



April 27, 2022

Laura Marlane, Executive Director
Omaha Public Library
Administration Office
215 S. 15th Street
Omaha, NE 68102

Re: *Library Central Distribution Facility at 3020 S 84 ST, Omaha Public Library*
Schematic Design Completion

Dear Ms. Marlane:

HDR Architecture is pleased to present this completion of the Schematic Design Package for the *Library Central Distribution Facility at 3020 S 84 ST* (Library Administration Building LAB) for the Omaha Public Library. Attached is a digital copy of the package for your review and reference of this critical milestone in the project development. We have been pleased with your assistance and the level of input provided by the various Omaha Public Library representatives.

At this stage of the project, the Omaha Public Library has approved the facility program, and a schematic design floor plan has been prepared based upon this program and additional input gathered at our design meetings.

It is critical for you to review the content of this package, as it will continue into the next phases of the project. Of critical importance is to confirm the following:

1. The layout and arrangement of submitted floor plans are acceptable and include all desired spaces.
2. The materials, construction methods, and systems described in the Schematic Design Narrative are acceptable.

Consider this information as the project's basis upon which future information is added. Should you desire a discussion of the Program in a formal review meeting we would be more than willing to add this to the 5/5/22 agenda to confirm your input. Please sign and return the attached document.

Thanks so much for your participation at this stage of the project. We look forward to your approval of this package so that we might continue into the Design Development Phase. Should you have any questions please feel free to call.

Sincerely,

HDR Architecture Inc.

A handwritten signature in black ink, appearing to read 'John P. Dineen Jr.', written over a horizontal line.

John P. Dineen Jr, AIA, LEED AP BD+C
Project Manager

OWNER EXHIBIT SCHEMATIC DESIGN APPROVAL

At the completion of each Design Phase, the Owner will provide written acceptance to the Architect for the services provided on the project: Omaha Public Relocation, W. Dale Clark Library, Library Central Distribution Facility at 3020 S 84 ST; and permission to proceed with the next phase.

Pre-Design Phase: SCHEMATIC DESIGN

Date of Completion: April 27, 2022

Description and Date for Deliverables in this phase:

PRE-DESIGN SERVICES

.23 Architectural Design/Documentation:

- .01 During the Schematic Design Phase, responding to program requirements and preparing:
 - .01 Review of Owner's Program and Budget
 - .02 Conceptual site and building plans
 - .03 Preliminary sections and elevations
 - .04 Preliminary selection of building systems and materials
 - .05 Development of approximate dimensions, areas, and volumes
 - .06 Perspective sketch(es)
 - .07 Study model(s).

The above design efforts are included in the submitted deliverables:

- .01 Schematic Design Drawings.
- .02 Schematic Design Narrative.
 - .a Specification Table of Contents.

The Owner, The City of Omaha/Omaha Public Library, hereby acknowledges that all design services have been satisfactorily completed for the Schematic Design Phase listed above on the *Library Central Distribution Facility at 3020 S 84 ST* and accepts this Phase as completed in full. The Owner authorizes the Architect to proceed with the subsequent Design Development Phase as outlined in ARTICLE 3 SCOPE OF ARCHITECT'S BASIC SERVICES, Par 3.2

Owner's Signature:

Printed Name and Title:

Laura Marlane, Executive Director

Date:

4-28-2022



City of Omaha

City of Omaha OPL Relocation - 84th St.

Schematic Design

Narrative

April 26, 2022

HDR Project No. 3105/10338138



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PART I - Narratives

- I. Base Building Description**
- II. Basis of Design Narratives**
 - A. Architectural/Interiors**
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 - D. Electrical**
 - E. Lighting**
 - F. Life Safety and Fire Protection**

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PART 1 - BASE BUILDING DESCRIPTION

The proposed project is a mixed-use tenant fit-out to an existing building with approximately 90,000 gross square feet located at 3020 S 84th St, Omaha, NE. Site configuration and access are also existing and have been configured to suit a big-box retail tenant.

Building design is based on Type IIB IBC Construction Classification, with mixed separated general office occupancy (Group B) and storage occupancy for library stack shelving (Group S-1). All storage will be under the limits for classification as high-pile storage.

1.1 SUSTAINABILITY

- A. This tenant fit-out will be designed using sustainable building practices whenever feasible and economically viable, including environmentally friendly material selections and efficient reuse of an existing facility/structure.
- B. The building design and construction do not anticipate third-party sustainability certification.

1.2 SITE IMPROVEMENTS

- A. Site improvements are not included within the project scope. Existing site elements such as parking and accessibility will be reviewed with the AHJ for confirmation that applicable codes and standards are met.

1.3 SITE UTILITIES

- A. STORM WATER MANAGEMENT
 - 1. Existing to remain unchanged.
- B. DOMESTIC WATER SERVICE
 - 1. Existing to remain unchanged.
- C. FIRE SERVICE WATER
 - 1. Existing to remain unchanged.
- D. SANITARY SEWER
 - 1. Existing to remain unchanged.
- E. NATURAL GAS SERVICE
 - 1. Existing to remain unchanged.
- F. ELECTRICAL SERVICE
 - 1. See Electrical Narrative.
- G. COMMUNICATIONS/DATA SERVICE
 - 1. See Electrical Narrative

1.4 LIFE SAFETY

- A. See Architectural Narrative.
- B. Additional or modified life safety components deemed necessary after Tenant Improvements or within Tenant's spaces will be at Tenant's expense

END OF SECTION

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A. ARCHITECTURAL & INTERIOR

1.1 ALTERNATES

- A. Alternate #1: Provide ceiling tile replacement in main field and east office area. Existing grid to remain.
- B. Alternate #2: Provide lighting replacement in main field and east office area.
- C. Alternate #3: Add BAS Controls (wiring has all been removed or cut).
- D. Alternate #4: Provide a VOIP phone system upgrade

1.2 OVERVIEW

- A. The building is existing and is located at 3020 S 84th Street. Site configuration and access are also existing and have been configured to suit a big-box retail tenant. The existing facility has two dock areas, one at grade and one at dock height; both will be re-utilized in this design. Additionally, the facility has a small mezzanine area, set up for stock storage and building in heavy duty industrial shelving at the building's south side. In response, the administrative and storage functions are arranged to maximize the use of these existing elements while maximizing staff efficiencies. HDR worked closely with the client to develop the building program and schematic design plan which will provide a safe and easily maintainable workplace for staff and generous space to expand the library's existing Genealogy area.
- B. As this is a short-term facility, the design seeks to reuse as much of the previously existing finishes and furniture as possible. The shelving and accessory furniture, such as desks, tables, filing cabinets, and chairs are to be relocated from the W. Dale Clark branch for reuse as needed. New workstations will be received from Noddle inventory. All electrical connections and power poles by contractor.
- C. New construction is limited and will consist of minimal new gypsum board partitions, select modifications to ceilings as required and repairs to existing walls. Walls are to receive new paint throughout.
- D. For detailed information on finishes see section 1.6 below. The existing VCT flooring located in the Open Office area and the Collection Storage area is to be cleaned and remain. The mastic at this tile contains asbestos; as such, effort will be made to minimize disturbance to this surface and all previously damaged areas will be abated and replaced with VCT tile in a similar color palette to the existing. Existing carpeting at the east side of the building is to be replaced with new carpet tile. Existing tile and fixtures at restrooms are to remain, unchanged as much as possible. New restroom facilities are being added North of the Genealogy Reading Room. These spaces will receive ceramic tile at floors and paint on wall surfaces.
- E. In general, lighting is to remain as it exists. Preliminary investigations of the condition of the lighting were conducted by Commonwealth Electric, at the direction of Noddle and their recommendations were provided and reviewed by the engineering team. See Electrical section for additional details.

1.3 APPLICABLE BUILDING CODES AND STANDARDS

BUILDING: 2018 INTERNATIONAL BUILDING CODE WITH LOCAL AMENDMENTS

STRUCTURAL 2018 INTERNATIONAL BUILDING CODE WITH LOCAL AMENDMENTS

ENERGY: 2018 INTERNATIONAL ENERGY CONSERVATION CODE WITH LOCAL AMENDMENTS

MECHANICAL: 2012 INTERNATIONAL MECHANICAL CODE AND CHAPTER 40 OMAHA MUNICIPAL CODE

PLUMBING: 2018 OMAHA PLUMBING CODE AND CHAPTER 49 OMAHA MUNICIPAL CODE

ELECTRICAL: 2017 NATIONAL ELECTRIC CODE

FIRE PREVENTION: 2012 LIFE SAFETY CODE AND 2012 INTERNATIONAL FIRE CODE

ACCESSIBILITY: Americans with Disabilities Act (ADA):
o 2010 ADA Standards for Accessible Design

1.4 BUILDING CODE ANALYSIS

ADDRESS:	2954 SOUTH 84 STREET OMAHA, NE 68124		
ZONING DISTRICT:	CC-FF: EXISTING - UNCHANGED		
OCCUPANCY:	Group B:	Business	Office
	Group S-1:	Moderate Hazard Storage (Primary Occupancy)	Books and paper in rolls or packs
	Group S-1:	Moderate Hazard Storage	(By Future Tenant if elected)
CONSTRUCTION TYPE:	Type 2B (Table 601)		
SPRINKLERED:	Building 100% Equipped with Automatic Sprinkler		
FIRE-RESISTANCE-RATING OF STRUCTURE:			
			<u>RATING</u>
	PRIMARY STRUCTURAL FRAME		0-HOUR
	BEARING WALLS	EXTERIOR	0-HOUR
		INTERIOR	0-HOUR
	NONBEARING WALLS	EXTERIOR	0-HOUR
		INTERIOR	0-HOUR
	FLOOR ASSEMBLY		0-HOUR
	ROOF ASSEMBLY		0-HOUR

NUMBER OF STORIES:	2		
ALLOWABLE STORIES:	3		
	Level 01 Elevation		100'
BUILDING AREAS:	Total Parcel Area:		18.0483 ACRES (786183.948 SF)
	FAR:		1.0 MAXIMUM
	Allowable Building Area (Parcel)		471,710 SF
	Total Site Area		786,183 SF
	Allowable Building Area		87,982 GSF
	Maximum Allowable Mezzanine		29,034 GSF
	Total Building Area (w/Mezzanine)		101,450 GSF
SPRINKLER INCREASES	PROVIDED, TAKEN		
FRONTAGE INCREASE	TAKEN (58.5%)		
MIXED-OCCUPANCY CLASSIFICATION	SEPARATED MIXED OCCUPANCY		
Building Areas by Level:	Level 01:		87,979 GSF
	Mezzanine		13,471 GSF
	(excluded from building area per 505.2)		
PARKING:	EXISTING - UNCHANGED		

1.5 SUSTAINABILITY

New materials, where planned shall be selected to be durable with recycled content where possible without increasing the project cost. Low volatile organic compound adhesives, sealants and paint will be used throughout. New casework will be locally fabricated and regionally sourced to the extent possible.

1.6 INTERIOR FINISHES

Existing finishes will remain throughout the bulk of 84th street. This includes, but is not limited to, existing VCT flooring, existing gypsum and concrete walls, and existing ceiling tile. Cracked or missing VCT flooring shall be abated and repaired or replaced. Any and all holes, gaps, or cracks in gypsum wall finishes to be patched and repaired.

All gypsum walls to receive new a minimum of one coat of primer and two coats of paint. No concrete walls or columns are to be painted. All walls in Genealogy Reading Room and vestibule to be painted gypsum. Blocking may be required in reading room walls to support shelving.

New felt-backed carpet tile, such as Milliken WellBAC cushion or similar, shall be installed in the Genealogy Reading Room. New walk-off mat carpet tile, such as Milliken OBEX or similar, shall be installed in the Genealogy Reading Room vestibule. These areas to receive new rubber wall base and all applicable rubber flooring transitions.

New ACT ceiling tile, such as Armstrong Callas or similar, shall be installed in the Genealogy Reading Room and vestibule. ACT ceiling tile allowance should accommodate colored ceiling tile. Ceiling tile replacement in main field to be priced as an add alternate to match existing.

Existing cabinetry to be removed and all dry wall and flooring to be patched and repaired as specified by design team. New upper and lower cabinets and countertop to be installed in staff break room. Cabinets to be plastic laminate and countertop to be solid surface.

1.7 METAL

- A. 05 12 10 - Structural Steel
 - 1. See structural narrative for Requirements.
- B. 05 40 00 – Cold-Formed Metal Framing
- C. 05 50 00 – Misc Metal Fabrications

1.8 WOOD, PLASTICS AND COMPOSITES

- A. 06 10 00 – Rough Carpentry

1.9 BUILDING ENCLOSURE

- A. 07 84 00 - Firestopping
- B. 07 92 13 - Interior Joint Sealants
- C. 07 92 16 - Exterior Joint Sealants

1.10 OPENINGS

- A. 08 06 71 – Door Hardware Schedule
- B. 08 11 13 - Hollow Metal (HM) Doors and Frames
- C. 08 14 16 - Flush Wood Doors
- D. 08 31 16 - Access Panels and Frames
- E. 08 33 23 – Overhead Coiling Doors (CD)
- F. 08 71 00 – Door Hardware
- G. 08 81 26 - Interior Glass and Glazing

1.11 FINISHES

- A. 09 22 16 - Non-Structural Metal Framing
- B. 09 29 00 - Gypsum Wall Board (GWB)
 - 1. Level 4 Finish

- C. 09 30 00 - Tile (PT)
 - 1. Porcelain Wall Tile – Large Format
 - a. Location: Restrooms Wet Wall All Levels
 - b. Tile Size: 24 IN x 48 IN
 - c. Finish: Matte Rectified Tile, Color-through Body
 - d. BOD: TBD
 - 2. Porcelain Floor Tile with Urethane Grout – Large Format
 - a. Location: Restrooms Levels 2-4
 - b. Tile Size: 24 IN x 48 IN
 - c. Finish: Matte Rectified Tile, Color-through Body
 - d. BOD: TBD
- D. 09 51 00 - Acoustic Ceiling Material (AM)
 - 1. Mineral Fiber Ceiling Tile
 - a. Tile Size: 24 IN x 48 IN
 - b. BOD: USG Clima Plus
 - c. Location: Where new ceilings are indicated.
 - 2. Ceiling Trim
 - a. Location: Perimeter bulkheads along exterior façade.
 - b. BOD: Axiom Classic by Armstrong
 - 1) Height: 16 IN
 - 2) Color: TBD
- E. 09 65 13 – Vinyl Composite Tile and Resilient Base (RB)
 - 1. BOD: TBD; match existing color/finish
 - 2. BOD: Tarkett Vinyl Base, coved for hard surfaces and straight for carpeted surfaces
 - a. Location: Typical base
- F. 09 68 13 - Carpet Tile (CPT)
 - 1. Carpet Tile
 - a. BOD: Milliken
 - b. Installation Pattern: Various, including accent tiles and cuts
 - c. Location: Office areas, Genealogy Reading Room, Areas within Open Office
 - 2. Walk-off Carpet Tile
 - a. BOD: Milliken Walk-Off systems
 - b. Location: Vestibules
- G. 09 91 23 - Interior Painting
 - 1. Epoxy Wall Paint
 - a. BOD: Diamond Vogel Eas-E-Poxy
 - b. Location: Typical Wall Paint
 - 2. High Performance Wall Paint System
 - a. BOD: Scuffmaster, Scrubtough
 - b. Location: High Traffic areas

1.12 SPECIALTIES

- A. 10 14 00 – Signage: Regulatory Signs Only
- B. 10 28 13 – Toilet Accessories
 - 1. BOD: Stainless Steel Finish by ASI
- C. 10 44 00 - Fire Protection Specialties

1.13 EQUIPMENT

- A. None

1.14 FURNISHINGS

- A. 12 32 00 - Architectural Casework
 - 1. Location: Conference Room, Print Area, Break Room
- B. 12 36 63 - Solid Surface Fabrications (SSF)
 - 1. Countertops
 - a. BOD: Hi-Macs
 - 2. Integral Sinks
 - a. BOD: Hi-Macs

1.15 CONVEYING EQUIPMENT

- A. None

END OF SECTION

B. MECHANICAL

1.1 OWNER'S REQUIREMENTS

- A. This document includes:
 - 1. All Noddle requirements identified through 04-12-2022.
 - 2. Where Noddle exhibited no specific criteria preference, HDR's standard HVAC design criteria or professional judgment was employed.
 - 3. Spaces on level 1 are to be designed for commercial office spaces. Spaces on level 2 are to be designed for book/special collection storage.
 - 4. Generators for emergency/back-up power is not included.
 - 5. Uninterruptible power supplies are not required for HVAC or Building Management Controls System (BMCS) equipment.
 - 6. Energy Efficient Initiatives and LEED Considerations:
 - a. The Owner will not pursue LEED Certification for this building.
- B. Unresolved Items to Date:
 - 1. No changes except maintenance have been decided by Noddle for the existing RTU's. This is under the assumption that no special collection storage will be needed for the Omaha Public Library in this facility. If occupant comfort and/or special conditions are needed, reconsider replacing certain RTU's to accommodate these requests.

1.2 CODES, REGULATIONS, AND DESIGN STANDARDS

- A. Current editions of all Codes, Regulations and Standards shall apply unless otherwise noted.
 - 1. Local and/or State Codes
 - 2. International Mechanical Code 2012
 - 3. International Energy Conservation Code 2018
 - 4. NFPA 13 Standard for the installation of Sprinkler Systems
 - 5. NFPA 14 Standard for the installation of Standpipe and Hose Systems
 - 6. NFPA 31 Standard for the Installation of Oil-Burning Equipment
 - 7. NFPA 54 National Fuel Gas Code
 - 8. NFPA 90A Standard for the Installation of Air Conditioning and Ventilating Systems
 - 9. NFPA 90B Standard for the Installation of Warm Air Heating and Air Conditioning Systems
 - 10. NFPA 101 Life Safety Code
 - 11. NFPA 110 Standard for Emergency and Standby Power Systems
 - 12. American Society of Heating, Refrigerating and Air Conditioning Engineers (ASHRAE).
 - 13. ASHRAE Standard 15 Safety Code for Mechanical Refrigeration
 - 14. ASHRAE Standard 62 Ventilation for Acceptable Indoor Air Quality
 - 15. ASHRAE Standard 90.1 2016 Energy Standard for Buildings
 - 16. NIH Mechanical Design and Construction Standards & Guidelines
 - 17. Factory Mutual System (FM).
 - 18. Industrial Risk Insurance (IRI).
 - 19. Factory Insurance Association (FIA).
 - 20. Air Conditioning and Refrigeration Institute (ARI).
 - 21. Air Diffusion Council (ADC).
 - 22. Air Movement and Control Association (AMCA).
 - 23. American Gas Association (AGA).
 - 24. American National Standards Institute (ANSI).
 - 25. American Society for Testing and Materials (ASTM).
 - 26. American Welding Society (AWS).
 - 27. American Water Works Association (AWWA).
 - 28. Associated Air Balance Council (AABC).
 - 29. Manufacturers Standardization Society of Valve and Fitting Industry (MSS).
 - 30. American Society of Mechanical Engineers (ASME).
 - 31. ANSI/SMACNA HVAC Duct Construction Standards
 - 32. SMACNA Seismic Restraint Manual

1.3 LOAD AND ANALYSIS CRITERIA

A. Ambient Weather Conditions

1. The outside ambient conditions that shall be used for design of HVAC and mechanical systems are based upon latest ASHRAE Handbook of Fundamentals 2017 Weather Data for Omaha, NE (Eppley Airfield).
 - a. Winter:
 - 1) Dry Bulb: -8.1 °F (99.6% of the hours during December through February, temperatures will not be below -8.1 °F based on average weather data).
 - b. Summer:
 - 1) Dry Bulb: 94.8°F (0.4% of the hours during June through September, temperatures will exceed 94.8°F based on average weather data).
 - 2) Wet Bulb: 79°F (Evaporation Rate design wet bulb temperature).

B. Space Temperature and Humidity

1. Offices, Office Support Areas, Conference Rooms, and Similar Areas:
 - a. Summer (cooling): 75°F db maximum, 50% RH.
 - b. Winter (heating): 72°F db minimum.
 - c. Offices, office support areas, conference rooms, and similar areas to have unoccupied modes for temperature setback (Cooling: 80°F, Heating: 65°F), and airflow reduction and/or system shutdown during scheduled un-occupied periods. The un-occupied mode will be on a room-by-room basis with a local over-ride at its respective temperature sensor.
2. Library Spaces:
 - a. Summer (cooling): 75°F db.
 - b. Winter (heating): 72°F db
3. Storage Rooms:
 - a. Summer (cooling): 75°F db.
 - b. Winter (heating): 72°F db
4. Mechanical Equipment Rooms and Penthouse:
 - a. Summer (cooling): 80°F db.
 - b. Winter (heating): 65°F db
5. Electrical Closets:
 - a. Summer (cooling): 75°F db average, 80°F db maximum.
 - b. Winter (heating, if required): 65°F db, minimum
6. Communication Closets:
 - a. Summer (cooling): 75°F db average, 80°F maximum, 30-55% RH.
 - b. Winter (heating, if required): 65°F db, minimum

C. Internal Load Criteria

1. People

Area/Degree of Activity	Metabolic Rates	
	Sensible BTU/hr.	Latent BTU/hr.
Library Areas	250	200
Offices/Retail	250	200
Conference/Break Rooms	250	200
Mechanical Areas	250	200
Storage	250	200

Note: The above metabolic rates have been adjusted to reflect an equal percentage of male and female population.

2. Equipment

Area	Heat Gains	
	Sensible Watts/sq.ft.	Latent BTU/hr/sq.ft.
Restaurant	4.0	---
Offices	3.0	---
Support Areas	3.0	---
Conference/Break Rooms	3.0	---
Corridors	0.0	---
Storage	0.0	---
Communication/IT Closets	15.0	---

Note: Final designs to be verified against manufacturer's heat rejection data.

3. Lighting

Area	Heat Gains	
	Watts/sq.ft.	% to Ceiling Plenum
Offices	1	
Support Areas	1	
Conference/Break Rooms	1	
Corridors	0.8	
Storage	0.8	

D. Hours of Operation

Hours of operation are estimates:

Offices: 12 hrs/day, 7 days/week

Library: 12 hrs/day, 7 days/week

E. Building Envelope and Energy Conservation Criteria

1. Based upon a location of Omaha, NE, the International Energy Conservation Code (IECC), ASHRAE 90.1 requires the design of the exterior envelope of this facility to comply with the following criteria:
 - a. Maximum Overall U-Value ("Uo") for Gross Exterior Wall Assemblies = 0.055 BTU/hr/sq. ft./ °F.
 - b. Maximum Overall U-Value ("Uo") for Roof/Ceiling Assemblies = 0.037 BTU/hr/sq. ft./ °F.
 - c. Maximum Overall U-Value ("Uo") for curtain walls with glazing including metal frame exposed to ambient = 0.36 BTU/hr/sq. ft./ °F. Maximum solar heat gain coefficient ("SHGC") for curtain walls including metal frame exposed to ambient = 0.38.

1.4 AIR SYSTEM DESIGN CRITERIA (ONLY APPLIES TO NEW EQUIPMENT INSTALLED)

A. System Selection

1. HVAC equipment serving all areas will be selected with the capacity to maintain conditions 99.6% of the hours of an average year.
2. Any new equipment selections will be in accordance with the IECC and have Coefficients of Performance (COP's) or Energy Efficiency Ratios (EER's) which are equal to or greater than the minimum values required by Code.
3. The following spare capacity will be employed in the design calculations:
 - a. Cooling Capacity: 10%
 - b. Heating Capacity: 10%
 - c. Air Handling Supply / Return / Exhaust Capacity: 10%

B. Ventilation

1. Minimum design outside air ventilation rates noted below are from ASHRAE Standard 62.1-2019 and are for occupied times only. These rates meet or exceed the current requirements of the International Mechanical Code (IMC) for natural and mechanical ventilation.
 - a. Minimum Ventilation Rates in the Breathing Zone:
 - 1) Library Spaces 5 cfm/person and 0.06 cfm/ft²
 - 2) Corridors 0 cfm/person and 0.06 cfm/ft²
 - 3) Storage Rooms 5 cfm/person and 0.06 cfm/ft²
 - 4) Public lobby 5 cfm/person and 0.06 cfm/ft²
 - 5) Office space: 5 cfm/person and 0.06 cfm/ft²
 - 6) Conference Room: 5 cfm/person and 0.06 cfm/ft²
 - b. Exhaust Air Rate:
 - 1) Janitor/trash 1.0 cfm/ft²
 - 2) Public Restrooms: 70 cfm/water closet or urinal
2. The actual ventilation rates supplied to each space will match the most stringent requirements of the following criteria:
 - a. Cooling load requirements
 - b. Heating load requirements
 - c. Minimum ventilation requirements
 - d. Exhaust air make-up requirements
3. Office areas and support rooms shall be provided with 20% minimum outside air from a air handling system.

C. Filtration Criteria

1. All air serving all spaces shall be prefiltered with a filter module consisting of MERV 8 [30% ASHRAE] filter in the outdoor air and exhaust side of the rooftop energy recovery ventilator and in each installed heat pump. MERV 15 filters will be provided for any centralized recirculating RTU's.

D. Air Distribution Criteria

1. General
 - a. Ductwork construction will be based on SMACNA Duct Pressure Classifications

SMACNA Pressure Classifications

Pressure Class	Maximum Velocity	Qty/per Sensible	Sealing Required
2" w.g.	2,500 fpm	Over 1" w.g. up to 2" w.g.	Transverse Joints, Longitudinal Seams & Duct Wall Penetrations .
3" w.g.	4,000 fpm	Over 2" w.g. up to 3" w.g.	Transverse Joints, Longitudinal Seams & Duct Wall Penetrations .
4" w.g.	4,000 fpm	Over 3" w.g.	Transverse Joints, Longitudinal Seams & Duct Wall Penetrations .
6" w.g.	4,000 fpm	Over 4" w.g.	Transverse Joints, Longitudinal Seams & Duct Wall Penetrations .
10" w.g.	4,000 fpm	Over 6" w.g. up to 10" w.g.	Transverse Joints, Longitudinal Seams & Duct Wall Penetrations.

* Pressure ratings apply to positively and negatively pressurized ductwork.

- b. Fire dampers shall be provided where required by Building or Mechanical Codes.
 - c. Volume dampers shall be provided to facilitate air balancing.
 - d. Smoke dampers and smoke detectors shall be provided in all air systems as required by code and NFPA requirements.
 - e. Access doors shall be provided in the ductwork in the following locations.
 - 1) At all automatic control dampers.
 - 2) On both upstream and downstream sides of each reheat coil, sound trap, and in-line fan.
 - 3) On both upstream and downstream side at each duct airflow and pressure measuring device, so that full access is available at every pitot tube (where applicable).
 - 4) At each duct mounted temperature sensor.
 - 5) At fire dampers, smoke dampers, and smoke detectors.
 - 6) In kitchen exhaust ductwork as required by code.
 - f. Sizing Criteria
 - 1) Louver velocities:
 - a) Fresh air intake (at roof): 400 fpm maximum through free area.
 - b) Fresh air intake (at grade): 400 fpm maximum through free area.
 - c) Relief/Exhaust: 700 fpm through free area.
 - 2) Coil Velocities:
 - a) Preheat coils: 400 fpm
 - b) Cooling coils: 400 fpm
 - c) Reheat coils: 650-700 fpm
 - d) Maximum rows: 6
 - e) Maximum fins: 10 per inch
 - 3) Fan Velocities:
 - a) Low velocity, Low pressure: 1500-2000 fpm outlet velocity
 - b) High velocity, Medium pressure: 2000-2500 fpm outlet velocity
 - g. Duct Friction Loss Sizing Criteria
 - 1) Supply Air: 2,000 feet per minute velocity at fan outlet. Remaining ductwork will be sized based on a maximum of 0.08 - 0.10 inch pressure drop per 100 equivalent feet of duct or 1500 fpm. (Exception: some supply air ductwork on low pressure side of the terminal air units may be sized at a higher pressure drop without penalizing fan energy or system performance).
 - 2) Miscellaneous Exhaust Air: (Toilet, Mechanical Room, Electrical Closets, etc.): 0.08 - 0.10 inch pressure drop per 100 feet of duct run or 1500 fpm.
 - 2. Supply System
 - a. Insulation will be provided for all air conditioning supply ducts. Blanket wrap will be used in concealed spaces and rigid board where exposed in mechanical equipment rooms.
 - b. All supply ductwork shall be galvanized.
 - 3. Outside Air Systems:
 - a. A minimum of 2" rigid board insulation will be provided for all outside air ductwork.
 - b. Outside air intakes shall be located as low as building conditions permit, upwind of building exhaust discharges and away from adjacent building exhaust discharges.
- E. Balancing and Duct Pressure Testing
- 1. Air Balance:
 - a. All air handling systems shall be balanced for specified design flow rate $\pm 5\%$ and system static pressure.
 - b. Air balance reports will be submitted for final review and approval.
 - c. Testing and balancing will be performed by an independent contractor.
 - 2. Test high pressure air ductwork with air pressure not less than 4 IN WG pressure before external insulation is applied.
 - a. As required, test portions of system to permit finish work.

- b. Leakage not to exceed maximum values identified by SMACNA HVAC Air Duct Leakage Test Manual.
- c. Testing procedures shall be as described by SMACNA HVAC Air Duct Leakage Test Manual.
- d. Test all high pressure ductwork systems.
- e. Test 25 percent of the high pressure ductwork systems. The Engineer reserves the right to designate which sections are to be tested.
- 3. Test low pressure ductwork to 1.5 times listed fan operating pressure with 2 IN WG minimum but not greater than duct construction pressure limits. Test ductwork before insulation is applied.
- 4. Test 25 percent of low pressure ductwork to 1.5 times listed fan operating pressure with 2 IN WG minimum but not greater than duct construction pressure limits. Test ductwork before insulation is applied.
 - a. Duct pressure classifications shall be indicated on details on the final contract drawings. Tests will be to pressures indicated. Tests on suction side of fans to be under negative pressure test.

1.5 CONTROL SYSTEM CRITERIA

- A. Building will operate off the existing stand alone control system.

1.6 ACOUSTIC AND VIBRATION CRITERIA

- A. General
 - 1. Any new systems installed in regards to noise and vibration criteria will be in accordance with general data indicated in ASHRAE Systems Handbook.
 - 2. Acoustical and vibration treatment shall be provided, as required, to all system components, to maintain specified space noise criteria to any newly installed equipment. Existing equipment will not be modified unless noted.
- B. Acoustical:
 - 1. General: Equipment will be selected as required to meet Code, and the following room noise criteria:

Area Type	Criteria (NC) Range
Private Office	35 - 40
Open Office Areas / Retail	45 - 55
Corridors and Public Areas	35 - 45
Conference Rooms	30 - 40

Note:

The above noise criteria does not include operating machinery and activities within the space.

- C. Vibration:
 - 1. Vibration isolators and flexible connections will be provided for all newly installed rotating equipment such as pumps, fans, etc.
 - 2. Vibration isolation hangers will be provided when applicable within 50 feet of pumps.
- D. Expansion Capabilities.
 - 1. All systems capacities are based on projected future space and population requirements.
 - 2. Make-up air from the dedicated outside air handling equipment shall be designed to accommodate future typical office spaces, but not future commercial kitchens.

1.7 SYSTEM DESCRIPTIONS – GENERAL BUILDING SYSTEMS

- A. Supply/Return Air Systems:
 - 1. All existing RTU's shall be reused to condition all spaces. Assume distribution ductwork downstream RTU to be modified entirely to apply to new space layouts. Existing RTU's outdoor air dampers to be adjusted to provide minimum outside air to spaces as required by code. Existing ductwork that is being reused should be cleaned thoroughly. Each unit to be rebalanced after new distribution ductwork has been placed.
 - 2. Any areas within building that are only having cosmetic upgrades, existing distribution ductwork to stay and be cleaned thoroughly before reuse.
 - 3. Existing unit heaters to be reused and replaced as recommended by Prairie Mechanical Corporation.
- B. Exhaust Air Systems:
 - 1. All existing exhaust fans in operation shall be repurposed to accommodate new room layouts.
 - 2. An additional exhaust fan will need to be added along with a roof penetration to serve the new restrooms on the southwest side. Model: Greenheck G-90-VG (1/10 HP)
 - 3. The following spaces shall be exhausted continuously during occupied hours, and intermittently during unoccupied hours: Bathrooms and Janitor Closets.
- C. Gas Systems:
 - 1. Gas heating exists for multiple existing Rooftop Units (RTUs). If gas heating has been disconnected to an existing rooftop, it should be reconnected per service recommendations by Prairie Mechanical Corporation.
- D. The existing electrical rooms and telecom room on the first floor shall be conditioned using fan coil units or heat pumps if no systems exist if necessary.
- E. Building is not assumed to be high-rise, therefore a Stair Pressurization Systems has not been included.

END SECTION

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C. PLUMBING

1.1 OWNER'S REQUIREMENTS

- A. Major Assumptions utilized in the development of the design are as follows:
 - 1. All of Noddle's requirements identified through 03-29-2022.
 - 2. Where Noddle exhibited no specific criteria preference, HDR's standard design criteria or professional judgment was employed.
 - 3. Spaces are to be designed for commercial office/library and storage spaces.
- B. Client Specific Requirements:
 - 1. Utilize as much in place existing equipment as possible. This includes existing restrooms and fixtures.

1.2 CODES, STANDARDS AND GUIDELINES

- A. General
 - 1. The following is a list of the applicable codes, standards and regulations related to the Plumbing Systems on the project.
 - a. City of Omaha Plumbing Code - 2018
 - b. International Building Code - 2018
 - c. International Mechanical Code - 2012 edition
 - d. International Fire Code - 2018
 - e. International Energy Conservation Code - 2018

1.3 DESIGN CRITERIA

- A. Plumbing Fixtures and Specialties
 - 1. All new plumbing fixtures will be institutional grade, vitreous china or stainless steel as required.
 - 2. New water closets will be floor mounted, flush tank type with 1.28 gallons per flush maximum with manual operation.
 - 3. Urinals will be wall hung siphon jet type, 1 pint per flush maximum with manual or battery automatic operation.
 - 4. Lavatories will be wall hung or countertop type, 0.5 gallon per minute maximum flow rate with manual or hard wired automatic operation.
 - 5. Electric water coolers will be wall mounted self-contained units.
 - 6. Floor drains and/or floor sinks will be set flush with finished floor, minimum two 2-inch outlet.
 - 7. New water distribution for hot water, hot water recirculation, and cold water piping to be installed only as needed.
 - 8. New sanitary piping and vent piping to be installed only as needed.
- B. Sustainability
 - 1. Owner is not pursuing LEED Certification.
- C. Distribution Piping and Valving Arrangement (only applicable to new piping)
 - 1. Piping mains will be sized for the maximum calculated flow at the design stage plus 10%.
 - 2. The general distribution of services will be via plumbing closets. The services will be routed across the entire first level with a valve and capped for each bay. Services will continue up a main shaft and branch off the risers at every floor for horizontal branch mains running in the ceiling. This will enable maintenance and service changes to occur without interruption of building services.
- D. Reliability & Redundancy
 - 1. Isolation valves shall be provided to facilitate maintenance at each space, group of toilet rooms, program suite, or at other branches where routine service shall be required. All isolation valves shall be accessible, and located on the floor being served, or in the interstitial space serving the respective program area.

E. Maintenance

1. For maintenance and accessibility, all equipment and valves shall be accessible from floor level where possible. Equipment shall be provided with three (3) feet clearance on at least the front and two sides.
2. More clearance shall be provided to service the equipment, if required by the equipment manufacturer or if space allows. A main access aisle of at least three feet shall be provided through the equipment area for moving large equipment through the area.
3. If equipment components, such as tanks or modular equipment skids, require a larger aisle, such equipment space shall be planned during the design process. Sufficient clearance shall be provided above equipment for service, replacement or rigging of components.
4. Piping connections to equipment shall be arranged so that a minimal amount of piping shall be required to be removed for servicing of the equipment. All horizontal piping shall be kept at least seven feet above the floor where possible.
5. Where possible, pipes shall be grouped together on common trapeze supports with sufficient clearance on the sides for access. Piping on common supports shall run with a minimum of two inches clear of other piping, valves or obstructions.
6. All valves shall be accessible for maintenance and emergencies. Backflow preventers shall be installed at a maximum of five feet above the floor level in order to facilitate testing and maintenance.
7. Valves shall be provided at each piece of equipment for service isolation of the equipment from the system. For equipment skids with dual or multiple pumps, individual pump isolation valves on the inlet and outlet shall be provided to isolate one pump from the system, while allowing continued operation of the system during service.
8. Each pressure system riser shall have a valve to isolate the individual riser. Each branch main shall be provided with a valve at the take-off from the riser. Each branch shall be provided with a valve at the take-off from the branch main, to isolate the branch.
9. Each fixture shall be provided with an isolation valve to service the fixture. System branches serving a room or suite shall be grouped together with the valves all grouped together to shut off systems. Where possible, the branch mains on the floor shall be looped and sectional valves installed to allow isolation of parts of the floor to avoid shutting down the entire floor for maintenance or alteration.

1.4 PIPING SYSTEMS DESCRIPTIONS

A. General

1. Drainage
 - a. Sanitary
 - 1) Sanitary waste from toilet rooms, service sinks, drinking fountains, and general use mechanical equipment will be conveyed by gravity to the city sanitary sewer system.
 - 2) Flow rates and pipe sizes will be calculated based on drainage fixture unit values per the Omaha Plumbing Code and adjusted to allow for projected wastewater discharge from various mechanical equipment at the design stage.
 - 3) Complete accessibility will be provided to all cleanouts. Wall type cleanouts will be used where applicable.
 - 4) Floor drains that do not receive regular use will be provided with trap seals.
 - 5) Minimum design velocity in piping: 2 feet per second.
 - 6) Minimum pipe slope will be according to the plumbing code requirements.
 - 7) Floor Drains:
 - a) Janitor closets: Separate floor drains will not be provided, a floor type mop receptor will be provided.
 - 8) Piping Material:
 - a) Below grade, gravity: no-hub cast iron soil pipe with heavy duty couplings.
 - b) Above grade, gravity: no-hub cast iron soil pipe.
 - c) Pump discharge: galvanized carbon steel with mechanical grooved gasketed joints.

- b. Storm (Rainwater)
 - 1) The existing storm water system will only be modified as necessary.
 - 2) Insulation of 1 inch thick with vapor barrier will be provided for all horizontal rainwater conductors, including elbows, roof drain basins and vertical piping underside of roof.
 - 3) Piping exposed to freezing conditions will be electrically heat traced and insulated.
 - 4) All connections to the storm drainage system subject to potential backwater shall be provided with backwater valves.
 - 5) Minimum design velocity: 2 feet per second.
 - 6) Piping Material:
 - a) Below Grade: No hub cast iron soil pipe with heavy duty coupling.
 - b) Above Grade: No-hub cast iron soil pipe.
 - c) Pump discharge: ASTM A53 Schedule 40 galvanized steel with mechanical grooved gasketed joints.
- 2. Water
 - a. Potable Water Service
 - 1) The existing water service will be utilized.
 - 2) The existing water meter will be utilized.
 - 3) Downstream of the water meter main building, reduced pressure zone backflow preventers will be provided on the domestic water service if they currently do not exist.
 - 4) Design Criteria:
 - a) Incoming water temperature; 40 deg F to 60 deg F.
 - b) Incoming water pressure; 70 to 80 PSIG (to be verified). A domestic water booster pump may need to be provided depending upon the domestic water pressure at the site.
 - 5) Piping Material.
 - a) Underground piping will be cement lined ductile iron pressure pipe with mechanical joints.
 - b) Interior above grade piping will be type L copper with either wrought copper fittings and lead free solder joints or mechanical couplings with roll grooved gasketed joints.
 - 6) Equipment
 - a) Backflow preventers: reduced pressure zone type.
 - b. Domestic Cold Water
 - 1) Domestic use water distribution system will provide cold water to the toilet rooms, drinking fountains, mop sinks, hose bibs located in mechanical rooms, outside wall hydrants, and various general use mechanical equipment.
 - 2) Where possible domestic cold water shall be distributed throughout the building above the ceiling. All risers shall be provided with riser shut-off valves. Piping distribution rough-ins and stub-outs will be provided as follows:
 - a) Provide one 4 inch domestic cold water riser serving the central core restrooms. A 2 inch valve and cap for each level.
 - 3) Design of domestic use cold and hot water systems will be based on the fixture unit values according to the 2018 City of Omaha Plumbing Code and adjusted/increased to allow for projected water demand for various mechanical equipment at the design state.
 - a) Piping will be sized to maintain a minimum of 30 PSI residual pressure at the most remote toilet flush valve or emergency shower.
 - b) Domestic water booster pump may be provided depending on utility pressure.
 - c) Water velocity in distribution piping shall not exceed 5 feet per second for cold water, and 5 feet per second for any softened cold water piping. Provisions shall be made to arrest water hammer. Shock arrestors when installed shall comply with PDI-WH201 or ASSE-1010.

- d) Approved pressure reducing valve assemblies with strainers will be provided, if required, to limit the maximum water pressure to 80 psi in the distribution piping.
 - e) The entire cold water distribution system will be insulated.
 - f) Separate backflow preventers will be provided for general use mechanical equipment at the point where these systems branch-off from the potable water supply.
 - g) Piping Material: Interior above grade piping will be type L copper with wrought copper fittings and lead free solder joints.
- c. Primary Domestic Hot Water System
 - 1) One new gas fired water heater will be provided for the domestic hot water distribution system for the new southwest offices. Model: AO Smith DEL-20. A central mixing valve (Lawler 801) and expansion tank (Amtrol ST-5C-DD) will also be provided and placed in the new janitor's closet.
 - 2) For the other two existing restroom areas, the existing water heaters will be used and untouched as long as they are able to function. These water heaters should be tested to confirm performance.
 - 3) The domestic hot water distribution system will provide hot water to the toilet rooms, mop sinks, lavatories and sinks.
 - 4) Hot water will be distributed through a separate recirculating system designed to provide hot water to the points of use. A new recirculation pump will be provided. Model: B&G Ecocirc 20-18 to accompany the new AO Smith DEL-20 in the new janitor's closet.
 - 5) All new hot water piping shall be run in serpentine loop to above plumbing fixtures as close as possible in order to reduce hot water delay time and minimize the number of loops on each floor. Each new lavatory and sink will receive a new ASSE 1070 rated mixing valve per code.
 - 6) Where possible domestic hot water shall be distributed throughout the building above the ceiling. All risers shall be provided with riser shut-off valves. Piping distribution rough-ins and stub-outs will be provided as follows:
 - a) Design of domestic use hot water systems will be based on the fixture unit values according to the 2018 City of Omaha Plumbing Code.
 - b) Piping will be sized to maintain a minimum of 30 PSI residual pressure at the most remote faucet.
 - c) Water velocity in distribution piping shall not exceed 5 feet per second for hot water at or below 110 deg. F.
 - d) Provisions shall be made for water hammer arrestors. Shock arrestors when installed shall comply with PDI-WH201 or ASSE-1010.
 - e) Approved pressure reducing valve assemblies with strainers will be provided, if required, to limit the maximum water pressure to 80 PSI in the distribution piping.
 - f) The entire hot water distribution system will be insulated.
- 3. Gases
 - a. Natural Gas
 - 1) The existing gas meter will be utilized. Natural gas will be supplied from the Metropolitan Utility District (MUD) gas main. The contractor will extend any additional new gas piping to new utilities as needed including the new water heater listed above.
 - 2) Gas service, strainers, meters, pressure-reducing valves, and supports will be provided and installed by MUD. Gas meters shall be located in an outdoor location according to MUD requirements.
 - 3) In the future, if tenant space is fit out, separate gas meters will be provided for each of the future first floor tenant spaces.
 - 4) No natural gas redundancy will be provided.
 - 5) Design pressure for new mechanical equipment as needed: Minimum gas pressure required by Mechanical equipment.

- 6) Design flow: As required by equipment selection.
- 7) Piping mains will be sized for the maximum input flowrate for the equipment, with a maximum pressure drop to the farthest outlet of not more than 0.3 inches of water column at peak flow conditions.
- 8) Indoor Piping Material: Schedule 40 black steel pipe with welded joints.
- 9) Outdoor Piping Material: Schedule 40 black steel pipe with welded joints with corrosion resistant paint for outdoor black steel pipes.

END OF SECTION

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D. ELECTRICAL

1.1 CODES, REGULATIONS, AND DESIGN STANDARDS

- A. International Building Code (IBC) 2018.
- B. International Fire Code (IFC) 2012.
- C. International Energy Conservation Code (IECC) 2018.
- D. NFPA 70 National Electrical Code (NEC) - 2017.
- E. NFPA 72 Installations, Maintenance and Use of Protective Signaling Systems.
- F. NFPA 75 Protection of Information Technology Equipment.
- G. NFPA 101 Life Safety Code 2012.
- H. American National Standards Institute (ANSI).
- I. Institute of Electrical and Electronics Engineers (IEEE).
- J. National Electrical Manufacturers Association (NEMA).
- K. Underwriters Laboratory, Inc. (UL).
- L. Factory Mutual Systems (FM).

1.2 DESIGN CRITERIA

- A. Seismic:
 - 1. The project is classified as IBC Seismic Design Category A; no seismic supporting of equipment will be required.
 - 2. The typical standard practices of vibration isolation of electrical equipment will still be implemented.
- B. Environments:
 - 1. Wet locations: NEMA 3R and/or equipment UL listed and labeled for use in wet locations.
 - a. Exterior locations.
 - 2. Interior mechanical rooms will be considered indoor dry locations.
- C. Reliability/availability:
 - 1. Normal system and emergency system distribution equipment will be arranged to minimize simultaneous outages.
 - 2. The existing normal power distribution system is being utilized and therefore, the existing level of selective coordination, utilized to limit the extent of power interruptions due to fault currents, will remain in its current condition.
 - 3. Emergency power distribution will be selectively coordinated to comply with NEC Article 700.
- D. Utilization voltages:
 - 1. 480Y/277V:
 - a. Utility service.
 - b. Building Distribution.
 - c. Motors 1 horsepower and larger.
 - d. Select 3-phase utilization equipment.
 - e. General building illumination.
- E. Emergency/backup systems:
 - 1. Emergency/Standby Generator:
 - a. There is not an existing emergency/standby generator for the facility.
 - b. An emergency/standby generator is not code-required for the project, and will therefore, not be provided.

2. Emergency Lighting Inverter:
 - a. Emergency lighting inverters will be used to power the following loads:
 - 1) Egress path illumination.
 - 2) Exit lighting.
 3. Uninterruptable Power Supply (UPS):
 - a. No centralized UPS equipment will be provided. Where required for specific equipment, point-of-use UPS units will be utilized.
 - b. Equipment served:
 - 1) Telecommunication system.
- F. Equipment sizing criteria:
1. Final loads will be based on specified equipment
 - a. Lighting: Based on actual luminaire wattage.
 - b. Receptacles: Based on 180 VA per receptacle.
 - c. Equipment: Based on requirements of specified equipment.
 - d. Mechanical: Based on specified mechanical equipment ratings.
 2. Branch circuit loading:
 - a. 277-volt lighting circuits will be limited to 3600 VA.
 - b. 120-volt lighting circuits will be limited to 1600 VA.
 - c. Receptacle circuits will be limited to:
 - 1) 8 receptacles in corridors and support areas.
 - 2) 3 receptacles in exterior areas.
 - 3) 6 receptacles in office areas.
 - 4) 3 workstations.
- G. Continuous/non-continuous:
1. Continuous loads:
 - a. All lighting.
 2. Non-continuous loads:
 - a. Assigned demand factors as described in paragraph below.
- H. Demand factors:
1. Lighting: 1.0.
 2. Receptacles: 1.0 for the first 10kVA plus 0.5 for the remaining.
 3. Telecommunication rooms: 1.0.
 4. Mechanical equipment: 1.0 of the larger of either the heating or cooling load.
- I. Spare capacity:
1. Spare capacity will be provided where possible but is contingent on the capacity of the existing infrastructure since it is being reused.
- J. Voltage drop:
1. Feeders: 2 percent maximum.
 2. Branch circuits: 3 percent maximum.
 3. Total: 5 percent maximum.
- K. Earth resistivity:
1. The existing building's grounding electrode system will be utilized.
- L. Vibration:
1. As defined in the Vibration Section of this narrative.
- M. Lighting:
1. As defined in the Lighting Design Narrative.

1.3 SYSTEM DESCRIPTION

A. General:

1. At a minimum, all systems layouts, components, and configurations will be in accordance with all documents listed in Codes, Regulations and Design Standards Paragraph above.
2. Where deemed appropriate for this project, some design will be above code minimum and based on accepted industry standards and HDR best practices.

B. Site Utilities:

1. Utility Power:
 - a. The existing electrical service is provided by OPPD, with the existing pad-mount transformer located on the west side of the building in the back alleyway
2. Voice/Data:
 - a. The existing service enters the building on the west side of the building in the back alleyway. It appears to be fed from an existing service line that runs north-south in the green space immediately adjacent to the alleyway. The existing service provider appears to be CenturyLink.
 - b. Based on the client's network needs for the facility, they will need to determine, in conjunction with the service provider, if a new service is required, and if so, what that new service will consist of.

C. Interior Power Distribution:

1. Normal Power Distribution:
 - a. System will be designed to re-use the building's existing distribution system.
 - b. 480/277V System:
 - 1) The existing equipment noted below will be used to serve 480/277V loads:
 - a) Main Switchboard – 1600A, 60 pole
 - b) Panelboard P – 225A, 30 pole
 - c) Panelboard Q – 100A, 30 pole
 - d) Panelboard T – 100A, 30 pole
 - e) Panelboard R – 225A, 30 pole
 - f) Panelboard PA – 225A, 42 pole
 - 2) Refer to the marked up floor plan for locations of this existing equipment.
 - c. 208/120V System:
 - 1) The existing equipment noted below will be used to serve 208/120V loads:
 - a) Panelboard DL – 800A, 30 pole
 - b) Panelboard SL – 100A, 12 pole
 - c) Panelboard CL – 100A, 12 pole
 - d) Panelboard C – 225A, 42 pole
 - e) Panelboard H – 225A, 30 pole
 - f) Panelboard D – 225A, 42 pole
 - g) Panelboard A – 225A, 42 pole
 - h) Panelboard B – 225A, 42 pole
 - i) Panelboard AB – 225A, 42 pole
 - j) Panelboard W – 150A, 42 pole
 - k) Panelboard E – 100A, 30 pole
 - l) Panelboard EB – 100A, 30 pole
 - m) Panelboard AA – 225A, 42 pole
 - 2) Refer to the marked up floor plan for locations of these panels.

2. Emergency and Standby Power Distribution:
 - a. Emergency Lighting Inverters:
 - 1) Two (2) 6,600VA central lighting inverters will be installed to serve egress and exit lighting.
 - a) One will be installed in the west part of the building, and the other will be installed in the east part of the building.
 - b) The inverters will not power any emergency luminaires in the shelled/unoccupied spaces. Necessary emergency lights in these spaces shall be emergency dual head lighting units.
- D. Grounding Systems:
 1. General:
 - a. The purpose of the grounding system is to limit voltages during abnormal conditions, to stabilize system voltages during normal operations, to provide a low impedance path for fault current to return to its source, to provide equal potential between pieces of equipment, and to limit buildup of static electricity.
 2. Earth Grounding Electrode System:
 - a. The building's existing earth grounding electrode system will be utilized.
 3. Power System Grounding:
 - a. All power system grounding will be in accordance with Article 250 of the NEC and IEEE 142 Grounding of Industrial and Commercial Power Systems.
 - b. A separate green insulated equipment grounding conductor will be provided in all feeders and branch circuits.
 - c. Electrical raceways shall serve as a secondary equipment grounding conductor.
 4. Telecommunication Grounding:
 - a. Any new telecommunication grounding will be provided in accordance with EIA/TIA 607.
 5. Lightning Protection System:
 - a. The existing building does not have a lightning protection system. One is not currently planned to be added at this time.
- E. Power Monitoring System
 1. No power monitoring system will be provided.
- F. Vibration Mitigation:
 1. Flexible conduit will be provided for final electrical connections to mechanical equipment and other equipment subject to vibration.
- G. Power System Studies:
 1. The following power system studies will be required for the project:
 - a. Short-Circuit Study.
 - b. Protective Device Coordination Study.
 - c. Arc-Flash Hazard Analysis.
- H. Fire Alarm System:
 1. While NFPA 101 does not require a fire alarm system in existing business occupancies under 1000 occupants, HDR strongly recommends providing a new fire alarm system for the facility, including the shelled/unoccupied area. System shall be a supervised, fully addressable system that includes all activating and annunciating devices required to meet State and Local codes mentioned above. Alarm activation will be initiated by manual pull stations, smoke detection, and fire sprinkler water flow devices. Alarm indication will consist of visual and combination visual/audible devices located and installed in accordance with NFPA 72 and the ADA. A fire alarm annunciator panel will be located at the main entrance. The main fire alarm panel will be located in, or near, the main electrical room.

- I. Voice/Data System Infrastructure:
 - 1. A complete pathway system shall be provided to service voice and data system cabling needs for the building.
 - a. All in-wall rough-in will be required to have a back box and conduit routed to above accessible ceiling. When routing cabling above accessible ceilings, the use of j-hooks will be an acceptable means of cable management.
- J. Security System Infrastructure:
 - 1. A complete pathway system shall be provided to service the Owner's security system needs for the building.
 - a. All in-wall rough-in will be required to have a back box and conduit routed to above accessible ceiling. When routing cabling above accessible ceilings, the use of j-hooks will be an acceptable means of cable management.

1.4 SYSTEM COMPONENTS

- A. 480/277V Normal Power Main Switchboard:
 - 1. The existing switchboard is a 480V, 1200A Square D Power-Style fusible switchboard.
- B. Safety switches:
 - 1. Safety switches will be fusible and non-fusible type, heavy duty construction, horsepower rated, quick-make and quick-break with visible blades in OFF position, padlockable in OFF position.
 - 2. Fuses will be Class RK1-, RK5-, J-, or L- style.
 - 3. Provide engraved plastic nameplates for all safety switches.
- C. Conductors:
 - 1. All conductors will be copper installed in conduit.
 - a. Conductors #10 and smaller will be solid. Conductors #8 and larger will be stranded.
 - 2. Minimum size conductors will be #12 for branch circuits, # 14 for control wiring, and #18 for signal cable.
 - 3. Interior conductors will be 600 volt THHN/THWN or XHHW insulated.
 - 4. Exterior conductors will be 600 volt XHHW insulated.
 - 5. A separate neutral conductor will be provided with all new line to neutral circuits. New multi-wire branch circuits with common neutral will not be used.
 - 6. Based on an initial assessment, it appears all existing multi-wire branch circuits are currently run with common neutrals. Any modified multi-wire circuits shall be provided with handle ties.
 - 7. A green insulated equipment grounding conductor will be provided with all feeders and all branch circuits.
 - 8. Where conductors are upsized and derated to allow for more current-carrying conductors in a conduit, a conductor's ampacity shall not be derated to less than 80 percent of its typical current-carrying ampacity.
- D. Conduit:
 - 1. Conduit will be rigid metal conduit (RMC), electrical metallic tubing (EMT), flexible metal conduit (FMC), liquid-tight flexible metal conduit (LFMC).
 - 2. Minimum size conduit will be 3/4 IN for lighting and power circuits.
 - 3. Conduit applications:
 - a. RMC and IMC may be used in all locations.
 - b. EMT may be used in indoor dry locations.
 - c. LFMC in lengths less than 60 IN will be used at indoor motor and equipment connections.
 - d. LFMC in lengths less than 60 IN will be used for outdoor motor and equipment connections.
 - e. EMT fittings will be steel set screw type.

4. All conduit will be concealed within furred out walls and above finished ceilings within architecturally-finished spaces. Exposed conduit may be provided in mechanical, electrical, and telecommunications rooms.
- E. Boxes:
1. Outlet boxes and junction boxes will be galvanized steel.
 2. Surface-mounted boxes may be galvanized utility boxes.
 3. Surface-mounted boxes in damp or wet locations will be corrosion resistant cast malleable iron or cast aluminum with threaded hubs.
- F. Wiring Devices:
1. Receptacles will be specification grade 20 amp, 125 volt, 2-pole, 3-wire, duplex, grounding type with back and side wiring.
 2. Tamperproof receptacles:
 - a. Tamperproof receptacles will be provided in the Genealogy, Public Restroom and Mothers Room spaces.
 3. GFCI receptacles will be provided in bathrooms, kitchens, within 6 feet of any sink, electrical rooms, mechanical rooms, and all outdoor locations.
 4. Device covers will be brushed stainless steel single or ganged with beveled edges.
 5. Damp and wet location device covers will be gasketed with spring hinged cover.
 6. Outdoor device covers will be cast-metal, padlockable, and suitable for in-use applications.
 7. All new or modified devices will be permanently labeled with serving panel and circuit number.
 8. A new 20A/3P breaker will be provided in panelboard AB to feed a new 4.5kW water heater.
 9. A new 15A/1P breaker will be provided in panelboard AB to feed a new 1/10hp exhaust fan located on the roof.
 10. Architectural columns will be provided to feed workstations located in the open area due to the existing ceiling height.
 - a. Product will be Legrand Furniture Feed Vista Column or similar
 11. An under carpet raceway system will be provided in conference rooms to meet NEC Meeting Rooms floor box requirements and to feed any conference tables.
 - a. Product will be Legrand Connectrac Flex System or similar.
- G. Fire Alarm System:
1. Main fire alarm panel will be located in, or near, the main electrical room.
 2. A fire alarm annunciator panel will be located at the main entrance.
 3. Pull stations shall be provided at all exit doors and entrances to exit stairs as required.
 4. ADA compliant flashing lights shall be provided at all corridors, public spaces, toilets and common use spaces.
 5. Self-correcting analog smoke sensors shall be provided in electrical rooms, telecom rooms, at all fire alarm panel and NAC panel locations, on one side of corridor smoke doors and both sides where required by NFPA 72, and in air systems per NFPA 90A.
 - a. At this time, it has not been verified if any of the existing RTU's currently have smoke duct detectors. Until this can be verified, new duct detectors need to be planned for either the supply or return side of each existing RTU, depending on their CFM. Coordinate with the Mechanical Systems Narrative.
 6. LED type indicators shall be provided for remote indication that a heat and/or smoke sensor has been activated in a lockable room (located outside room adjacent to door), or duct sensors that are not readily visible (located on ceiling or at visible location nearest to sensor installation).
 7. HVAC interface for fan shutdown with zone control shall be provided, as well as all connections required for smoke and fire/smoke dampers.
 8. All wiring shall be in conduit.

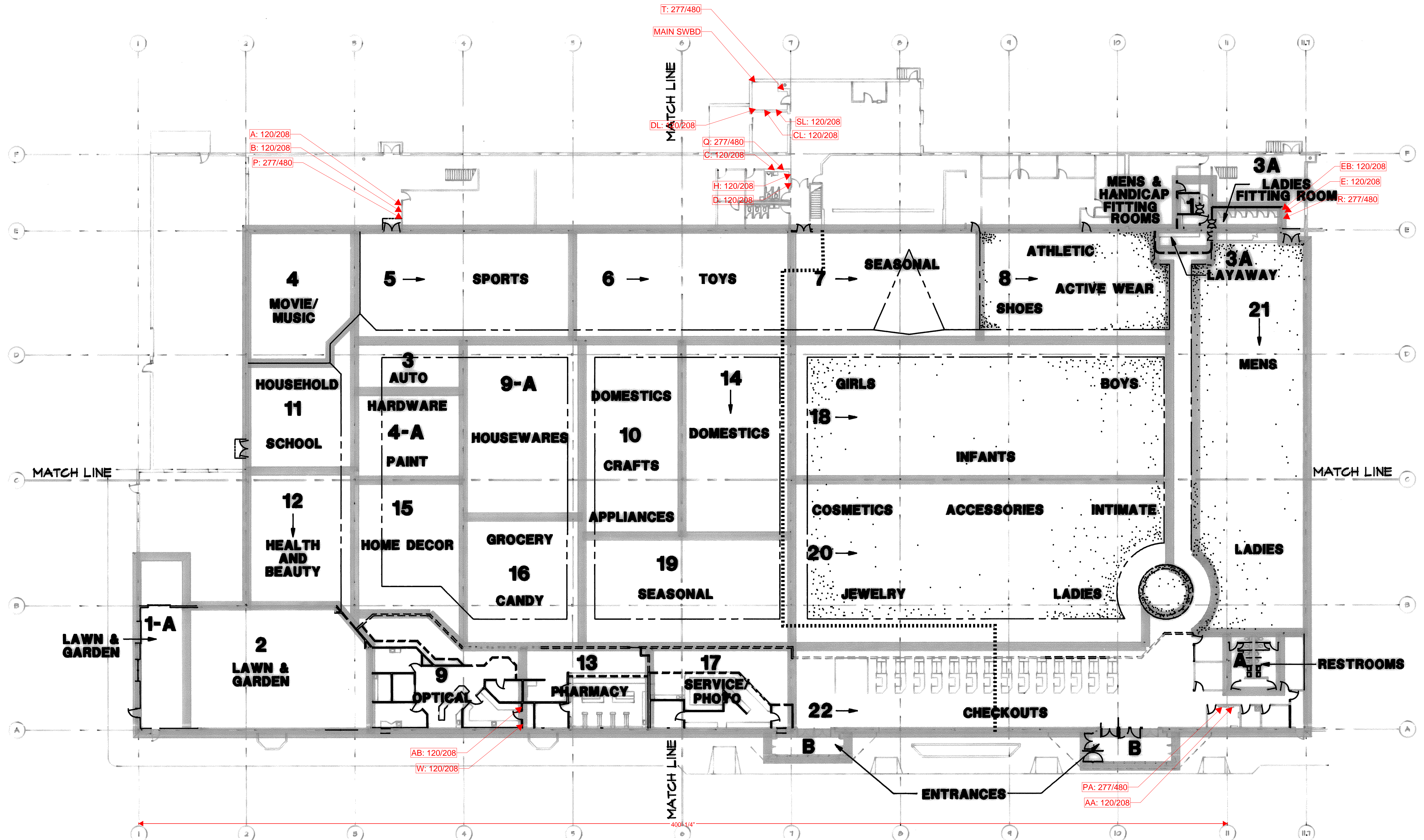
H. Voice/Data System Infrastructure:

1. Telecom Rooms/Cabinet Locations:
 - a. Required telecom equipment and wired infrastructure will be determined by Owner.
 - b. Each room/location will have at least an 8' width of wall covered with 4' x 8' x 3/4" fire retardant plywood backboard starting at 6" AFF to a height of 8'-6" AFF.
 - 1) A minimum of two locations, one in the east and one in the west, will be provided to limit cable run lengths to less than 100 meters.
 - c. A vertical cable tray system shall be installed on the wall above the rack/cabinet location(s) and be routed up to the accessible ceiling.
 - d. Each rack/cabinet will be bonded to building steel with a minimum #6 AWG wire.
2. Voice and data outlets shall consist of a 2-gang junction box with a 1 inch conduit stubbed above to the nearest accessible ceiling, and terminated with a plastic bushing

I. Security System Infrastructure:

1. Provide complete rough-in and pathways for security access control stations and door position switches at new public entrance and new staff entrance. Include junction box for access control station and 3/4" conduit stub-out from each door position switch, electric strike and access control station. Additional access control stations to be determined by Owner.
2. Provide complete rough-in and pathways for surveillance cameras at new public entrance and new staff entrance, as well as around the exterior building perimeter, at a minimum. Include junction box and 3/4" conduit stub-out to cable management system. Additional security camera locations to be determined by Owner.

END OF SECTION



E. LIGHTING

1.1 GENERAL LIGHTING CONCEPT SUMMARY

A. Lighting Design Considerations

1. Lighting design is the skillful balance of four key concepts: human needs, architecture, economics, and energy efficiency. During the lighting design process, these factors will be evaluated along with the unique needs of the project to make judgments regarding luminaire type selections and placement. The result is a design that creates a pleasant environment for the occupants, facilitates exploration and tasks, enhances the architecture, while also resulting in the selection of lighting equipment that is economically and environmentally responsible and easily maintainable. Considering these factors during design is vital to the long-term success of the lighting system.

B. Design Requirements.

1. General Area Light Levels

- a. The lighting design of these facilities shall generally adhere to The IESNA Lighting Handbook Reference & Application, Tenth Edition, published by the Illuminating Engineering Society of North America in 2011. The criteria contained within the *Lighting Handbook* may, however, be superseded by other Local Building Codes. Recommended light levels specific to the room types in this project are outlined at the end of this section.

2. Energy Codes

- a. The project will be designed to meet IECC-2018 in areas where lighting is replaced. Some of the highlights of the 2018 requirements are as follows:
 - 1) Automatic lighting shutoff of some type in all spaces (except in areas where automatic shutoff might endanger occupants).
 - 2) Every space must have at least one control device to switch the lighting on/off.
 - 3) Each area that is required to have a manual control shall also allow occupants to reduce lighting load by at least 50%.
 - 4) Daylight zones shall be designed such that lights in the daylight zone are controlled independently of general area lighting.
 - 5) Automatic Lighting Shutoff is required in nearly all space types. Most areas will require a fully automatic off and in areas where automatic shut off might endanger occupants, automatic partial off to 20% or less is required. Each control zone must be less than 600 sqft.
 - 6) Every space must have at least one control device to switch the lighting on/off and allow occupants to reduce lighting load which will be accomplished with continuous dimming.
 - 7) Daylight zones are required to have automatic responsive control. Continuous dimming will control each zone. Zones shall be broken into primary and secondary daylight zones and side and top lit areas shall be controlled separately.
 - 8) Display, accent and task lighting must be controlled separately from the general lighting.
 - 9) Functional testing of the lighting controls is required and must be performed by a registered design professional not involved in the project design or construction. A certifying document must be provided stating that the lighting controls have been tested, calibrated, adjusted, programmed, and are in working condition.
 - 10) Contractor shall provide owner documents certifying lighting controls meet performance criteria within 90 days after certificate of occupancy.

3. Egress Lighting
 - a. All emergency lighting in occupied areas of the facility will be circuited to an emergency source of power and will operate during a power failure. In addition to being powered by an emergency source of power, emergency lights in the main electrical room will be provided with emergency battery packs capable of powering lighting for a minimum of 90 minutes. Luminaires connected to the emergency source of power will be controlled in one of two ways:
 - 1) In main occupied areas of the facility, the emergency luminaires will be connected to UL rated emergency lighting. The luminaires will dim with other area lighting to maintain uniformity of appearance in a space during normal business hours.
 - 2) In other areas, emergency luminaires will be controlled by occupancy sensors and will automatically turn on lighting when occupants are sensed, in the event of a fire alarm, or a failure of the normal power supply.
 - 3) In shelled spaces, dedicated emergency lighting units with integral battery (Lithonia ELM6L Bug-Eye style or similar) will be provided for emergency lighting. One-for-one replacements of existing equipment will be provided where possible but additional units may be required to meet egress requirements.
 - b. Minimum emergency egress illumination levels will be in accordance with IBC and the Life Safety Code, NFPA 101, Section 7.9, requires not less than an average of 1 fc and not less than 0.1 fc along any point along the path of egress; this level shall be maintained for one and a half hours after the loss of normal power. Maximum to minimum uniformity ratios shall not exceed 40:1.
 - c. Existing exit signs must be evaluated to ensure exit signs and integral batteries meet code and performance requirements. If requirements are not met, exit signs will be replaced and/or added to meet requirements. New exit signs will be thermoplastic housing with integrated nickel-cadmium battery and self diagnostics (Lithonia LQM or similar).

1.2 LIGHTING SYSTEMS CRITERIA

- A. A base luminaire and manufacturer will be listed for every luminaire type, and two optional manufacturers will be included wherever possible. This will ensure that only proven, commercially available luminaires are selected for this project. Lower quality, commodity-grade luminaires will not be used.
- B. Due to the short term lease, the primary goal of the lighting design for the space is to provide a functional system while making as few modifications as possible. The lighting will be designed to meet code requirements, but may not meet best practices or IES illuminance guidelines.
 1. In spaces where lighting is not upgraded, the existing lighting system must be evaluated for functionality. A replacement of non-functioning lamps and ballasts will be provided or a one-for-one replacement will be provided by a new LED luminaire (Lithonia Epanl or similar).
- C. In spaces where lighting is new, best practices will be used to meet IES illuminance guidelines.
- D. Lighting design software will be used to perform illuminance calculations to verify that the IESNA recommended illuminance criteria are being met and to refine the lighting design for areas with new lighting.
- E. Light Sources for new lighting installation:
 1. To maximize energy savings and reduce maintenance costs, LED lighting will be used for all new project luminaires. This will include all interior and exterior luminaires for both normal and specialty luminaire types. LED light sources shall meet the following requirements at a minimum:
 2. Long life
 - a. Exceed L70 @ 50,000 hours.

3. Excellent color rendering
 - a. CRI Metric:
 - 1) CRI > 90, R9 > 7.
 4. TM-30 Metric:
 - a. Fidelity index (Rf) > 80, skin fidelity index (Rf,skin) > 80, gamut index (Rg) between 90 and 120, and limit red chroma shift (Rcs, h16) to -15% to +10%.
 5. Stability of source color.
 - a. 3500° K (crisp warm white) for general lighting.
 - b. White color tuning LEDs may be introduced so lighting can be color tuned to be a cooler temperature early in the day and shift to a warmer color temperature later in the day to support circadian rhythms for occupants. This feature will be evaluated for all spaces that are expected to be occupied after 5:00 PM.
 6. One of the many benefits to LED lighting is that it is instant on and in most cases the ability to dim is standard as part of the LED driver. It should be assumed that all normally occupied areas of the building should be capable of continuous dimming.
 7. Instant on/off (suitable for emergency/egress lighting).
- F. Drivers:
1. Drivers regulate and monitor current and voltage to LEDs. These are available in varying degrees of performance and affect quality of light. The following operational characteristics are recommended:
 - a. LED dimming shall be equal in range and quality to a commercial grade incandescent dimmer. Quality of dimming is to be defined by dimming range, freedom from perceived flicker or visible stroboscopic flicker, smooth and continuous change in level (no visible steps in transitions).
 - 1) In areas where dimming is used for daylight harvesting, the natural square law shall be used for the response to control input from 100 percent to 0.1 percent and back to 100 percent. The dimming shall be stable when input voltage conditions fluctuate over what is typically experienced in a commercial environment.
- G. Controls:
1. Where spaces are re-configured due to the addition or removal of walls, circuiting will be revised and new code-compliant controls will be added so each space is individually controlled and all code requirements are met.
 2. New lighting controls will consist of line voltage manual controls with line voltage occupancy sensors and photocells as required by code.
- H. Daylight Harvesting: Daylight harvesting via daylight responsive controls will be implemented where required to meet energy code. Daylight harvesting opportunities will be present in all spaces with new lighting and exterior glazing. In areas where daylight harvesting can be implemented the resulting energy savings have the potential to reduce lighting energy use by 30 to 80 percent. When daylight responsive controls are implemented, dimmable electric lighting will be provided.
1. Shades
 - a. Shades could be necessary in spaces where direct glare could disrupt basic tasks within the space.
 - b. Density of shade weave depends on VLT of glazing.

1.3 LIGHTING DESIGN

- A. Introduction:
1. Lighting design ideas and techniques for specific areas or spaces are outlined in the following sections for initial discussion but are subject to the interior design and architectural schemes as well as Owner approval.

B. Interior Lighting

1. Introduction:

- Lighting design ideas and techniques for specific areas or spaces are outlined in the following sections for initial discussion but are subject to the interior design and architectural schemes as well as Owner approval.

2. Genealogy Room

- Recessed linear lighting (Mark Slot 4 LED or similar) or continuous installation of 1'x4' edge-lit LED panels (Lithonia Epanl or similar) will be used to provide general illumination.
- Decorative Pendant lighting will be provided over reception desk.

3. Private Offices, Open Office Spaces, Open Shelving areas.

- Where possible, existing lighting and controls will be reused.
- Where new lighting is needed, it will be replaced with LED Flat Panel luminaires (Lithonia Epanl or similar).

4. Shelled Space

- Where possible, existing lighting will be reused.
- The existing lighting system must be evaluated for functionality. Replacement of non-functioning lamps and ballasts will be provided or a one-for-one replacement will be provided by a new LED luminaire (Lithonia Epanl or similar).
- New controls will be added at new wall for zoning of shelled and occupied areas.

Interior illumination and controls considerations are documented in the following table per IESNA recommendations and IECC 2018 commercial lighting requirements.

Illumination and Controls Considerations								
Illuminance Criteria ¹		Color Criteria		Allowed Power	Controls Considerations			
Avg. Maint'd (except as noted)	Notes	CCT	CRI	LPD ²	Line Voltage Switch	Occupancy Sensing	Daylight Harvesting	Dimming
Lighting for Interiors (New lighting)								
Back of House / Corridors								
<u>Back of House</u>								
E _h @ floor = 50 lux E _v @ 5' AFF = 30 lux	2:1 Avg:Min	3500K	85+	0.66 W/sf	*	*		
<u>Support Spaces / Service Rooms</u>								
E _h @ 2.5' AFF = 300 lux E _v @ 5' AFF = 100 lux	2:1 Avg:Min	3500K	85+	0.43 W/sf	*	*		
Private Spaces								
<u>Office / Conference</u>								
E _h @ 2.5' AFF = 300 lux E _v @ 5' AFF = 100 lux	2:1 Avg:Min	3500K	85+	0.93 W/sf	*	*	*	*
Toilets								
<u>Fixtures</u>								
E _h @ top surface = 150 lux E _v @ 3.5' AFF = 50 lux	2:1 Avg:Min							
<u>General</u>								
E _h @ floor = 50 lux E _v @ 3.5' AFF = 30 lux	2:1 Avg:Min	3500K	85+	0.85 W/sf	*	*		*
<u>Vanities</u>								
E _h @ counter = 150 lux E _v @ 3.5' AFF = 200 lux	2:1 Avg:Min							
Transition Spaces								
<u>Public Corridors</u>								
E _h @ floor = 100 lux E _v @ 5' AFF = 30 lux	2:1 Avg:Min	3500K	85+	0.66 W/sf	*			
References								
1. IESNA Handbook 10th edition - Lighting for Common Applications, Courts and Correctional Facilities, and Offices								
2. 2018 IECC								

END OF SECTION

F. LIFE SAFETY AND FIRE PROTECTION

1.1 OWNER'S REQUIREMENTS

- A. The existing fire department access and hydrant configuration will be reviewed by the Omaha Fire Prevention Bureau prior to issuing DD.

1.2 CODES, STANDARDS AND GUIDELINES

- A. Authority Having Jurisdiction (AHJ), includes but not limited to:
 - 1. Omaha Planning Department | Permits and Inspections,
 - 2. Omaha Fire Prevention Bureau,
 - 3. Nebraska Department of Labor - elevator inspections
- B. General
 - 1. The following is a list of the applicable codes, standards and regulations related to the codes and references on the project. City of Omaha has adopted the 2018 IBC and IECC effectively.
 - a. Omaha Municipal Code;
 - b. IBC, International Building Code – 2018
 - c. IMC, International Mechanical Code – 2012
 - d. OPC, Omaha Plumbing Code - 2018
 - e. IFC, International Fire Code – 2012
 - f. IECC, 2018
 - g. Accessibility
 - 1) 2018 IBC
 - 2) ICC A117.1 - Accessible and Usable Buildings and Facilities, 2009 Edition.
 - h. ASME Standard A17.1/ CSA B44 Safety Code for Elevators and Escalators, 2007 Edition
 - i. NFPA 70 National Electrical Code – 2017
 - j. NFPA 101 Life Safety Code (LSC) – 2012

1.3 SITE – FIRE SERVICE FEATURES

- A. General
 - 1. Reserved
- B. Fire Service Features (IFC Chapter 5)
 - 1. At minimum existing fire service is as follows: three sides, including two long sides of the building will be accessible for fire department access. The fire department access will be provided so that no portion of the building is more than 300 feet from the fire department access road, as the building will be provided with a fire sprinkler system installed in accordance with NFPA 13.
 - 2. Fire department access will not be less than 20 feet wide and have vertical clearances of not less than 13 feet 6 inches.
- C. Fire Hydrants
 - 1. Existing to remain.

1.4 OCCUPANCY AND CONSTRUCTION CLASSIFICATION

- A. 3020 S 84th Street = Type IIB (Group B, S-1)
 - 1. 1 story + mezzanine
 - 2. 26 FT building height
 - 3. Approximately 89,000 SF on 1st floor, see code analysis in Architectural section.
 - 4. See code plans for uses and occupant load

5. Uses
 - a. B: Open office, private office, conference rooms with less than 50 occupants
 - b. S-1: Library Stack storage
 - c. Incidental- Mechanical, electrical, storage, etc

1.5 FIRE-RESISTIVE CONSTRUCTION AND INTERIOR FINISHES

- A. Exterior Walls – existing to remain
- B. Structural Frame and Building Elements – existing to remain
- C. Combustible Materials
 1. Type IIB construction shall include limited combustible materials.
- D. Fire-rated barriers
 1. 2-hour Fire Barriers – Required at tenant separation wall
 2. 1-hour fire barriers – None required
 3. Smoke Partitions/Barriers (0-hour fire-rated) – None required
 4. Perimeter fire-stopping – None required
 5. Penetrations and opening will be protected per IBC Chapter 7 and LSC Chapter 8
- E. Interior Finishes
 1. Interior Floor Finish;
 - a. Materials complying with DOC FF-1 “pill test” (CPSC 16 CFR, Part 1630) or ASTM 2859; Class II minimum (non-sprinklered); minimum critical radiant flux of 0.22 W/cm² or greater
 2. Interior Wall and Ceiling Finish – see IBC Table 803.9 for any exceptions

Occupancy Classification	Material Classification and Location		
	Exit Enclosures and Exit Passageways	Corridors and Exit Access Stairs/Ramps	Rooms and Enclosed Spaces
Group B	Class B	Class C	Class C
Group S	Class C	Class C	Class C

1.6 FIRE PROTECTION AND EMERGENCY SYSTEMS

- A. Summary of scoped systems
 1. Existing automatic sprinkler system provided throughout, NFPA 13; modifications to be completed as needed to separate tenant spaces.
 2. Existing automatic, wet standpipes provided, NFPA 14
 3. Fire extinguishers throughout building, NFPA 10
 4. Fire alarm systems, NFPA 72

1.7 MEANS OF EGRESS AND ACCESSIBILITY

- A. General
 1. See Preliminary Code Plans for occupant loading and egress capacity
 2. Reduced occupant load factors require the approval of the City of Omaha Building and Fire Departments prior completion of DD.
- B. Accessibility shall be provided in accordance with IBC Chapter 11, ANSI/ICC A117.1 and the 2010 ADA standards, with the most restrictive being applied. Where accessibility is not provided, appropriate exemptions shall be indicated on the life safety plan.

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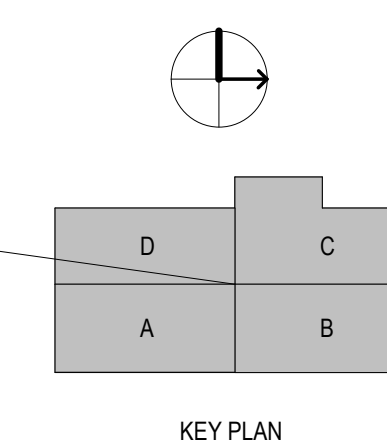
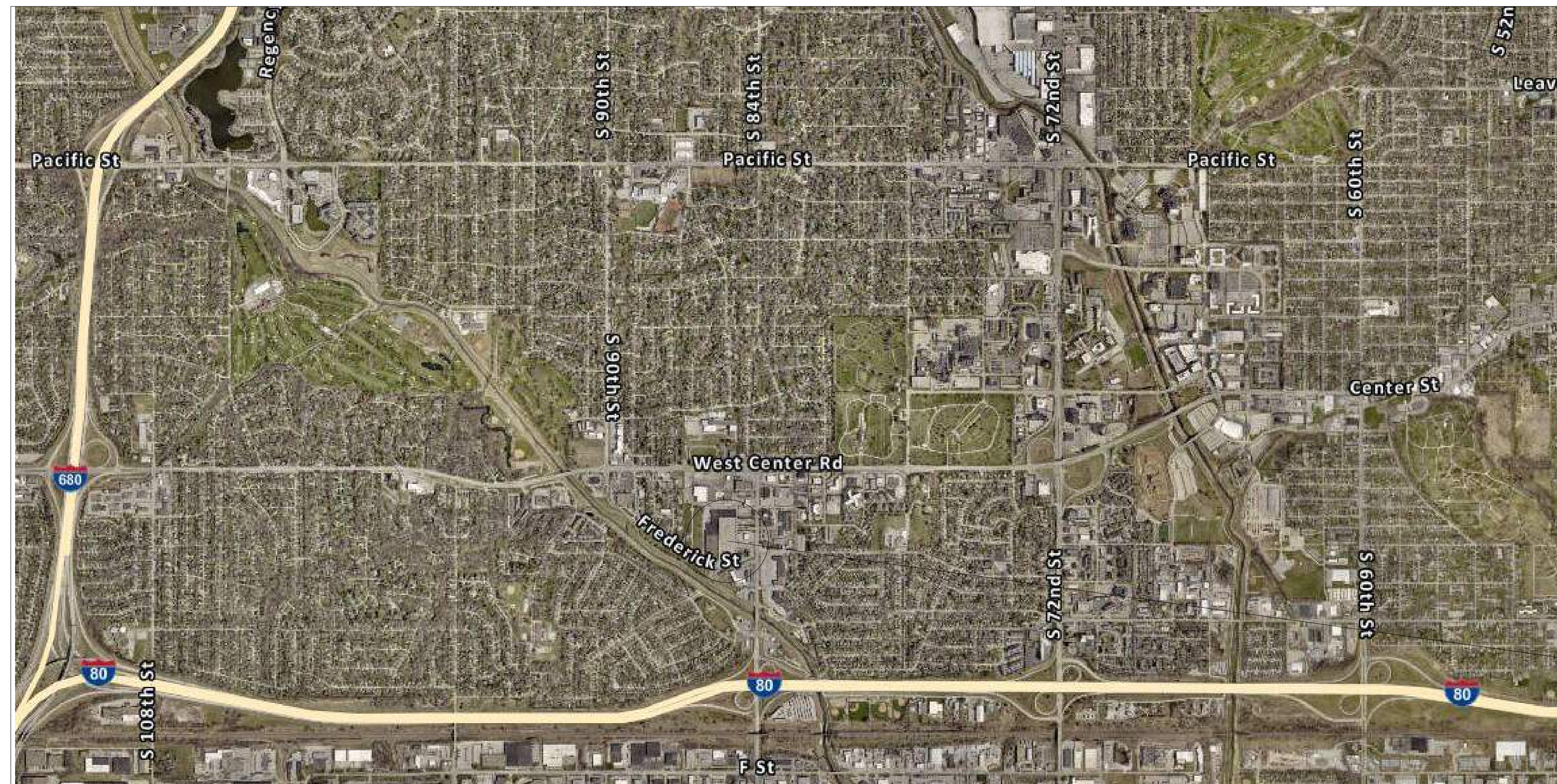
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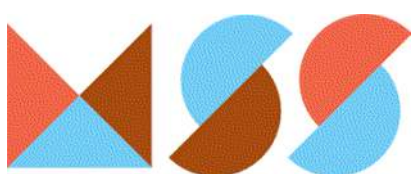


3020 S 84th
Omaha, NE 68124



Omaha
Public
Library

215 S 15th St
Omaha, NE 68102



Library Consultant

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Sullivan Studios**
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New York, NY 10001
t (646) 687-7923

[illegible]



D

C

B

A

OCCUPANCY CALCULATIONS											
Floor Level	Total Floor Area	Occupancy Classification and Use Designation (IBC 302.1)	Area Square Footage	Occupant Load	Required Egress Component Width (IBC 1005.3)	Fixture Totals					
		Use Designation				Female Toilets	Male Toilets	Urinals	Female Lavatories	Male Lavatories	Service Sinks
		Measure	Select			Input	(F/H)	(1" Egress Capacity Factor - Component)			
		Group B	27,130	169.56	16.96						
		Group B	3,847	38.47	7.69						
		Group S-1	14,978	49.93	4.99						
		Group S-1	21,636	72.12	7.21						
		Group S-1	20,388	12.23	1.22						
							8.00	5.00	3.00	4.00	4.00
		Group A-3	3,708	247.20		5.00	2.00	1.00	3.00	2.00	
		Floor Totals	87,979	-	91,687	590	39	13	7	4	7
Mezzanine		Group S-1	13,471	45	4	Included above					
Floor Totals	13,471		13,471	45	5						
Building Totals	101,450	MIXED	105,158	634	43	13	7	4	7	6	1

LIFE SAFETY LEGEND	
<div>Area Name</div> <div>Group B</div> <div>150 SF</div> <div>Load Factor:300</div> <div>Calc Occ: 100</div>	NAME OF AREA/SPACE USE DESIGNATION OF AREA/SPACE (IBC 302.1) SQUARE FOOTAGE OF AREA/SPACE LOAD FACTOR (IBC TABLE 1004.1.2) CALCULATED OCCUPANT LOAD PER AREA/SPACE (IBC 1004)
<div>DOOR</div> <div>Clear Width:34"</div> <div>Max Occ:226</div> <div>Req Width:28"</div> <div>Calc Occ:150</div>	EGRESS COMPONENT - OCCUPANT LOAD AND WIDTH (IN INCHES) ACTUAL CLEAR WIDTH PROVIDED MAXIMUM ALLOWED OCCUPANT LOAD PER EXIT (IBC 1005.3) REQUIRED MINIMUM WIDTH PER OCCUPANCY (IBC 1005.3) CALCULATED OCCUPANT LOAD PER EXIT (IBC 1004)
<div>STAIR</div> <div>Clear Width:44"</div> <div>Max Occ:226</div> <div>Req Width:28"</div> <div>Calc Occ:150</div>	EGRESS STAIR - OCCUPANT LOAD AND WIDTH (IN INCHES) ACTUAL CLEAR WIDTH PROVIDED MAXIMUM ALLOWED OCCUPANT LOAD PER STAIR (IBC 1005.3) REQUIRED MINIMUM WIDTH PER OCCUPANCY (IBC 1005.3) CALCULATED OCCUPANT LOAD PER STAIR (IBC 1004)
<div>999-11"</div> <div>TRAVEL DISTANCE</div>	TRAVEL DISTANCE: LONGEST ROUTE TO AN EXIT (MAXIMUM PER SPACE/AREA SHOWN) (IBC 1017.2)
<div>999-11"</div> <div>COMMON PATH</div>	COMMON PATH: DISTANCE TRAVELED BEFORE AN EXIT PATH IS CHOSEN (MAXIMUM PER SPACE/ AREA SHOWN) (IBC 1006.2)
<div>(45)</div>	DOOR FIRE RATING
<div>ILLUM</div>	ILLUMINATED EXIT SIGN
<div>FEC</div>	FIRE EXTINGUISHER & CABINET RECESSED (SCREENED IF EXISTING) MAX TRAVEL DISTANCE: 75' - (IBC TABLE 906.3(1))
<div>FEC</div>	FIRE EXTINGUISHER & CABINET SURFACE MOUNTED (SCREENED IF EXISTING) MAX TRAVEL DISTANCE: 75' - (IBC TABLE 906.3(1))
<div>FE</div>	FIRE EXTINGUISHER SURFACE MOUNTED (SCREENED IF EXISTING) MAX TRAVEL DISTANCE: 75' - (IBC TABLE 906.3(1))
<div>FHC</div>	FIRE HOSE CABINET RECESSED (SCREENED IF EXISTING)
<div>CDN</div>	FIRE DEPARTMENT CONNECTION
<div>STND</div>	STAND PIPE
<div>SUITE</div>	SUITE
<div>NOT IN CONTRACT</div>	NOT IN CONTRACT
<div>CONTROL AREA BOUNDARY</div>	CONTROL AREA BOUNDARY

PARTITION RATING GRAPHICS

PARTITIONS REQUIRED TO BE SMOKE RESISTANT, FIRE RESISTANT, OR BOTH FIRE AND SMOKE RESISTANT ARE SHOWN GRAPHICALLY ON PLANS WITH HATCH PATTERNS.	
PARTITION RATING GRAPHIC DESIGNATION	PRIORITY
<div>4 HR FIRE RATING</div>	1 HIGHEST
<div>3 HR FIRE RATING</div>	2
<div>2 HR FIRE RATING & SMOKE BARRIER</div>	3
<div>2 HR FIRE RATING</div>	
<div>1 HR FIRE RATING & SMOKE BARRIER</div>	4
<div>1 HR FIRE RATING</div>	
<div>SMOKE PARTITION (NON-RATED)</div>	5 LOWEST
<div>NON-RATED PARTITION</div>	

BUILDING INFORMATION

1.	ADDRESS:	2954 SOUTH 84 STREET...
2.	ZONING DISTRICT:	CC-FF: EXISTING - UNCHANGED
3.	OCCUPANCY:	Group B: Business Office Group S-1: Moderate Hazard Storage (Primary Occupancy) Books and paper in rolls or packs Group S-1: Moderate Hazard Storage (By Future Tenant if elected)
4.	CONSTRUCTION TYPE:	Type 2B (Table 601)
5.	SPRINKLERED:	Building 100% Equipped with Automatic Sprinkler
FIRE-RESISTANCE RATING OF STRUCTURE:		
PRIMARY STRUCTURAL FRAME		RATING
BEARING WALLS	EXTERIOR	0-HOUR
NONBEARING WALLS	EXTERIOR	0-HOUR
	INTERIOR	0-HOUR
FLOOR...	INTERIOR	0-HOUR
ROOF...		0-HOUR
NUMBER OF STORES: 2		
ALLOWABLE STORES: 3		
Level 01 Elevation		100'
7.	BUILDING AREAS:	Total Parcel Area: 18.0483 ACRES (786183.948 SF)
	FAR:	1.0 MAXIMUM
	Allowable Building Area (Parcel)	471,710 SF
	Total Site Area	786183 SF
	Total Building Area	91,887 GSF
	Allowable Building Area	87,982 GSF
	Maximum Allowable Mezzanine	29,034 GSF
	Total Building Area (w/ Mezzanine)	101,450 GSF
SPRINKLER INCREASES PROVIDED, TAKEN		
FRONTAGE INCREASE TAKEN (58.5%)		
MIXED-OCCUPANCY SEPARATED MIXED OCCUPANCY CLASSIFICATION		
8.	Building Areas by Level:	Level 01: 87,979 GSF Mezzanine: 13,471 GSF (excluded from building area per 505.2)
9.	PARKING:	EXISTING - UNCHANGED

APPLICABLE BUILDING CODES

THIS PROJECT HAS BEEN DESIGNED UNDER THE REQUIREMENTS OF THE APPLICABLE CODES BELOW

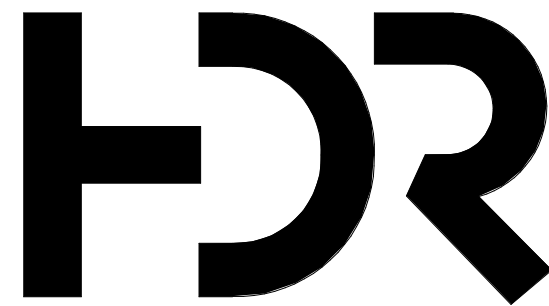
1.	BUILDING:	2018 INTERNATIONAL BUILDING CODE WITH LOCAL AMENDMENTS
2.	STRUCTURAL:	2018 INTERNATIONAL BUILDING CODE WITH LOCAL AMENDMENTS
3.	ENERGY:	2018 INTERNATIONAL ENERGY CONSERVATION CODE WITH LOCAL AMENDMENTS
4.	MECHANICAL:	2012 INTERNATIONAL MECHANICAL CODE AND CHAPTER 40 OMAHA MUNICIPAL CODE
5.	PLUMBING:	2018 OMAHA PLUMBING CODE AND CHAPTER 49 OMAHA MUNICIPAL CODE
6.	ELECTRICAL:	2017 NATIONAL ELECTRIC CODE
7.	FIRE PREVENTION:	2012 LIFE SAFETY CODE AND 2012 INTERNATIONAL FIRE CODE
8.	ACCESSIBILITY:	Americans with Disabilities Act (ADA) : o 2010 ADA Standards for Accessible Design

APPLICABLE EGRESS REQUIREMENTS

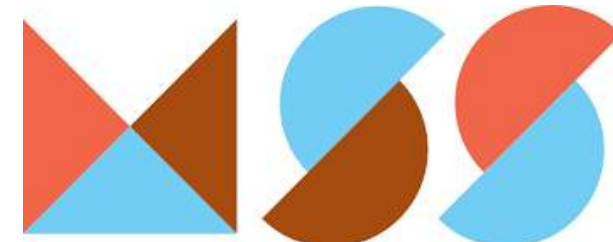
BASED ON: Type 2B (Table 601) - Group B - Building 100% Equipped with Automatic Sprinkler

1.	MAXIMUM ALLOWABLE TRAVEL DISTANCE:	250 FEET Per IBC Table 1016.1
2.	COMMON PATH OF EGRESS TRAVEL:	100 FEET Per IBC Table 1006.2.1
3.	MAXIMUM ALLOWABLE DEAD-END DISTANCE:	50 FEET Per IBC 1020.4 DEAD ENDS
4.	ALLOWABLE EGRESS COMPONENT CAPACITY:	220 @ 33 INCH DOOR Per IBC Table 1005.3 0.15 Inches/Occupant 440 @ 66 INCH DOOR
5.	ALLOWABLE EGRESS STAIR CAPACITY:	220 @ 44 INCH STAIR Per IBC Table 1005.3 0.2 Inches/Occupant

GENERAL LIFE SAFETY NOTES

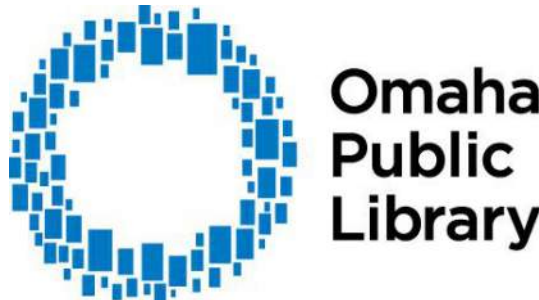


HDR Architecture
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Omaha, NE 68106



City of Omaha - Omaha
Public Library
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3020 S 84th
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Civil Engineer	--
Structural Engineer	HDR
Mechanical Engineer	HDR
Electrical Engineer	HDR
Plumbing Engineer	HDR
Interior Designer	Margaret Sullivan Studios
Equipment Planner	--
Wayfinding	--

Sheet Reviewer | Author

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Schematic Design

Project Number 10338138
Original Issue 04/26/22

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Sheet Name

LIFE SAFETY

Sheet Number

G-010

Project Status
84th Street - Schematic Design



D

C

B

A

SYMBOLS LEGEND

Sheet Number

A-100

Sheet Number
Discipline Code

View Title

A1

View Name

1/8" = 1'-0"

Drawing Scale
Drawing Number

View Title with Reference

A1

View Name

1/8" = 1'-0"

Drawing Number
Drawing Scale
Sheet Number
Reference Sheet Number

Exterior Elevations

1
A101

Position on Sheet
Sheet Number

Interior Elevations

19 SIM
A101
19 SIM
19 SIM

Position on Sheet
Sheet Number

Match Lines

MATCHLINE

SEE 1/ A101

Sheet Number
Position on Sheet

Area Reference

A

Adjacent Area

SEE: (X)X-(X)X

Sheet Number
Position on Sheet

Building Section

1 SIM
A101

Position on Sheet
Sheet Number

Wall Section

1 SIM
A101

Position on Sheet
Sheet Number

Detail - Section

1 SIM
A101

Position on Sheet
Sheet Number

Detail - Plan/RCP

1 SIM
A101

Position on Sheet
Sheet Number

Drawing Revisions

3

Revision Number

North Arrow

Plan North

True North

Graphic Scale

0 2' 4' 8'

Column Grid Lines

1 **2**

Column Grid Line (New)

A **B**

Column Grid Line (Existing)

Level Datum

LEVEL 01
0'-0"

Level Name
Level Elevation

Spot Elevation

10'-0"

Spot Elevation

Spot Coordinates

N 10'-11"
E 12'-10"
EL 10'-0"

North/East Coordinates
Spot Elevation

Room Tag

NAME

Room Name

101A

Room Number

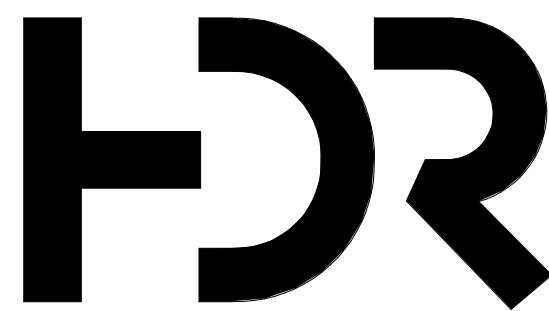
Centerline

Centerline

Denotes Centerline
of an Object

GENERAL NOTES

1. REFER TO COMPLETE SET OF ISSUED CONTRACT DOCUMENTS FOR APPLICABLE NOTES, ABBREVIATIONS, AND SYMBOLS
2. DO NOT SCALE DRAWINGS. IF DIMENSIONAL INFORMATION IS REQUIRED & NOT FOUND, NOTIFY ARCHITECT IMMEDIATELY FOR CLARIFICATION.
3. ALL DIMENSIONS ARE TO COLUMN CENTERLINES OR FACE OF FINISHED WALLS OR SURFACES UNLESS NOTED OTHERWISE.
4. FIELD MEASURE AND CONFIRM DIMENSIONS FOR OWNER PROVIDED EQUIPMENT AND FURNISHINGS. COORDINATE WITH THE OWNER ON DELIVERY AND INSTALLATION OF OFFICE EQUIPMENT. MINIMUM REQUIRED OPENINGS AND ACCESSIBLE ROUTES TO THE INSTALLATION AREA SHALL BE COORDINATED WITH THE SUPPLIER.
5. FINISH FLOOR ELEVATIONS ARE TO TOP OF CONCRETE SLAB UNLESS OTHERWISE NOTED.
6. COORDINATE EXACT SIZE AND PLACEMENT OF EQUIPMENT BASE AND HOUSEKEEPING PADS WITH EQUIPMENT TO BE PROVIDED.
7. ISOLATE DISSIMILAR METALS TO PREVENT GALVANIC CORROSION.
8. SEALANTS EXPOSED TO VIEW SHALL BE CUSTOM COLOR AS SELECTED BY THE
9. CAULK AT JUNCTURE OF INTERIOR FACES OF DOOR FRAMES, VIEW WINDO...
- 10.
- 11.
- 12.



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Equipment Planner	--
Wayfinding	--

B Sheet Reviewer Author

MARK	DATE	DESCRIPTION
1	Date 1	Revision 1

Schematic Design

Project Number
Original Issue

10338138
04/26/22

PRELIMINARY
NOT FOR CONSTRUCTION

A Sheet Name

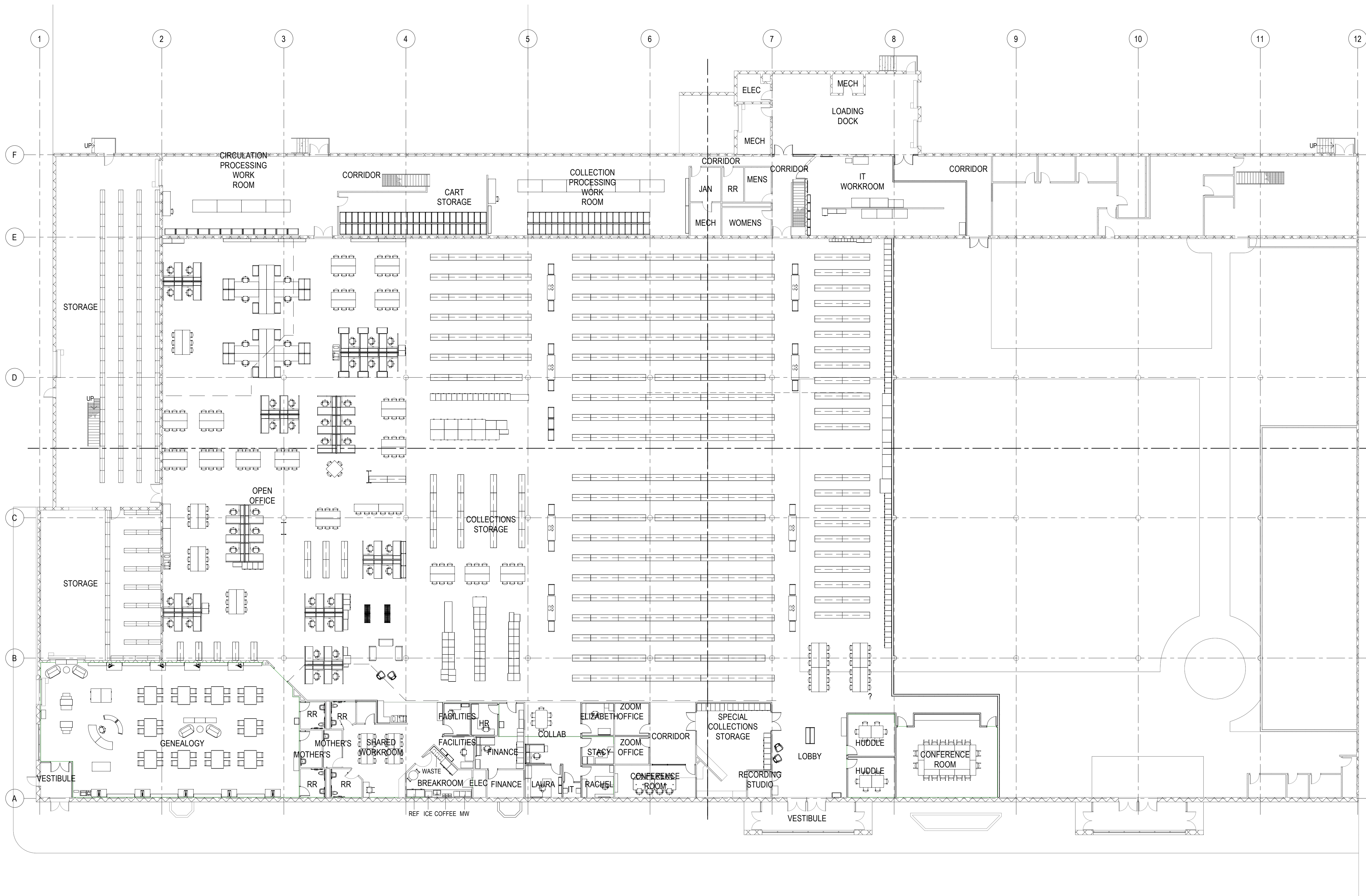
SYMBOLS, & GENERAL
NOTES

Sheet Number

A-001

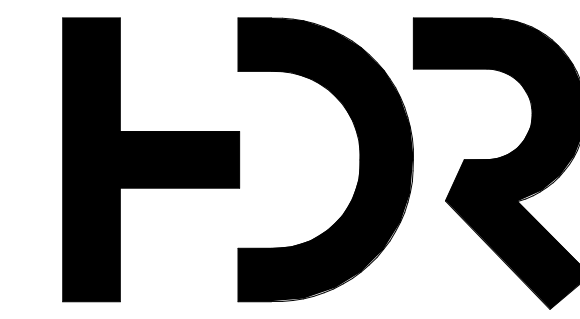
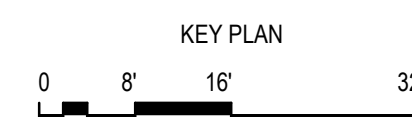
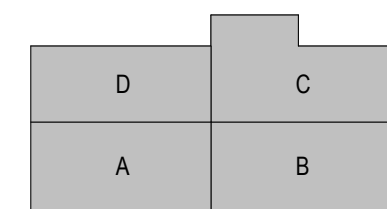
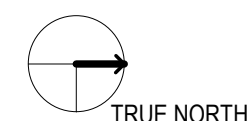
Project Status
84th Street - Schematic Design

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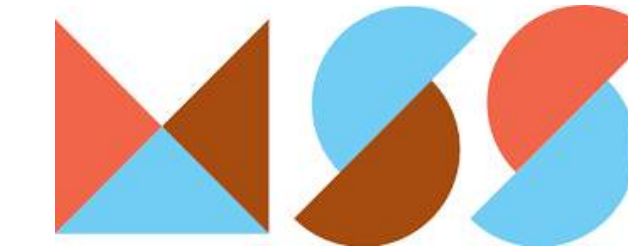


1 FLOOR PLAN - LEVEL 1 OVERALL

1/16" = 1'-0"

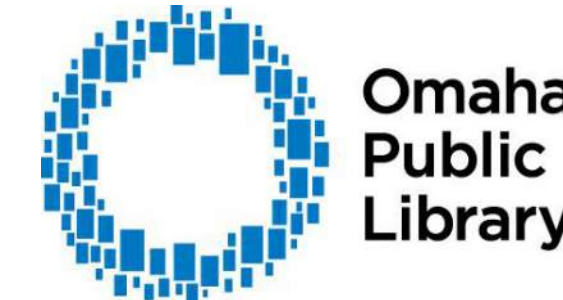


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Equipment Planner	--
Wayfinding	--

Sheet Reviewer	Author
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MARK	DATE	DESCRIPTION
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Schematic Design

Project Number	10338138
Original Issue	04/26/22

PRELIMINARY
NOT FOR CONSTRUCTION

Sheet Name

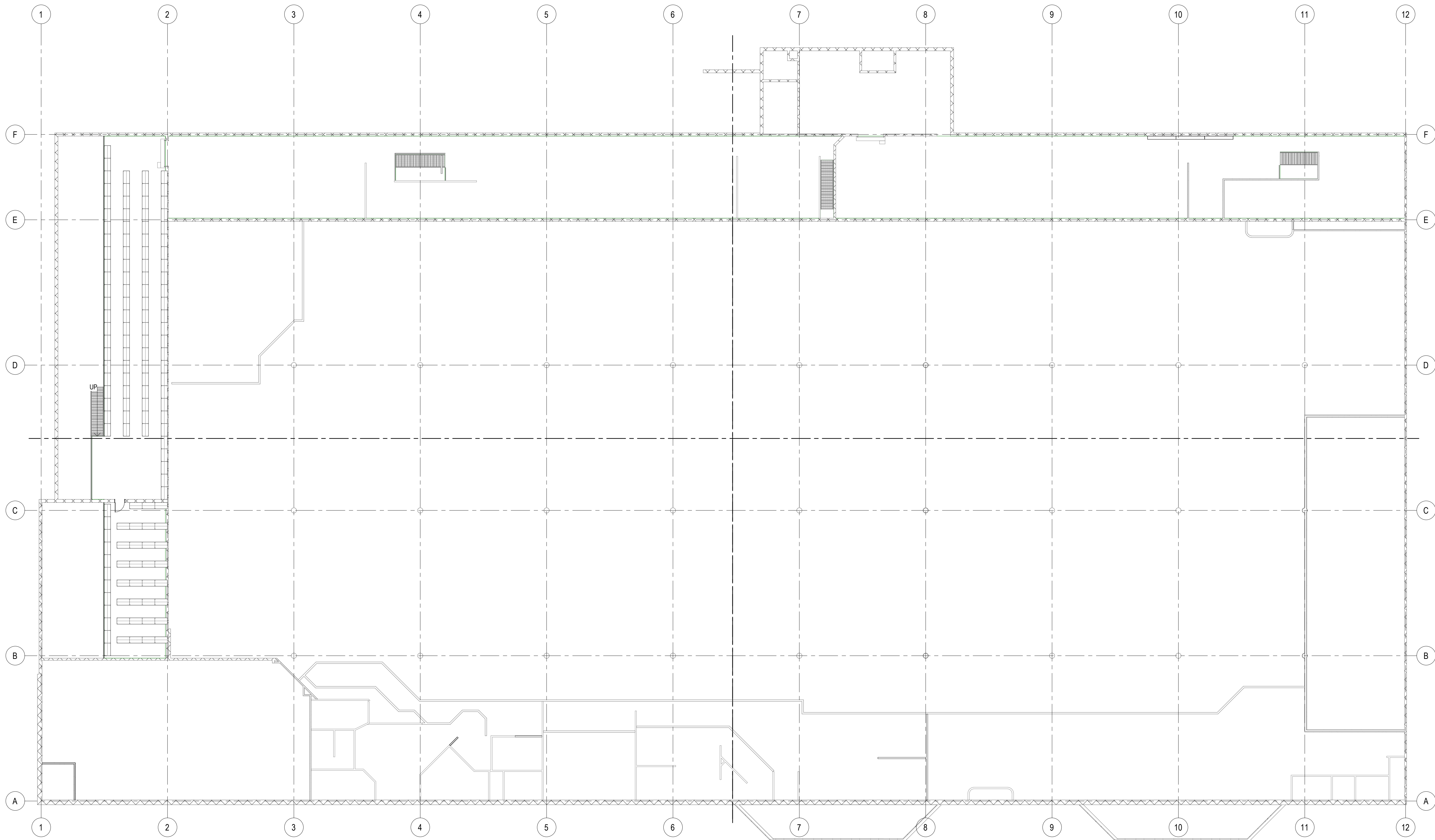
OVERALL PLAN -
LEVEL 1

Sheet Number

A-101

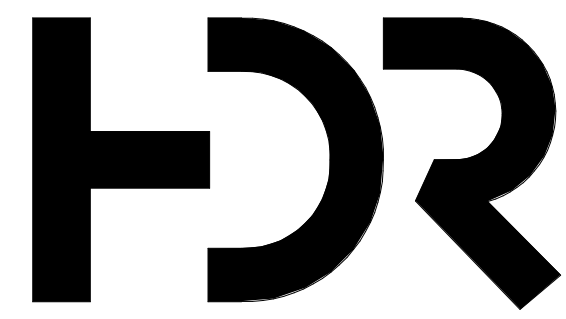
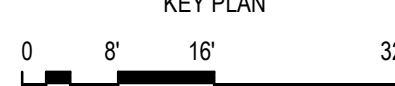
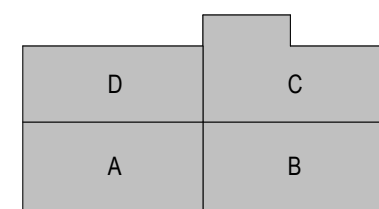
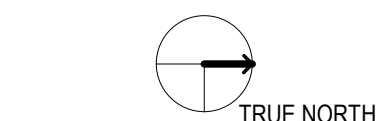
Project Status
84th Street - Schematic Design

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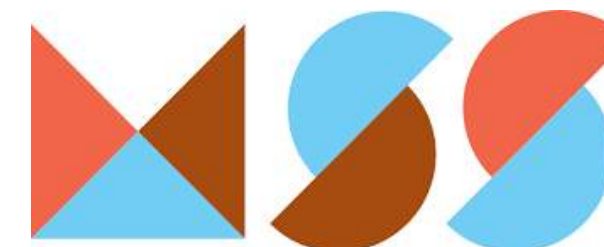


1 FLOOR PLAN - LEVEL 2 OVERALL

1/16" = 1'-0"



HDR Architecture
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Equipment Planner	--
Wayfinding	--

Sheet Reviewer	Author
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Project Number	10338138
Original Issue	04/26/22

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Sheet Name

OVERALL PLAN -
LEVEL 2

Sheet Number

A-102

Project Status
84th Street - Schematic Design



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|----------------|----------|
| Project Number | 10338138 |
| Original Issue | 04/26/22 |

Sheet Number

A-111A

Project Status

84th Street - Schematic Design



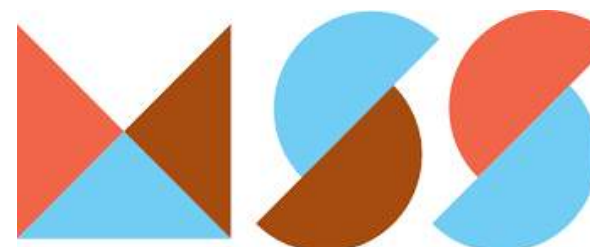
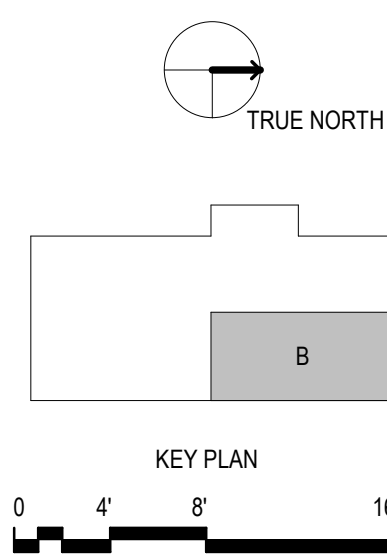
Schematic Design



FLOOR PLAN GENERAL NOTES

1. DRAWINGS & SPECIFICATIONS ARE COMPLEMENTARY COMPONENTS OF THE CONTRACT DOCUMENTS. REVIEW ALL DRAWINGS AND SPECIFICATIONS FOR THE PROJECT. IF YOU HAVE ANY QUESTIONS, CONTACT THE ARCHITECT IMMEDIATELY FOR CLARIFICATION IF INCONSISTENCIES, CONTRADICTIONS OR OMISSIONS ARE DISCOVERED.
2. DO NOT SCALE DRAWINGS. IF DIMENSIONAL INFORMATION IS REQUIRED & NOT PROVIDED, NOTIFY ARCHITECT IMMEDIATELY FOR CLARIFICATION.
3. ALL DIMENSIONS ARE TO COLUMN CENTERS/ON FACE OF FINISHED WALLS OR SURFACES UNLESS NOTED OTHERWISE.
4. REFER TO DEMOLITION DRAWINGS, IF ANY. FOR WORK REQUIRED IN ADVANCE OF CONSTRUCTION AND COORDINATE ACCORDINGLY.
5. ALL DOOR FRAMES ARE TO BE INSTALLED 4" AWAY OF ADJACENT PERPENDICULAR WALLS UNLESS NOTED OTHERWISE.
6. REFER TO LIFE SAFETY DRAWINGS FOR ADDITIONAL FIRE / SMOKE RATING REQUIREMENTS.
7. REFER TO EQUIPMENT DRAWINGS FOR ADDITIONAL EQUIPMENT SPECIFIC INFORMATION.
8. REFER TO INTERIOR FINISH DRAWINGS FOR ADDITIONAL INTERIOR FINISH SPECIFIC INFORMATION.
9. REFER TO STRUCTURAL DRAWINGS FOR ADDITIONAL STRUCTURAL SPECIFIC INFORMATION.
10. REFER TO MEP DRAWINGS FOR ADDITIONAL MEP SPECIFIC INFORMATION.
11. ALL NON-LOAD BEARING INTERIOR WALLS ARE TYPE "A" UNLESS NOTED OTHERWISE.
12. HIGHER RATED FIRE WALLS TAKE PRECEDENCE OVER LOWER RATED WALLS TO CONTINUE THROUGH ALL SUCH INTERSECTIONS.
13. ALL SMOKE BARRIER WALLS ARE TO BE EXTENDED FROM BACK SIDE OF EXTERIOR WALL SHEATHING TO BACK SIDE OF EXTERIOR WALL SHEATHING OR ANOTHER SMOKE BARRIER WALL.

SHEET KEYNOTES



City of Omaha - Omaha
Public Library
OPL Relocation

3020 S 84th
Omaha, NE 68124



Project Manager	John Dineen
Project Designer	HDR
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Landscape Architect	--
Civil Engineer	--
Structural Engineer	HDR
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Equipment Planner	--
Wayfinding	--

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Project Number	10338138
Original Issue	04/26/22

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Sheet Name

FLOOR PLAN - LEVEL 1
- AREA B

Sheet Number

A-111B

Project Status
84th Street - Schematic Design

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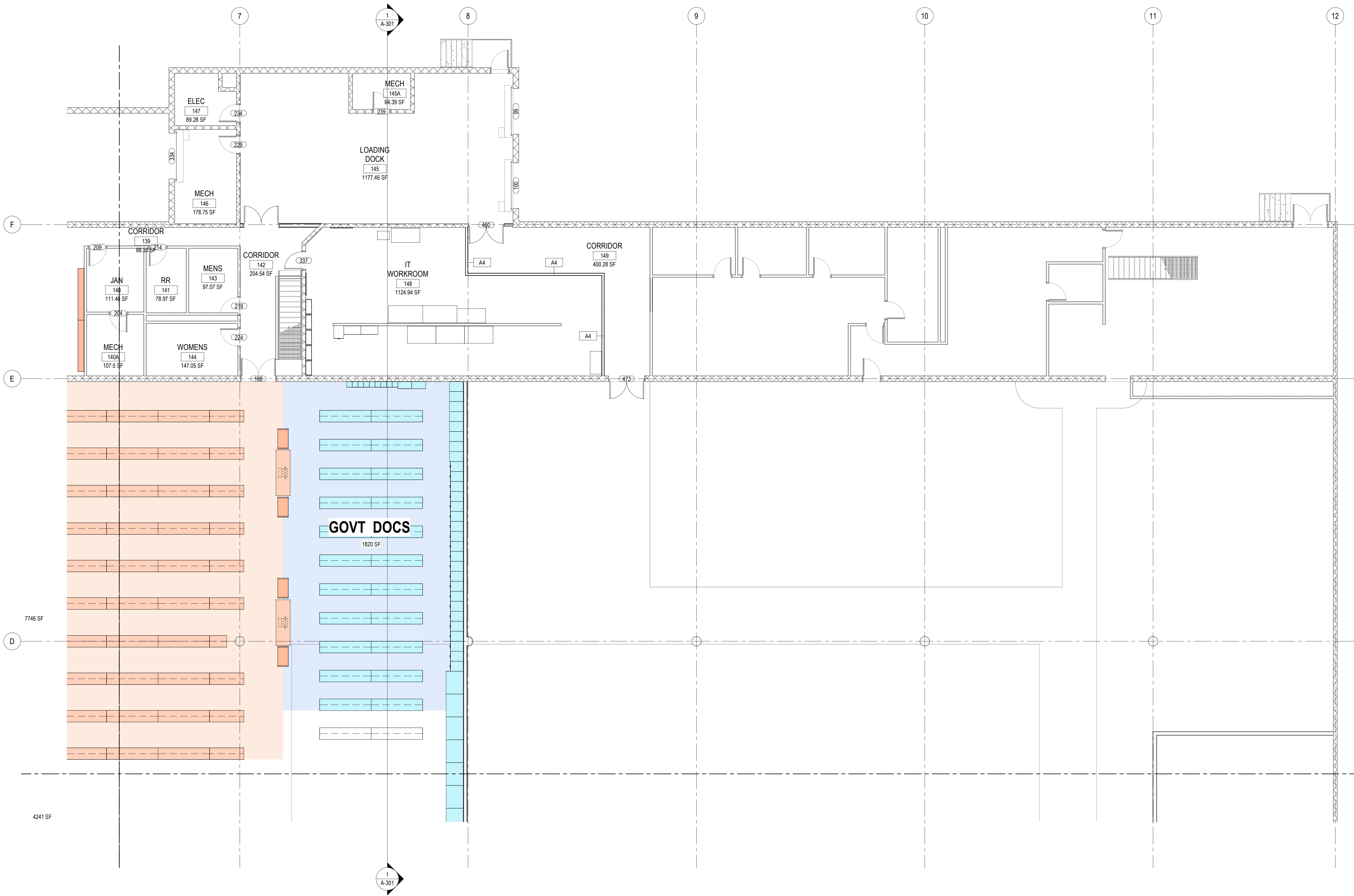
D

C

B

A

1



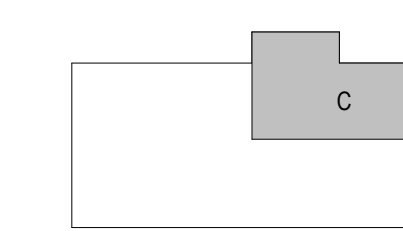
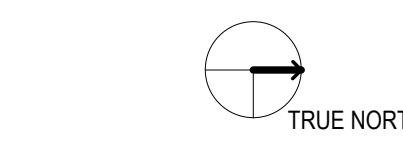
1 FLOOR PLAN - LEVEL 1 - AREA C
1/8" = 1'-0"

FLOOR PLAN LEGEND

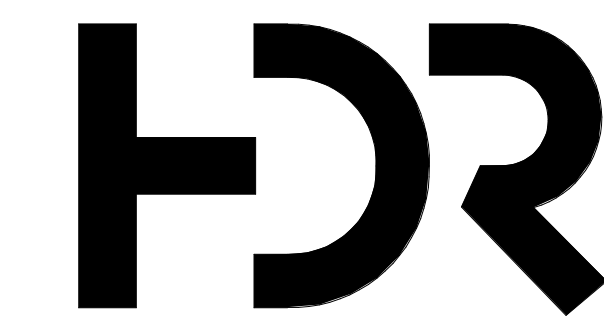
FLOOR PLAN GENERAL NOTES

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8. REFER TO INTERIOR FINISH DRAWINGS FOR ADDITIONAL INTERIOR FINISH SPECIFIC INFORMATION.
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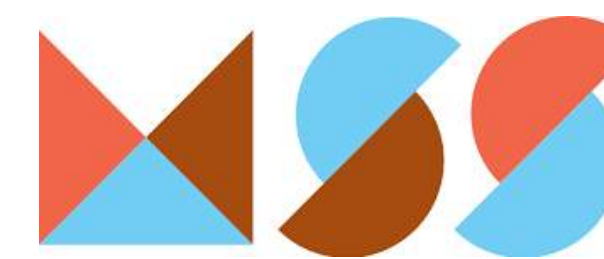
SHEET KEYNOTES



0 4' 8' 16'



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Equipment Planner	--
Wayfinding	--

Sheet Reviewer Author

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Schematic Design

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Original Issue 04/26/22

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Sheet Name

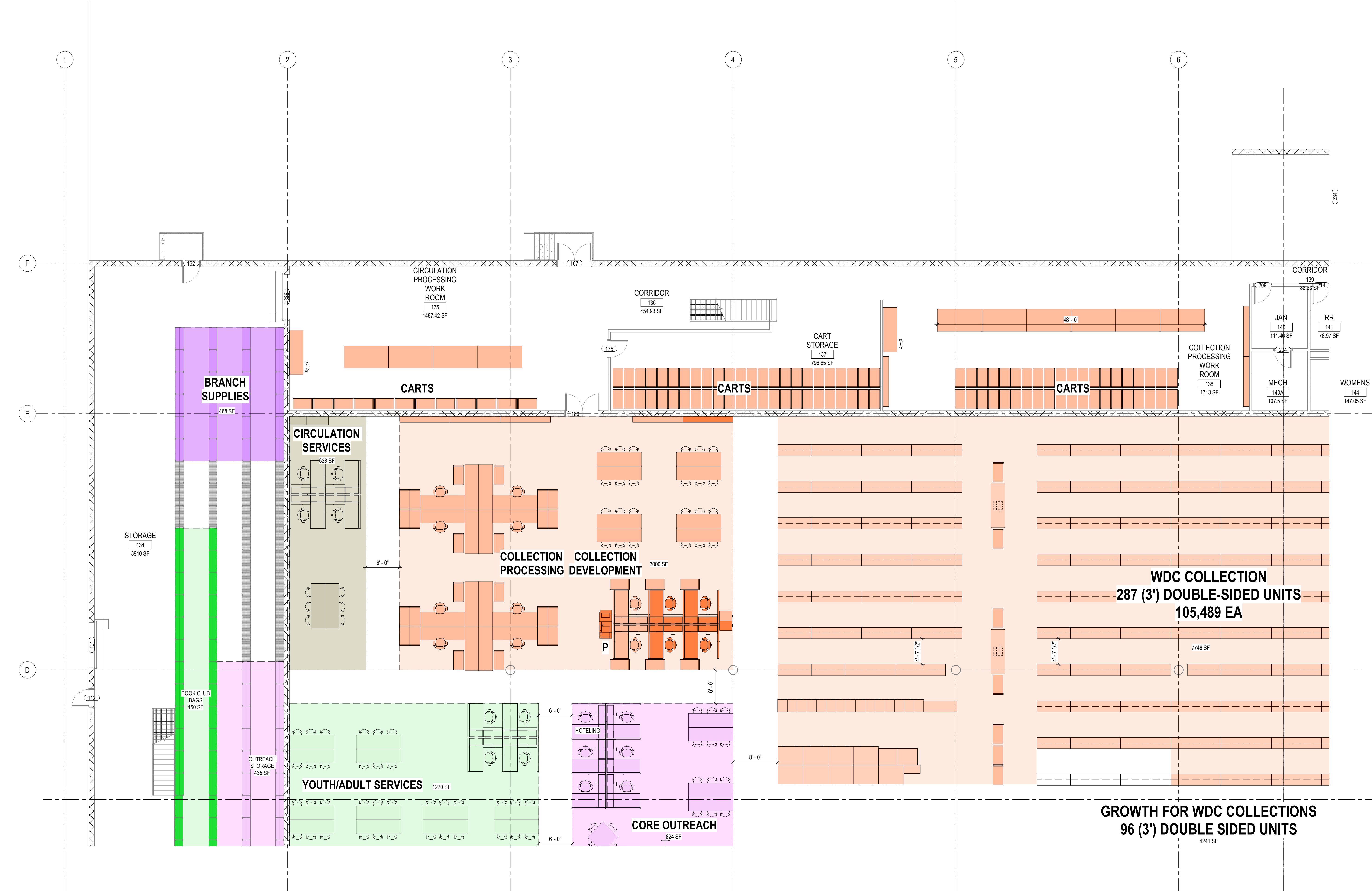
FLOOR PLAN - LEVEL 1
- AREA C

Sheet Number

A-111C

Project Status
84th Street - Schematic Design

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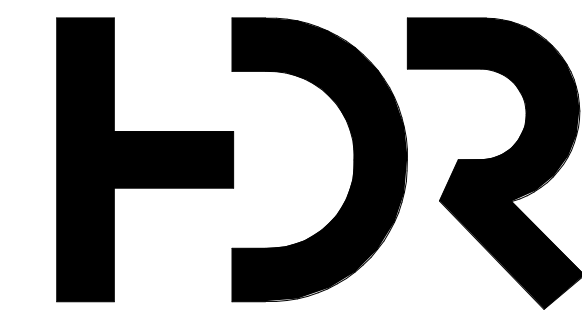
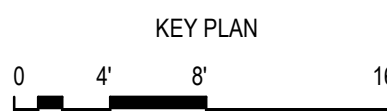
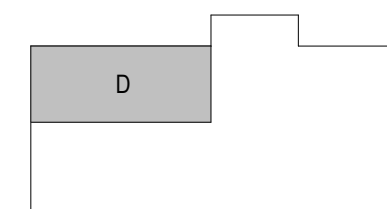
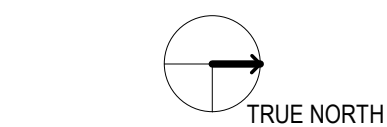
1 FLOOR PLAN - LEVEL 1 - AREA D
1/8" = 1'-0"

FLOOR PLAN LEGEND

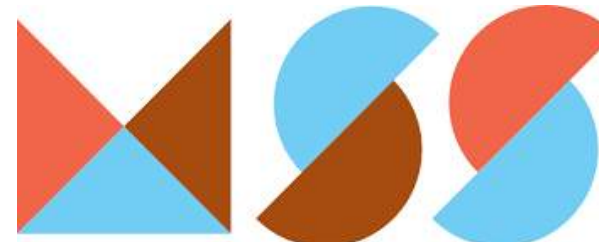
FLOOR PLAN GENERAL NOTES

1. DRAWINGS & SPECIFICATIONS ARE COMPLEMENTARY COMPONENTS OF THE CONTRACT DOCUMENTS. REVIEW ALL DRAWINGS AND SPECIFICATIONS FOR THE COMPLETE SCOPE OF WORK. NOTIFY ARCHITECT IMMEDIATELY FOR CLARIFICATION IF INCONSISTENCIES, CONTRADICTIONS OR OMISSIONS ARE DISCOVERED.
2. DO NOT SCALE DRAWINGS. IF DIMENSIONAL INFORMATION IS REQUIRED & NOT FOUND, NOTIFY ARCHITECT IMMEDIATELY FOR CLARIFICATION.
3. ALL DIMENSIONS ARE TO COLUMN CENTERLINES OR FACE OF FINISHED WALLS OR SURFACES UNLESS NOTED OTHERWISE.
4. REFER TO DEMOLITION DRAWINGS, IF ANY, FOR WORK REQUIRED IN ADVANCE OF CONSTRUCTION AND COORDINATE ACCORDINGLY.
5. ALL DOOR FRAMES ARE TO BE INSTALLED 4" AWAY OF ADJACENT PERPENDICULAR WALLS UNLESS NOTED OTHERWISE.
6. REFER TO LIFE SAFETY DRAWINGS FOR ADDITIONAL FIRE / SMOKE RATING REQUIREMENTS.
7. REFER TO EQUIPMENT DRAWINGS FOR ADDITIONAL EQUIPMENT SPECIFIC INFORMATION.
8. REFER TO INTERIOR FINISH DRAWINGS FOR ADDITIONAL INTERIOR FINISH SPECIFIC INFORMATION.
9. REFER TO STRUCTURAL DRAWINGS FOR ADDITIONAL STRUCTURAL SPECIFIC INFORMATION.
10. REFER TO MEP DRAWINGS FOR ADDITIONAL MEP SPECIFIC INFORMATION.
11. ALL NON-LOAD BEARING INTERIOR WALLS ARE TYPE 'A' UNLESS NOTED OTHERWISE.
12. HIGHER RATED FIRE WALLS TAKE PRECEDENCE OVER LOWER RATED WALLS & ARE TO CONTINUE THROUGH ALL SUCH INTERSECTIONS.
13. ALL SMOKE BARRIER WALLS ARE TO BE EXTENDED FROM BACK SIDE OF EXTERIOR WALL SHEATHING TO BACK SIDE OF EXTERIOR WALL SHEATHING OR ANOTHER SMOKE BARRIER WALL.

SHEET KEYNOTES

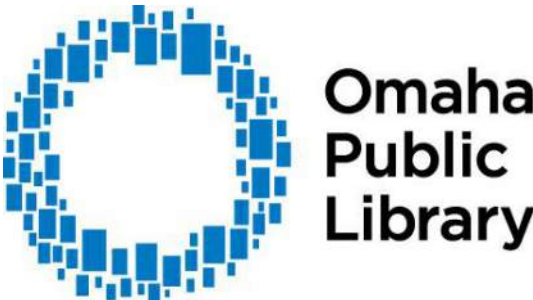


HDR Architecture
Headquarters
1917 S 67th St
Omaha, NE 68106



City of Omaha - Omaha
Public Library
OPL Relocation

3020 S 84th
Omaha, NE 68124



Project Manager	John Dineen
Project Designer	HDR
Project Architect	Dana Blaschko
Landscape Architect	--
Civil Engineer	--
Structural Engineer	HDR
Mechanical Engineer	HDR
Electrical Engineer	HDR
Plumbing Engineer	HDR
Interior Designer	Margaret Sullivan Studios
Equipment Planner	--
Wayfinding	--

Sheet Reviewer Author

MARK DATE DESCRIPTION

Schematic Design

Project Number 10338138
Original Issue 04/26/22

PRELIMINARY
NOT FOR CONSTRUCTION

Sheet Name

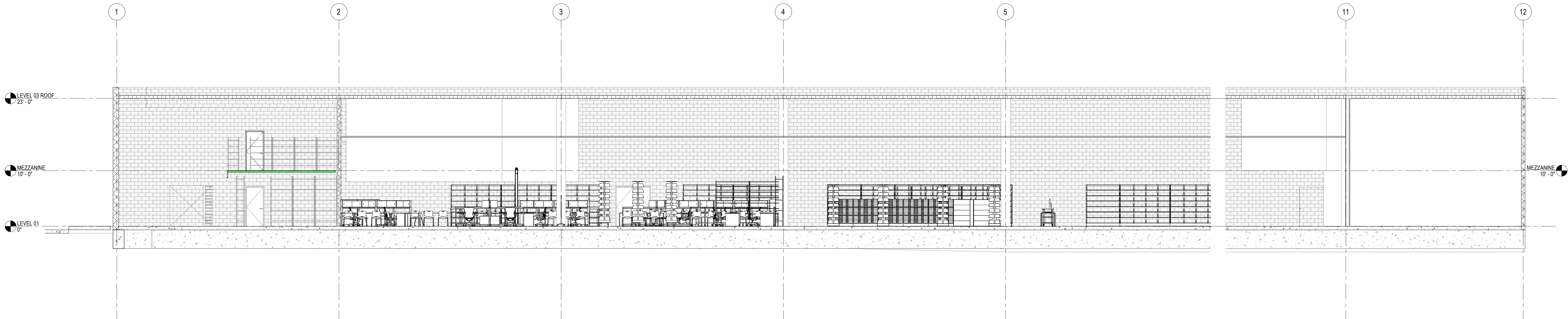
FLOOR PLAN - LEVEL 1
- AREA D

Sheet Number

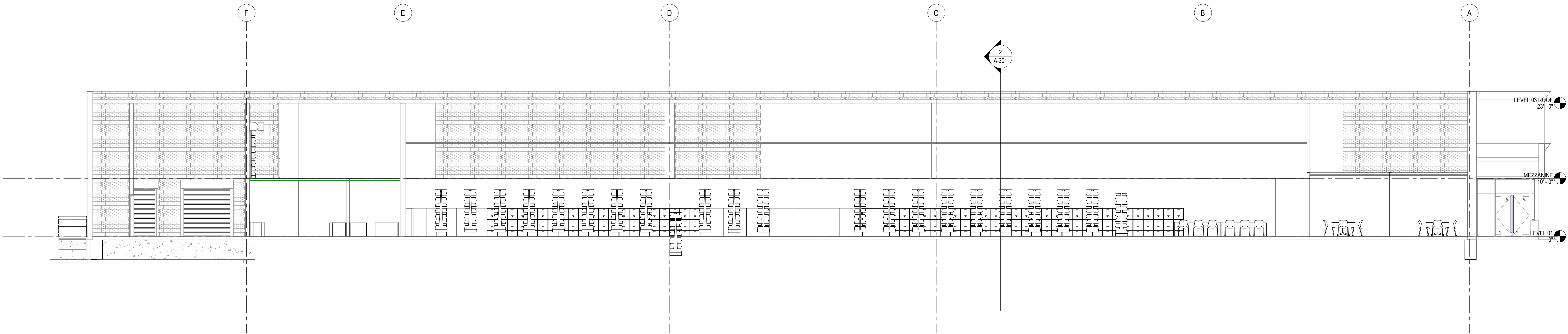
A-111D

Project Status
84th Street - Schematic Design

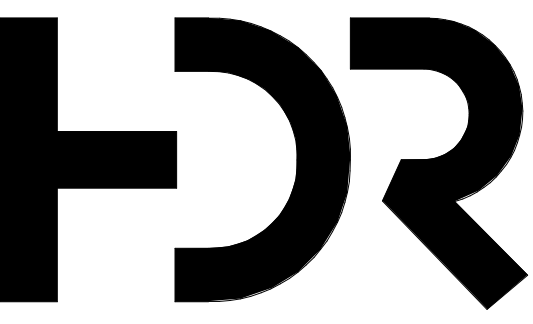
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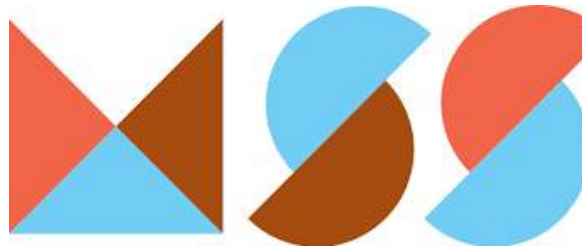
2 Section 2
1/8" = 1'-0"



1 Section 1
1/8" = 1'-0"

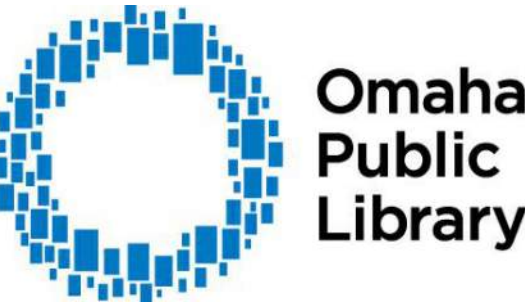


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Wayfinding	--

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Sheet Name

SECTIONS - BUILDING

Sheet Number

A-301

Project Status

84th Street - Schematic Design