 2003 addition added 18,500 ft² of floor space resulting in total area of 28,500 ft².

3. Mechanical Systems

Heating, ventilation and air conditioning (HVAC) for the building is provided by (2) variable air volume air handling units (AHUs) equipped with hot water heating and direct expansion (DX) cooling coils. A 20 Ton Carrier unit serves the renovated portion of the original building while a 50 Ton McQuay unit serves the 2003 addition. Both AHUs are equipped with a duct mounted steam humidifier and terminal VAV supply boxes equipped with reheat coils. There are total of (22) VAV boxes serving the building. The building also has (2) dissimilar hot water boilers to provide hot water for space heating. The existing Thermal Solutions hot water boiler is a semi-condensing boiler and is used as a primary boiler. The existing Weil-McLain hot water boiler is a non-condensing boiler and is used as a backup boiler in failure instances of the Thermal Solutions hot water boiler. The building's hot water distribution is a primary-secondary system with (2) primary building pumps and (4) secondary pumps. Additional mechanical systems include a hot water unit heater serving mechanical room, (2) cabinet unit heaters serving vestibules as well as several hot water baseboard units.

The building has an existing Automated Logic Building Automation System (BAS). All major mechanical systems are controlled by DDC controllers with a BACnet front end.

Detailed information including installation date, remaining expected mean service life and estimated replacement cost for each piece of equipment can be found in the Appendix of this report.

3.1. Mechanical System Observations and Operational Issues

The following are the observations made during our assessment and subsequent analysis of the building's existing mechanical systems:

- a. It was reported to Elara that the building has been experiencing issues with maintaining adequate temperature in the Story Time and Study Rooms located on the east side of the building. More specifically, it was reported to Elara that the Study Room is overheated in the winter and excessively cold in summer. Based on our review of the 2003 addition drawings and site observations, it was noted that temperature control for these rooms was designed as a single zone system controlled by a single thermostat and a VAV box located at the Story Time Room. Due to the difference in the load requirements, as well as restriction in return airflow, the existing single zone design results in comfort issues.

- b. The building's return air system is noted to be a plenum return design. In review of the 2003 addition drawings and site observations, there is likely inadequate return air to the McQuay air handler transferred from the south end of the building due to the location of the existing return ductwork serving the 2003 addition. During our site visit, restricted airflow was also observed when assessing the operation of McQuay AHU. It was noted that the existing McQuay AHU was pulling excessive amounts of outside air which is an indicator of having difficulty in receiving adequate return air. It is Elara's opinion that this has an impact on the existing comfort issues at the south end of the building.
- c. There is a manually controlled portable air conditioning unit that serves the library's server room. It was reported to Elara that the server room gets excessively warm and improvements to the server room cooling are desired.
- d. During our site visit, it was noted that the existing Weil-McLain hot water boiler is original to the building and therefore sized for original building heating load (before 2003 addition). Currently, this hot water boiler is used as a backup boiler. However, in failure instances of the Thermal Solutions hot water boiler, the existing Weil-McLain hot water boiler cannot provide adequate hot water for heating of the entire building on a design day.¹ Additionally, the existing Weil-McLain hot water boiler is beyond its mean expected service life of 25 years.
- e. During our site visit, it was noted that there is abandoned hot water baseboard in the basement stairwell which is original to the building. It is Elara's opinion that there is no reason to re-activate this hot water baseboard and, therefore, consideration should be given to removal of this equipment.
- f. The existing control system was installed as part of the 2003 renovation and was observed to be in good working condition. However, we understand that there is a concern regarding the availability of parts to service the existing control system. Based on our discussions with the controls contractor and the library, the following observations were made during our assessment and subsequent analysis of the existing control system:
 - There are (22) VAV zone controllers serving the building; (19) of these zone controllers are original to the building (Automated Logic Model U341V+) while (3) of the zone controllers are being replaced with new zone controllers (Automated Logic Model ZN341V+) due to part failures. It was reported to Elara that the original VAV zone controllers are no longer manufactured and, therefore, the installation of the new VAV zone controllers would require a new communication network to perform optimally. However, the new VAV zone controllers can also be configured and adjusted to be used with the existing system to minimize replacement costs (performing non-optimally). It is our understanding that this procedure was used to replace (3) failed controllers at the building and new thermostats were installed with the new VAV zone controllers.
 - The existing "M-stack" main controllers are no longer manufactured and in failure instances, will need to be replaced with new "M-line" controllers. Per the controls contractor, this replacement would require adjustments in the control system resulting in down-time to the control system for several days while the new equipment is installed.
 - There is an existing UNI/32 controller in the main controls panel that allows communication between the VAV zone controllers and the main controllers. Per

¹ The existing Thermal Solutions hot water boiler (primary) has 2,000 MBH input while Weil-McLain hot water boiler (backup) has only 550 MBH input.

the controls contractor, in failure instances of this controller, replacement would require new “AMR” controllers and the network would need to be separated into two networks to accommodate this replacement.

3.2. Mechanical System Major Recommendations

The following are the major recommendations to mitigate identified issues and improve comfort in Warrenville Library:

- a. In order to address comfort issues in the Story Time and Study Rooms, it is recommended that a new dedicated thermostat and a fan powered VAV box be installed in each room so that each room will have its own dedicated zone. It is important to note that the installation of fan powered VAV boxes are recommended rather than regular VAV boxes in order to promote air circulation for the Story Time and Study Rooms. Implementation of this recommendation will improve comfort and result in energy savings for the library by eliminating overheating and overcooling.

Proposed Budget: \$20,000

- b. In order to improve airflow circulation and mitigate issues discussed in part 3.1 item b, it is recommended to extend the return air ductwork (serving 2003 addition) from above the ceiling plenum and terminate it at ceiling mounted grilles in the area above south stairwell. Implementation of this recommendation would improve airflow circulation and increase comfort within the 2003 addition area.

Proposed Budget: \$7,500 – \$10,000

- c. It is recommended that a new dedicated, properly sized split air conditioning system be installed for the library’s server room. The new unit can be installed with a programmable control that can be tied into the existing BAS. Implementation of this recommendation will provide improved temperature control for the server room and help maintain the condition of the IT equipment.

Proposed Budget: \$23,000

- d. Since the existing Weil-McLain hot water boiler is beyond its expected mean service life, replacement is recommended. Additionally, consideration should be given to replacing the existing boiler with larger capacity and higher efficiency boiler equipment to increase energy efficiency and improve the redundancy of the heating plant.

Proposed Budget: \$95,000

- e. The opportunity exists to improve occupant comfort and reduce building energy consumption by improving the building’s control strategy. Therefore, retro-commissioning of the existing control system is recommended. At a minimum, this would include a detailed review and optimization of the existing control sequences, set-points and equipment operation.

Proposed Budget: \$42,000

4. Electrical and IT Systems

Electrical Power is provided by a single 208/120Y 3PH provided by ComEd through a dedicated site pad-mount transformer. The Main Switch Board (MSB) was installed during the 2003 addition. The original switchboard is still present and operational in the building, consisting of a Distribution Panel (DP) and (2) 42 circuit load centers. All mechanical equipment is 208 3PH and served from the original MSB.

The existing network is equipped with a small security system with area cameras and secured doors. On-site telecommunication systems are managed by an on-site Network Administrator, who utilizes consultants to help manage individual systems.

Detailed information including installation date, remaining expected mean service life and estimated replacement cost for each major piece of equipment can be found in the Appendix of this report.

4.1. Electrical System Observations and Operational Issues

The following are the observations made during our assessment and subsequent analysis of the building's existing electrical systems:

- a. The existing lighting system is 120V and has an ILC Quanta Elite control panel. There are three low voltage switches behind the circulation desk that are used to control the lighting system. It was reported to Elara that there is currently no auto-off function.
- b. The Story Time Room, Atrium and Outdoor Vestibule use Metal Halide lighting fixtures. Lighting in some locations has been added to compensate for poor light levels provided by metal halide fixtures. It was reported to Elara that the added fixtures have bulbs that go out frequently and are difficult to change. During our site visit, we noted that there is also a fixture over the stair case that is difficult to service.
- c. The main library lighting utilizes T8 Fluorescent fixtures, and has satisfactory lighting levels.
- d. The site lighting utilizes High Pressure Sodium lighting fixtures that are provided by and installed by the city, but paid for by the library. It was reported to Elara that the flag pole and signage up-lights suffer from water infiltration and need to be repaired regularly.
- e. The existing switchgear, panel boards, disconnects and drives appear to be in good condition and exist in favorable environments.
- f. The draintile sump pump for the expansion portion of the building was observed unplugged; the available electrical receptacle appears too far away and therefore sump pump is non-operational.

4.2. Electrical System Major Recommendations

The following are the major recommendations to mitigate identified issues and improve lighting systems in Warrenville Library:

- a. It is recommended to replace the existing lighting fixtures in Storytime Room, Atrium and Outdoor Vestibule with LED lighting to improve lighting levels and reduce energy consumption. The allowance is for 32 light fixtures to be retrofit with new LED lamps.

Proposed Budget: \$62,500

- b. It is recommended to replace/retrofit site pole lights with LED lighting to improve lighting levels and reduce energy consumption. The allowance is for 16 pole lights to be retrofit with LED lamps.

Proposed Budget: \$23,500

- c. It is recommended to replace the existing site up-lights for signage and flag-pole with new LED fixtures to improve lighting levels and reduce energy consumption. There has also been a maintenance issue with water infiltration to the site up-lights. The allowance is for 10 new fixtures.

Proposed Budget: \$7,500

- d. It will be required for any renovated rooms to fulfill Energy code requirements including auto off sensors and daylight harvesting. A new room based lighting control system should be installed, the allowance reflects a per room cost.

Proposed Budget: \$1,500/room

- e. An investigation into a new or reconfigured central lighting control could be investigated. The interface and functionality are wide ranging, and with proper design of room based lighting control system would allow the central control to be determined at a later date.

Proposed Budget: TBD

4.3. Electrical System Maintenance and Minor Work Recommendations:

The following are the minor recommendations for the building's existing electrical systems:

1. The existing Variable Frequency Drives (VFDs) and Disconnects are observed to be in good condition, but may need to be replaced towards the end of their 15 year mean expected life period.
2. It is recommended that infrared scanning be performed annually on the existing electric to review condition regularly and plan for replacement as necessary.
3. It is recommended to relocate the existing electrical outlet in Storage Room 003. The existing outlet is noted to be too far from the sump pit and therefore current sump pump power cord won't reach the existing electrical outlet.

4.4. IT System Major Recommendations

The following are the major recommendations to mitigate identified issues and improve technology systems in Warrenville Library:

- a. The current wireless system is reported to be insufficient and has been developed in reactionary manner. The library would benefit from an intentional wireless internet being installed that makes considerations for future. Budget pricing is listed to allow for infrastructure of 10 wireless access points.

Proposed Budget: \$5,000

- b. UPS systems in place for servers are outdated and would benefit local infrastructure to have batteries replaced and upgrade control boards for UPS to allow for graceful shut downs during power loss.

Proposed Budget: \$15,000

- c. Security System is aging and some equipment needs replacement. Upgrading/replacing to allow for more keyless entry as opposed to keyed doors may be a consideration during future renovations.

Proposed Budget: TBD

5. Plumbing Systems

Domestic hot water (DHW) for the building is provided by a single hot water heater located in the basement mechanical room. There is a master thermostatic mixing valve local to the water heater which tempers the entire building hot water supply piping. Hot water return piping is provided from several remote distribution points and circulated via a pump local to water heater.

5.1. Plumbing System Observations and Operational Issues

The following are the observations made during our assessment and subsequent analysis of the building's existing plumbing systems:

- a. The Staff Lounge water cooler was observed with plastic supply water tubing. Plastic drainage tubing was observed terminating in a saddle connection/joint. Code requires potable water lines to single wall refrigerant condensers (i.e. water coolers) to be provided with an ASSE 1012 or 1013 backflow preventer. Code restricts the use of saddle joints in drainage systems.
- b. The hot water circulator pump model number indicates the pump made of cast iron construction; cast iron materials will rust when used in this application. The pump is controlled by a wall switch. The pump was observed supported solely by piping.
- c. Fixture faucets and flush valves in the toilet rooms are old/vintage; some faucets likely require adjustment or replaced parts. Upon operation, the lower level toilet lavatory metered-faucet ran longer than typical/necessary.
- d. The original building drainile sump pump and sewage ejector are both connected into the existing storm piping; this appears to be a long established configuration, likely from original construction. The 2003 expansion drawings suggested the sewage ejector be connected to the sanitary instead; however, it appears this was not accomplished in 2003. It should be noted that this work is considered to be cost prohibitive if performed solely as a separate project. If work of other trades in this area is to be performed in the future, then this work may be considered for inclusion.
- e. The upper level main toilets, when reconfigured for the 2003 expansion, re-used the original installed underground drainage piping. In 2007, a plumbing contractor identified the existing piping as not pitched sufficiently. Service calls for air compression "blow-outs" have been required to remove resultant blockages due to lack of pitch of piping to maintain debris and effluent in suspension. The Library also finds that use of single-ply toilet paper limits development of blockages, compared to normal double-ply toilet paper.

Further investigation is recommended due to the cost of saw-cutting the floor and replacing the entire run of drainage piping to correct pitch for improved flow. Other trades such as electrical floor boxes and conduit may be affected while modifying the existing underground drainage piping. As such, this work is deemed cost prohibitive if performed solely as a separate project. If work of other trades in upper level general library areas is to be performed in the future, then this work may be considered for inclusion.

5.2. Plumbing System Major Recommendations

The following are the major recommendations to mitigate identified issues and improve plumbing systems in Warrenville Library:

- a. For the Staff Lounge water cooler, an appropriate backflow preventer should be added. Water pipe materials should be confirmed as meeting NSF standards for potable water; and likely recommended upgraded to hard copper pipe/tubing water supply and dedicated drainage receptor.

Proposed Budget: \$4,000

- a. The hot water circulator shall be replaced with a pump of bronze or bronze-fitted construction. The pump should be supported from floor or structure above. An aqua-stat is recommended to save energy to disengage pump when pump operation is not necessary based upon return water temperature. The pump should be replaced when the water

heater is replaced; or sooner if hot water recirculation issues develop related to cast-iron construction of existing pump.

Proposed Budget: \$2,500²

- b. The toilet room fixture faucets and flush valves could be replaced with new fixture faucets and flush valves; battery-powered sensor-type products are typically recommended. However, further consideration is recommended related to other possible work of other trades, such as possible architectural wall and countertop finishes in these areas. Therefore, replacement of the toilet room fixture faucets and flush valves are recommended when the toilet rooms are remodeled.

Proposed Budget: \$26,000³

6. Fire Protection Systems

The building is fully sprinkled via a wet fire protection system. The outdoor canopy at the lower level side is provided with an anti-freeze system for the three (3) outdoor sprinkler heads and outdoor piping.

6.1. Fire Protection System Observations and Operational Issues

The following are the observations made during our assessment and subsequent analysis of the building's existing plumbing systems:

- a. Anti-freeze loops are no longer allowed for new construction. If mixed improperly the fluid solution which protects against freezing can serve as a fuel source for a fire. Hence for existing anti-freeze systems, the current recommendation from NFPA (National Fire Protection Association) is regular testing and the use of factory pre-mixed solutions only. After 2022, only solutions listed for use in fire protection systems is allowed on existing system; if no listed solutions exist by 2022, then the existing anti-freeze loop needs replacement with an alternative system for outdoor use.

6.2. Fire Protection System Major Recommendations

The following are the major recommendations to mitigate identified issues and improve the fire protection system in Warrenville Library:

- a. It is recommended to plan for upgrades in the future to utilize an alternate non-freeze system for the outdoor canopy (if the canopy still exists in future) prior to the NFPA deadline in 2022.

Proposed Budget: \$33,000⁴

Detailed information including the installation date, remaining expected mean service life and estimated replacement costs for major MEPFP equipment can be found in the Appendix of this report.

² Replacement is recommended when the existing water heating is being replaced.

³ Replacement is recommended when the toilet rooms are remodeled.

⁴ Replacement is recommended by 2022.

	Cost (2015 \$)	Reurrence	Characterization	Expected Life	Installation Dates	Remaining Life	Anticipated cost per year (with anticipated % inflation after year)	Comments
Mechanical								
Solar-Roofed Story-Tire Room HVAC Upgrades	\$15,000	One-time	For addressing comfort issues, improved control, reliability and energy efficiency	-	-	-	\$18,000	
Solar-Roof HVAC Upgrades	\$23,000	One-time	For addressing comfort issues, improved control, reliability and efficiency	-	-	-	\$21,000	
Pump Room System Upgrades	\$7,500 - \$10,000	One-time	For addressing comfort issues, improved control, reliability and energy efficiency	-	-	-	\$7,500 - \$10,000	
Recommissioning the Existing Controls	\$4,000	One-time	For addressing comfort issues, improved control, reliability and energy efficiency	-	-	-	\$4,000	
Air Handling Unit (AHU-1)								
Return Fan (RF-1)								
Variable Frequency Drive - Supply Fan (VFD-1)								
Variable Frequency Drive - Return Fan (VFD-2)								
All ULK Water-Cool Pump (AHU-1)	\$67,000	20+ years	Likely due to age of system	20	2003	8	\$135,000	
Cooking Range Fan (C-1)								
Supply Fan (S-1)	\$1,900	20+ years	Likely due to age of the system	20	2003	18		
Variable Frequency Drive - Supply Fan (VFD-3)								
All ULK Water-Cool Pump (AHU-2)	\$95,000	25+ years	Likely due to age of the system	25	2003	13	\$150,000	
Water Pump (WP-1)								
ULK Water Boiler (WB-2)	\$89,000	25+ years	Equipment is beyond its expected normal service life and cannot provide enough heating capacity in future instances of 1. Replaces with high efficiency boiler that can provide 1+ additional efficiency.	25	1988	2	\$95,000	
Boiler Pump (BP-2)								
ULK Water Pump (WP-1)	\$12,000	20+ years	Likely due to age of the system	20	2003	8	\$15,000	
ULK Fireman's Boots (FBN-2) - Reliability Upgrade	\$95,000 - \$100,000	20+ years	Likely due to age of the system	20	2003	8	\$100,000 - \$105,000	
ULK Fireman's Boots (FBN-1)	\$1,200	20+ years	Likely due to age of the system	20	2003	8	\$1,200	
Roof Hatch (RH-1)								
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Roof Hatch (RH-154)								
Roof Hatch (RH-155)								
Roof Hatch (RH-156)								
Roof Hatch (RH-157)								
Roof Hatch (RH-158)								
Roof Hatch (RH-159)								
Roof Hatch (RH-160)								
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Roof Hatch (RH-186)								
Roof Hatch (RH-187)								
Roof Hatch (RH-188)								
Roof Hatch (RH-189)								
Roof Hatch (RH-190)								
Roof Hatch (RH-191)								
Roof Hatch (RH-192)					</td			

Mechanical	Cost (2015 \$)	Recurrence	Characterization	Expected Life	Installation Date	Remaining Life
Study Room and Story Time Room HVAC Upgrades	\$18,000	One time	For addressing comfort issues, improved control, reliability and energy efficiency	-	-	-
Server Room HVAC Upgrades	\$23,000	One time	For addressing comfort issues, improved control and reliability	-	-	-
Plenum Return System Upgrades	\$7,500 - \$10,000	One time	For addressing comfort issues, improved control, reliability and energy efficiency	-	-	-
Retrocommissioning the Existing Controls	\$42,000	One time	For addressing comfort issues, improved control, reliability and energy efficiency	-	-	-
Air Handling Unit (AHU-1)						
Condensing Unit (CU-1)						
Supply Fan (SF-1)						
Return Fan (RF-1)	\$260,000					
Humidifier (H-1)						
Variiable Frequency Drive - Supply Fan (VFD-1)						
Variiable Frequency Drive - Return Fan (VFD-2)						
AHU Hot Water Coil Pump (AHUHP-1)						
Condensing Unit (CU-2)						
Supply Fan (SF-2)						
Variiable Frequency Drive - Supply Fan (VFD-3)	\$130,000					
Humidifier (H-2)						
AHU Hot Water Coil Pump (AHUHP-2)						
Hot Water Boiler (B-1)	\$95,000	25+ years	Likely due to age of the system	20	2013	18
Boiler Pump (BP-1)						
Hot Water Boiler (B-2)	\$95,000	25+ years	Likely due to age of the system	25	2003	13
Boiler Pump (BP-2)						
Hot Water Pump (HWP-1)						
Hot Water Pump(HWP-2)	\$12,000	20+ years	Likely due to age of the system	20	2003	8
VAV Terminal Boxes (VAV-X) - Refurbish/Replace	\$95,000 - \$160,000	20+ years	Equipment is beyond it's expected mean service life and cannot provide enough heating capacity in failure instances of B-1. Replace with high efficiency boiler that can provide n+1 redundancy.	25	1988	-2
HW Unit Heater (UH-1)	\$1,500	20+ years	Likely due to age of the system	20	2003	8
Roof Exhaust Fan (EF-1)						
Roof Exhaust Fan (EF-2)						
Roof Exhaust Fan (EF-3)						
Roof Exhaust Fan (EF-4)						
Roof Exhaust Fan (EF-5)						
Roof Exhaust Fan (EF-6)						
Roof Exhaust Fan (EF-7)						
Intake Ventilator (IV-1)	\$42,000					
HW Baseboard (HWB-1)	\$3,750	25+ years	Likely due to age of the system	25	2003	13
HW Baseboard (HWB-2)						
Cabinet Unit Heater (CUH-1)	\$6,000	15+ years	Likely due to age of the system	15	2003	3
Cabinet Unit Heater (CUH-2)						
Yearly Totals (with anticipated 4% inflation rate per year)						

Yearly Totals (with anticipated 4% inflation rate per year)

Electrical							
Atrium Lighting Upgrades	\$54,500	One time	Energy Efficiency and light quality	-	-	-	-
Story Time Room Lighting Upgrades	\$8,000	One time	Light quality insufficient for original lighting, added lighting poses a maintenance issue.	-	-	-	-
Parking Lot Lighting Upgrades	\$23,500	One time	Energy Efficiency	-	-	-	-
Site Uplights (Flag Pole & Signage) Upgrades	\$7,500	One time	Energy Efficiency and maintenance issues	-	-	-	-
AHU VFDs	\$12,000	20+ years	Potential prevention of electrical issue (accounting for 2 VFID)	20	2002	7	7
Replace Equipment Disconnects	\$5,000	20+ years	Potential prevention of electrical issue (accounting for 4 disconnects)	20	2002	7	7
Infrared Scan of all Electrical Panels	\$1,000	As required	Potential prevention of electrical issue	1	2002	-12	
Room Lighting Control	\$1,500	Per room					
Replace/Add Floor Boxes in Public Areas	\$2,500	Per floorbox	Cosmetic Issues, as well as capacity issues	-	-	-	-
Central Lighting Controls Upgrade	TBD	One time	Current System not meeting Energy Code	-	-	-	-
		Yearly Totals (with anticipated 4% inflation rate per year)					
Plumbing							
Water Cooler Modifications	\$4,000	One time	Code related item	-	-	-	-
Drain Tile Pumps (Original Construction)	\$10,000	20+ years	Likely due to age of system	20	2004	9	9
Drain Tile Pumps (Expansion Construction)	\$10,000	20+ years	Likely due to age of system	20	2003	8	8
Hot Water Circulation Pump	\$2,000	12 years	With water heater; replace w/ pump of bronze constrn.	12	2010	7	TBD
Master Thermostatic Mixing Valve	\$1,500	12 years	With water heater	12	TBD		
Sewage Effluent Pumps (Original Construction)	\$10,000	20+ years	Likely due to age of system	20	2004	9	9
Sewage Effluent Pumps (Expansion Construction)	\$10,000	20+ years	Likely due to age of system	20	2003	8	8
Water Heater	\$12,000	12 years	Likely due to age of system	12	2008	5	5
Water Heater Expansion Tank	\$1,000	12 years	With water heater	12	2003	0	
		Yearly Totals (with anticipated 4% inflation rate per year)					
Fire Protection	Anti-freeze loop (excludes normal annual testing)		\$25,000	7 years left per NFPA	Replacement by 9/2022 per NFPA.	Until 9/2022	2003
							7
Information Technologies							
Expand wireless coverage and infrastructure	\$5,000	One time	Likely required due to age of system	-	-	-	-
Replace UPS Batteries	\$15,000	4 years	Likely required due to age of system	-	-	-	-
Upgrade/Replace Security System	TBD	One time	Likely required due to age of system	-	2003		
		Yearly Totals (with anticipated 4% inflation rate per year)					
		Grand Total (with anticipated 4% inflation rate per year)					

PRICING DOCUMENTATION

- Full Construction Pricing Summary
- Full Construction Pricing by Individual Project Phases/Area Diagrams
 - Full Furniture Pricing Summary

Warrenville Public Library Dist

3/18/2015 Schematic Cost Estimate

product ARCHITECTURE + DESIGN



Upper Level	Area	Unit Cost		Extension	Upper Level	22,430
Remodeling Basics						
Light Remodeling	20,000	\$	24.50	\$	490,000	Upper Level
Heavy Remodeling	3,750	\$	95.80	\$	359,250	Total Renovation
Toilet Room	750	\$	123.00	\$	92,250	
New Canopy @ Employee Ent	140	\$	220.00	\$	30,800	
Additive Costs				\$	-	
New Windows in Offices	3	\$	4,720.00	\$	14,160	Heavy Remodeling
Fire Place	1	\$	50,000.00	\$	50,000	Ceil
PA System	1	\$	30,000.00	\$	30,000	light
Movable Partitions	372	\$	50.00	\$	18,600	Walls/Finishes
Window Shades	4	\$	800.00	\$	3,200	Doors/Frames/Trim
AV System - Interactive	1	\$	30,000.00	\$	30,000	Specialties
Custom Millwork Elements	4	\$	12,000.00	\$	48,000	Sprink
New Signage	1	\$	30,000.00	\$	30,000	Plumbing
Additional new Ceiling	2,800	\$	6.00	\$	16,800	Mech
Fill in floor opening	255	\$	100.00	\$	25,500	Demo
New Toilet room	1	\$	6,000.00	\$	6,000	
New Ceiling and Lighting areas	3,700	\$	21.00	\$	77,700	
				Sub-Total	\$ 1,322,260	

Lower Level		Area	Unit Cost	Extension	Light Remodeling
Remodeling Basics					Light \$ -
Gut & Remodel	6,040	\$ 95.80	\$ 578,632	Floor \$ 6.50	
Additional for Toilet Rooms	200	\$ 143.00	\$ 28,600	Paint \$ 2.50	
Additive Costs				Power \$ 8.00	
Movable Partition	350	\$ 60.00	\$ 21,000	Data \$ 5.00	
Blackout Shades	4	\$ 800.00	\$ 3,200	Move \$ 2.50	
AV System	1	\$ 30,000.00	\$ 30,000		
Kitchenette	1	\$ 10,000.00	\$ 10,000		
		Sub-Total \$	671,432		\$ 24.50
Mechanical / Electrical/Plumbing		Area	Unit Cost	Extension	Toilet Rooms
Mechanical					demo \$ 11.00 \$ 8
VAV's for Study and Story	1	\$ 20,000.00	\$ 20,000	rebuild \$ 40.00 \$ 30	
Improve Return Air	1	\$ 10,000.00	\$ 10,000	finishes/Accessories \$ 30.00 \$ 22	
AC for Server	1	\$ 25,000.00	\$ 25,000	fixtures \$ 24.00 \$ 18	
Fans for staff toilets?	2	\$ 1,200.00	\$ 2,400	underground \$ 20.00 \$ 15	
New Boilers	1	\$ 65,000.00	\$ 65,000	lighting \$ 8.00 \$ 6	
				Elect \$ 10.00 \$ 7	
					\$ 143.00 \$ 160

Electrical					15
New LED Lighting Story & Atrium (32)	1	\$	62,500.00	\$	62,500
Site Lighting Standards (16)	1	\$	23,500.00	\$	23,500
Site Lighting signage/flag (10)	1	\$	7,500.00	\$	7,500
Wireless Internet upgrade	1	\$	5,000.00	\$	5,000

Plumbing				
HW recirc pump	1	\$ 2,500.00	\$ 2,500	
		Sub-Total	\$ 223,400	
		Total Trade Costs	\$ 2,217,092	
Gen Conditions of Construction		10%	\$ 221,709	
Contingency & Misc		10%	\$ 221,709	
		Sub-Total Construction - Cost of the Work	\$ 2,660,510	
CM Fees		3.50%	\$ 93,118	
Furnishings	17,700	\$ 28.59	\$ 506,000	
		Sub Total Designed and Specified by Architect	\$ 3,259,628	
A/E Fees		8.00%	\$ 260,770	
		Estimated Total	\$ 3,520,399	\$ 123.65 per SF

Sum of the Phases \$ 3,701,652

Generator	1	\$ 80,000.00	\$ 80,000
		Total Cost	\$ 107,309

Atrium: Drywall and Paint			377
Gypsum Board	4400	9	\$ 39,600.00
Paint	4400	2.5	\$ 11,000.00
Paint Trusses	13	900	\$ 11,700.00
			\$ 62,300.00
		Total Cost	\$ 83,567

Exterior Cedar Siding & Trim

**Phase 1: Main Level Public Space**

Upper Level	Area	Unit Cost	Extension	
Remodeling Basics				
Light Remodeling	16,000	\$ 27.50	\$ 440,000	
Heavy Remodeling	2,500	\$ 100.80	\$ 252,000	
Toilet Room	-	\$ 123.00	\$ -	
New Canopy @ Employee Ent		\$ 60.00	\$ -	
Additive Costs				
New Accessible Opener	1	\$ 6,000.00		
New Windows in Offices	-	\$ 4,720.00	\$ -	
Fire Place	1	\$ 50,000.00	\$ 50,000	
PA System	1	\$ 30,000.00	\$ 30,000	
Movable Partitions	372	\$ 50.00	\$ 18,600	
Window Shades	4	\$ 800.00	\$ 3,200	
AV System - Interactive	1	\$ 30,000.00	\$ 30,000	
Custom Millwork Elements	4	\$ 12,000.00	\$ 48,000	
New Signage	1	\$ 30,000.00	\$ 30,000	
Additional new Ceiling	2,800	\$ 6.00	\$ 16,800	
Fill in floor opening	-	\$ 100.00	\$ -	
New Toilet room	1	\$ 6,000.00	\$ 6,000	
New Ceiling and Lighting areas	3,700	\$ 21.00	\$ 77,700	
		Sub-Total	\$ 1,002,300	
Lower Level	Area	Unit Cost	Extension	
Remodeling Basics				
Gut & Remodel		\$ 100.80	\$ -	
Additional for Toilet Rooms		\$ 143.00	\$ -	
Additive Costs				
Movable Partition		\$ 60.00	\$ -	
Blackout Shades		\$ 800.00	\$ -	
AV System		\$ 30,000.00	\$ -	
Kitchenette		\$ 10,000.00	\$ -	
		Sub-Total	\$ -	
Mechanical / Electrical/Plumbing	Area	Unit Cost	Extension	
Mechanical				
VAV's for Study and Story	1	\$ 20,000.00	\$ 20,000	
Improve Return Air	1	\$ 10,000.00	\$ 10,000	
AC for Server	1	\$ 25,000.00	\$ 25,000	
Fan for New toilet	1	\$ 1,200.00	\$ 1,200	
New Boilers	1	\$ 65,000.00	\$ 65,000	
				15 1200
Electrical				
New LED Lighting Story & Atrium (32)	1	\$ 62,500.00	\$ 62,500	
Site Lighting Standards (16)	1	\$ 23,500.00	\$ 23,500	
Site Lighting signage/flag (10)	1	\$ 7,500.00	\$ 7,500	
Wireless Internet upgrade	1	\$ 5,000.00	\$ 5,000	
		Sub-Total	\$ 222,200	
Plumbing				
HW recirc pump	1	\$ 2,500.00	\$ 2,500	
		Total Trade Costs	\$ 1,224,500	
Gen Conditions of Construction		10%	\$ 122,450	
Contingency & Misc		10%	\$ 122,450	
		Sub-Total Construction - Cost of the Work	\$ 1,469,400	
CM Fees		3.50%	\$ 51,429	
Furnishings	17,700	\$ 20.24	\$ 358,176	
		Sub Total Designed and Specified by Architect	\$ 1,879,005	
A/E Fees		8.00%	\$ 150,320	16,000
		Estimated Total	\$ 2,029,325	\$ 126.83 per SF
				\$ 2,022,619
				\$ 1,956,355
		Const	\$ 66,263	
		Furn	\$ 24,000	
		Teen Area - DEDUCT	\$ 90,263	
Generator	1	\$ 80,000.00	\$ 80,000	
		Total Cost ADD	\$ 107,309	
Atrium: Drywall and Paint			3770	
Gypsum Board	4400	9	\$ 39,600.00	
Paint	4400	2.5	\$ 11,000.00	
Paint Trusses	13	900	\$ 11,700.00	
			\$ 62,300.00	
		Total Cost ADD	\$ 83,567	

FIRST FLOOR: NEW

$\frac{1}{16}$ "=1'-0" ON 11X17 SHEET



WARRENVILLE PUBLIC LIBRARY

introducing ARCHITECTURE + DESIGN
FEBRUARY 18, 2015

**Phase 2: Public Rest Room**

<u>Upper Level</u>	<u>Area</u>	<u>Unit Cost</u>	<u>Extension</u>	
Remodeling Basics				
Light Remodeling		\$ 24.50	\$ -	
Heavy Remodeling		\$ 71.30	\$ -	
Toilet Room	750	\$ 143.00	\$ 107,250	
New Canopy @ Employee Ent		\$ 60.00	\$ -	
Additive Costs				
New Windows in Offices		\$ 4,720.00	\$ -	
Fire Place		\$ 50,000.00	\$ -	
PA System		\$ 30,000.00	\$ -	
Movable Partitions		\$ 50.00	\$ -	
Window Shades		\$ 800.00	\$ -	
AV System - Interactive		\$ 30,000.00	\$ -	
Custom Millwork Elements		\$ 12,000.00	\$ -	
New Signage		\$ 30,000.00	\$ -	
Additional new Ceiling		\$ 6.00	\$ -	
Fill in floor opening		\$ 100.00	\$ -	
New Toilet room		\$ 6,000.00	\$ -	
New Ceiling and Lighting areas		\$ 21.00	\$ -	
		Sub-Total	\$ 107,250	
<u>Lower Level</u>	<u>Area</u>	<u>Unit Cost</u>	<u>Extension</u>	
Remodeling Basics				
Gut & Remodel		\$ 95.80	\$ -	
Additional for Toilet Rooms		\$ 143.00	\$ -	
Additive Costs				
Movable Partition		\$ 60.00	\$ -	
Blackout Shades		\$ 800.00	\$ -	
AV System		\$ 30,000.00	\$ -	
Kitchenette		\$ 10,000.00	\$ -	
		Sub-Total	\$ -	
<u>Mechanical / Electrical/Plumbing</u>	<u>Area</u>	<u>Unit Cost</u>	<u>Extension</u>	
Mechanical				
VAV's for Study and Story		\$ 20,000.00	\$ -	
Improve Return Air		\$ 10,000.00	\$ -	
AC for Server		\$ 25,000.00	\$ -	
Fans for toilets	2	\$ 1,600.00	\$ 3,200	
New Boilers		\$ 65,000.00	\$ -	
		Total Trade Costs	\$ 110,450	
Electrical				
New LED Lighting Story & Atrium (32)		\$ 62,500.00	\$ -	
Site Lighting Standards (16)		\$ 23,500.00	\$ -	
Site Lighting signage/flag (10)		\$ 7,500.00	\$ -	
Wireless Internet upgrade		\$ 5,000.00	\$ -	
Plumbing				
HW recirc pump		\$ 2,500.00	\$ -	
		Sub-Total	\$ 3,200	
Gen Conditions of Construction		10%	\$ 11,045	
Contingency & Misc		10%	\$ 11,045	
		Sub-Total Construction - Cost of the Work	\$ 132,540	
CM Fees		3.50%	\$ 4,639	
Furnishings	17,700	\$ -		
		Sub Total Designed and Specified by Architect	\$ 137,179	
A/E Fees		8.00%	\$ 10,974	750
		Estimated Total	\$ 148,153	\$ 197.54 per SF

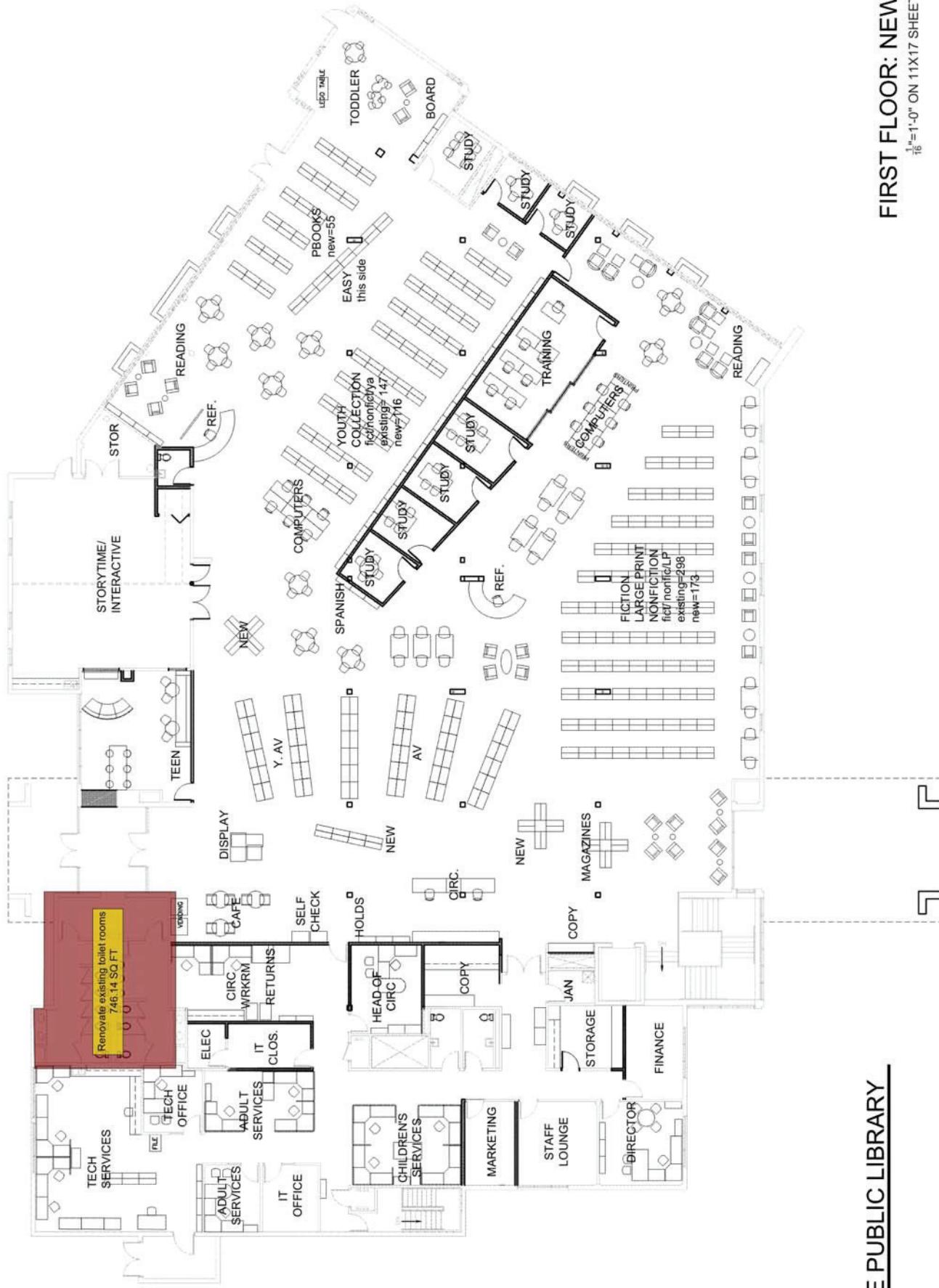
Generator	1	\$ 80,000.00	\$ 80,000
		Total Cost	\$ 107,309

Atrium: Drywall and Paint	3770
Gypsum Board	4400
Paint	4400
Paint Trusses	13
	900
	\$ 39,600.00
	\$ 11,000.00
	\$ 11,700.00
	\$ 62,300.00
	Total Cost
	\$ 83,567

Exterior Cedar Siding & Trim
To be studied in greater detail

FIRST FLOOR: NEW

$\frac{1}{16}$ "=1'-0" ON 11X17 SHEET



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FEBRUARY 18, 2015

**Phase 3: Lower Level**

Upper Level	Area	Unit Cost	Extension	
Remodeling Basics				
Light Remodeling		\$ 24.50	\$ -	
Heavy Remodeling		\$ 71.30	\$ -	
Toilet Room		\$ 123.00	\$ -	
New Canopy @ Employee Ent		\$ 60.00	\$ -	
Additive Costs			\$ -	
New Windows in Offices		\$ 4,720.00	\$ -	
Fire Place		\$ 50,000.00	\$ -	
PA System		\$ 30,000.00	\$ -	
Movable Partitions		\$ 50.00	\$ -	
Window Shades		\$ 800.00	\$ -	
AV System - Interactive		\$ 30,000.00	\$ -	
Custom Millwork Elements		\$ 12,000.00	\$ -	
New Signage		\$ 30,000.00	\$ -	
Additional new Ceiling		\$ 6.00	\$ -	
Fill in floor opening	255	\$ 100.00	\$ 25,500	
New Toilet room		\$ 6,000.00	\$ -	
New Ceiling and Lighting areas		\$ 21.00	\$ -	
		Sub-Total	\$ 25,500	
Lower Level	Area	Unit Cost	Extension	
Remodeling Basics				
Gut & Remodel	6,040	\$ 95.80	\$ 578,632	
Additional for Toilet Rooms	200	\$ 143.00	\$ 28,600	
Additive Costs				
Movable Partition	350	\$ 60.00	\$ 21,000	
Blackout Shades	4	\$ 800.00	\$ 3,200	
AV System	1	\$ 30,000.00	\$ 30,000	
Kitchenette	1	\$ 10,000.00	\$ 10,000	
		Sub-Total	\$ 671,432	
Mechanical / Electrical/Plumbing	Area	Unit Cost	Extension	
Mechanical				
VAV's for Study and Story		\$ 20,000.00	\$ -	
Improve Return Air		\$ 10,000.00	\$ -	
AC for Server		\$ 25,000.00	\$ -	
Special Mechanical for toilets	6,040	\$ 2.00	\$ 12,080	
New Boilers		\$ 65,000.00	\$ -	
		Sub-Total	\$ 12,080	
		Total Trade Costs	\$ 709,012	
Gen Conditions of Construction		10%	\$ 70,901	
Contingency & Misc		10%	\$ 70,901	
		Sub-Total Construction - Cost of the Work	\$ 850,814	
CM Fees		3.50%	\$ 29,779	
Furnishings			\$ 24,640	
		Sub Total Designed and Specified by Architect	\$ 905,233	
A/E Fees		8.00%	\$ 72,419	6,295
		Estimated Total	\$ 977,652	\$ 155.31 per SF

Generator	1	\$ 80,000.00	\$ 80,000
		Total Cost	\$ 107,309

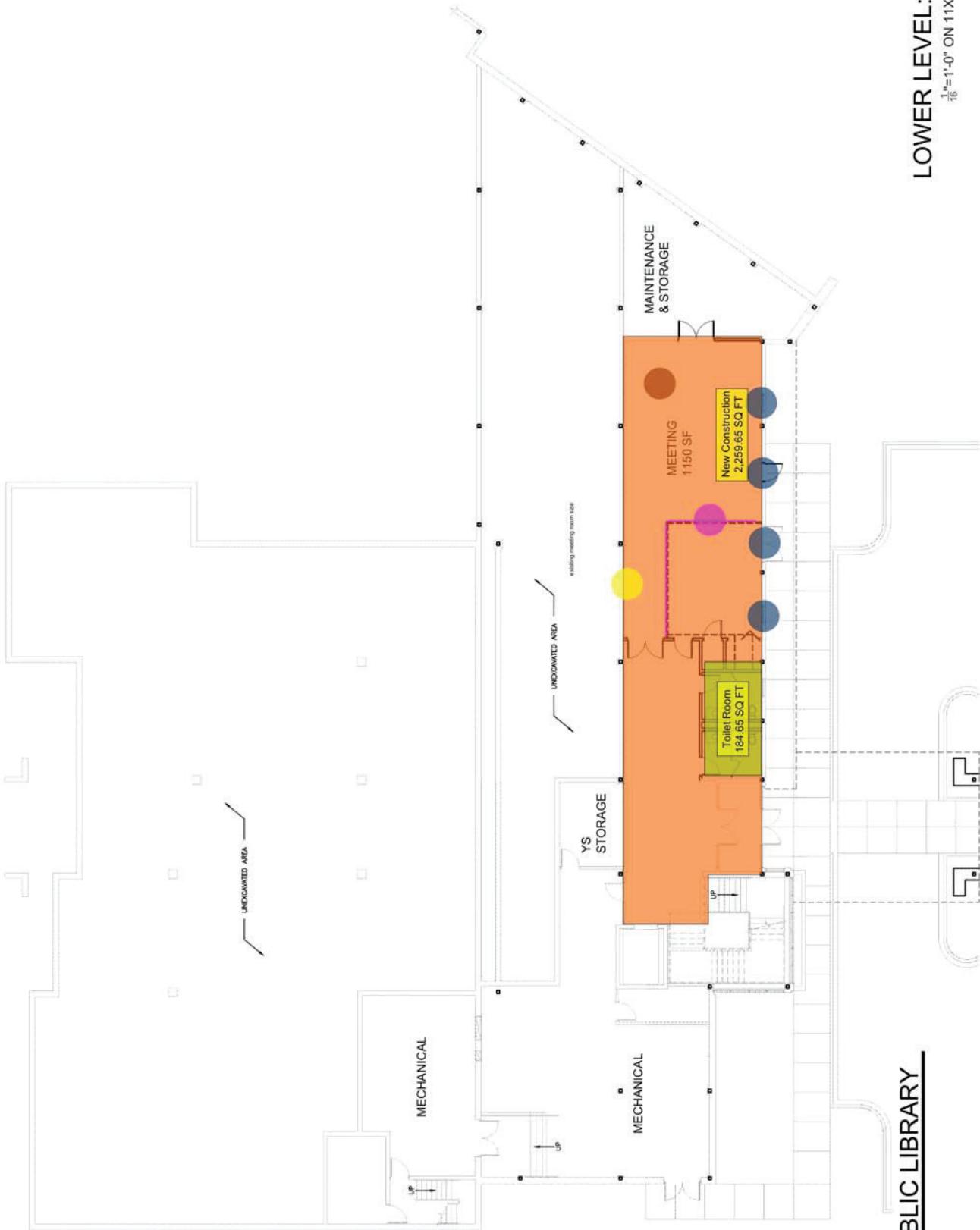
Atrium: Drywall and Paint			3770
Gypsum Board	4400	9	\$ 39,600.00
Paint	4400	2.5	\$ 11,000.00
Paint Trusses	13	900	\$ 11,700.00
			\$ 62,300.00
		Total Cost	\$ 83,567

Exterior Cedar Siding & Trim

To be studied in greater detail

LOWER LEVEL: NEW
 $\frac{1}{16}'' = 1'-0''$ ON 11X17 SHEET

$\frac{1}{16}$ "=1'-0" ON 11X17 SHEET



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**Phase 4: Staff Areas**

Upper Level	Area	Unit Cost	Extension	
Remodeling Basics				
Light Remodeling	4,725	\$ 24.50	\$ 115,763	
Heavy Remodeling	1,300	\$ 95.80	\$ 124,540	
Toilet Room		\$ 123.00	\$ -	
New Vestibule @ Employee Ent	140	\$ 220.00	\$ 30,800	
Additive Costs				
New Windows in Offices	3	\$ 4,720.00	\$ 14,160	
Fire Place		\$ 50,000.00	\$ -	
PA System		\$ 30,000.00	\$ -	
Movable Partitions		\$ 50.00	\$ -	
Window Shades		\$ 800.00	\$ -	
AV System - Interactive		\$ 30,000.00	\$ -	
Custom Millwork Elements		\$ 12,000.00	\$ -	
New Signage		\$ 30,000.00	\$ -	
Additional new Ceiling		\$ 6.00	\$ -	
Fill in floor opening		\$ 100.00	\$ -	
New Toilet room		\$ 6,000.00	\$ -	
New Ceiling and Lighting areas		\$ 21.00	\$ -	
		Sub-Total	\$ 285,263	
Lower Level	Area	Unit Cost	Extension	
Remodeling Basics				
Gut & Remodel		\$ 95.80	\$ -	
Additional for Toilet Rooms		\$ 143.00	\$ -	
Additive Costs				
Movable Partition		\$ 60.00	\$ -	
Blackout Shades		\$ 800.00	\$ -	
AV System		\$ 30,000.00	\$ -	
Kitchenette		\$ 10,000.00	\$ -	
		Sub-Total	\$ -	
Mechanical / Electrical/Plumbing	Area	Unit Cost	Extension	
Mechanical				
VAV's for Study and Story		\$ 20,000.00	\$ -	
Improve Return Air		\$ 10,000.00	\$ -	
AC for Server	1	\$ 25,000.00	\$ 25,000	
Fans for staff toilets	2	\$ 1,200.00	\$ 2,400	
New Boilers		\$ 65,000.00	\$ -	
		Sub-Total	\$ -	
Electrical				
New LED Lighting Story & Atrium (32)		\$ 62,500.00	\$ -	
Site Lighting Standards (16)		\$ 23,500.00	\$ -	
Site Lighting signage/flag (10)		\$ 7,500.00	\$ -	
Wireless Internet upgrade		\$ 5,000.00	\$ -	
		Sub-Total	\$ 27,400	
		Total Trade Costs	\$ 312,663	
Gen Conditions of Construction		10%	\$ 31,266	
Contingency & Misc		10%	\$ 31,266	
		Sub-Total Construction - Cost of the Work	\$ 375,195	
CM Fees		3.50%	\$ 13,132	
Furnishings			\$ 117,712	
		Sub Total Designed and Specified by Architect	\$ 506,039	
A/E Fees		8.00%	\$ 40,483	
		Estimated Total	\$ 546,522	\$ 19.20 per SF

Generator	1	\$ 80,000.00	\$ 80,000
		Total Cost	\$ 107,309

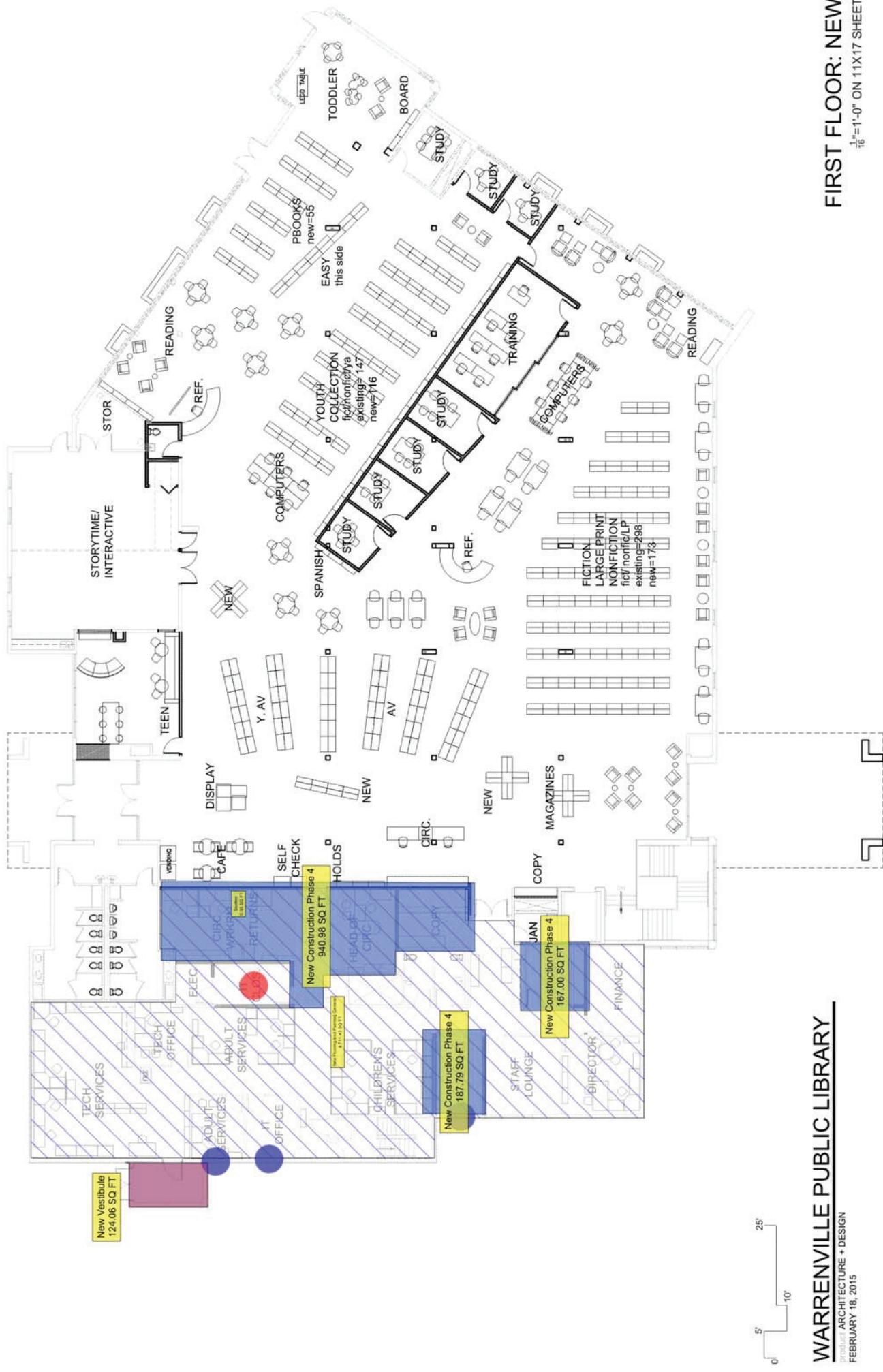
Atrium: Drywall and Paint			3770
Gypsum Board	4400	9	\$ 39,600.00
Paint	4400	2.5	\$ 11,000.00
Paint Trusses	13	900	\$ 11,700.00
			\$ 62,300.00
		Total Cost	\$ 83,567

Exterior Cedar Siding & Trim

To be studied in greater detail

FIRST FLOOR: NEW

$\frac{1}{16}$ "=1'-0" ON 11X17 SHEET



WARRENVILLE PUBLIC LIBRARY

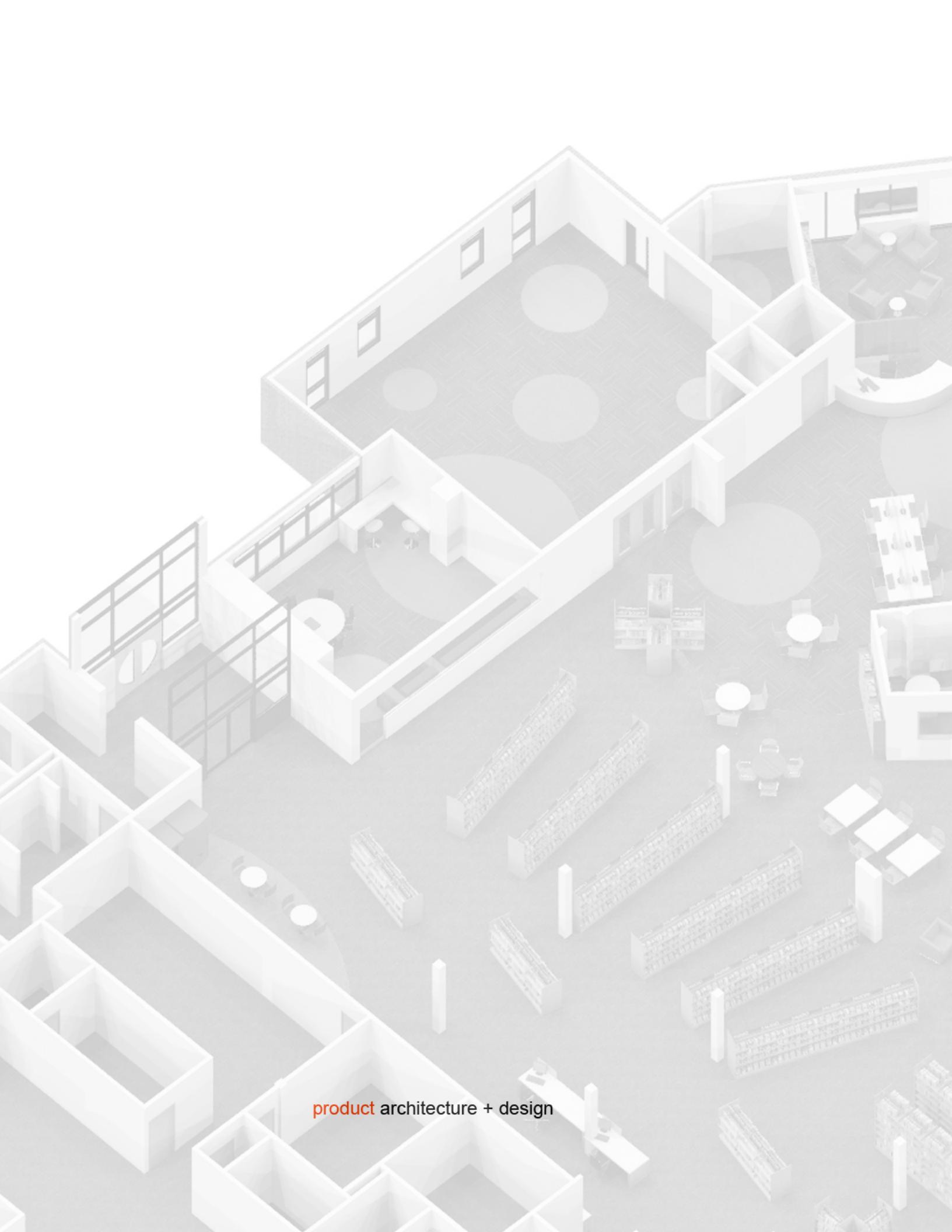
product ARCHITECTURE + DESIGN
FEBRUARY 12, 2015

Warrenville Public Library Furniture

product architecture + design

Furniture Budget

4-Apr-05

A grayscale architectural rendering of a modern office interior. The space features a large open-plan area with several rectangular desks arranged in rows, each with a computer monitor. In the foreground, there's a curved wall with built-in shelves filled with books and decorative objects. To the left, there's a more enclosed room with a long table and chairs. The ceiling has recessed lighting, and the overall design is clean and minimalist.

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