ALURA CLUBHOUSE
DISCOVERY PARK,
LEE'S SUMMIT, MO

ARCHITECT:

PWARCHITECTS, INC.
2120 FORUM BLVD., STE. 101
COLUMBIA, MO 65203
(573) 449-2683
(573) 442-6213 FAX

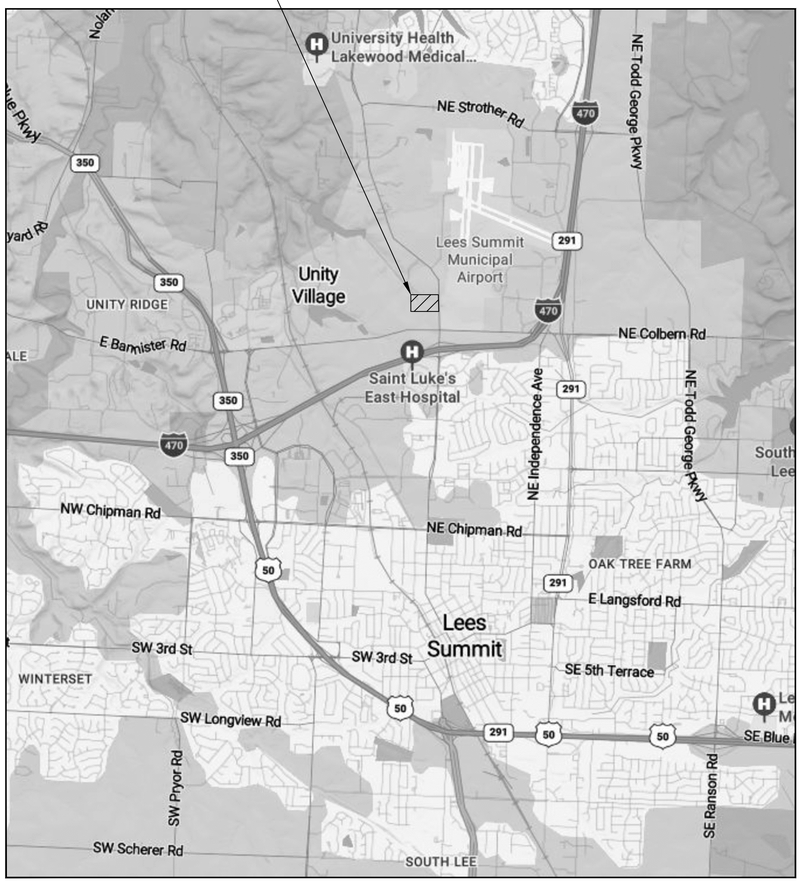
CIVIL & STRUCTURAL ENGINEER:

CROCKETT ENGINEERING
CONSULTANTS
1000 W. NIFONG BLVD.
COLUMBIA, MO 65203
(573) 447-0292

MECHANICAL ENGINEER:

J-SQUARED ENGINEERING
2400 BLUFF CREEK DR #101,
COLUMBIA, MO 65201
(573) 234-4492

SITE LOCATION



A1 LOCATION PLAN
SCALE: 1" = 200'-0"

LIST OF DRAWINGS

GENERAL
G001 COVER SHEET, LOCATION PLAN, LEGENDS, DRAWING INDEX
G002 CODE AND EGRESS PLAN
G003 SPECIFICATIONS
G004 SPECIFICATIONS
G005 SPECIFICATIONS

CIVIL
UNDER SEPARATE SUBMITTAL

STRUCTURAL
S100 COVER / GENERAL STRUCTURAL DATA
S200 FOUNDATION PLAN
S210 FOUNDATION DETAILS
S211 FOUNDATION DETAILS
S300 ROOF FRAMING PLAN
S301 STAIR FRAMING PLAN & DETAILS
S310 ROOF FRAMING DETAILS
S311 ROOF FRAMING PLAN

ARCHITECTURAL
A101 FIRST FLOOR PLAN
A102 REFLECTED CEILING PLAN
A103 ROOF PLAN
A104 ENLARGED FLOOR PLANS
A105 FLOOR FINISH PLAN AND SCHEDULE
A201 BUILDING ELEVATIONS
A202 INTERIOR ELEVATIONS AND DETAILS
A301 BUILDING AND WALL SECTIONS
A501 STAIR DETAILS
A601 DOOR AND WINDOW SCHEDULE AND DETAILS

MEP
MEP1 MECHANICAL ELECTRICAL PLUMBING COVER SHEET
MEP2 SITE UTILITIES PLAN
MEP3 SITE LIGHTING PLAN
MEP4 ROOF MEP PLAN
M101 HVAC PLAN
M501 HVAC DETAILS
M601 HVAC SCHEDULES
EP101 POWER PLAN - FIRST FLOOR
EL101 LIGHTING PLAN
E501 ELECTRICAL DETAILS & SCHEDULES
E502 ELECTRICAL SCHEDULES
FP101 FIRE PROTECTION PLAN
PS101 SANITARY SEWER PLAN
PW101 WATER & GAS PLAN
P501 PLUMBING DETAILS & SCHEDULES

A7 DRAWING INDEX
SCALE: NTS

	LARGE SCALE	SMALL SCALE	
BRICK MASONRY UNIT			PLAN, SECTION
			ELEVATION
CONCRETE MASONRY UNIT			PLAN, SECTION
			ELEVATION
CONCRETE			PLAN, SECTION
GYPSUM BOARD			PLAN, SECTION
			ELEVATION
GROUTED AREA OF: CMU/CAVITY/DOOR FRAME			PLAN, SECTION
MISCELLANEOUS ITEMS: AS NOTED ON EACH SHEET			PLAN, SECTION, ELEVATION
INSULATION			PLAN, SECTION
ROOF SHINGLES			PLAN, ELEVATION
CONTINUOUS WOOD FRAMING			PLAN, SECTION
WOOD BLOCKING			PLAN, SECTION
PLYWOOD			PLAN, SECTION
EXISTING BUILDING			PLAN, SECTION

A9 MATERIAL LEGEND
SCALE: NTS

DRAWING BULLET WITH NORTH ARROW
?? DRAWING TITLE — GRID REFERENCE; SCALE: X/X" = 1'-0" — ARCH. SCALE

DRAWING BULLET WITHOUT NORTH ARROW
A1 / A100 DRAWING TITLE — GRID REFERENCE; ARCH. SCALE; PAGE FIRST REFERENCED (IF APPLICABLE)

ELEVATION BULLETS
A0 / A000 ONE ELEVATION — GRID REFERENCE; SHEET NUMBER

SCOPE OF WORK BULLET
1

DOOR MARK BULLET
000A

WINDOW MARK BULLET
9

REVISION NOTE BULLET
1

GENERAL NOTE BULLET
1

BENCHMARK BULLET
000.OO' ***** FLOOR

PLAN/ELEVATION DETAIL BULLET
A1 / A100 — GRID REFERENCE; SHEET NUMBER

SECTION BULLET
A1 / A100 — GRID REFERENCE ALWAYS ON TOP; SHEET NUMBER

NORTH ARROW

COLUMN LINE BULLETS
1 / A

SPOT ELEV. BULLETS
TC 99.99 / TG 99.99 NEW / EXISTING — TC - TOP OF CURB TG - TOP OF GRADE TW - TOP OF WALL TP - TOP OF PAVING

A12 SYMBOL LEGEND
SCALE: NTS

Peckham & Wright Architects, Inc., d.b.a.
PWArchitects, Inc.
2120 Forum Blvd., Ste. 101
Columbia, Missouri 65203
PWArchitects.com | 573.449.2683
Peckham & Wright Architects an Architectural Corporation
Missouri State Certificate of Authority No. 000244

STATE OF MISSOURI
CHRISTOPHER J. MILLER
NUMBER A-7070
REGISTERED ARCHITECT

06/16/2025

Copyright Peckham & Wright Architects, Inc. 2025

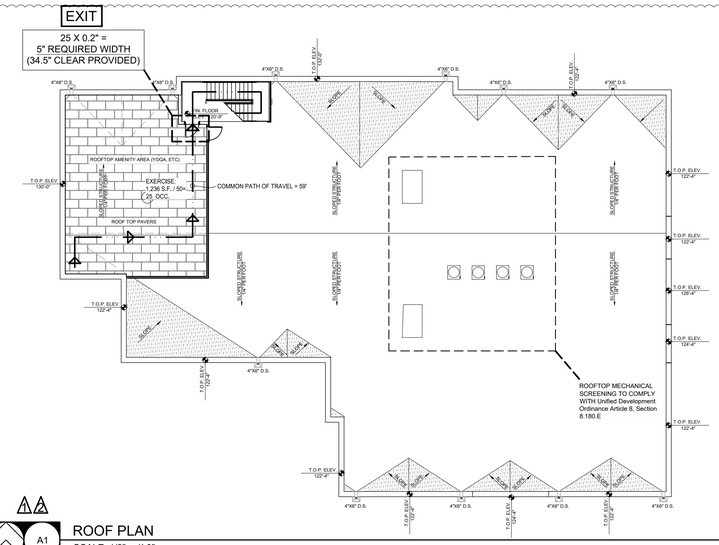
DISCOVERY PARK
ATHLETIC CLUB
AND OFFICE
ALURA APARTMENTS
250 NE ALURA WAY
LEE'S SUMMIT, MO

Drawn:	Project Number:
LC	202428
Checked:	CAD File Name (Number):
EM	

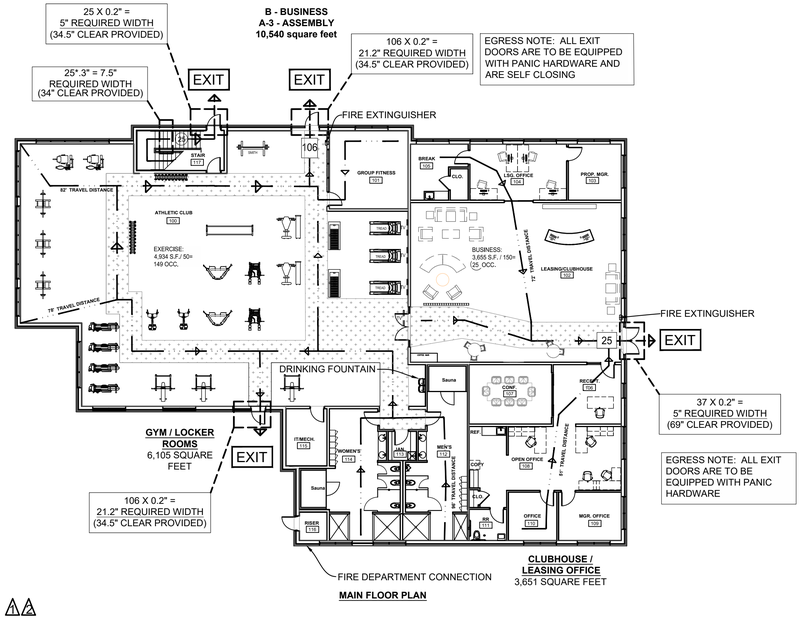
Drawing Title:
COVER SHEET, LOCATION PLAN, LEGENDS, DRAWING INDEX

No.	Revisions:	Date:
2	CITY PERMIT REVIEW	08/15/2025

Submission Date: 06/16/2025
Plot Date: 06/16/2025
Drawing Number: G001



A1 ROOF PLAN
SCALE: 1/8" = 1'-0"



MAIN FLOOR PLAN

DIFFERED SUBMITTALS:

SUBMIT DIFFERED FIRE ALARM SYSTEM PLANS FOR REVIEW

SUBMIT FIRE SPRINKLER SYSTEM PLANS FOR REVIEW

SUBMIT TRUSS DRAWINGS AND STRUCTURAL CALCULATIONS FOR REVIEW

SUBMIT SAUNA SHOP DRAWINGS FOR REVIEW AND ACCESSIBILITY COMPLIANCE

A1 CODE AND EGRESS PLANS
SCALE: 1/8" = 1'-0"

SCOPE OF WORK:

THIS PROJECT CONSISTS OF A ONE STORY 10,540 SQUARE FOOT, FULLY SPRINKLED OFFICE BUILDING. THE BUILDING IS WOOD FRAMED WALLS WITH WOOD ROOF TRUSSES, STEEL COLUMNS, BRICK VENEER AND MEMBRANE ROOF.

BUILDING CODE SUMMARY

Code Requirement		2018 International Building Code
Use Group	302.1, 304	Assembly A-3 (303.4)
Construction Classification	T.601, 603.1	5B
Allowable Tabular Building Area	503, T.504.3	24,000 SF
Actual Building Area		10,540 SF
Height Modifications		N.A.
Automatic Sprinkler System		N.A.
Allowable Building Height	T.504.3	60'-0", 2 Stories
Actual Building Height		32'-0", 1 Story
Automatic Sprinklers	903	Yes; Fully-sprinklered
Design Occupant Load	T.1004.5	B =150 gross A (Exercise) = 50 gross
Main Level-B Use Group		3,655 SF/150=25
Main Level-A Use Group		4,934 SF/50=99
Roof Patio Level		1,232 SF/50=25
Total Occupant Load		**149**
Common Path of Travel for Group A	T.1006.2.1	75'-0" Maximum
Common Path of Travel for Group B	T.1006.2.1	100'-0" Maximum
Max Travel Distance for Group A	T.1017.2	250'-0" Maximum
Max Travel Distance for Group B	T.1017.2	300'-0" Maximum
Dead End	1020.4	50'-0" Maximum
Minimum Number of Exits	1022	2
Number of Exits Provided	1022	3

Plumbing Calculations:

"A-3 Assembly" PLUMBING FIXTURE CALCULATIONS -
BASED ON **149** OCCUPANTS / 64 EACH GENDER (CALCULATED IN ACCORDANCE WITH I.B.C.)

	FIXTURES REQUIRED (PER IPC T403.1 & IBC T2902.1)			FIXTURES PROVIDED		
FIXTURE TYPE	WOMEN	MEN	UNISEX	WOMEN	MEN	UNISEX
WATER CLOSETS	1 per 25 for the first 50 and 1 per 50 for the remainder exceeding 50 = 3	1 per 25 for the first 50 and 1 per 50 for the remainder exceeding 50 = 3	-	3	2	1
URINALS	-	(50% MAX) = 3	-	-	1	
LAVATORIES	1 per 40 for the first 80 and 1 per 80 for the remain-der exceeding 80 =2	1 per 40 for the first 80 and 1 per 80 for the remain-der exceeding 80 =2	-	3	3	1
DRINKING FOUNTAINS	-	-	(1 PER 100) = 2	-	-	2
BATHTUBS / SHOWERS	-	-	-	-	-	4
SERVICE SINKS	-	-	1	-	-	1

NOTES:
1. UNISEX FACILITIES ARE ASSUMED TO BE SPLIT 50/50 GENDER COUNTS.
2. URINALS MAY NOT SUBSTITUTE FOR MORE THAN 67% OF THE REQUIRED WATER CLOSETS IN ASSEMBLY AND EDUCATION OCCUPANCIES, AND NOT MORE THAN 50% OF THE REQUIRED WATER CLOSETS IN ALL OTHER OCCUPANCIES.
3. ACCESSORY SPACES ARE NOT ASSIGNED OCCUPANTS FOR PLUMBING COUNT.
4. **HIGH-LOW DRINKING FOUNTAINS ARE COUNTED AS 2 (TWO) DRINKING FOUNTAINS.**

EGRESS LEGEND

WALL LINETYPE DESIGNATIONS

CIRCULATION SPACE

DESIGNATED MEANS OF EGRESS

MEANS OF EGRESS - CHAPTER 10

OCCUPANT LOAD - TABLE 1004.5
SEE EGRESS PLAN DRAWINGS FOR OCCUPANT LOADS - VARIES BY SPACE.

EGRESS OCCUPANCY CALCULATION - SECTION 1005.3
OCCUPANTS x **0.15"** PER OCCUPANT = X" REQUIRED; X" PROVIDED.
(WHEN EQUIPPED **WITH** A SPRINKLER SYSTEM)

MINIMUM REQUIRED EGRESS WIDTH (OTHER THAN STAIRWAYS) - SECTION 1005.3.2
DOOR WIDTH = **OCCUPANT LOAD X 0.15" WITH SPRINKLER SYSTEM**
1011.2: STAIRWAY WIDTH AND CAPACITY
THE MINIMUM WIDTH SHALL NOT BE LESS THAN 44 INCHES
EXCEPTION: STAIRWAYS SERVING AN OCCUPANT LOAD OF LESS THAN 50 SHALL HAVE A WIDTH OF NOT LESS THAN 36 INCHES.
1009.3.2 ACCESSIBLE STAIRWAY WIDTH
STAIRWAYS SHALL HAVE A CLEAR WIDTH OF 48 INCHES MINIMUM BETWEEN HANDRAILS.
EXCEPTION: THE CLEAR WIDTH OF 48 INCHES BETWEEN HANDRAILS IS NOT REQUIRED IN BUILDINGS EQUIPPED THROUGHOUT WITH AN AUTOMATIC SPRINKLER SYSTEM.

MINIMUM STAIRWAY REQUIRED EGRESS WIDTH - SECTION 1005.3.1
STAIRWAY EGRESS WIDTH = **OCCUPANT LOAD X 0.2" WITH SPRINKLER SYSTEM**

COMMON PATH OF EGRESS TRAVEL - TABLE 1006.2.1
OCCUPANCY GROUP **"B"** = **100 FT. (WHEN EQUIPPED WITH A SPRINKLER SYSTEM)**

MINIMUM NUMBER OF EXITS - TABLE 1006.3.2
OCCUPANT LOAD PER STORY OF 1 - 500 = **2 EXITS MINIMUM**

EXIT AND EXIT ACCESS DOORWAYS SECTION - SECTION 1007.1.1
THE SEPARATION DISTANCE OF THE EXIT DOORS SHALL NOT BE LESS THAN **ONE-THIRD** OF THE LENGTH OF THE MAXIMUM OVERALL DIAGONAL DIMENSION OF THE AREA SERVED, WHERE A BUILDING **IS** EQUIPPED THROUGHOUT WITH AN AUTOMATIC SPRINKLER SYSTEM.

EXIT ACCESS TRAVEL DISTANCE - TABLE 1017.2
OCCUPANCY **"B" WITH** SPRINKLER SYSTEM = **300 FT.**

CORRIDOR FIRE-RESISTANCE RATING - TABLE 1020.1
= **0 HOUR** FOR OCCUPANCY GROUP **"B"**
MINIMUM CORRIDOR WIDTH - TABLE 1020.2
Any facility not listed in this table = **44" MINIMUM**

Peckham & Wright Architects, Inc., d.b.a.
PWArchitects, Inc.
2120 Forum Blvd., Ste. 101
Columbia, Missouri 65203
PWArchitects.com | 573.449.2683
Peckham & Wright Architects an Architectural Corporation
Missouri State Certificate of Authority No. 000244

STATE OF MISSOURI
ERIN MARIE MORRISSEY MILLER
NUMBER A-7070
REGISTERED ARCHITECT

06/16/2025

Copyright Peckham & Wright Architects, Inc. 2025

DISCOVERY PARK ATHLETIC CLUB AND OFFICE ALURA APARTMENTS
250 NE ALURA WAY
LEE'S SUMMIT, MO

Drawn: LC	Project Number: 202428
Checked: EM	CAD File Name (Number):

Drawing Title: CODE AND EGRESS PLANS

No.	Revisions:	Date:
1	CITY PERMIT REVIEW	07/07/2025
2	CITY PERMIT REVIEW	08/15/2025

Submission Date: 06/16/2025
Plot Date: 06/16/2025
Drawing Number: G002

ARCHITECTURAL SPECIFICATIONS

DIVISION 0 - BIDDING AND CONTRACT REQUIREMENTS

0a. **OWNER-CONTRACTOR AGREEMENT**: By Owner.
0b. **GENERAL CONDITIONS:** By Owner.
0c. **INSURANCE:** Provide all insurance required by law and Owner agreement.
0d. **BONDS AND CERTIFICATE**: Provide bonds, certificates, and release of lien forms as required by Contract.

DIVISION 1 - GENERAL REQUIREMENTS

1a. **EXISTING CONDITIONS**: Visit the site and become familiar with conditions under which the work will be performed. Field verify all dimensions and conditions prior to executing any work. Notify the Architect in writing of any work differing from that shown on drawings.
1b. **DIMENSIONAL DISCREPANCIES**: Report any dimensional discrepancies or missing dimensions prior to execution of the work.
1c. **CODES AND ORDINANCES**: Perform all work in strict accordance with the governing codes and ordinances. Nothing in these specifications or on the drawings shall be construed to vary from this requirement. Report any discrepancies.
1d. **SAFEGUARDS DURING CONSTRUCTION:**
A. Comply with Chapter 14 of the International Fire Code for safeguards during Construction.
1) Provide continuous access for Fire Department Personnel during Construction operations. Provide for vehicle access on the property adjacent to the work site and maintain clear path within 100 feet of building standpipe/s for access by Fire apparatus and personnel.
2) Prohibit Smoking except in approved areas. Post signage in approved areas where smoking is permitted.
3) Do not allow accumulation of debris within the area. Remove combustible debris from the building and dispose of in appropriate containers at the end of each shift of work.
4) Open Burning is not permitted.
5) Do not permit storage of combustible liquids inside the building.
6) Provide emergency telephone service.
7) Provide a portable fire extinguisher/s on the premises within the area of construction which meets the requirements of NFPA.
8) Provide documentation to the City of Lee's Summit of the location of this device.
9) Maintain continuous egress and exit paths out of the building during construction.
B. Comply with Chapter 33 of the International Building Code for protection of pedestrians:
1) Construct barricades, walkways, covered walkways, construction railings and other safeguards as required by the Code to protect the public during construction operations. Where built elements are required for protection of pedestrians the Contractor shall submit detailed plans to the city identifying the means, methods, materials and locations of the safeguards for approval.
1e. **SCOPE OF WORK**: Include all utilities, labor, material and equipment as required to furnish and install materials, equipment and assemblies as shown on drawings. Include all labor, material and equipment not shown on drawings and not specified, but necessary and reasonably incidental to comply with the intent of contract to provide first class, top of the line and complete installations of work. Furnish and install all materials, equipment, devices and accessories not specifically called for but that are necessary to provide the requirements in operation and function that is established by the design and by the items specified, and in order to complete the work.
1f. **FEES AND PERMITS**: File with proper authorities to obtain all required permits for construction and pay for all fees.
1g. **INSPECTIONS:** Give notice to proper persons, at appropriate times, prior to work requiring inspections or testing becoming inaccessible and unobservable due to progression of work.
1h. **SPECIAL INSPECTIONS AND TESTING**: Owner shall hire a qualified firm to provide special inspections and testing in accordance with 2018 International Building Code. Perform tests and inspections using the services of a qualified testing agent approved by the Architect. Special Inspections required by 2018 IBC and the City of Lee's Summit.
1i. **COORDINATION:** Coordinate the work of all trades as required to provide a complete, first class, top of the line functional project. Coordinate storage of materials, job office location, parking of vehicles, and interruption of use of existing facilities with the Owner.
1j. **SUBSTITUTIONS:** All references made to certain manufacturers are made to establish a standard of quality. Materials or products of a different manufacturer meeting or exceeding the specifications of the manufacturers listed may be used upon written approval by Architect.
1k. **ALLOWANCES:** Coordinate with Owner.
1l. **INSTALLATION:** Install all materials and products in accordance with manufacturer's printed installation instructions. Nothing in these specifications or on the drawings shall be construed to vary from this requirement. Report any discrepancies.
1m. **FIELD VERIFICATION**: Field verify all information related to these drawings and report any discrepancies to the Architect.
1n. **PROJECT RECORD DOCUMENTS**: Keep detailed record of variances from the drawings and specifications. Submit one set to the Owner upon completion of the work.
1o. **TEMPORARY FACILITIES**: Provide temporary toilets, electricity, heating, and water as needed for construction. Comply with all applicable regulations.
1p. **MATERIAL HANDLING AND STORAGE**: Handle and store materials in a manner that will prevent damage. Store materials on site in an orderly fashion. Locations as directed by Owner.
1q. **CLEANING DURING CONSTRUCTION**: Provide periodic cleaning to keep the work, the site, and adjacent properties free from accumulations of waste materials, rubbish and windblown debris, resulting from construction operations. Provide on site containers for collection of workers personal waste materials such as lunch sacks, soda cans, candy wrappers, and other like items. Do not litter the construction site. Properly dispose of all Construction waste.
1r. **FINAL CLEANING:**
(1). Remove grease, mastic, adhesives, dust, dirt, stains, fingerprints, labels, and other foreign materials from sight exposed interior and exterior surfaces.
(2). Wash and shine glazing.
(3). Polish glossy surfaces to a clean shine.
(4). Damp mop and wax all tile floors; Follow Manufacturer cleaning requirements for vinyl floor within sales area.
(5). Dust all wall surfaces and horizontal surfaces including tops of doors and door frames.
(6). Broom clean exterior paved surfaces. Remove stains, spills, and other foreign deposits.
(7). Clean the Project site of rubbish, litter and other foreign substances.
1s. **CUTTING, PATCHING, AND MINOR DEMOLITION:**
(1). Demolish items as required to incorporate new work, dispose of all demolished materials not scheduled for salvage, off site in accordance with appropriate regulations.
(2). Make neat transitions. Patch work to match adjacent work in texture and appearance. Where new work abuts or aligns with existing, perform a smooth and even transition.
(3). When existing finished surfaces are cut so that a smooth transition with new work is not possible, terminate existing surface along a straight line at a natural line of division and make a recommendation to Architect.
(4). Where removal of partitions or walls results in adjacent spaces becoming one, rework floors, walls, and ceilings to a smooth plane without breaks, steps, or bulkheads.
(5). Where a change of plane of ¼ inch or more occurs in existing work, submit recommendation for providing a smooth transition for Architect review and request instructions.
(6). Refinish visible existing surfaces to remain in renovated rooms and spaces, to specified condition for each material, with a neat transition to adjacent finishes.
1t. **PROJECT CLOSEOUT**:
(1). Provide project binder with warranties, operating instructions and manuals, shop drawings, parts lists, maintenance instructions, and other like items.
(2). Equipment demonstrations for Owner's representative.
(3). Project record documents.

DIVISION 2 - DEMOLITION

2.a SCOPE
A. Remove site elements and utilities as required to properly complete new work.
B. Remove and protect items designated, for salvage and relocation.
C. Fill excavations, open pits, and holes in ground areas generated as result of removals, using specified fill; compact fill as specified on Civil and Structural Drawings.

2.b GENERAL PROCEDURES AND PROJECT CONDITIONS
A. Comply with other requirements specified in Division 1.
B. Comply with applicable codes and regulations for demolition operations and safety of adjacent structures and the public.
1. Obtain required permits.
2. Use of explosives is not permitted.
3. Take precautions to prevent catastrophic or uncontrolled collapse of structures to be removed; do not allow worker or public access within range of potential collapse of unstable structures.
4. Provide, erect, and maintain temporary barriers and security devices.
5. Use physical barriers to prevent access to areas that could be hazardous to workers or the public.
6. Conduct operations to minimize effects on and interference with adjacent structures and occupants.
7. Do not close or obstruct roadways or sidewalks without permit.
8. Conduct operations to minimize obstruction of public and private entrances and exits; do not obstruct required exits at any time; protect persons using entrances and exits from removal operations.
9. Obtain written permission from owners of adjacent properties when demolition equipment will traverse, infringe upon or limit access to their property.
C. Do not begin removal until receipt of notification to proceed from Owner.
D. Do not begin removal until built elements to be salvaged or relocated have been removed.
E. Protect existing structures and other elements that are not to be removed.
1. Provide bracing and shoring.
2. Prevent movement or settlement of adjacent structures.
3. Stop work immediately if adjacent structures appear to be in danger.
F. Minimize production of dust due to demolition operations; do not use water if that will result in ice, flooding, sedimentation of public waterways or storm sewers, or other pollution.
G. If hazardous materials are discovered during removal operations, stop work and notify Architect and Owner; hazardous materials include regulated asbestos containing materials, lead, PCB's, and mercury.
H. Partial Removal of Paving and Curbs: Neatly saw cut at right angle to surface.

3.c EXISTING UTILITIES
A. Coordinate work with utility companies; notify before starting work and comply with their requirements; obtain required permits. Protect existing utilities to remain from damage. Do not disrupt public utilities without permit from authority having jurisdiction.
B. Do not close, shut off, or disrupt existing life safety systems that are in use without at least 7 days prior written notification to Owner. Do not close, shut off, or disrupt existing utility branches or take-offs that are in use without at least 3 days prior written notification to Owner.
C. Locate and mark utilities to remain; mark using highly visible tags or flags, with identification of utility type; protect from damage due to subsequent construction, using substantial barricades if necessary.
D. Remove exposed piping, valves, meters, equipment, supports, and foundations of disconnected and abandoned utilities.

3.d DEBRIS AND WASTE REMOVAL
A. Remove debris, junk, and trash from site.
B. Leave site in clean condition, ready for subsequent work.
C. Clean up spillage and wind-blown debris from public and private lands.

DIVISION 3 - CONCRETE (SEE STRUCTURAL DRAWINGS)

DIVISION 4 - MASONRY

04 20 00 UNIT MASONRY

PART 1 GENERAL

1.01 SECTION INCLUDES
A. Clay Facing Brick.
B. Mortar and Grout.
C. Reinforcement and Anchorage.
D. Flashings.
E. Accessories.

1.02 ADMINISTRATIVE REQUIREMENTS
A. Preinstallation Meeting: Convene a preinstallation meeting one week before starting work of this section; require attendance by all relevant installers.

1.03 PERFORMANCE REQUIREMENTS
A. Provide unit masonry that develops indicated net-area compressive strengths (f'm) at 28 days.
B. Determine net-area compressive strength (f'm) of masonry from average net-area compressive strengths of masonry units and mortar types (unit-strength method) according to Tables 1 and 2 in ACI 530.1/ASCE 6/TMS 602.

1.04 QUALITY ASSURANCE
A. Comply with provisions of ACI 530/530.1/ERTA, except where exceeded by requirements of the contract documents.
B. Comply with provisions of the Brick Industry Association (BIA) Technical Notes on Brick Construction, except where exceeded by requirements of the contract documents.
C. Comply with provisions of National Concrete Masonry Association (NCMA) Tek Notes, except where exceeded by requirements of the contract documents.
D. Fire Rated Assemblies: Conform to applicable code for UL Assemblies shown on drawings.

1.05 DELIVERY, STORAGE, AND HANDLING
A. Deliver, handle, and store masonry units by means that will prevent mechanical damage and contamination by other materials.

1.06 PROJECT CONDITIONS
A. Protection of Masonry: During construction, cover tops of walls, projections, and sills with waterproof sheeting at end of each day's work. Cover partially completed masonry when construction is not in progress.
1. Extend cover a minimum of 24 inches (600 mm) down both sides and hold cover securely in place.
2. Where 1 wythe of multi-wythe masonry walls is completed in advance of other wythes, secure cover a minimum of 24 inches (600 mm) down face next to unconstructed wythe and hold cover in place.
3. Mason is responsible for the protection of the brick ledge flashing after completion by the waterproofing Subcontractor.
4. Do not apply uniform floor or roof loads for at least 12 hours and concentrated loads for at least 3 days after building masonry walls or columns.
5. Stain Prevention: Prevent grout, mortar, and soil from staining the face of masonry to be left exposed or painted. Immediately remove grout, mortar, and soil that come in contact with such masonry.
a. Protect base of walls from rain-splashed mud and from mortar splatter by spreading coverings on ground and over wall surface.
b. Protect sills, ledges, and projections from mortar droppings.
c. Protect surfaces of window and door frames, as well as similar products with painted and integral finishes, from mortar droppings.
d. Turn scaffold boards near the wall on edge at the end of each day to prevent rain from splashing mortar and dirt onto completed masonry.
e. Cold-Weather Requirements: Do not use frozen materials or materials mixed or coated with ice or frost. Do not build on frozen substrates. Remove and replace unit masonry damaged by frost or by freezing conditions. Comply with cold-weather construction requirements contained in ACI 530.1/ASCE 6/TMS 602 and the following:
f. The Contractor shall maintain masonry materials and surrounding air temperatures above 40 deg F (4 deg C) (with enclosures and heat sources on both sides of the wall and batching area also enclosed and heated as a minimum) prior to, during, and 48 hours after completion of the Work when temperatures are 40 deg F (4 deg C) or below.
g. Cold-Weather Cleaning: Use liquid cleaning methods only when air temperature is 40 deg F (4 deg C) and above and will remain so until masonry has dried, but not less than 7 days after completing cleaning.
h. Cleaning shall not diminish the appearance or weather resistance of the building exterior. Protect adjacent permanent surfaces from cleaning materials.
i. Hot-Weather Requirements: Comply with hot-weather construction requirements contained in ACI 530.1/ASCE 6/TMS 602.

PART 2 PRODUCTS

2.01 BRICK UNITS
A. Facing Brick: ASTM C216, Type FBX, Grade SW; Tested and rated according to ASTM C 67 "not effloresced".
1. Color, texture and blend: As shown on drawings.
2. Actual size: Standard Brick as selected by the Owner.
3. Special shapes: Molded units as required by conditions indicated, unless standard units can be sawn to produce equivalent effect.

2.03 MORTAR AND GROUT MATERIALS
A. Portland Cement: ASTM C150, Type I.
1. Not more than 0.60 percent alkali.
2. Hydrated Lime: ASTM C207, Type S.
3. Mortar Aggregate: ASTM C144.
4. Grout Aggregate: ASTM C404.
5. Water: Clean and potable.
6. Integral Water Repellent Admixture for Mortar and Grout: Polymeric liquid admixture added to mortar and grout at the time of manufacture.
a. Use only in combination with masonry units manufactured with integral water repellent admixture (ground face and ground, filled and polished block).
b. Use only water repellent admixture for mortar and grout from the same manufacturer as water repellent admixture in masonry units.
c. Meet or exceed performance specified for water repellent admixture used in masonry units.

2.04 REINFORCEMENT AND ANCHORAGE
A. Manufacturers of Joint Reinforcement and Anchors:
1. Blok-Lok Limited: www.blok-lok.com.
2. Hohmann & Barnard, Inc (including Dur-O-Wal brand): www.h-b.com.
3. WIRE-BOND: www.wirebond.com.
4. Masonry Veneer Anchors: H&B #DW-10HS Anchor.
5. Brick Expansion / Control Joint Stabilizers: H&B Slip-Set Stabilizer, Type 304 Stainless Steel. Provide at all exterior control joints in masonry veneer.

2.05 FLASHINGS
A. Stainless Steel/Polymer Fabric Flashing: ASTM 167 stainless steel sheet bonded with rubber-based adhesive to one sheet of polymer fabric.
13. Manufacturer:
a. York Manufacturing, Inc; Multi-Flash SS: www.yorkmfg.com.
b. Hohmann and Barnard Inc; Product Mighty- Flash- SA.
B. Stainless Steel Drip Edge Flashing: Custom flashing as shown on the drawings, ASTM A666, Type 304, soft temper; 28 gage (0.45 mm) thick minimum; finish 2B. Coordinate with Section 07 62 00, Sheet Metal Flashing and Trim.
C. Lap Sealant: Specified in Division 7.

2.06 ACCESSORIES
A. Preformed Control Joints: Rubber material. Provide with corner and tee accessories, fused joints.
1. Manufacturers:
a. Blok-Lok Limited: www.blok-lok.com.
b. Hohmann & Barnard, Inc (including Dur-O-Wal brand); Product RS Series- Rubber Control; Joint: www.h-b.com.
c. WIRE-BOND: www.wirebond.com.
2. Joint Filler: Specified in Division 7.
3. Cavity Mortar Control: Semi-rigid polyethylene or polyester mesh panels, sized to thickness of wall cavity, and designed to prevent mortar droppings from clogging weeps and cavity vents and allow proper cavity drainage.
a. Mortar Diverter: Panels designed for installation at flashing locations.
1) Manufacturers:
(a) Mortar Net USA, Ltd; Mortar Net with Insect Barrier: www.mortarnet.com.
(b) H-B; Product Mortar Trap; www.h-b.com.
(c) Keene Building Products; Product Keene Stone; www.keenebuilding.com
4. Weep Vents: Polyethylene Where shown on drawings (primarily to be used in conjunction with brick.
a. Manufacturers:
1) Hohmann & Barnard, Inc; Product H-B QV- Quadro- Vent: www.h-b.com.
3. WeepsTubes: Polyethylene tubing with inserted cotton sash and insect screen at locations shown on drawings (primarily to be used in conjunction with Concrete Block).
a. Manufacturers:
1) Basis of Design: Hohmann and Barnard, Inc (H-B); Product #341W/S with stainless steel screen. Provide a minimum of 18 inch exposure on the interior of the cavity.: www.h-b.com.
4. Cleaning Solution: Non-acidic, not harmful to masonry work or adjacent materials.Use only products and methods approved in writing by the masonry manufacturer for each type of masonry being cleaned.
5. Primer for Stainless Steel/Polymer Fabric Flashing: H&B Self- Adhering Primer.
6. Mastic/ sealant: H&B Mastic.
7. Termination Bar: H&B T-2, Aluminum.
8. Weather Barrier: Coordinate with Division 7.

2.07 LINTELS
A. Provide masonry lintels where shown and where openings of more than 12 inches for brick size units and 24 inches for block size units without structural steel or other supporting lintels. Reinforce as shown on Structural Drawings.
B. Steel lintels specified in Division 5.

2.08 MORTAR AND GROUT MIXES
A. Mortar for Unit Masonry: ASTM C270, using the Proportion Specification.
1. All masonry block and brick below grade: Type S.
2. Facing brick, concrete block, and cast stone masonry veneer: Type N.
3. Grout: ASTM C476. Consistency required to fill completely volumes indicated for grouting; fine grout for spaces with smallest horizontal dimension of 2 inches or less; coarse grout for spaces with smallest horizontal dimension greater than 2 inches.
4. Admixtures: Use admixtures only if approved by Architect in writing. Add to mixture at manufacturer's recommended rate and in accordance with manufacturer's instructions; mix uniformly.
5. Mixing: Use mechanical batch mixer and comply with referenced standards.

PART 3 EXECUTION

3.01 EXAMINATION
A. Verify that field conditions are acceptable and are ready to receive masonry.
B. Verify that related items provided under other sections are properly sized and located.
C. Verify that built-in items are in proper location, and ready for roughing into masonry work.

3.02 PREPARATION
A. Direct and coordinate placement of metal anchors supplied for installation under other sections.
B. Provide temporary bracing during installation of masonry work. Maintain in place until building structure provides permanent bracing.

3.03 COLD AND HOT WEATHER REQUIREMENTS
A. Comply with requirements of ACI 530/530.1/ERTA or applicable building code, whichever is more stringent.

3.04 COURSING
A. Establish lines, levels, and coursing indicated. Protect from displacement.
B. Maintain masonry courses to uniform dimension. Form vertical and horizontal joints of uniform thickness.
C. Concrete Masonry Units:
1. Bond: Running.
2. Coursing: One unit and one mortar joint to equal 8 inches.
3. Mortar Joints: Concave.
4. Brick Units:
a. Bond: Running and stacked as indicated on the drawings.
b. Coursing: Five units and Five mortar joints to equal 16 inches.
c. Mortar Joints: Concave.

3.05 PLACING AND BONDING
A. Lay solid masonry units in full bed of mortar, with full head joints, uniformly jointed with other work.
B. Lay hollow masonry units with face shell bedding on head and bed joints.
C. Buttering corners of joints or excessive furrowing of mortar joints is not permitted.
D. Remove excess mortar and mortar smears as work progresses.
E. Remove excess mortar with water repellent admixture promptly. Do not use acids, sandblasting or high pressure cleaning methods.
F. Interlock intersections and external corners, except for units laid in stack bond.
G. Do not shift or tap masonry units after mortar has achieved initial set. Where adjustment must be made, remove mortar and replace.
H. Perform job site cutting of masonry units with proper tools to provide straight, clean, unchipped edges. Prevent broken masonry unit corners or edges.
I. Cut mortar joints flush where weather barrier is applied. Coordinate with Section 07 25 00, Weather barriers.
J. Cut mortar joints flush where cavity insulation vapor barrier adhesive is applied. Coordinate with Section 07 25 00, Weather barriers.
K. Isolate top joint of masonry partitions from horizontal structural framing members and slabs or decks with compressible joint filler.

3.06 WEEPS/CAVITY VENTS
A. Install weep tubes (primarily in conjunction with concrete block) in veneer and cavity walls at maximum 16 inches on center horizontally above through-wall flashing, above shelf angles and lintels, and at bottom of walls. Install in accordance with manufacturers printed installation instructions.
B. Install weep vents (primarily in conjunction with brick) in veneer and cavity walls at maximum 24 inches on center horizontally above through-wall flashing, above shelf angles and lintels, and at bottom of walls. Install in accordance with manufacturers printed installation instructions.

3.07 CAVITY MORTAR CONTROL
A. Do not permit mortar to drop or accumulate into cavity air space or to plug weep/cavity vents.
B. For cavity walls, build inner wythe ahead of outer wythe to accommodate accessories.
C. Install cavity mortar diverter at base of cavity and at other flashing locations as recommended by manufacturer to prevent mortar droppings from blocking weep/cavity vents.Install in accordance with manufacturers printed installation instructions.

3.08 REINFORCEMENT AND ANCHORAGE - GENERAL
A. Unless otherwise indicated on drawings or specified under specific wall type, install horizontal joint reinforcement 16 inches on center.
B. Place masonry joint reinforcement in first horizontal joints above and below openings. Extend minimum 16 inches each side of opening.
C. Place continuous joint reinforcement in first joint below top of walls.
D. Lap joint reinforcement ends minimum 6 inches.

3.09 REINFORCEMENT AND ANCHORAGE - SINGLE WYTHE MASONRY
A. Install horizontal joint reinforcement 16 inches on center.
B. Place masonry joint reinforcement in first horizontal joints above and below openings. Extend minimum 16 inches each side of opening.
C. Place continuous joint reinforcement in first joint below top of walls.
D. Lap joint reinforcement ends minimum 6 inches.

3.10 REINFORCEMENT AND ANCHORAGE - MASONRY VENEER
A. Install horizontal joint reinforcement 16 inches on center.
B. Place masonry joint reinforcement in first horizontal joints above and below openings. Extend minimum 16 inches each side of opening.
C. Place continuous joint reinforcement in first joint below top of walls.
D. Lap joint reinforcement ends minimum 6 inches.
E. Masonry Back-Up: Embed anchors in masonry back-up to bond veneer at maximum 1.77 sq ft of wall surface per anchor. Place additional anchors at perimeter of openings and ends of panels, so maximum spacing of anchors is 8 inches on center.

3.11 MASONRY FLASHINGS
A. Whether or not specifically indicated, install masonry flashing to divert water to exterior at all locations where downward flow of water will be interrupted such as at lintels, shelf angles or bottoms of walls.
B. Remove or cover protrusions or sharp edges that could puncture flashings.
C. Install stainless steel drip edge flashing specified in Section 076000, in full bed of mastic.
D. Lap stainless steel seams 4 inches and "bayonet" seal watertight with mastic.
E. Extend stainless steel metal flashings through exterior face of masonry and turn down to form drip as shown on drawings. Install joint sealer with bond breaker below drip edge to prevent moisture migration under flashing.
F. Apply primer for Stainless Steel/Polymer Fabric Flashing to substrate at approximately 150 s.f. per gallon. Let primer dry for approximately 30 minutes or when dry to touch. Re- prime surface if primed area has been left exposed for 24 hours.
G. Apply Stainless Steel/Polymer Fabric Flashing to primed surfaces including drip edge flashing, in sections of 8 ft. in length or less. Lap all seams a minimum of four inches. Use a roller to firmly press membrane onto surface without air pockets. Neatly apply mastic on top of the overlap at 1/8"-1/4" thickness x 1-1/2" wide.
H. Extend Stainless Steel/Polymer Fabric Flashing throughwall full width at such interruptions and turn up at least 16 inches onto back up wall (6 inches above cavity mortar control). Use a roller to firmly press membrane onto surface of wall and drip edge flashing without air pockets or wrinkles. Neatly apply mastic on top at 1/8"-1/4" thickness x 1-1/2 " wide. Install termination bar at top of flashing and seal. Turn both stainless steel and membrane flashings up at ends a minimum of 4 inches to form watertight pan for end dams.
I. Hold the outer edge of Stainless Steel/Polymer Fabric Flashing back 3/4 inch from the exposed face of wall and adhere to stainless steel drip edge flashing.Install a neatly tooled bead of mastic along the front edge of membrane using a caulking gun.

3.12 LINTELS
A. Install loose steel lintels over openings where indicated.
B. Install reinforced unit masonry lintels over openings where steel or precast concrete lintels are not scheduled.
1. Do not splice reinforcing bars.
2. Support and secure reinforcing bars from displacement. Maintain position within 1/2 inch of dimensioned position.
3. Place and consolidate grout fill without displacing reinforcing.
4. Allow masonry lintels to attain specified strength before removing temporary supports.
5. Maintain minimum bearing on each side of opening as indicated in structural drawings.

3.13 GROUTED COMPONENTS
A. Lap splices minimum distance shown on structural drawings. Tie together with Rebar Lap- Joint Ties.
B. Support and secure reinforcing bars from displacement. Maintain position within 1/2 inch of dimensioned position.
C. Place and consolidate grout fill without displacing reinforcing.

3.14 CONTROL AND EXPANSION JOINTS
A. Do not continue horizontal joint reinforcement through control and expansion joints.
B. Install preformed control joint device in continuous lengths. Seal butt and corner joints in accordance with manufacturer's instructions.
C. Form expansion joint as detailed.
D. Space control joints at maximum 20 ft on center at exterior locations and 20 to 30 ft on center at interior locations or as shown on drawings. For joints not shown on drawings, obtain Architects approval prior to installation.

3.15 BUILT-IN WORK
A. As work progresses, install built-in metal door frames, glazed frames, anchor bolts, and plates and other items to be built into the work and furnished under other sections.
B. Install built-in items plumb, level, and true to line.
C. Bed anchors of metal door and glazed frames in adjacent mortar joints. Fill frame voids solid with grout.
1. Fill adjacent masonry cores with grout minimum 12 inches from framed openings.
2. Do not build into masonry construction organic materials that are subject to deterioration.

3.16 TOLERANCES (FOR SINGLE WYTHE MASONRY VERIFY WITH ARCHITECT WALL SURFACE REQUIRING THE MORE STRINGENT TOLERANCE)
A. Maximum Variation from Alignment of Columns: 1/4 inch.
B. Maximum Variation From Unit to Adjacent Unit: 1/16 inch.
C. Maximum Variation from Plane of Wall: 1/4 inch in 10 ft and 1/2 inch in 20 ft or more.
D. Maximum Variation from Plumb: 1/4 inch per story non-cumulative; 1/2 inch in two stories or more.
E. Maximum Variation from Level Coursing: 1/8 inch in 3 ft and 1/4 inch in 10 ft; 1/2 inch in 30 ft.
F. Maximum Variation of Joint Thickness: 1/8 inch in 3 ft.
G. Maximum Variation from Cross Sectional Thickness of Walls: 1/4 inch.

3.17 CUTTING AND FITTING
A. Cut and fit for pipes, conduit, and sleeves. Coordinate with other sections of work to provide correct size, shape, and location.
B. Obtain approval prior to cutting or fitting masonry work not indicated or where appearance or strength of masonry work may be impaired.

3.18 FIELD QUALITY CONTROL
A. An independent testing agency will perform field quality control tests, as specified in Section 01 40 00.
B. Clay Masonry Unit Tests: Test each variety of clay masonry in accordance with ASTM C67 requirements, sampling 5 randomly chosen units for each 50,000 installed.
C. Concrete Masonry Unit Tests: Test each variety of concrete unit masonry in accordance with ASTM C140 for conformance to requirements of this specification.
D. Mortar Tests: Test each type of mortar in accordance with ASTM C780, testing with same frequency as masonry samples.

3.19 CLEANING
A. Remove excess mortar and mortar droppings.
B. Replace defective mortar. Match adjacent work.
C. Before full-scale application of cleaning products begins, review manufacturers application data to determine suitability of cleaning of specific materials and surfaces. Apply cleaner to test area to determine optimum dwell time, compatibility, effectiveness, rinsing and other pertinent application procedures that would affect the effectiveness of the cleaning operations with respect to desired results. Use the least caustic materials and methods required to produce desired results. Allow test areas to dry thoroughly before evaluating the final results with the Architect.
D. Clean soiled surfaces with cleaning solution in accordance with manufacturer's recommendations. If improvements are necessary to achieve proper cleaning of surfaces, alternate cleaning methods may be used only with approval of the Architect..
E. Use non-metallic tools in cleaning operations.

3.21 PROTECTION
A. Without damaging completed work, provide protective boards at exposed external corners that are subject to damage by construction activities.

04 72 50 ARCHITECTURAL STONE VENEER

PART 1 GENERAL

1.01 SECTION INCLUDES
A. Architectural stone veneer.
B. Units required are indicated on the drawings as Limestone or Stone Veneer.
C. Units required are:
1. Exterior and interior wall units, including wall caps, coping, water tables and other areas as designated on the drawings; provide corner units for all outside corners and cast coping units for outlets and hose bibs through stone surface.
2. Other items indicated on the drawings.

1.02 QUALITY ASSURANCE
A. Manufacturer Qualifications: A company with a minimum of 5 years of experience in producing manufactured stone of the types required for project.

1.03 DELIVERY, STORAGE, AND HANDLING
A. Deliver components secured to shipping pallets and protected from damage and discoloration. Protect corners from damage.
B. Store components and installation materials in accordance with manufacturer's instructions.
C. Protect components during handling and installation to prevent chipping, cracking, or other damage.
D. Store mortar materials where contamination can be avoided.
E. Schedule and coordinate production and delivery of cultured stone components to optimize on-site inventory and to avoid delaying the work.

PART 2 PRODUCTS

2.01 ARCHITECTURAL STONE VENEER PRODUCTS
A. Limestone: Natural stone veneer.
1. Style: As selected by Architect from Manufacturer's standard range.
2. Color: As selected by Architect from Manufacturer's standard range.
B. Wainscot Sill: Provide Wainscot Sill by same Manufacturer at top of **all** Architectural Stone Veneer. Coordinate heights with drawings. Style and Color shall be as selected by Architect from Manufacturer's standard range.
C. Shapes: Provide shapes indicated on drawings including special shapes, corners, column caps and water tables / wainscot sills. Wainscot Sills / Water Tables shall include corner pieces pre-fabricated as one piece, **no joints at corners shall be permitted**.

2.02 MATERIALS
A. Water: Potable.
B. Weather Resistive Barrier (Wood frame Construction): 30# felt in double layer technique for installation as recommended by manufacturer with weep screed at base.
C. Shelf Angles and Similar Structural Items: Hot-dip galvanized steel per ASTM A123/A 123M, of shapes and sizes as required for conditions.
D. Metal Lath: 2.5 lb (1.4 kg/m2) galvanized expanded metal lath, attach per manufacturer's instructions.
E. Mortar: Portland cement-lime, ASTM C 270, Type N; do not use masonry cement. Color for mortar as selected by Architect.
F. Sealant: As specified in Division 7.
G. Cleaner: General-purpose cleaner designed for removing mortar and grout stains, efflorescence, and other construction stains from new masonry surfaces without discoloring or damaging masonry surfaces; approved for intended use by cultured stone manufacturer and by cleaner manufacturer for use on cultured stone and adjacent materials.

PART 3 EXECUTION

3.01 EXAMINATION
A. Examine construction to receive cultured stone components. Notify Architect if construction is not acceptable.
B. Do not begin installation until unacceptable conditions have been corrected.

3.02 INSTALLATION
A. Install cultured stone components complying with requirements of the manufacturer.
B. Mechanically anchor all water tables and other items as required by manufacturer, set other items in mortar bed.
C. Setting and joints:
1. Cultured stone should be installed per manufacturer's instructions with a tight fitted joint. Feather all cut edges. All water table joints should be fully mortared.
D. Sealant Joints: Install sealants as specified in Section 07 9005 between cultured stone and adjacent materials.
E. Repairs: Repair chips and other surface damage noticeable when viewed in direct daylight at 20 feet (6 m).
1. Repair with matching touch-up material provided by the manufacturer and in accordance with manufacturer's instructions.
2. Repair methods and results subject to Architect's approval.

3.03 CLEANING
A. Clean completed exposed cultured stone after mortar is thoroughly set and cured. Clean using methods recommended by Manufacturer.

3.04 PROTECTION
A. Protect completed work from damage.
B. Clean, repair, or restore damaged or mortar-splashed work to condition of new work.

DIVISION 5 - METALS

05 50 00 METAL FABRICATIONS

PART 1 GENERAL

1.01 SECTION INCLUDES
A. Shop fabricated steel items.

PART 2 PRODUCTS

2.01 MATERIALS - STEEL
A. Steel Sections: ASTM A36/A36M.
B. Plates: ASTM A283.
C. Pipe: ASTM A53/A53M, Grade B Schedule 40, hot-dip galvanized finish.
D. Bolts, Nuts, and Washers: ASTM A325 (ASTM A325M), Type 1, plain.
E. Welding Materials: AWS D1.1/D1.1M; type required for materials being welded.
F. Shop and Touch-Up Primer: SSPC-Paint 15, complying with VOC limitations of authorities having jurisdiction.
G. Touch-Up Primer for Galvanized Surfaces: SSPC-Paint 20, Type I - Inorganic, complying with VOC limitations of authorities having jurisdiction.

2.02 FABRICATION
A. Fit and shop assemble items in largest practical sections, for delivery to site.
B. Fabricate items with joints tightly fitted and secured.
C. Continuously seal joined members by continuous welds.
D. Grind exposed joints flush and smooth with adjacent finish surface. Make exposed joints butt tight, flush, and hairline. Ease exposed edges to small uniform radius.
E. Exposed Mechanical Fastenings: Flush countersunk screws or bolts; unobtrusively located; consistent with design of component, except where specifically noted otherwise.
F. Supply components required for anchorage of fabrications. Fabricate anchors and related components of same material and finish as fabrication, except where specifically noted otherwise.

2.03 FABRICATED ITEMS
A. Ledge Angles, Shelf Angles, Channels, and Plates Not Attached to Structural Framing: For support of metal decking; prime paint finish.
B. Lintels: As detailed; galvanized finish.

2.04 LOOSE LINTEL MEMBER SIZES AND BEARINGS
A. Clear spans 4 feet or less: L4"x4"x3/8" (LLV) with 8-inch bearing on each end.
B. Clear spans 6 feet or less: L6"x4"x3/8" (LLV) with 8-inch bearing on each end.
C. Clear spans 12 feet or less: L8"x6"x3/4" (LLV) with 16-inch bearing on each end.
D. Coordinate with Structural documents.

2.04 FINISHES - STEEL
A. Prime paint all steel items.
1. **Exceptions: Galvanize steel lintels, exterior door frames, and other steel items exposed to weathering conditions.**
B. Prepare surfaces to be primed in accordance with SSPC-SP2.
C. Clean surfaces of rust, scale, grease, and foreign matter prior to finishing.
D. Prime Painting: One coat.
E. Galvanizing of Structural Steel Members: Galvanize after fabrication to ASTM A123/A123M requirements. Provide minimum 1.7 oz/sq ft galvanized coating.
F. Galvanizing of Non-structural Items: Galvanize after fabrication to ASTM A123/A123M requirements.

2.05 FABRICATION TOLERANCES
A. Squareness: 1/8 inch maximum difference in diagonal measurements.
B. Maximum Offset Between Faces: 1/16 inch.
C. Maximum Misalignment of Adjacent Members: 1/16 inch.
D. Maximum Bow: 1/8 inch in 48 inches.
E. Maximum Deviation From Plane: 1/16 inch in 48 inches.

PART 3 EXECUTION

3.01 EXAMINATION
A. Verify that field conditions are acceptable and are ready to receive work.

3.02 PREPARATION
A. Clean and strip primed steel items to bare metal where site welding is required.
B. Supply setting templates to the appropriate entities for steel items required to be cast into concrete or embedded in masonry.

3.03 INSTALLATION
A. Install items plumb and level, accurately fitted, free from distortion or defects.
B. Provide for erection loads, and for sufficient temporary bracing to maintain true alignment until completion of erection and installation of permanent attachments.
C. Field weld components indicated on shop drawings.
D. Perform field welding in accordance with AWS D1.1/D1.1M.
E. Obtain approval prior to site cutting or making adjustments not scheduled.
F. After erection, prime welds, abrasions.

3.04 TOLERANCES
A. Maximum Variation From Plumb: 1/4 inch per story, non-cumulative.
B. Maximum Offset From True Alignment: 1/4 inch.
C. Maximum Out-of-Position: 1/4 inch.

DIVISION 6 - WOODS, PLASTICS, AND COMPOSITES

06 10 00 ROUGH CARPENTRY

PART 1 GENERAL

1.01 SECTION INCLUDES
A. Sheathing.
B. Underlayment.
C. Roofing nailers.
D. Preservative treated wood materials.
E. Communications and electrical room mounting boards.
F. Concealed wood blocking, nailers, and supports.
G. Fireblocking.
H. Miscellaneous wood nailers, furring, and grounds.

1.02 SUBMITTALS
A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
B. Product Data: Provide technical data on preservative treated wood.

1.03 DELIVERY, STORAGE, AND HANDLING
A. General: Cover wood products to protect against moisture. Support stacked products to prevent deformation and to allow air circulation.

1.04 WARRANTY
A. See Section 01 78 00 - Closeout Submittals, for additional warranty requirements.

DIVISION 6 - WOODS, PLASTICS, AND COMPOSITES

06 10 00 ROUGH CARPENTRY

PART 3 EXECUTION

3.01 PREPARATION

A. Coordinate installation of rough carpentry members specified in other sections.

3.02 INSTALLATION - GENERAL

A. Select material sizes to minimize waste.
B. Reuse scrap to the greatest extent possible; clearly separate scrap for use on site as accessory components, including: shims, bracing, and blocking.
C. Where treated wood is used on interior, provide temporary ventilation during and immediately after installation sufficient to remove indoor air contaminants.

3.03 BLOCKING, NAILERS, AND SUPPORTS

A. Provide framing and blocking members as indicated or as required to support finishes, fixtures, specialty items, and trim.

3.04 ROOF-RELATED CARPENTRY

A. Coordinate installation of roofing carpentry with deck construction, framing of roof openings, and roofing assembly installation.
B. Provide wood curb at all roof openings except where prefabricated curbs are specified and where specifically indicated otherwise. Form corners by alternating lapping side members.

3.05 INSTALLATION OF CONSTRUCTION PANELS

A. Underlayment: Secure to subflooring with staples.
   1. At locations where resilient flooring will be installed, fill and sand splits, gaps, and rough areas.
   2. Place building paper between floor underlayment and subflooring.
B. Wall Sheathing: Secure with long dimension perpendicular to wall studs, with ends over firm bearing and staggered, using screws.
C. Communications and Electrical Room Mounting Boards: Secure with screws to studs with edges over firm bearing; space fasteners at maximum 24 inches on center on all edges and into studs in field of board.
   1. Where boards are indicated as full floor-to-ceiling height, install with long edge of board parallel to studs.
   2. Install adjacent boards without gaps.
   3. Size and Location: As indicated on drawings.

3.06 CLEANING

A. Waste Disposal:
   1. Comply with applicable regulations.
   2. Do not burn scrap on project site.
   3. Do not burn scraps that have been pressure treated.
   4. Do not send materials treated with pentachlorophenol, CCA, or ACA to co-generation facilities or "waste-to-energy" facilities.
B. Do not leave any wood, shavings, sawdust, etc. on the ground or buried in fill.
C. Prevent sawdust and wood shavings from entering the storm drainage system.

DIVISION 7 - THERMAL AND MOISTURE PROTECTION

07 21 00 THERMAL INSULATION

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Board insulation at cavity wall construction, perimeter foundation wall, and underside of floor slabs at perimeter of building.
B. Board insulation at perimeter foundation wall and underside of floor slabs for a distance of two feet downward and two feet horizontal from perimeter wall.
C. Batt insulation where shown on drawings.
D. Sound Attenuation Batt Insulation in all interior stud framed walls.

1.02 DELIVERY, STORAGE, AND HANDLING

A. Inspect the materials upon delivery to assure that specified products have been received. Report damaged material immediately to the delivering carrier and note such damage on the carrier's freight bill of lading.
B. Keep insulation panels dry at all times and do not leave exposed or inadequately protected. Store indoors, if possible, on pallets or dunnage, elevated at least 4" above ground level.

1.03 FIELD CONDITIONS

A. Do not install insulation adhesives when temperature or weather conditions are detrimental to successful installation.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Batt Insulation:
   1. Owens Corning: www.owenscorning.com
   2. Certainteed: www.certainteed.com.
   3. Board Insulation:www.building.dow.com
B. Board Insulation:
   1. Dow Corning: www.building.dow.com.
   2. Owens Corning: www.owenscorning.com.
   3. Diversifoam Certifoam 15 and 25.

2.02 APPLICATIONS

A. Insulation Under Concrete Slabs: Extruded polystyrene board. (Basis of Design-Styrofoam Square Edge).
B. Insulation at Perimeter of Foundation: Extruded polystyrene board. (Basis of Design-Styrofoam Square Edge).
C. Insulation in Exterior Framed Walls and elsewhere where shown on drawings: Batt insulation with separate vapor retarder. (Basis of Design Owens Corning Unfaced Fiberglass).
D. Sound Batt Insulation in all interior stud framed walls. (Basis of Design Owens Corning Unfaced Fiberglass).

2.03 FOAM BOARD INSULATION MATERIALS

A. Extruded Polystyrene Board Insulation (Perimeter Insulation- Styrofoam Square Edge- Basis of Design): ASTM C578, Type IV; Extruded polystyrene board with either natural skin or cut cell surfaces; with the following characteristics:
   1. Flame Spread Index: 25 or less, when tested in accordance with ASTM E84.
   2. Smoke Developed Index: 450 or less, when tested in accordance with ASTM E84.
   3. Board Size: 24 x 96 inch.
   4. Board Thickness: 2 inches.
   5. Board Edges: Square.
   6. Thermal Resistance per Inch: 5.0 @ 75Degrees F mean temperature.
   7. Compressive Resistance: 25 psi.
   8. Water Absorption, maximum: 0.3 percent, volume.
   9. Water Vapor Permeance, based on 1 inch thickness, ASTM E96, perm, maximum: 1.5.
B. Extruded Polystyrene Board Insulation (Cavity Wall Insulation- Styrofoam Cavitymate- Basis of Design): ASTM C578, Type X; Extruded polystyrene board with either natural skin or cut cell surfaces; with the following characteristics:
   1. Flame Spread Index: 25 or less, when tested in accordance with ASTM E84.
   2. Smoke Developed Index: 450 or less, when tested in accordance with ASTM E84.
   3. Board Size: 16x96 inch.
   4. Board Thickness: 2 inches.
   5. Board Edges: Square.
   6. Thermal Resistance per Inch: 5.0 @ 75Degrees F mean temperature.
   7. Compressive Resistance: 15 psi.
   8. Water Absorption, maximum: 0.3 percent, volume.
   9. Water Vapor Permeance, based on 1 inch thickness, ASTM E96, perm, maximum: 1.5.

2.04 BATT INSULATION MATERIALS

K. Glass Fiber Batt Insulation: Flexible preformed batt or blanket, complying with ASTM C665; friction fit.
   1. Flame Spread Index: 25 or less, when tested in accordance with ASTM E84.
   2. Smoke Developed Index: 450 or less, when tested in accordance with ASTM E84.
   3. Combustibility: Non-combustible, when tested in accordance with ASTM E136.
   4. Facing: Unfaced.
   5. Manufacturers:
      a. CertainTeed Corporation: www.certainteed.com.
      b. Johns Manville Corporation: www.jm.com.
      c. Owens Corning Corp: www.owenscorning.com.

2.05 SOUND ATTENUATION BATT INSULATION

A. Glass Fiber Sound Attenuation Batt Insulation: Flexible preformed batt or blanket, complying with ASTM C665, Type 1; Friction Fit; 3-1/2 inch thickness.

2.06 ACCESSORIES

A. Tape: Polyethylene self-adhering type, 2 inch wide.
B. Adhesive for Board Insulation: Type recommended by insulation manufacturer for application.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that substrate, adjacent materials, and insulation materials are dry and that substrates are ready to receive insulation and adhesive.
B. Verify substrate surfaces are flat, free of honeycomb, fins, irregularities, or materials or substances that may impede adhesive bond.

3.02 BOARD INSTALLATION AT FOUNDATION PERIMETER

A. Adhere a 6 inch wide strip of polyethylene sheet over construction, control, and expansion joints where applicable with double beads of adhesive each side of joint.
   1. Tape seal joints.
   2. Extend sheet full height of joint.
B. Apply adhesive to back of boards:
   1. Three continuous beads per board length.
   2. Full bed 1/8 inch thick.
C. Install boards horizontally on foundation perimeter.
   1. Place boards to maximize adhesive contact.
   2. Install in running bond pattern.
   3. Butt edges and ends tightly to adjacent boards and to protrusions.
D. Extend boards over expansion joints, unbonded to foundation on one side of joint.
E. Cut and fit insulation tightly to protrusions or interruptions to the insulation plane.
F. Immediately following application of board insulation, place protective boards over exposed insulation surfaces.
   1. Apply adhesive in five continuous beads per board length.
   2. Install boards vertically from base of foundation to top of insulation.
   3. Butt boards tightly, with joints staggered from insulation joints.

3.03 BOARD INSTALLATION UNDER CONCRETE SLABS

A. Place insulation under slabs on grade after base for slab has been compacted.
B. Cut and fit insulation tightly to protrusions or interruptions to the insulation plane.
C. Prevent insulation from being displaced or damaged while placing vapor retarder and placing slab.

3.04 BATT INSTALLATION

A. Install insulation and vapor retarder in accordance with manufacturer's instructions.
B. Install in exterior wall spaces without gaps or voids. Do not compress insulation.
C. Trim insulation neatly to fit spaces. Insulate miscellaneous gaps and voids.
D. Fit insulation tightly in cavities and tightly to exterior side of mechanical and electrical services within the plane of the insulation.
E. At metal framing, place vapor retarder on warm side of insulation; lap and seal sheet retarder joints over member face.
F. Tape seal tears or cuts in vapor retarder.
G. Extend vapor retarder tightly to full perimeter of adjacent window and door frames and other items interrupting the plane of the membrane. Tape seal in place.

3.05 PROTECTION

A. Do not permit installed insulation to be damaged prior to its concealment.

07 53 00 ELASTOMERIC MEMBRANE ROOFING

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Elastomeric roofing membrane, adhered application.
B. Flashings.
C. Roofing stack boots and walkway pads.

1.02 DESCRIPTION

A. In general, the work consists of:
   1. Fully adhered EPDM Roofing system over wood roof sheathing as shown on drawings. Stagger joints between insulation layers. Design and install with a minimum wind speed warranty of 72 MPH.

1.03 ADMINISTRATIVE REQUIREMENTS

A. Coordinate with installation of associated flashings and counterflashings installed under sections 07 62 00, Sheet Metal Flashing and Trim, and copings and edge flashing specified in Section 07 71 00, Roof Specialties.
B. Preinstallation Meeting: Convene a preinstallation meeting one week before starting work of this section; require attendance by all affected installers; review preparation and installation procedures and coordination and scheduling necessary for related work.

1.05 QUALITY ASSURANCE

A. Perform work in accordance with manufacturer's instructions. Maintain one copy on site.
B. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum 5 years of documented experience.
C. Applicator Qualifications: Company specializing in performing the work of this section with minimum 5 years experience and approved by manufacturer.
D. Maintain full-time supervisor/foreman at jobsite while work is in progress.
E. Source Limitation: Obtain components for roofing system from roofing system manufacturer or a source approved by that manufacturer.

1.06 DELIVERY, STORAGE, AND HANDLING

A. Deliver products in manufacturer's original containers, dry, undamaged, with seals and labels intact.
B. Store products in weather protected environment, clear of ground and moisture.

1.07 FIELD CONDITIONS

A. Do not apply roofing membrane during unsuitable weather.
B. Comply with Manufacturers printed cold and hot weather installation requirements.
C. Do not apply roofing membrane to damp or frozen deck surface or when precipitation is expected or occurring.
D. Do not expose materials vulnerable to water or sun damage in quantities greater than can be weatherproofed the same day.

1.08 WARRANTY

A. Provide written certification that: "All roofing components exclusive of the deck, contained in the system proposed are approved, and compatible with the warranty requirements of the roof system as specified, and that the warranty specified will be issued at completion of project if system is installed as designed."
B. Provide 20 year, non- prorated, no dollar limit (NDL) manufacturer's material and labor warranty to cover failure to prevent penetration of water. Include all insulation, flashings and penetrations in the warranty.
C. Warranty shall be executed by both the system manufacturer and the roofing contractor.
D. Roofing Contractor Warranty: Provide 5 year, non- prorated, no dollar limit (NDL) contractors warranty, covering complete installation and any area of work not covered by the roof system warranty.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. EPDM Membrane Materials:
   1. Carlisle SynTec; Sure-Seal EPDM: www.carlisle-syntec.com. (Basis of Design)
   2. Firestone Building Products Co: www.firestonebpco.com.
   3. Versico Roofing Systems: www.versico.com.

2.02 ROOFING - UNBALLASTED APPLICATIONS

A. Elastomeric Membrane Roofing: One ply membrane, fully adhered, over cover board, adhered over insulation, adhered over metal deck.
B. Roofing Assembly Requirements:
   2. Roof Covering External Fire-Resistance Classification: UL Class C.
   3. Design and install in accordance with UL 90 or FM 1-90 ratings with a minimum wind speed warranty of 72 MPH. However, the rating is not required.

2.03 ROOFING MEMBRANE AND ASSOCIATED MATERIALS

A. Membrane: Ethylene-propylene-diene-terpolymer (EPDM); non-reinforced; complying with minimum properties of ASTM D 4637.
   1. Thickness: 0.060 inch.
   2. Sheet Width: 120 inch, minimum; factory-fabricate into largest sheets possible.
   3. Color: Black.
B. Seaming Tape: Provide "target" cover patches over seams at all tee intersections.
C. Seam Cover Strips: Manufacturer's standard 6 inch pressure sensitive cover strips at all seams and flashings.
D. Flexible Flashing Material: Same material as membrane; conforming to the following:
   1. Thickness: 60 mil.

2.05 ACCESSORIES

A. Stack Boots: Prefabricated flexible boot and collar for pipe stacks through membrane; same material as membrane.
B. Membrane Adhesive: As recommended by membrane manufacturer.
C. Surface Conditioner for Adhesives: Compatible with membrane and adhesives.
D. Thinners and Cleaners: As recommended by adhesive manufacturer, compatible with membrane.
E. Termination Bar: 1" wide x.098 thick extruded extruded aluminum bar, pre- punched @ 6" o.c.; provide angled sealant ledge to support sealant and to provide increased stability for membrane terminations.
F. Sealants: As recommended by membrane manufacturer.
G. Walkway Pads: Suitable for maintenance traffic, contrasting color or otherwise visually distinctive from roof membrane.
   1. Composition: Roofing membrane manufacturer's standard.
   2. Size: 18 x 18 inch.
   3. Surface Color: Black.
   4. Location: See roof plan for locations.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that surfaces and site conditions are ready to receive work.
B. Verify deck is supported and secure.
C. Verify deck is clean and smooth, flat, free of depressions, waves, or projections, properly sloped and suitable for installation of roof system.
D. Verify deck surfaces are dry and free of snow or ice.
E. Verify that roof openings, curbs, and penetrations through roof are solidly set, and cant strips are in place.

3.02 WOOD SHEATHING PREPARATION

A. (Carlisle SynTec; Sure-Seal EPDM: Basis of Design)
B. Prepare wood roof sheathing in accordance with Manufacturer's approved written instructions.

3.03 MEMBRANE APPLICATION

A. On phased roofing, when the completion of flashings and terminations is not achieved by the end of the work day, a daily seal must be performed to temporarily close the membrane to prevent water infiltration. Complete an acceptable membrane seal in accordance with the manufacturer's requirements.
B. Unroll and position membrane without stretching. Allow the membrane to relax for approximately 1/2 hour before bonding. Fold the sheet back onto itself so half the underside of the membrane is exposed.
C. Apply the Bonding Adhesive in accordance with the manufacturer's published instructions, to both the underside of the membrane and the substrate. Allow the adhesive to dry until it is tacky but will not string or stick to a dry finger touch.
   1. Roll the coated membrane into the coated substrate while avoiding wrinkles. Brush down the bonded half of the membrane sheet with a soft bristle push broom to achieve maximum contact.
   2. Fold back the unbonded half of the membrane sheet and repeat the bonding procedure.
D. Install adjoining membrane sheets in the same manner, overlapping edges approximately 4 inches. Do not apply bonding adhesive to the splice area.
E. Shingle joints on sloped substrate in direction of drainage.
F. Membrane splicing
   1. Install 6 inch wide pressure sensitive cover strip over ALL splices. Field splices at roof drains must be located outside the drain sump.
   2. For 20-year or longer System Warranty, splice enhancements are required. Refer to Carlisle Sure-Seal Roofing System Specification.
   3. Position membrane sheet to allow for required splice overlap. Mark the bottom sheets with an indelible marker approximately 1/4" to 1/2" from the top sheet edge. The pre-marked line on the membrane edge can also be used as a guide for positioning splice tape.
   4. Fold the top sheet back and clean the dry splice area (minimum 3" wide) of both membrane sheets by scrubbing with clean natural fiber rags saturated with Sure-Seal Primer. When using Sure-Seal (black) PRE-KLEENED membrane, cleaning the splice area is not required unless contaminated with field dirt or other residue.
   5. Apply Sure-Seal HP 250 Primer to splice area.
   6. Apply SecurTAPE in accordance with the manufacturer's specifications and roll the top sheet onto the mating surface.
   7. When adhering Factory Applied Tape (FAT), pull the poly backing from FAT beneath the top sheet and allow the top sheet to fall freely onto the exposed primed surface.Press top sheet on to the bottom sheet using firm even hand pressure across the splice towards the splice edge.
   8. Immediately roll the splice using positive pressure when using a 2" wide steel roller. Roll across the splice edge, not roll parallel to it. When FAT is used, Carlisle's Stand-Up Seam Roller can be used to roll parallel to the splice edge.
   9. At all field splice intersections, apply Lap Sealant along the edge of the membrane splice to cover the exposed SecurTAPE 2" in each direction from the splice intersection. Install Carlisle's Pressure-Sensitive "T" Joint Covers or a 6" wide section (with rounded corners) of Sure-Seal Pressure-Sensitive Flashing over the field splice intersection.
G. Install 6 inch wide pressure sensitive cover strip over ALL seams, flashing joints, and flashing flanges.
H. At intersections with vertical surfaces:
   1. Extend membrane up a minimum of 8 inches onto vertical surfaces.
   2. Fully adhere flexible flashing over membrane and up to nailing strips or other means of securement recommended by Roofing System Manufacturer.
   3. Secure flashings as recommended by Roofing System Manufacturer.
I. Around roof penetrations, seal flanges and flashings with flexible flashing.
J. Coordinate installation of roof drains and sumps and related flashings.
K. Coordinate installation of associated counterflashings installed under other sections.
L. Install walkway pads where shown on drawings. Space pad joints to permit drainage.

3.04 FIELD QUALITY CONTROL

A. See Section 01 40 00 - Quality Requirements, for general requirements for field quality control and inspection.
B. Require site attendance of roofing systems material manufacturers periodically during installation of the Work to ensure compliance with installation procedures in accordance with the Roofing System Manufacturer's requirements.
   1. A minimum of four visits during construction is required (including warranty inspection).
   2. Furnish written reports of manufacturer observations to the Architect.
   3. Prior to the manufacturer's inspection for warranty, the applicator must perform a pre-inspection to review all work and to verify all flashing has been completed as well as the application of all caulking.

3.05 CLEANING

A. Remove any markings from finished surfaces.
B. In areas where finished surfaces are soiled by work of this section, consult manufacturer of surfaces for cleaning advice and conform to their documented instructions.
C. Repair or replace defaced or damaged finishes caused by work of this section.
D. Perform daily clean-up to collect all wrappings, empty containers, paper, and other debris from the project site. Upon completion, all debris must be disposed of in a legally acceptable manner.

3.06 PROTECTION

A. Protect installed roofing and flashings from construction operations.
B. Where traffic must continue over finished roof membrane, protect surfaces from damage with 1/2 inch plywood over 1-1/2 inch polystyrene insulation, or other method approved in writing by Architect.

07 62 00 SHEET METAL FLASHING AND TRIM

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Fabricated sheet metal items, including flashings, counterflashings, downspouts, and gutters.

1.02 QUALITY ASSURANCE

A. Perform work in accordance with SMACNA Architectural Sheet Metal Manual requirements and standard details, except as otherwise indicated.
B. Fabricator and Installer Qualifications: Company specializing in sheet metal work with 5 years of documented experience.

1.03 DELIVERY, STORAGE, AND HANDLING

A. Stack material to prevent twisting, bending, and abrasion, and to provide ventilation. Slope metal sheets to ensure drainage.
B. Prevent contact with materials that could cause discoloration or staining.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Pre- Finished Sheet Metal
   1. Berridge Manufacturing Company; www.berridge.com (Basis of Design)
   2. Petersen Aluminum; www.pac-clad.com
   3. Englert, Inc.; www.englertinc.com

2.02 SHEET MATERIALS

A. Pre-Finished Steel: ASTM 792-08, Grade 40 Steel with ASTM A792, AZ-55 aluminum-zinc alloy coating (Galvalume); 24 GA. minimum 0.02 inch (24 GA) thick base metal; shop pre-coated with PVDF coating.
   1. PVDF (Polyvinylidene Fluoride) Coating: Kynar 500, with a top side dry film thickness of 0.75 +/- 0.05 mil over 0.20 +/-.05 mil prime coat, with a total top side dry film thickness of 0.95 +/- 0.10 mil. Bottom side coated with primer and urethane coating for a total dry film thickness of 0.35 +/- 0.05 mil.
   2. Color: As selected by Architect from manufacturer's full range of standard colors. See drawings.
B. Stainless Steel Drip Edge/Pan Flashing- Coordinate with Section 04 20 00: ASTM A666 Type 304, soft temper,.019 inch thick, (26 GA equivalent); smooth 2B finish.

2.03 ACCESSORIES

A. Fasteners: Same material and finish as flashing metal.
B. Underlayment: ASTM D226, organic roofing felt, Type II ("No. 30").
C. Primer: manufacturers recommended type.
D. Protective Backing Paint: manufacturers recommended type.
E. Sealant: Specified in Section 079005.
F. Plastic Cement: ASTM D4586, Type I.

2.04 FABRICATION

A. Form sections true to shape, accurate in size, square, and free from distortion or defects.
B. Fabricate cleats of same material as sheet, minimum 4 inches wide, interlocking with sheet.
C. Form pieces in longest possible lengths with a minimum of 5'-0" and a maximum of 10'-0".
D. Hem exposed edges on underside 1/2 inch; miter and seam corners.
E. Joints and seams: Use locks and seams recommended by appropriate SMACNA standard for item being joined. Set in compatible sealant as specified in Section 079005. Allow joint to move.
F. Fabricate corners from one piece with minimum 18 inch long legs; seam for rigidity, seal with sealant.
G. Fabricate vertical faces with bottom edge formed outward 1/4 inch and hemmed to form drip.

2.05 DRIP EDGE/ PAN FLASHING- COORDINATE WITH SECTION 04 20 00 UNIT MASONRY

A. Fabricate as described in 2.04 above and as detailed on drawings.
B. Lap and "bayonet" seams a minimum of 4 inches and seal watertight.
C. Solder or weld seams at "pre- fabricated" inside and outside corners. All other seams may be sealed, soldered or welded at Contractors option.

2.06 DOWNSPOUT FABRICATION

A. Downspouts: See drawings.
B. Gutters: See drawings.
C. Accessories: Profiled to suit gutters, downspouts and scuppers.
   1. Anchorage Devices: In accordance with SMACNA requirements.
   2. Downspout Supports: Brackets.
E. Seal metal joints.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify roof openings, curbs, pipes, sleeves, ducts, and vents through roof are solidly set, reglets in place, and nailing strips located.
B. Verify roofing termination and base flashings are in place, sealed, and secure.
C. Verify that masonry and other related work is completed in an acceptable condition to receive stainless steel flashing. Coordinate with Section 04 20 00, Unit Masonry.

3.02 PREPARATION

A. Install starter and edge strips, and cleats before starting installation.
B. Back paint concealed metal surfaces other than stainless steel with protective backing paint to a minimum dry film thickness of 15 mil. Manufacturers standard back paint on pre- finished sheet metal items are acceptable in lieu of field back painting.

3.03 INSTALLATION

A. Conform to drawing details and/ or SMACNA standards, whichever is most stringent.
B. Insert flashings into reglets to form tight fit. Secure in place with malleable wedges. Seal flashings into reglets with sealant specified in Section 07 92 00 Joint Sealants.
C. Secure flashings in place using concealed cleats and fasteners, unless otherwise detailed.
D. Apply plastic cement compound between metal flashings and felt flashings.
E. Fit flashings tight in place. Make corners square, surfaces true and straight in planes, and lines accurate to profiles.
F. Seal metal joints watertight with sealant specified in Section 07 92 00 Joint Sealants.
G. Secure scuppers and downspouts in place using concealed fasteners where possible, unless detailed otherwise.
H. Connect downspouts to downspout shoes. Seal connection watertight.

07 92 00 JOINT SEALANTS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Nonsag gunnable joint sealants.
B. Joint backings and accessories.

1.02 SUBMITTALS

A. See Division One for submittal procedures.
B. Product Data for Sealants: Submit manufacturer's technical data sheets for each product to be used, that includes the following.
   1. Physical characteristics, including movement capability, VOC content, hardness, cure time, and color availability.
   2. List of backing materials approved for use with the specific product.
   3. Substrates that product is known to satisfactorily adhere to and with which it is compatible.
   4. Substrates the product should not be used on.
   5. Substrates for which use of primer is required.
   6. Substrates for which laboratory adhesion and/or compatibility testing is required.
   7. Installation instructions, including precautions, limitations, and recommended backing materials and tools.
   8. Sample product warranty.
   9. Certification by manufacturer indicating that product complies with specification requirements.
C. Product Data for Accessory Products: Submit manufacturer's technical data sheet for each product to be used, including physical characteristics, installation instructions, and recommended tools.
D. Color Cards for Selection: Where sealant color is not specified, submit manufacturer's color cards showing standard colors available for selection.

1.03 QUALITY ASSURANCE

A. Maintain one copy of each referenced document covering installation requirements on site.
B. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum three years documented experience.
C. Installer Qualifications: Company specializing in performing the work of this section and with at least three years of documented experience.

1.04 MOCK-UP

A. Provide mock-up of sealant joints. Coordinate with Section 04 20 00 Unit Masonry.
B. For silicone sealant joints, meet on-site with manufacturer's designated representative prior to and during installation of mock-up. Install as directed by manufacturer's designated representative. Coordinate further on-site meetings with manufacturer's designated representative as required for proper and complete installation of product, and as required to fulfill manufacturer's warranty requirements.
C. Construct mock-up with specified sealant types and with other components noted.
D. Locate where directed.
E. Mock-up may remain as part of the Work.

1.05 FIELD CONDITIONS

A. Maintain temperature and humidity recommended by the sealant manufacturer during and after installation.

1.06 WARRANTY

A. Silicone Sealants: Correct defective work within a **twenty year period** after Date of Substantial Completion.
B. Butyl Sealants: Correct defective work within a **two year period** after Date of Substantial Completion.
C. Warranty: Include coverage for installed sealants and accessories that fail to achieve watertight seal, exhibit loss of adhesion or cohesion, or do not cure.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Non-Sag Sealants: Permits application in joints on vertical surfaces without sagging or slumping.
   1. BASF Construction Chemicals-Building Systems: www.buildingsystems.basf.com.
   2. Dow Corning Corporation: www.dowcorning.com/construction/#sle.
   3. Pecora Corporation: www.pecora.com.
   4. Sika Corporation: www.usa-sika.com/#sle.
   5. Tremco Commercial Sealants & Waterproofing: www.tremcosealants.com/#sle.
   6. ADFAST Corporation; www.adfastcorp.com/en.

2.02 NONSAG JOINT SEALANTS

A. Type E-1 - General Purpose Exterior Sealant: Silicone Sealant: ASTM C920, Grade NS, Uses NT, M, G, A, O; single or multi-component, non-sagging, neutral-curing.
   1. Non-Staining to Porous Stone: Non-staining to light-colored natural stone when tested in accordance with ASTM C1248.
   2. Color: To be selected by Architect from manufacturer's standard range.
   3. Applications: Use for:
      a. Control joints and other sealant joints in masonry and stone work.
      b. Sealant joints at exterior perimeters of doors, windows, louvers, pipes, and other penetrations of exterior walls.
      c. Exterior building sealant joints for which no other sealant is specified.
   1. Manufacturers:
      a. ADFAST Corporation; ADSEAL DWS 4580 Series: www.adfastcorp.com/en.
      b. Dow Corning Corporation; 790 Silicone Building Sealant: www.dowcorning.com/construction.
      c. Tremco Commercial Sealants & Waterproofing; Spectrem 2: www.tremcosealants.com.
      d. Substitutions: See Section 01 60 00 - Product Requirements.
B. Type E-2 - Butyl Sealant: ASTM C920, Grade NS, Class 12-1/2, Uses NT, M, G, A, O; single component, solvent release, non-skinning, non-sagging.
   1. Color: To be selected by Architect from manufacturer's standard range.
   2. Applications: Use for:
      a. Concealed sealant bead in sheet metal work.
C. Type E-3 - Concrete Paving Joint, Self-Leveling Polyurethane Sealant: ASTM C920, Grade P, Class 25, Uses T, I, M, A, O; multi- component, chemical curing, non staining, non bleeding, self-leveling type.
   1. Color: Color as selected.
   2. Applications: Use for:
      a. Joints in sidewalks and vehicular paving.

DIVISION 7 - THERMAL AND MOISTURE PROTECTION (CONTINUED)

07 92 00 JOINT SEALANTS (CONTINUED)

D. Type I-1 - General Purpose Interior Sealant, Acrylic Emulsion Latex: ASTM C834, Type OP, Grade NF, single component, non-staining, non-bleeding, non-sagging, capable of being painted.
   1. Color: To be selected by Architect from manufacturer's standard range.
   2. Applications: Use for:
      a. Interior wall and ceiling control joints.
      b. Interior joints between door and window frames and wall surfaces.
      c. Other interior joints for which no other type of sealant is indicated.
E. Type I-2 - Bathroom/Tile Sealant: Silicone; ASTM C920, Uses I, M and A; single component, mildew resistant.
   1. Applications: Use for:
      a. Joints between plumbing fixtures and floor and wall surfaces.
      b. Joints between kitchen and bathroom countertops and wall surfaces.
F. Type G-1 - Silicone Sealant: ASTM C920, Grade NS, Class 25, Uses NT, A, G, M, O; single component, solvent curing, non-sagging, non-staining, fungus resistant, non-bleeding.
   1. Color: To be selected by Architect from manufacturer's standard range.
   2. Movement Capability: Plus and minus 25 percent.
   3. Service Temperature Range: -65 to 180 degrees F.
   4. Shore A Hardness Range: 15 to 35.
   5. Applications: Use for:
      a. All glazing operations.

2.03 ACCESSORIES

A. Backer Rod: Cylindrical cellular foam rod with surface that sealant will not adhere to, compatible with specific sealant used, and recommended by backing and sealant manufacturers for specific application.
   1. Type for Joints Not Subject to Pedestrian or Vehicular Traffic: ASTM C1330; Type O - Open Cell Polyurethane.
   2. Type for Joints Subject to Pedestrian or Vehicular Traffic: ASTM C1330; Type B - Bi-Cellular Polyethylene.
   3. Open Cell: 40 to 50 percent larger in diameter than joint width.
   4. Closed Cell and Bi-Cellular: 25 to 33 percent larger in diameter than joint width.
B. Backing Tape: Self-adhesive polyethylene tape with surface that sealant will not adhere to and recommended by tape and sealant manufacturers for specific application.
C. Masking Tape: Self-adhesive, nonabsorbent, non-staining, removable without adhesive residue, and compatible with surfaces adjacent to joints and sealants.
D. Joint Cleaner: Non-corrosive and non-staining type, type recommended by sealant manufacturer; compatible with joint forming materials.
E. Primers: Type recommended by sealant manufacturer to suit application; non-staining.
F. Fine, smooth, clean, silica sand for sanded sealant joints.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that joints and substrates are ready to receive work.
B. Verify that backing materials are compatible with sealants.
C. Verify that backer rods are of the correct size.

3.02 PREPARATION

A. Remove loose materials and foreign matter that could impair adhesion of sealant.
B. Clean joints, and prime as necessary, in accordance with manufacturer's instructions.
C. Perform preparation in accordance with manufacturer's instructions and ASTM C1193.
D. Mask elements and surfaces adjacent to joints from damage and disfigurement due to sealant work; be aware that sealant drips and smears may not be completely removable. Protect all elements surrounding the work of this section from damage or disfigurement.
E. Concrete Floor Joints That Will Be Exposed in Completed Work: Test joint filler in inconspicuous area to verify that it does not stain or discolor slab.

3.03 INSTALLATION

A. Perform work in accordance with sealant manufacturer's requirements for preparation of surfaces and material installation instructions.
B. Perform installation in accordance with ASTM C1193.
C. Measure joint dimensions and size joint backers to achieve width-to-depth ratio, neck dimension, and surface bond area as recommended by manufacturer, except where specific dimensions are indicated.
D. Install bond breaker backing tape where backer rod cannot be used.
E. Install sealant free of air pockets, foreign embedded matter, ridges, and sags, and without getting sealant on adjacent surfaces.
F. Do not install sealant when ambient temperature is outside manufacturer's recommended temperature range, or will be outside that range during the entire curing period, unless manufacturer's approval is obtained and instructions are followed.
G. Nonsag Sealants: Tool surface concave, unless otherwise indicated; remove masking tape immediately after tooling sealant surface.
H. Concrete Floor Joint Filler: After full cure, shave joint filler flush with top of concrete slab.
I. Sand all sealant joints in brick and stone work using fine, smooth, clean silica sand "thrown" or "dusted" into sealant after it has been tooled and is still "tacky".

3.04 CLEANING

A. Clean adjacent soiled surfaces.

3.05 PROTECTION

A. Protect sealants until cured.

3.06 POST-SUBSTANTIAL COMPLETION INSPECTION

A. Post-Substantial Completion Inspection: Perform visual inspection of entire length of project sealant joints at a time that joints have opened to their greatest width; i.e. at the low temperature in the thermal cycle. Report failures immediately and repair.

3.07 SCHEDULE

A. See Drawings for designated sealant joints. **NOT ALL SEALANT JOINTS MAY BE SHOWN ON DRAWINGS. COORDINATE WITH SPECIFICATIONS OF THIS SECTION FOR ADDITIONAL TYPICAL SEALANT JOINT LOCATIONS.**
B. Exterior Joints for Which No Other Sealant Type is Indicated: Type E-1.
C. Control and Expansion Joints in Paving: Type E-3.
D. Exterior Wall Expansion Joints: Type E-1.
E. Joints Between Concrete Panels and Between Panels and Adjacent Work: Type E-1.
F. Control, Expansion, and Soft Joints in Masonry, and Between Masonry and Adjacent Work: Type E-1.
G. Lap Joints in Exterior Sheet Metal Work: Type E-2.
H. Joints Between Exterior Metal Frames and Adjacent Work: Type E-1.
I. Under Exterior Door Thresholds: Type E-1.
J. Interior Joints for Which No Other Sealant is Indicated: Type I-1;.
K. Control and Expansion Joints in Interior Concrete Slabs and Floors: Type E-3.
L. Joints Between Plumbing Fixtures and Walls and Floors, and Between Countertops and Walls: Type I-2.
M. All Glazing Joints: Type G-1.

DIVISION 8 - OPENINGS

SEE DRAWINGS FOR WINDOW AND DOOR TYPES AND PRODUCT SELECTIONS.

8a. **REQUIREMENTS FOR ALL DOORS AND HARDWARE:** Comply with ANSI 117.1, IBC 2018, Americans with Disabilities Act (ADAAG). Door sizes as shown on drawings.

8b. DOOR HARDWARE: Equip all doors with lever handle latch sets conforming to ANSI A156.2, Grade 2. Provide lever handle hardware. **Coordinate all door hardware requirements with Owner. Coordinate Hardware design, style, and finishes with Owner.**

8c. REQUIREMENTS FOR STEEL DOORS AND FRAMES:
   1. Accessibility: Comply with ANSI/ICC A117.1.
   2. Door Top Closures: Flush with top of faces and edges.
   3. Door Edge Profile: Beveled on both edges.
   4. Door Texture: Smooth faces.
   5. Glazed Lights: Non-removable stops on non-secure side; sizes and configurations as indicated on drawings.
   6. Hardware Preparation: In accordance with BHMA A156.115, with reinforcement welded in place, in addition to other requirements specified in door grade standard.
   7. Finish: Factory primed, for field finishing.
   8. Combined Requirements: If a particular door and frame unit is indicated to comply with more than one type of requirement, comply with all the specified requirements for each type. For instance, an exterior door that is also indicated as being Sound-Rated must comply with the requirements specified for exterior doors and for sound-rated doors. Where two requirements conflict, comply with the most stringent.

8d. STEEL HOLLOW METAL FRAMES: EXTERIOR FRAMES: 16-gauge Galvannealed Hollow Metal Door Frames. INTERIOR FRAMES: Factory-primed for field finishing. Galvannealed in accordance with ASTM A653/A653M with A60/ZF180 coating. Prepare for hardware in accordance with BHMA A156.115 with reinforcement welded in place. Comply with SDI requirements and ANSI A250.8 for Level 1, 16-gauge.

8e. STEEL EXTERIOR DOORS: ANSI A250.8 Level 3, physical performance Level A, Model 2, Seamless. Polystyrene foam core. All components hot-dipped zinc-iron alloy coated (galvannealed) in accordance with ASTM A653/A653M, with manufacturer's standard coating thickness with A40/ZF 120 being the minimum thickness allowed. **Provide weatherstripping and silencers.** 1-3/4 inch thickness.

8f. WINDOWS: See Window Schedule.

Peckham & Wright Architects, Inc., d.b.a.
PWArchitects, Inc.
2120 Forum Blvd., Ste. 101
Columbia, Miss

DIVISION 9 - FINISHES

09 00 00 GENERAL FINISHES AND FINISH REQUIREMENTS

9a. **INTERIOR FINISH MATERIAL REQUIREMENTS:** Verify interior finish materials including type and other information with Owner. Meet the following minimum requirements for Paint, Carpet, Ceramic or Vinyl floor coverings, vinyl base, and all other interior finish materials utilized for the project:

A. In Exit Enclosures and Exit Passageways: *Class B: Flame spread rating 26-75; Smoke-developed rating 0-450.*

B. In Corridors: *Class B: Flame spread rating 26-75; Smoke-developed rating 0-450.*

C. In Enclosed Rooms and Spaces: *Class C: Flame spread rating 76-200; Smoke-developed rating 0-450.*

9b. **INTERIOR FLOOR FINISH MATERIALS:** All interior floor finish materials shall be Class II materials in accordance with NFPA 253.

9c. **GYPSUM BOARD:** 5/8" thick Type "X" maximum width and length as defined in ASTM C1396/C1396M; ends square cut, tapered edges. Location: all walls and where shown on drawings. Coordinate with drawings. Use Moisture Resistant Gypsum Board at plumbing walls and all bathroom / restroom walls, with Fungal Resistance Score of 10 when tested in accordance with ASTM D3272. Comply with GA 216 and ASTM C840. Use Gold Bond Brand SoundBreak XP Gypsum Board on interior face of corridor walls, see wall type "E".

A. Provide finishing accessories as follows:

1. Metal Finishing Accessories: ASTM C1047, galvanized steel, rolled zinc, or rigid plastic, unless otherwise indicated. Provide U-bead, L-bead, and LC-bead at exposed panel edges in addition to conventional corner bead and control joints.
2. Joint Materials: ASTM C475 and as recommended by gypsum board manufacturer for project conditions. Provide 2-inch wide creased paper tape for joints and corners. Provide ready-mixed vinyl-based joint compound.
3. High Build Drywall Surfacer: Vinyl acrylic latex-based coating for spray application, designed to take the place of skim coating and separate paint primer where required for MPI Level 5 Finish.
4. Screws for Attachment to Steel Members Less Than 0.03-inch Thickness, to Wood Members, and to Gypsum Board: ASTM C102; self-piercing tapping type.
5. Screws for Attachment to Steel Members from 0.033-inch to 0.112-inch in Thickness: ASTM C954; steel drill screws for application of gypsum board to load-bearing steel studs.
6. Anchorage to Substrate: Tie wire, nails, screws, and other metal supports, of type and size to suit application; to rigidly secure materials in place.

9d. **PAINT:** Sherwin-Williams. Paint all scheduled surfaces with a minimum of 2 coats of paint / stain, plus primer as required to provide complete coverage. See Finish Schedule on drawings. **Coordinate all paint colors, sheens, and paint product selections with Owner.**

A. PAINT SYSTEMS - EXTERIOR: Exterior Ferrous Metal Galvanized and Non-Galvanized: Lintels, downspout boots, and other ferrous metal items shown on drawings to be painted.

1. Preparation as required by manufacturer.
2. Two top coats and one coat primer.
3. Semi-gloss: MPI Gloss Level 5; use this sheen at all locations.
4. Top Coat Product: Sherwin-Williams DTM Acrylic Coating, Product #B-66-W2-11.
5. Primer(s): Sherwin-Williams DTM Acrylic Primer, Product #B-66-W1, or as recommended by manufacturer.

B. PAINT SYSTEMS - INTERIOR: All interior surfaces indicated to be Painted, unless otherwise indicated, including gypsum board, concrete, concrete masonry, shop primed steel, galvanized steel and wood trim, door frames, etc.

1. Preparation as required by manufacturer.
2. Two top coats and one coat primer.
3. Eggshell: MPI Gloss Level 3; use this sheen at all locations.
4. Top Coat Product: Sherwin-Williams Pre-Catalyzed Water-Based Epoxy.
5. Primer(s): As recommended by manufacturer.

DIVISION 10 - SPECIALTIES

10c. **FIRE EXTINGUISHERS & CABINETS:**

A. Larsen's Manufacturing Co. #MP5A (3A40B:C) Extinguisher, with Larsen's Manufacturing Co. Semi-Recessed Steel Cabinet #2409-R7 with Clear Acrylic window.

B. See drawings for types and locations.

10d. **EXTERIOR SIGNAGE:** Coordinate all electrical requirements with MEP. Comply with City of Lee's Summit zoning ordinances and signage ordinances.

A. Exterior Building-mounted Signage: Coordinate with Owner.

B. Provide all demolition, blocking, attachment, electrical, conduits, etc. required for complete functioning and installation.

DIVISION 11 - EQUIPMENT (NOT USED)

DIVISION 12 - FURNISHINGS (NOT USED)

DIVISION 13 - SPECIAL CONSTRUCTION

13a. **SPRINKLER SYSTEM:** Design and Install NFPA 13 Sprinkler System in accordance with Chapter 9 of the 2018 International Building Code. Coordinate requirements with sprinkler system designer and submit shop drawings to the City of Lee's Summit for approval prior to installation. The sprinkler system must be designed, approved, and submitted by a Professional Engineer in the State of Missouri. **Coordinate with M/E/P documents.**

13b. **SECURITY SYSTEM:** Coordinate requirements with Owner.

A1 NOT TO SCALE

Peckham & Wright Architects, Inc., d.b.a.
PWArchitects, Inc.
2120 Forum Blvd., Ste. 101
Columbia, Missouri 65203
PWArchitects.com | 573.449.2683
Peckham & Wright Architects an Architectural Corporation
Missouri State Certificate of Authority No. 000244

STATE OF MISSOURI
ERIK M. COOPER MILLER
NUMBER A-7070
REGISTERED ARCHITECT

06/16/2025

Copyright Peckham & Wright Architects, Inc. 2025

DISCOVERY PARK
ATHLETIC CLUB
AND OFFICE
ALURA APARTMENTS
250 NE ALURA WAY
LEE'S SUMMIT, MO

Drawn:	Project Number:
LC	202428
Checked:	CAD File Name (Number):
EM	

Drawing Title: SPECIFICATIONS

No.	Revisions:	Date:

Submission Date: 06/16/2025
Plot Date: 06/16/2025
Drawing Number: G005

Discovery - Alura Clubhouse

GENERAL NOTES

ELEVATION DATUM
SEE ARCHITECTURAL DRAWINGS OR SITE PLAN FOR FINISH FLOOR ELEVATIONS

DESIGN SPECIFICATIONS
2018 INTERNATIONAL BUILDING CODE

EARTHWORK
EARTHWORK OPERATIONS SHALL BE PERFORMED UNDER THE DIRECTION OF A PROFESSIONAL TESTING AGENCY TO ASSURE COMPLIANCE WITH THE RECOMMENDATIONS OF THE SOILS REPORT BY OWN, INC. DATED APRIL 1, 2024 & ADDENDUM LETTER DATED DECEMBER 19, 2024.

CONCRETE

CONCRETE WORK SHALL CONFORM TO ALL REQUIREMENTS OF THE CURRENT ACI 301, SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS, ACI 318 BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE, ACI 305 SPECIFICATIONS FOR HOT WATER CONCRETE, AND ACI 306 SPECIFICATIONS FOR COLD WEATHER CONCRETE, WITH THE FOLLOWING ADDITIONAL REQUIREMENTS:

1. CONCRETE SHALL DEVELOP THE FOLLOWING 28-DAY MINIMUM COMPRESSIVE STRENGTH:
   - FOUNDATIONS – 3,000 PSI
   - CAST-IN-PLACE WALLS – 3,500 PSI
   - FLOOR SLAB – 4,000 PSI
   - EXTERIOR SLABS, WALLS AND CURBS – 4,000 PSI
2. ALL FOOTINGS SHALL BEAR ON UNDISTURBED SOIL OR ENGINEERED FILL.
3. CHLORIDE- BASED ADMIXTURES ARE PROHIBITED IN ALL REINFORCED CONCRETE.
4. REINFORCING STEEL SHALL CONFORM TO ASTM A615, A616, OR A617, GRADE 60.
5. ALL CONTINUOUS REINFORCING STEEL THAT MEETS AT A CORNER SHALL BE TIED TOGETHER WITH A CORNER BAR THAT HAS SUFFICIENT LAP DISTANCE IN EACH DIRECTION
6. CONTINUOUS REINFORCING BARS LAP LENGTH SHALL BE A MINIMUM OF 48 BAR DIAMETERS UNLESS NOTED OTHERWISE
7. CONCRETE SLUMP SHALL BE A MAXIMUM OF 4" +/- 1" (ASTM C- 143) AS DELIVERED IN THE FIELD. CONTRACTOR MAY USE CHEMICAL ADMIXTURES TO ATTAIN A MAXIMUM SLUMP OF 8" FOR WORKABILITY. NO WATER MAY BE ADDED TO THE CONCRETE MIX ON SITE UNLESS WATER IS WITHHELD AT THE BATCHING FACILITY. IF WATER IS WITHHELD AT THE BATCHING FACILITY IT SHOULD BE REFLECTED ON THE LOAD TICKET. THE TOTAL AMOUNT OF WATER IN THE MIX SHALL NOT EXCEED WHAT IS NOTED ON THE APPROVED MIXED. THIS SHALL BE NOTED IN THE SPECIAL INSPECTOR'S RECORDS.
8. CONCRETE EXPOSED TO WEATHER, VEHICLES, AND/OR DEICING CHEMICALS SHALL BE AIR-ENTRAINED WITH 6% (+/-) 1.5% ENTRAINED AIR BY VOLUME AT POINT OF DISCHARGE. DO NOT ALLOW AIR CONTENT OF TROWELED FINISHED FLOORS TO EXCEED 3%.
9. SUBMIT CONCRETE MIX PROPORTIONS PRIOR TO START OF WORK. DO NOT BEGIN CONCRETE PRODUCTION UNTIL MIXES HAVE BEEN REVIEWED AND ARE ACCEPTABLE TO THE ENGINEER.
10. READY MIX CONCRETE SHALL COMPLY WITH REQUIREMENTS OF ASTM C94.
11. CONCRETE WORK EXECUTION
    - A. CONSTRUCT FORMS TO CORRECT SIZE, SHAPE, ALIGNMENT, ELEVATION AND POSITION; AND TO SUPPORT VERTICAL AND LATERAL LOADS.
    - B. POSITION, SUPPORT, AND SECURE REINFORCEMENT AGAINST DISPLACEMENT. MINIMUM CONCRETE COVER FOR REINFORCEMENT SHALL BE, UNLESS NOTED OTHERWISE ON THE DRAWINGS:
      CAST AGAINST AND EXPOSED TO EARTH.....3 INCHES
      EXPOSED TO EARTH OR WEATHER.....2 INCHES
      NOT EXPOSED TO WEATHER OR
      IN CONTACT WITH EARTH.....1 ½ INCHES
    - C. PROVIDE CONTROL JOINTS IN SLABS-ON-GRADE AT NOT GREATER THAN 15 FEET ON CENTER IN EACH DIRECTION. SAW CUT CONTROL JOINTS MINIMUM ¼ OF SLAB DEPTH, AS SOON AFTER SLAB FINISHING WITHOUT DISLODGING AGGREGATE.
    - D. STEEL TROWEL FINISH ALL INTERIOR CONCRETE SLABS, BROOM FINISH ALL EXTERIOR CONCRETE SLABS.
    - E. CURE ALL CONCRETE IN COMPLIANCE WITH ACI 301, USING A LIQUID TYPE MEMBRANE, NON-RESIDUAL, CURING COMPOUND COMPLYING WITH ASTM C309. ASSURE COMPATIBILITY WITH FINISH FLOOR COVERING.

STRUCTURAL STEEL

1. FABRICATION AND ERECTION OF STRUCTURAL STEEL SHALL BE IN ACCORDANCE WITH THE CURRENT EDITION OF THE AISC SPECIFICATIONS FOR STRUCTURAL STEEL BUILDINGS, THE AISC CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES AND CURRENT OSHA STANDARDS.
2. WIDE FLANGE SHAPES SHALL CONFORM TO ASTM A992. STRUCTURAL TUBES SHALL CONFORM TO ASTM A500 GRADE B. ALL OTHER STRUCTURAL STEEL SHALL CONFORM TO ASTM A36.
3. BOLTS, UNLESS OTHERWISE SHOWN, SHALL CONFORM TO ASTM A325-N, SIZE AS PER PLAN.
4. ANCHOR BOLTS, UNLESS OTHERWISE SHOWN, SHALL CONFORM TO ASTM F1554 GRADE 36.
5. SPLICING OF STRUCTURAL STEEL IS PROHIBITED EXCEPT AS DETAILED.
6. ALL STRUCTURAL AND MISCELLANEOUS STEEL ITEMS SHALL RECEIVE ONE COAT OF "IRONCLAD RETARDO RUST INHIBITIVE PAINT 163" (BENJAMIN MOORE) OR APPROVED EQUAL UNLESS OTHERWISE INDICATED IN THE SPECIFICATIONS. ALL STEEL SURFACES EMBEDDED IN CONCRETE SHALL NOT BE PAINTED. PREPARATION OF STEEL SURFACES SHALL MEET THE REQUIREMENTS OF THE STEEL STRUCTURES PAINTING COUNCIL (SSPC-SP1) AND THE REMOVAL OF GREASE AND OIL BY SOLVENT CLEANING (SSPC-SP1) AND THE REMOVAL OF MILL SCALE, RUST, WELD FLUX AND SLAG BY HAND TOOL CLEANING (SSPC-SP2). PRIMER SHALL BE APPLIED AT THE MANUFACTURER'S RECOMMENDED RATE BUT NOT LESS THAN ONE GALLON PER 400 SQ.FT. THEREBY DEPOSITING A DRY FILM THICKNESS OF NOT LESS THAN 1.5 MILS. ANY SCARRED AREAS SHALL BE TOUCHED UP WITH THE SAME PAINT AFTER ERECTION.
7. ALL WELDING SHALL BE DONE BY QUALIFIED WELDERS IN ACCORDANCE WITH THE CURRENT EDITION OF THE AWS STRUCTURAL WELDING CODE. WELDING ELECTRODES SHALL BE E70XX.

POST-INSTALLED ANCHORS

1. ALL POST-INSTALLED ANCHORS SHALL MEET THE REQUIREMENTS OF THE CODE-CITED EDITION OF ACI 318, APPENDIX "D", AND SHALL BE ACCEPTABLE FOR BOTH CRACKED AND UNCRACKED CONCRETE.
2. EXPANSION ANCHORS HAVE BEEN DESIGNED AS HILTI KWIK BOLT TZ ANCHORS, UNLESS NOTED OTHERWISE.
3. ADHESIVE ANCHORS HAVE BEEN DESIGNED TO USE HILTI HIT HY 200 ADHESIVE IN CONCRETE OR SOLID MASONRY, UNLESS NOTED OTHERWISE.
4. EQUIVALENT ANCHORS MAY BE SUBMITTED FOR THE ENGINEER'S APPROVAL. SUBMITTALS ARE THE CONTRACTOR'S RESPONSIBILITY AND MUST INCLUDE EVALUATION REPORTS FROM THE INTERNATIONAL CONFERENCE OF BUILDING OFFICIALS (ICBO).
5. EMBEDMENT DEPTH IS DEFINED AS THE DISTANCE FROM THE SURFACE OF THE LOAD-BEARING BASE MATERIAL TO THE DEEPEST PART OF THE ANCHOR AFTER THE ANCHOR HAS BEEN DRIVEN INTO THE HOLE BUT NOT YET EXPANDED.
6. ADHESIVE ANCHORS SHALL BE ACCEPTABLE FOR LONG-TERM LOADING. WHEN BASE MATERIAL TEMPERATURES ARE BELOW 40 DEG F, ONLY NON-EPOXY-BASED ADHESIVES SHALL BE USED.
7. POST-INSTALLED ANCHORS SHALL ONLY BE USED WHERE SPECIFIED ON THE DRAWINGS. THE CONTRACTOR SHALL OBTAIN APPROVAL FROM THE ENGINEER PRIOR TO USING POST-INSTALLED ANCHORS FOR MISSING OR MISPLACED CAST-IN-PLANE ANCHORS. CARE SHALL BE TAKEN TO AVOID CONFLICTS WITH EXISTING REINFORCING BARS. HOLES SHALL BE DRILLED AND CLEANED PER ANCHOR MANUFACTURER'S SPECIFICATIONS.
8. STAINLESS STEEL ANCHORS ARE REQUIRED AT ALL PERMANENTLY EXPOSED WEATHER CONDITIONS.

TIMBER

TIMBER WORK SHALL CONFORM TO ALL REQUIREMENTS OF THE CURRENT ANSI/AF&PA NATIONAL DESIGN SPECIFICATION (NDS) FOR WOOD CONSTRUCTION, WITH THE FOLLOWING SUPPLEMENTAL REQUIREMENTS:

1. FOR COMMON MEMBER SIZES, THE SPECIES AND GRADES SHALL BE AS FOLLOWS, UNLESS NOTED OTHERWISE:
   - A. 2X4 SPF No.1/No.2
   - B. 2X6 SPF No.1/No.2
   - C. 2X8 DF-L No.2
   - D. 2X10 DF-L S.S.
   - E. 2X12 DF-L S.S.

   EQUIVALENT (OR BETTER) GRADES & SPECIES MAY BE SUBMITTED FOR THE ENGINEER'S APPROVAL.
2. SIZES SHOWN FOR LUMBER ARE NOMINAL SIZES.
3. TIMBER EXPOSED TO WEATHER OR GROUND, OR IN CONTACT WITH CONCRETE OR MASONRY SHALL BE PRESSURE-IMPREGNATED BY AN APPROVED PROCESS AND PRESERVATIVE.
4. SPLICING OF JOISTS, STUDS, OR HEADERS IS PROHIBITED EXCEPT AS SHOWN.
5. BOLTS SHALL CONFORM TO ASTM A307. HOLES SHALL BE DRILLED PER SECTION 11.1.2 OF THE CURRENT ANSI/AF&PA NDS FOR WOOD CONSTRUCTION.
6. LAG SCREWS AND WOOD SCREWS SHALL BE INSTALLED PER SECTIONS 11.1.3 AND 11.1.4, RESPECTIVELY, OF THE CURRENT ANSI/AF&PA NDS FOR WOOD CONSTRUCTION.
7. COMMON NAILS SHALL BE USED, UNLESS NOTED OTHERWISE. IN ADDITION, NAILS SHALL BE GALVANIZED, IF EXPOSED TO WEATHER OR MOISTURE. TOE-NAILS SHALL BE DRIVEN PER SECTION 11.1.5.4 OF THE CURRENT ANSI/AF&PA NDS FOR WOOD CONSTRUCTION.
8. FASTENING SHALL BE PER THE IBC MINIMUM FASTENING SCHEDULE, TABLE 2304.9.1, UNLESS NOTED OTHERWISE.
9. CONNECTIONS/CONNECTORS SHALL BE INSTALLED PER MANUFACTURER'S SPECIFICATIONS.

BRICK LINTELS

1. ALL STEEL LINTELS TO BE A36 STEEL, A992 GRADE 50, OR A500 GRADE B. ALL LINTELS TO BE HOT DIPPED GALVANIZED.

PREFABRICATED WOOD TRUSSES

1. FLOOR & ROOF TRUSSES SHALL BE DESIGNED IN ACCORDANCE WITH THE TRUSS PLATE INSTITUTE (TPI) DESIGN SPECIFICATION FOR METAL PLATE CONNECTED WOOD TRUSSES, AND THE ANSI/NF&PA NATIONAL DESIGN SPECIFICATION (NDS) FOR WOOD CONSTRUCTION.
2. PROVIDE TEMPORARY AND PERMANENT BRACING ON ALL TRUSSES, AS REQUIRED TO PROVIDE MEMBER AND TRUSS STABILITY.
3. FLOOR & ROOF TRUSSES SHALL BE DESIGNED AND CONSTRUCTED FOR A MAXIMUM TOTAL LOAD DEFLECTION OF L/360 AND TO SAFELY SUPPORT THE FOLLOWING LOADS:
   - A. DEAD, LIVE, SNOW, WIND, EARTHQUAKE: SEE PROJECT DESIGN DATA ON COVER SHEET.
   - B. MECHANICAL PIPE LOAD: TRUSSES SHALL BE DESIGNED FOR A CONCENTRATED LOAD OF 250 LBS HUNG ANYWHERE ALONG THE BOTTOM CHORD.
   - C. OVER-FRAMING LOAD: TRUSSES SHALL ALSO BE DESIGNED TO SUPPORT ADDITIONAL OVERBUILD FRAMING, SUCH AS THAT WHICH FORMS VALLEYS AND HIPS ON ROOFS.
   - D. DRIFTED SNOW LOAD: TRUSSES SHALL BE DESIGNED TO SUPPORT DRIFTED SNOW LOADS IN ACCORDANCE WITH THE APPROPRIATE BUILDING CODE.
   - E. IN-PLANE LATERAL LOADS: TRUSSES SHALL BE DESIGNED TO SUPPORT ANY LATERAL LOADS CARRIED AXIALLY IN THE PLANE OF THE TRUSS, AS SHOWN ON THE PLANS.
4. GABLED END TRUSSES SHALL HAVE VERTICAL MEMBERS SPACED AT 16" O.C. MAXIMUM.
5. SUBMITTALS SHALL INCLUDE THE FOLLOWING:
   - A. SHOP DRAWINGS PREPARED UNDER THE SUPERVISION OF, AND SIGNED AND SEALED BY, A PROFESSIONAL ENGINEER REGISTERED IN THE STATE WHERE THE PROJECT IS BUILT. THESE DRAWINGS SHALL INDICATE SPECIES, GRADE, AND SIZES OF LUMBER TO BE USED; PITCH, SPAN, CAMBER, CONFIGURATION, AND SPACING FOR EACH TYPE OF TRUSS REQUIRED; TYPE, SIZE, MATERIAL, FINISH, AND LOCATION OF METAL CONNECTOR PLATES; AND BEARING DETAILS. SHOW TRUSS LAYOUT AND ALL REQUIRED TEMPORARY AND PERMANENT BRACING AFFECTING THE STRUCTURAL CAPACITY OF THE TRUSSES.

PROVIDE COMPLETE ENGINEERING DESIGN CALCULATIONS THAT INCLUDE DESIGN VALUES, DESIGN ANALYSIS INDICATING LOADING, ASSUMED ALLOWABLE STRESSES, STRESS DIAGRAMS, AND CALCULATIONS, AND ANY OTHER INFORMATION NEEDED FOR REVIEW. THE CALCULATIONS SHALL HAVE BEEN SIGNED AND SEALED BY A QUALIFIED PROFESSIONAL ENGINEER WHO IS REGISTERED IN THE STATE WHERE THE PROJECT IS BUILT AND WHO IS RESPONSIBLE FOR PREPARATION OF THE CALCULATIONS.

SPECIAL INSPECTIONS

THE FOLLOWING ITEMS REQUIRE SPECIAL INSPECTION IN ACCORDANCE WITH CHAPTER 17 OF THE INTERNATIONAL BUILDING CODE.

- a. CONCRETE GROUT DESIGN MIX (PERIODIC)
- b. PLACING OF CONCRETE AND REINFORCING STEEL (CONTINUOUS OF CONCRETE SAMPLING / PERIODIC OF REINFORCING)
- c. BOLTS & ANCHORS EMBEDDED IN CONCRETE (PERIODIC)
- d. STRUCTURAL STEEL FABRICATIONS (UNLESS AISC APPROVED) (PERIODIC)
- e. STRUCTURAL STEEL BOLTING & WELDING (PERIODIC)
- f. POST INSTALLED ANCHORS IN CONCRETE (CONTINUOUS)
- g. IN-SITU SOILS, EXCAVATIONS, FILLING & COMPACTION (PERIODIC)
- h. MASONRY AND REINFORCING STEEL (CONTINUOUS ON CELL GROUTING / PERIODIC ON REINFORCING)
- i. WOOD FRAMING:
  - i.a. SHEAR WALLS; WALL SIZE, CONFIGURATION, BLOCKING, PANEL GRADE, PANEL THICKNESS, AND FASTENING. (PERIODIC)
  - i.b. DIAPHRAGMS (FLOOR AND ROOF SHEATHING); SIZE, CONFIGURATION, BLOCKING, PANEL GRADE, PANEL THICKNESS, AND FASTENING. (PERIODIC)
  - i.c. FRAMING MEMBERS AND DETAILS (PERIODIC)
  - i.d. MATERIAL GRADE (PERIODIC)
  - i.e. CONNECTIONS; HANGERS, HOLD DOWNS, BUILT-UP COLUMNS, BUILT-UP BEAMS (PERIODIC)
  - i.f. PRE-ENGINEERED TRUSSES; FRAMING, CONNECTIONS, BRIDGING (PERIODIC)

THE CONTRACTOR SHALL REQUEST SPECIAL INSPECTION OF THE ITEMS LISTED ABOVE PRIOR TO THOSE ITEMS BECOMING INACCESSIBLE AND UNOBSERVABLE DUE TO PROGRESSION OF THE WORK.

DESIGN DATA

2018 INTERNATIONAL BUILDING CODE / ASCE 7-16

BUILDING OCCUPANCY CATEGORY	II
ROOF LOAD DATA	
LIVE LOAD (COMMON AREA)	20
ASPHALT SHINGLES + FELT	3.0
5/8" OSB ROOF SHEATHING	2.5
PRE-ENGINEERED WOOD TRUSSES @ 2'-0" O.C.	5.0
INSULATION (BLOWN)	2.0
MECHANICAL ALLOWANCE	5.0
5/8" GYP. CEILING	2.5
SOLAR	5.0
TOTAL TO TRUSSES	45 lbs/sqft
ROOF TOP AMENITY AREA	
LIVE LOAD COMMON AREA	100
3/4" GYPCRETE & 3/4"SHEATHING	15
MECHANICAL ALLOWANCE	4
5/8" GYP. CEILING	3
FLOOR STRUCTURE	18
TOTAL TO FLOOR TRUSS	140 lbs/sqft
RAIN LOADING	
15 MINUTE RAIN INTENSITY	7.49 in/hr
60 MINUTE RAIN INTENSITY	3.52 in/hr
ROOF SNOW LOAD DATA* (*UNBALANCED & DRIFTING SNOW TO BE DETERMINED IN ADDITION TO UNIFORM LOAD, WHERE APPLICABLE)	
p_g =	20 lbs/sqft
C_e =	1.0
I_s =	1.0
C_t =	1.0
p_f =	14.00 lbs/sqft
WIND DESIGN DATA	
V_{ult} =	109 M.P.H. (3-SECOND GUST)
RISK CATEGORY	II
EXPOSURE	B
INTERNAL PRESSURE COEFFICIENT =	± 0.18
DIRECTIONAL PROCEDURE (MWFRS - ASCE 7, CH 27; C&C - ASCE 7, CH 30, PART 4)	
MAXIMUM COMPONENTS & CLADDING WIND	+/-25.33 lbs/sqft
EARTHQUAKE DESIGN DATA	
RISK CATEGORY	II
I_E =	1.0
S_S=	0.1
S_1=	0.068
SITE CLASS	D
S_{DS}=	0.107
S_{D1}=	0.109
SEISMIC DESIGN CATEGORY	B
BASIC SEISMIC-FORCE-RESISTING SYSTEM = LIGHT-FRAME (WOOD) WALLS SHEATHED WITH WOOD STRUCTURAL PANELS RATED FOR SHEAR RESISTANCE	
R =	6.5
Ω_0 =	3.0
C_d =	4.0
DESIGN BASE SHEAR	$V = 0.016W$
EQUIVALENT LATERAL FORCE PROCEDURE	
BASIC SEISMIC-FORCE-RESISTING SYSTEM = STEEL ORDINARY CONCENTRICALLY BRACED FRAMES	
R =	3.25
Ω_0 =	2.0
C_d =	3.25
DESIGN BASE SHEAR	$V = 0.033W$
EQUIVALENT LATERAL FORCE PROCEDURE	
NET ALLOWABLE SOIL BEARING	2,500 lbs/sqft**

(**PER GEOTECHNICAL REPORT BY OWN, Inc. DATED APRIL 1, 2024)

INDEX OF SHEETS

COVER / GENERAL STRUCTURAL DATA	S100
FOUNDATION PLAN	S200
FOUNDATION DETAILS	S210-S211
ROOF FRAMING PLAN	S300
STAIR FRAMING PLANS & DETAILS	S301
ROOF FRAMING DETAILS	S310-S311

Peckham & Wright Architects, Inc., d.b.a.
PWArchitects, Inc.
2120 Forum Blvd., Ste. 101
Columbia, Missouri 65203
PWArchitects.com | 573.449.2683
Peckham & Wright Architects an Architectural Corporation
Missouri State Certificate of Authority No. 000244

STATE OF MISSOURI
JARED W. VOELUES
NUMBER PE-2017000387
PROFESSIONAL ENGINEER

08/08/2025

Copyright Peckham & Wright Architects, Inc. 2024

DISCOVERY
ATHLETIC CLUB
ALURA APARTMENTS

Drawn: RCA	CEC Project Number: 230286
Checked: JWV	CAD File Name (Number):

Drawing Title: GENERAL STRUCTURAL DATA

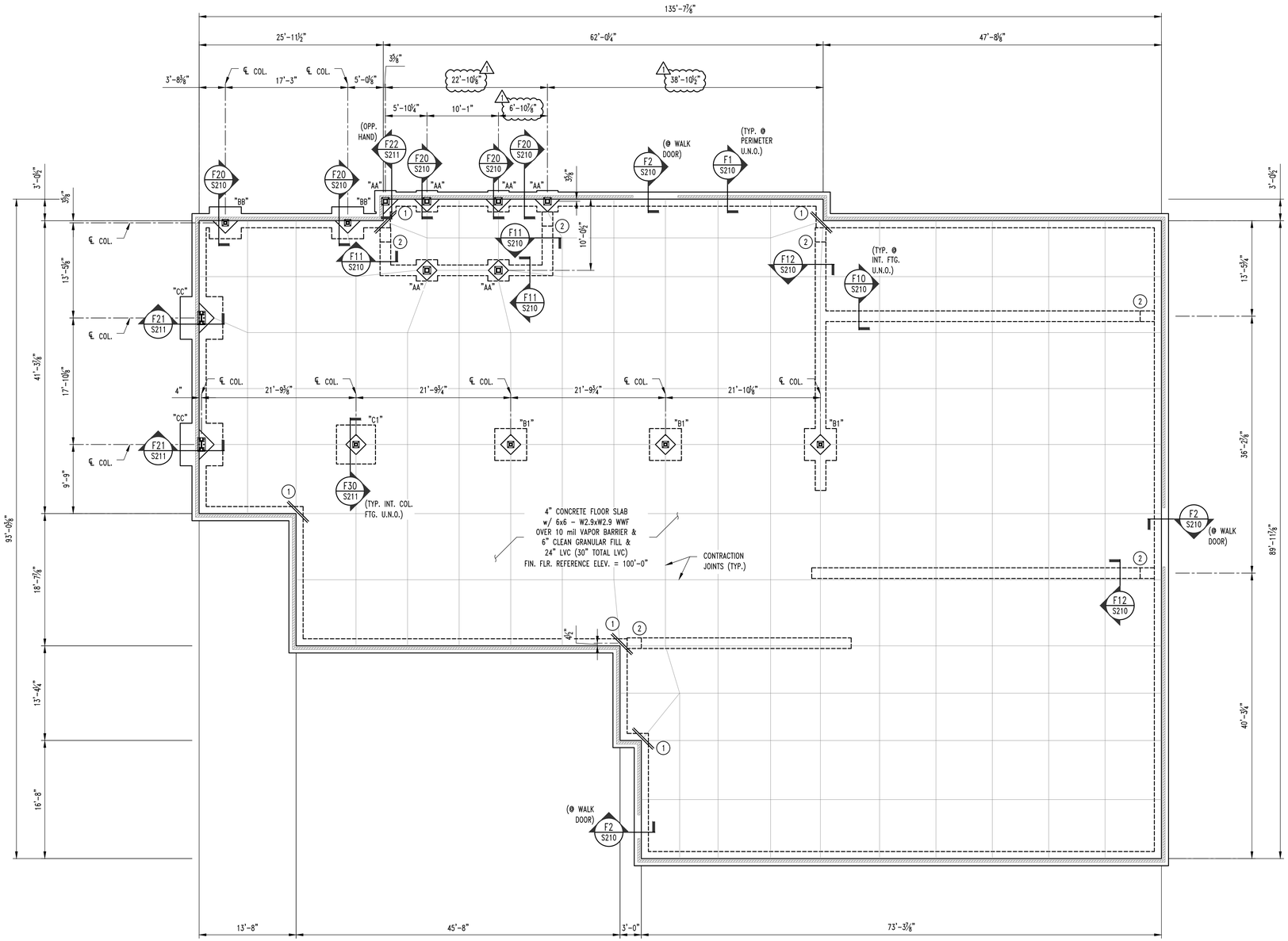
No.	Revisions:	Date:
1	REVISION #1 - CITY COMMENTS	08/12/2025

Submission Date: 08/12/2025
Plot Date: 08/12/2025
Drawing Number: S100

NOTE:
ALL DIMENSIONS ARE FROM FACE OF FOUNDATION WALL OR FRAMING; EDGE OF SLAB; OR CENTERLINE OF COLUMN, BEAM, OR JOIST UNLESS NOTED OTHERWISE.

FOUNDATION NOTES

1. REENTRANT CORNER BARS, REFER TO TYPICAL CRACK CONTROL REINFORCING DETAIL ON SHEET S210.
2. FOOTING STEP, REFER TO DETAIL FS1/S211.



1 S200 **FOUNDATION PLAN**
SCALE: ⅛" = 1'-0"

PLAN NORTH

FOOTING SCHEDULE

MARK	WIDTH (W)	LENGTH (L)	DEPTH (D)	REINFORCING
"AA"	3'-0" SQ.	---	3'-0"	4 - #5 x 2'-6" EACH WAY, TOP & BOTTOM
"BB"	4'-6" SQ.	---	3'-0"	6 - #5 x 4'-0" EACH WAY, TOP & BOTTOM
"CC"	6'-0" SQ.	---	3'-0"	8 - #5 x 5'-6" EACH WAY, TOP & BOTTOM
"A1"	3'-0" SQ.	---	2'-0"	3 - #5 x 2'-6" EACH WAY, TOP & BOTTOM
"B1"	4'-6" SQ.	---	2'-0"	4 - #5 x 4'-0" EACH WAY, TOP & BOTTOM
"C1"	5'-6" SQ.	---	2'-0"	5 - #5 x 5'-0" EACH WAY, TOP & BOTTOM

Peckham & Wright Architects, Inc., d.b.a.
PWArchitects, Inc.
2120 Forum Blvd., Ste. 101
Columbia, Missouri 65203
PWArchitects.com | 573.449.2683
Peckham & Wright Architects an Architectural Corporation
Missouri State Certificate of Authority No. 000244

STATE OF MISSOURI
JARED W. VOELUES
NUMBER PE-2017000357
PROFESSIONAL ENGINEER

08/08/2025

Copyright Peckham & Wright Architects, Inc. 2024

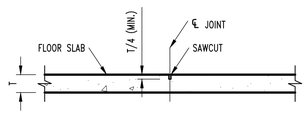
DISCOVERY
ATHLETIC CLUB
ALURA APARTMENTS

Drawn: RCA	CEC Project Number: 230286
Checked: JWV	CAD File Name (Number):

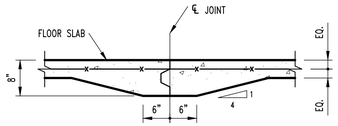
Drawing Title: FOUNDATION PLAN

No.	Revisions:	Date:
1	REVISION #1 - CITY COMMENTS	08/12/2025

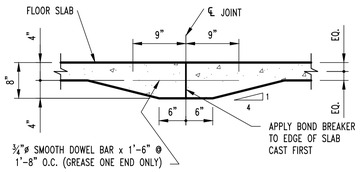
Submission Date: 08/12/2025
Plot Date: 08/12/2025
Drawing Number: S200



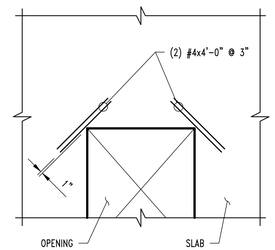
CONTRACTION JOINT



CONSTRUCTION JOINT

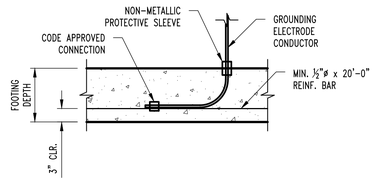


CONSTRUCTION JOINT

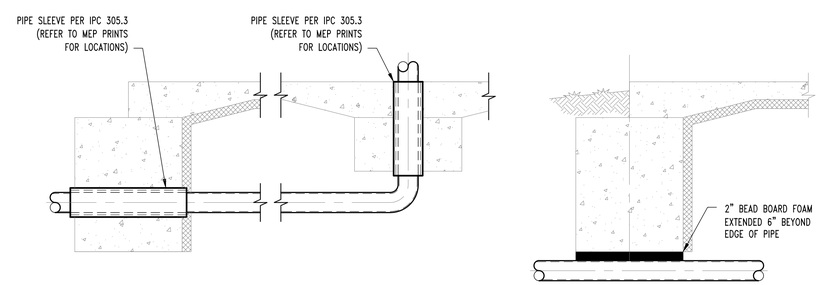


NOTE:
TYPICAL AT ALL REENTRANT CORNERS FOR SLAB-ON-GRADE & STRUCTURAL SLAB.
REINFORCING TO BE CENTERED IN SLAB THICKNESS.

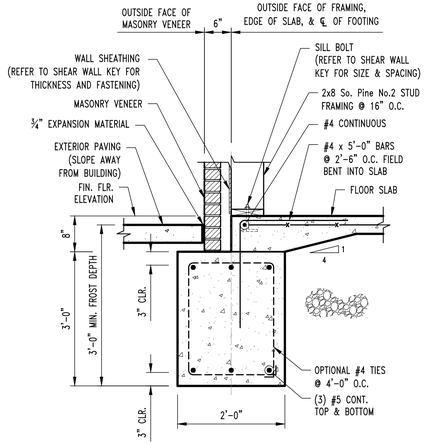
CRACK CONTROL REINFORCING



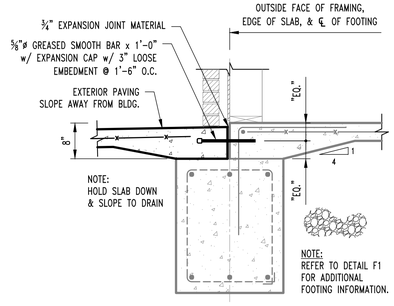
TYP. ELECTRICAL GROUNDING DETAIL @ FOOTING



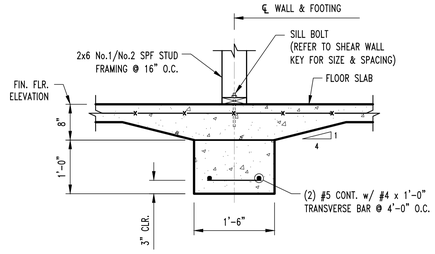
TYP. PLUMBING COORDINATION DETAILS



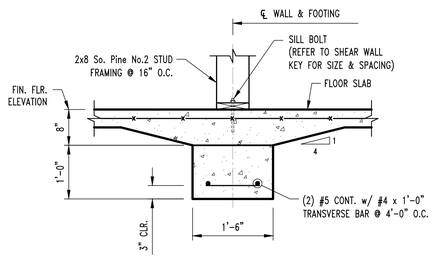
F1 / S200 **CONT. FOOTING SECTION**
SCALE: ¾" = 1'-0"



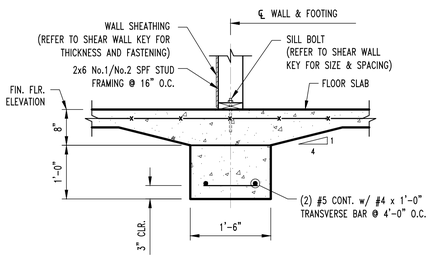
F2 / S200 **CONT. FOOTING SECTION @ DOOR**
SCALE: ¾" = 1'-0"



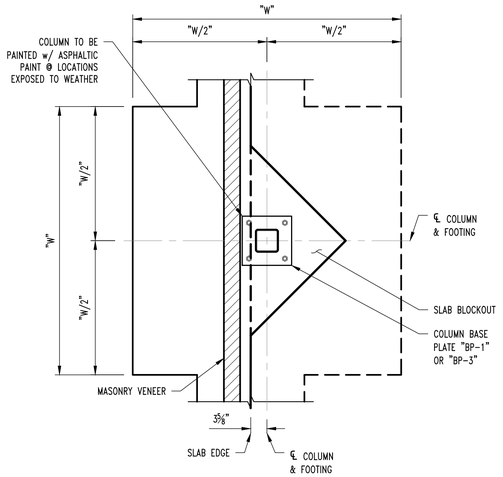
F10 / S200 **CONT. INTERIOR FOOTING SECTION**
SCALE: ¾" = 1'-0"



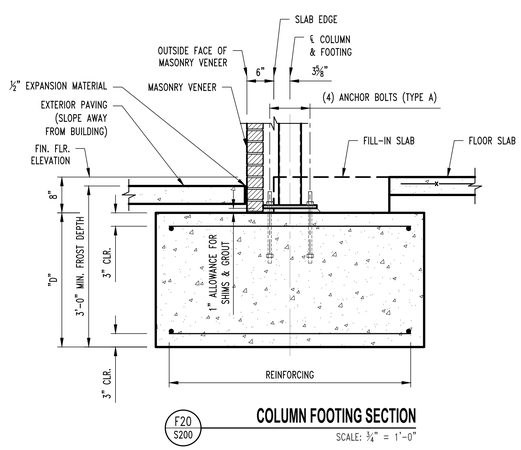
F11 / S200 **CONT. INTERIOR FOOTING SECTION**
SCALE: ¾" = 1'-0"



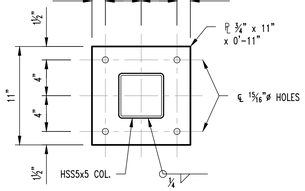
F12 / S200 **CONT. INTERIOR FOOTING SECTION**
SCALE: ¾" = 1'-0"



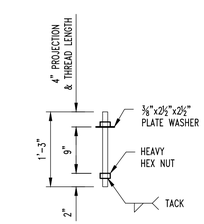
PLAN VIEW



F20 / S200 **COLUMN FOOTING SECTION**
SCALE: ¾" = 1'-0"



BASE PLATE "BP-1"



F1554 GRADE 36 ¾"ø ANCHOR

ANCHOR BOLT DETAIL (TYPE A)

Peckham & Wright Architects, Inc., d.b.a.
PWArchitects, Inc.
2120 Forum Blvd., Ste. 101
Columbia, Missouri 65203
PWArchitects.com | 573.449.2683
Peckham & Wright Architects an Architectural Corporation
Missouri State Certificate of Authority No. 000244

STATE OF MISSOURI
JARED W. VOELUES
NUMBER PE-2017000387
PROFESSIONAL ENGINEER
08/08/2025

Copyright Peckham & Wright Architects, Inc. 2024

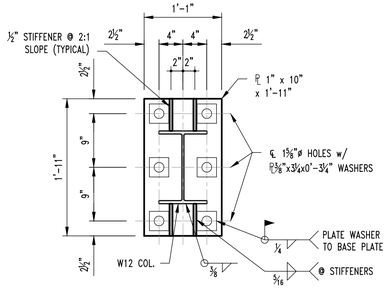
DISCOVERY
ATHLETIC CLUB
ALURA APARTMENTS

Drawn:	CEC Project Number:
RCA	230286
Checked:	CAD File Name (Number):
JWV	

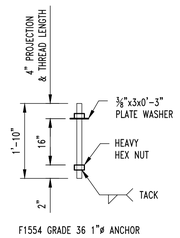
Drawing Title:
FOUNDATION DETAILS

No.	Revisions:	Date:
1	REVISION #1 - CITY COMMENTS	08/12/2025

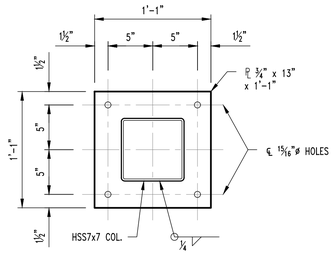
Submission Date:	Drawing Number:
08/12/2025	S210
Plot Date:	
08/12/2025	



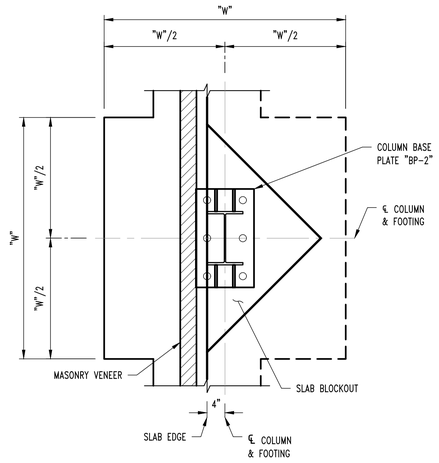
BASE PLATE "BP-2"



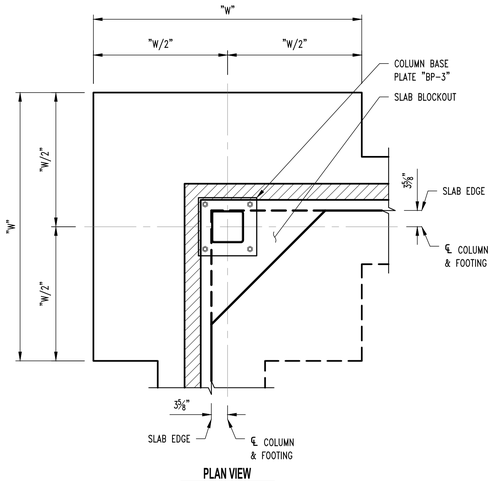
ANCHOR BOLT DETAIL (TYPE B)



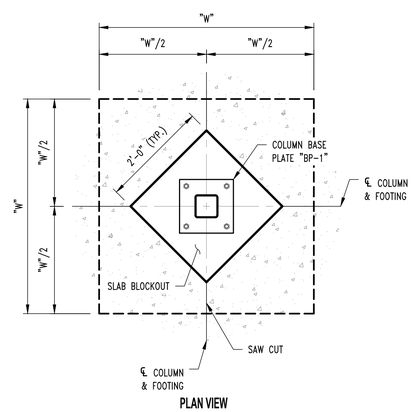
BASE PLATE "BP-3"



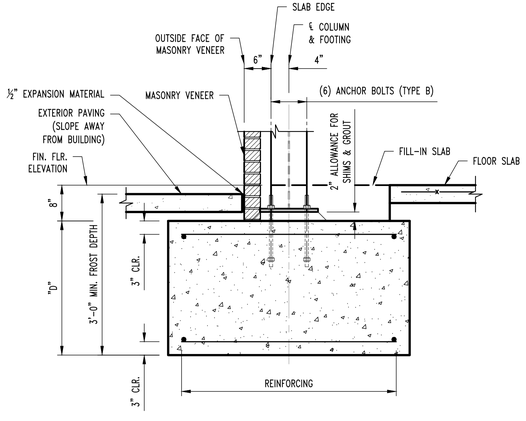
PLAN VIEW



PLAN VIEW

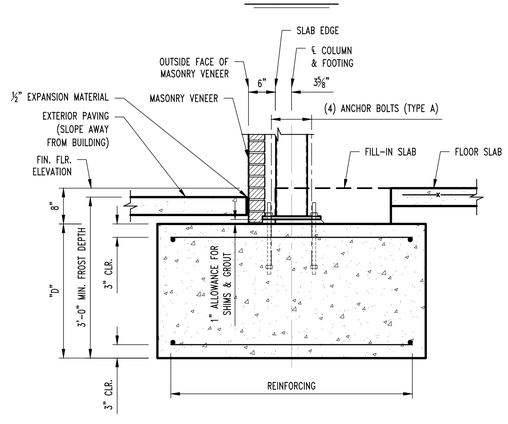


PLAN VIEW



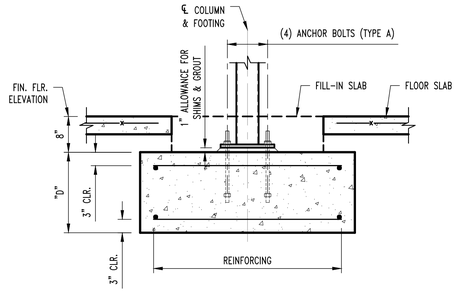
F21 S200 **COLUMN FOOTING SECTION**

SCALE: ¾" = 1'-0"



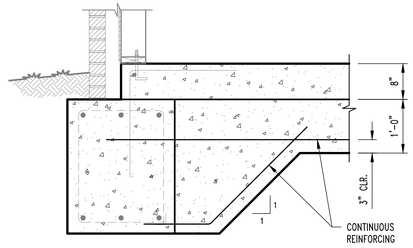
F22 S200 **COLUMN FOOTING SECTION**

SCALE: ¾" = 1'-0"



F30 S200 **COLUMN FOOTING SECTION**

SCALE: ¾" = 1'-0"



FS1 S200 **FOOTING STEP DETAIL**

SCALE: ¾" = 1'-0"

Peckham & Wright Architects, Inc., d.b.a.
PWArchitects, Inc.
2120 Forum Blvd., Ste. 101
Columbia, Missouri 65203
PWArchitects.com | 573.449.2683
Peckham & Wright Architects an Architectural Corporation
Missouri State Certificate of Authority No. 000244

STATE OF MISSOURI
JARED W. VORSLUIS
NUMBER PE-2017000357
PROFESSIONAL ENGINEER

08/08/2025

Copyright Peckham & Wright Architects, Inc. 2024

DISCOVERY
ATHLETIC CLUB
ALURA APARTMENTS

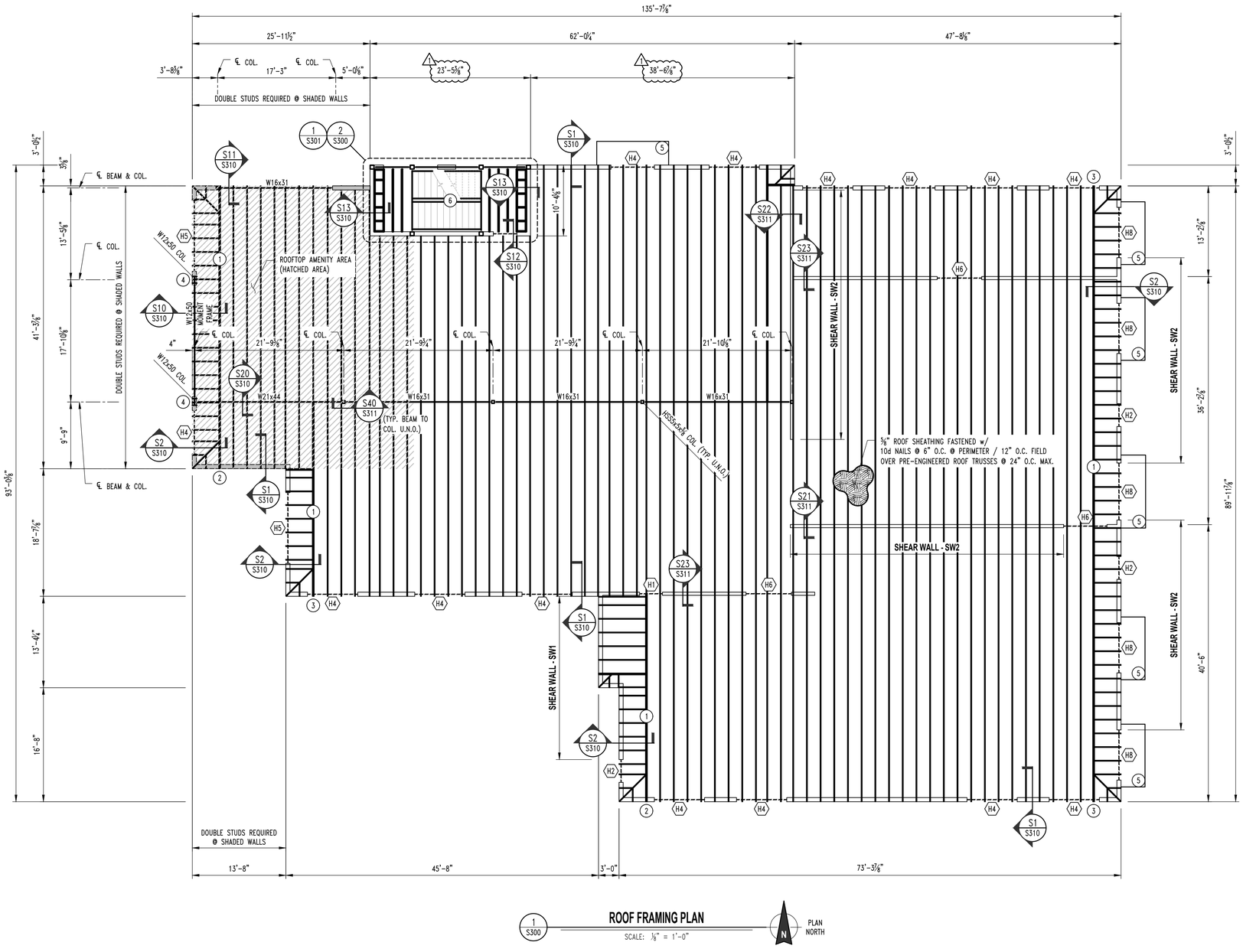
Drawn:	CEC Project Number:
RCA	230286
Checked:	CAD File Name (Number):
JWV	

Drawing Title:
FOUNDATION DETAILS

No.	Revisions:	Date:
1	REVISION #1 - CITY COMMENTS	08/12/2025

Submission Date: 08/12/2025
Plot Date: 08/12/2025
Drawing Number: S211

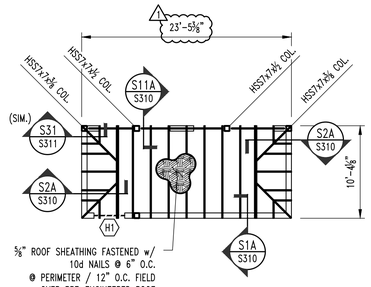
NOTE:
ALL DIMENSIONS ARE FROM FACE OF FOUNDATION WALL OR FRAMING; EDGE OF SLAB; OR CENTERLINE OF COLUMN, BEAM, OR JOIST UNLESS NOTED OTHERWISE.



1 S300 **ROOF FRAMING PLAN**
SCALE: ⅛" = 1'-0"
PLAN NORTH

ROOF FRAMING NOTES

1. GIRDER TRUSS
2. 3-PLY BUILT-UP POST BENEATH GIRDER TRUSS THIS LEVEL TO FLOOR SLAB CONNECTIONS ARE AS FOLLOWS:
   FLOOR SLAB: SIMPSON LTTP2
   ROOF TRUSS: BY TRUSS MANUFACTURER
3. REFER TO TYP. GIRDER TO HEADER DETAIL ON SHEET S311.
4. REFER TO TYP. MOMENT FRAME CONNECTION DETAIL ON SHEET S311.
5. PRE-MANUFACTURED CANOPY (BY OTHERS). REFER TO DETAIL ON SHEET S311.
6. REFER TO SHEET S301 FOR STAIR FRAMING PLANS & DETAILS



2 S300 **PARTIAL ROOF FRAMING PLAN**
SCALE: ⅛" = 1'-0"
PLAN NORTH

HEADER SCHEDULE

LABEL	HEADER	CRIPPLE/JACK	JAMB/KING
"H1"	2 Ply 2x8 Doug. Fir No.2	Single Ply 2x6 SPF No.1/No.2	Single Ply 2x6 SPF No.1/No.2
"H2"	2 Ply 2x8 Doug. Fir No.2	Single Ply 2x8 So. Pine No.2	2 Ply 2x8 So. Pine No.2
"H3"	2 Ply 2x10 Doug. Fir Sel. Struct	2 Ply 2x8 So. Pine No.2	2 Ply 2x8 So. Pine No.2
"H4"	2 Ply 2x12 Doug. Fir Sel. Struct	2 Ply 2x8 So. Pine No.2	3 Ply 2x8 So. Pine No.2
"H5"	2 Ply 2x12 Doug. Fir Sel. Struct	2 Ply 2x8 So. Pine No.2	4 Ply 2x8 So. Pine No.2
"H6"	2 Ply 2x12 Doug. Fir Sel. Struct	3 Ply 2x6 SPF No.1/No.2	Single Ply 2x6 SPF No.1/No.2
"H7"	3 Ply 2x12 Doug. Fir Sel. Struct	2 Ply 2x6 SPF No.1/No.2	Single Ply 2x6 SPF No.1/No.2
"H8"	3 Ply MicroLam 2.0E 1.75x11.25	2 Ply 2x6 SPF No.1/No.2	3 Ply 2x6 SPF No.1/No.2

SHEAR WALL KEY

SW1 SHEAR WALL
- 7/16" OSB SHEATHING FASTENED WITH 8D NAILS @ 4" O.C. @ PERIMETER / 12" O.C. FIELD
- 1/2" DIAMETER X 6" SIMPSON TITEN HD ANCHOR SCREWS @ 1'-6" O.C.
- REQUIRES SIMPSON HDU8-SDS2.5 HOLDOWN FASTENED TO 3-PLY STUDS W/ (20) 1/4" X 2-1/2" SDS SCREWS W/ 7/8" DIAMETER A307 THREADED ROD W/ HEAVY HEX NUT AND 16" TOTAL (8" INTO FOOTING) SIMPSON "AT-3G" EPOXY EMBEDMENT AT EACH END OF THE SHEAR WALL

SW2 SHEAR WALL
- 7/16" OSB SHEATHING FASTENED WITH 8D NAILS @ 4" O.C. @ PERIMETER / 12" O.C. FIELD
- 1/2" DIAMETER X 6" SIMPSON TITEN HD ANCHOR SCREWS @ 3'-0" O.C.
- REQUIRES SIMPSON HDU2-SDS2.5 HOLDOWN TIE FASTENED TO 3-PLY STUDS W/ (6) 1/4 X 2-1/2" SDS SCREWS W/ 5/8" DIAMETER A307 THREADED ROD W/ 14" TOTAL (6" INTO FOOTING) SIMPSON "AT-3G" EPOXY EMBEDMENT AT EACH END OF THE SHEAR WALL

TYPICAL SHEAR WALL UNLESS NOTED
- 7/16" OSB SHEATHING FASTENED WITH 8D NAILS @ 4" O.C. @ PERIMETER / 12" O.C. FIELD
- 1/2" DIAMETER X 6" SIMPSON TITEN HD ANCHOR SCREWS @ 3'-0" O.C.
- NO HOLDDOWNS OR STRAP TIES REQUIRED

Peckham & Wright Architects, Inc., d.b.a.
PWArchitects, Inc.
2120 Forum Blvd., Ste. 101
Columbia, Missouri 65203
PWArchitects.com | 573.449.2683
Peckham & Wright Architects an Architectural Corporation
Missouri State Certificate of Authority No. 000244

STATE OF MISSOURI
JARED W. VOELSUES
NUMBER PE-2017000387
PROFESSIONAL ENGINEER
08/08/2025

Copyright Peckham & Wright Architects, Inc. 2024

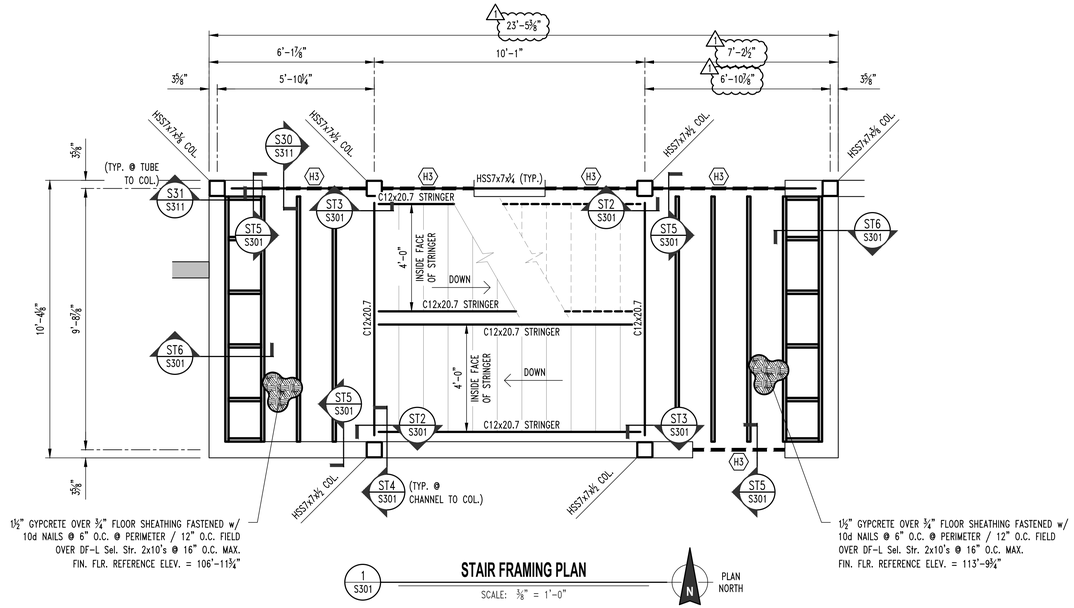
DISCOVERY ATHLETIC CLUB
ALURA APARTMENTS

Drawn: RCA	CEC Project Number: 230286
Checked: JWV	CAD File Name (Number):

Drawing Title: ROOF FRAMING PLAN

No.	Revisions:	Date:
1	REVISION #1 - CITY COMMENTS	08/12/2025

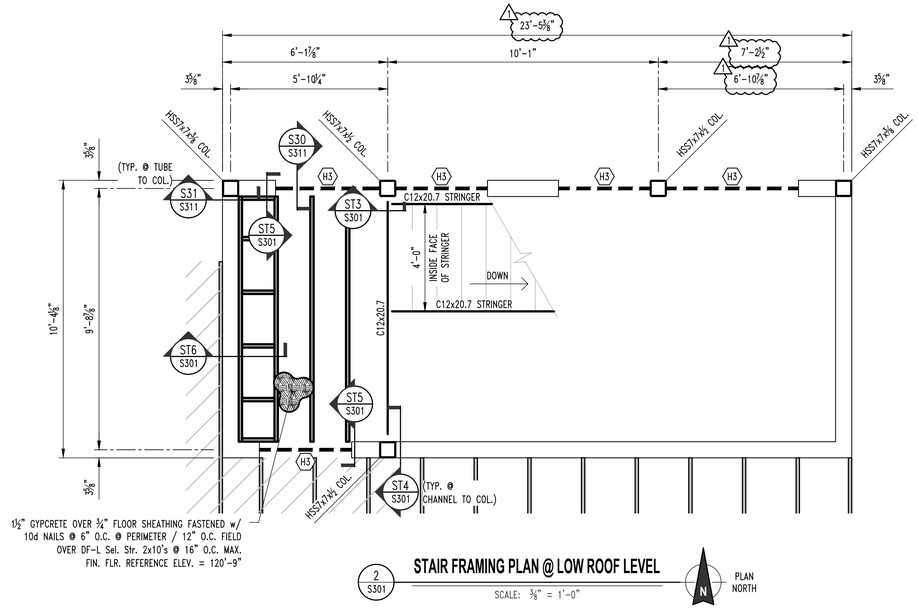
Submission Date: 08/12/2025
Plot Date: 08/12/2025
Drawing Number: S300



1 S301 **STAIR FRAMING PLAN**

SCALE: ⅜" = 1'-0"

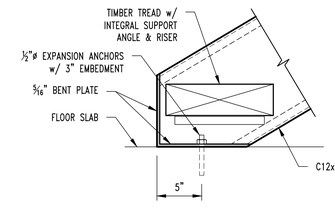
PLAN NORTH



2 S301 **STAIR FRAMING PLAN @ LOW ROOF LEVEL**

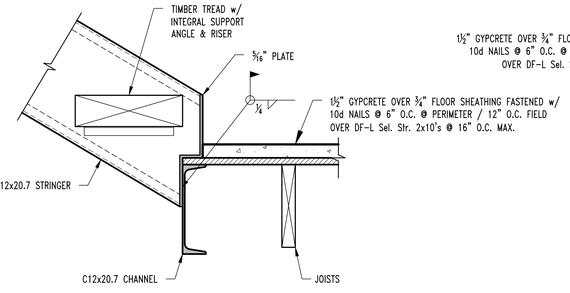
SCALE: ⅜" = 1'-0"

PLAN NORTH



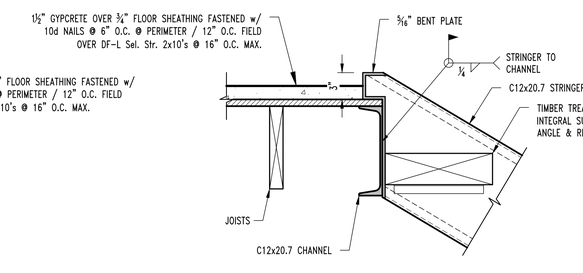
ST1 S301 **TYP. STAIR FRAMING SECTION**

SCALE: 1½" = 1'-0"



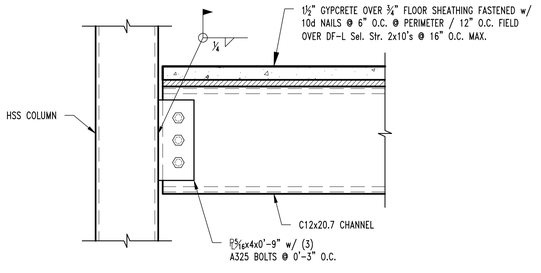
ST2 S301 **STAIR FRAMING SECTION**

SCALE: 1½" = 1'-0"



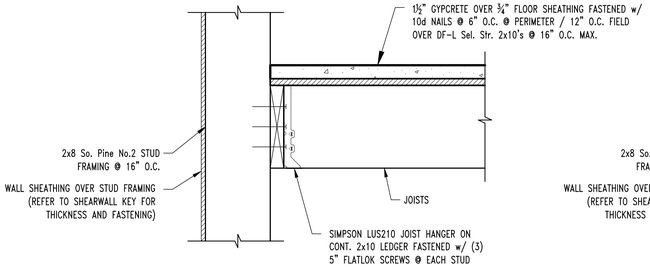
ST3 S301 **STAIR FRAMING SECTION**

SCALE: 1½" = 1'-0"



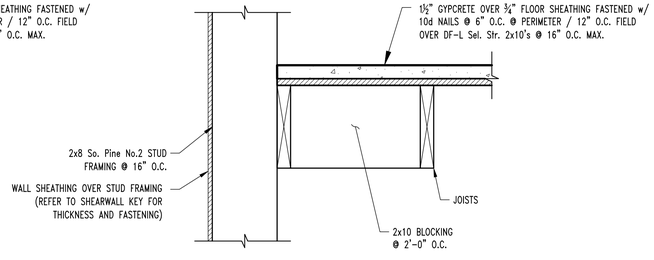
ST4 S301 **STAIR FRAMING SECTION**

SCALE: 1½" = 1'-0"



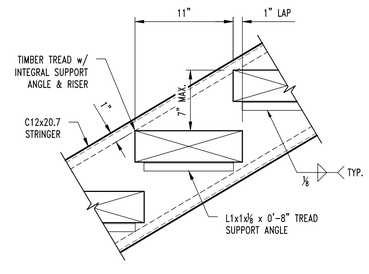
ST5 S301 **STAIR FRAMING SECTION**

SCALE: 1½" = 1'-0"



ST6 S301 **STAIR FRAMING SECTION**

SCALE: 1½" = 1'-0"



TYPICAL TREAD CONNECTION DETAIL

Peckham & Wright Architects, Inc., d.b.a.
PWArchitects, Inc.
2120 Forum Blvd., Ste. 101
Columbia, Missouri 65203
PWArchitects.com | 573.449.2683
Peckham & Wright Architects an Architectural Corporation
Missouri State Certificate of Authority No. 000244

STATE OF MISSOURI
JARED W. VOELUES
NUMBER PE-2017000387
PROFESSIONAL ENGINEER

08/08/2025

Copyright Peckham & Wright Architects, Inc. 2024

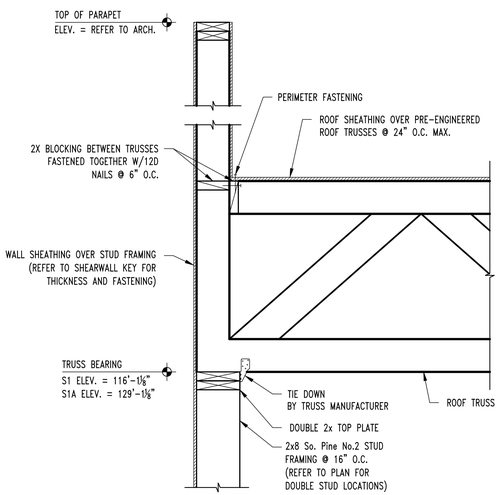
DISCOVERY
ATHLETIC CLUB
ALURA APARTMENTS

Drawn:	CEC Project Number:
RCA	230286
Checked:	CAD File Name (Number):
JWV	

Drawing Title:
STAIR FRAMING
PLANS & DETAILS

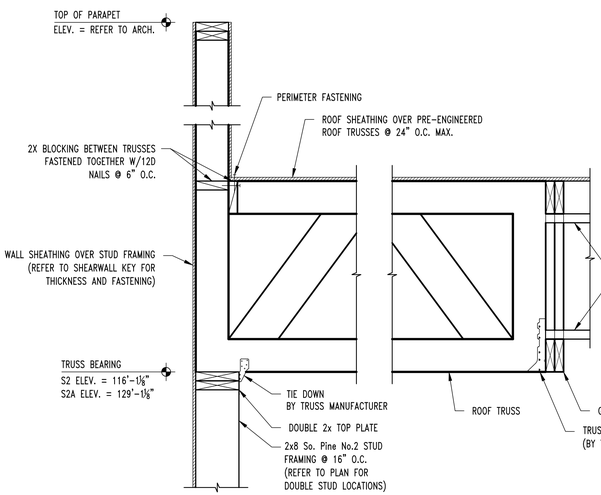
No.	Revisions:	Date:
1	REVISION #1 - CITY COMMENTS	08/12/2025

Submission Date: 08/12/2025
Plot Date: 08/12/2025
Drawing Number: S301



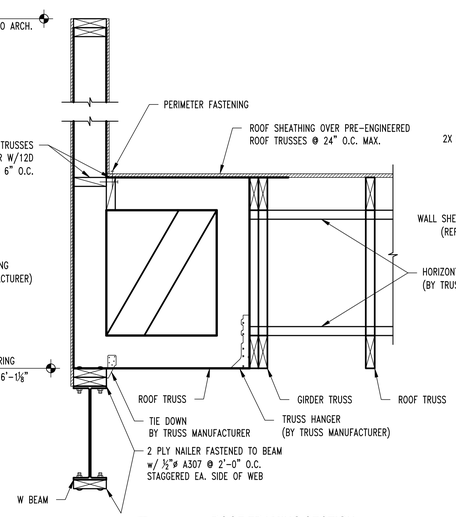
S1 S300 / S1A S300 **ROOF FRAMING SECTION**

SCALE: 1" = 1'-0"



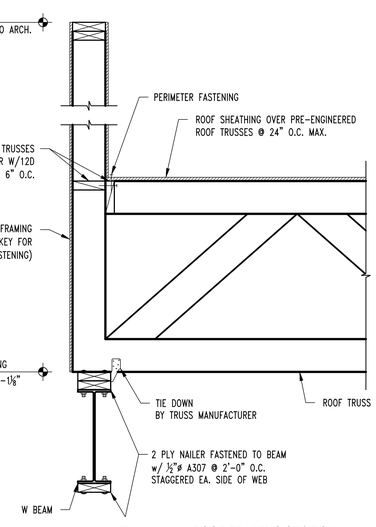
S2 S300 / S2A S300 **ROOF FRAMING SECTION**

SCALE: 1" = 1'-0"



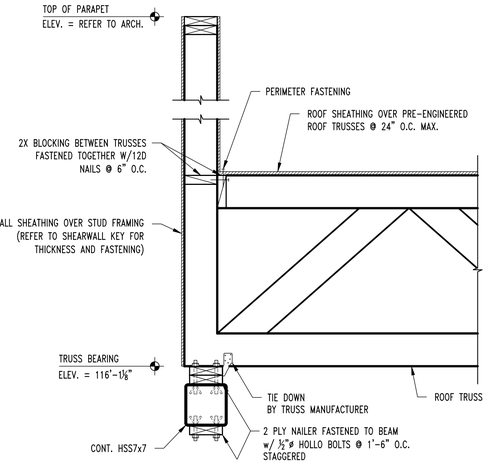
S10 S300 **ROOF FRAMING SECTION**

SCALE: 1" = 1'-0"



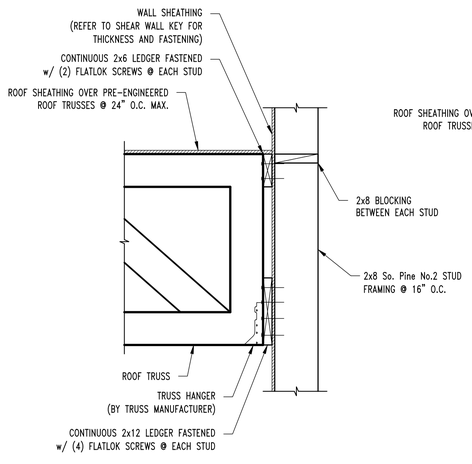
S11 S300 **ROOF FRAMING SECTION**

SCALE: 1" = 1'-0"



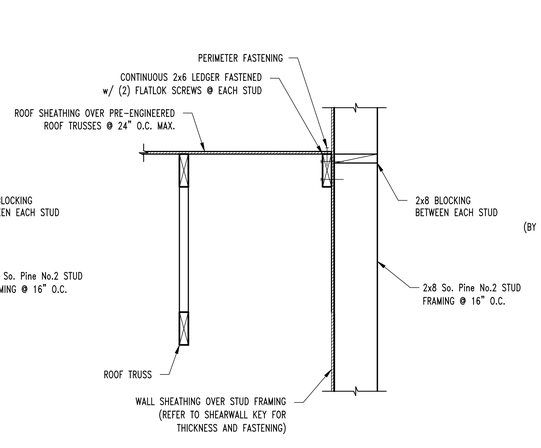
S11A S300 **ROOF FRAMING SECTION**

SCALE: 1" = 1'-0"



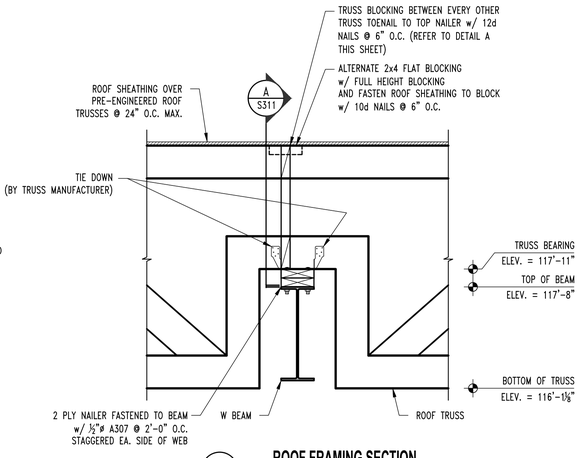
S12 S300 **ROOF FRAMING SECTION**

SCALE: 1" = 1'-0"



S13 S300 **ROOF FRAMING SECTION**

SCALE: 1" = 1'-0"



S20 S300 **ROOF FRAMING SECTION**

SCALE: 1" = 1'-0"

Peckham & Wright Architects, Inc., d.b.a.
PWArchitects, Inc.
2120 Forum Blvd., Ste. 101
Columbia, Missouri 65203
PWArchitects.com | 573.449.2683
Peckham & Wright Architects an Architectural Corporation
Missouri State Certificate of Authority No. 000244

STATE OF MISSOURI
JARED W. VANSLUES
NUMBER PE-2017000387
PROFESSIONAL ENGINEER

08/08/2025

Copyright Peckham & Wright Architects, Inc. 2024

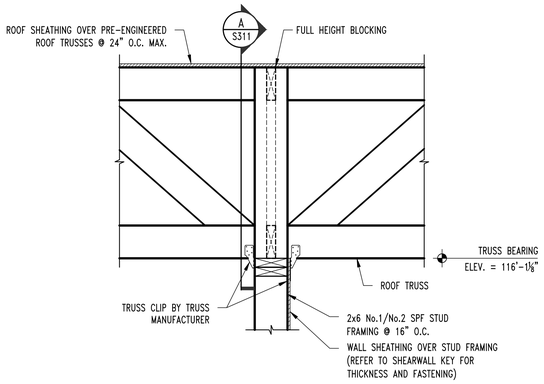
DISCOVERY
ATHLETIC CLUB
ALURA APARTMENTS

Drawn:	CEC Project Number:
RCA	230286
Checked:	CAD File Name (Number):
JWV	

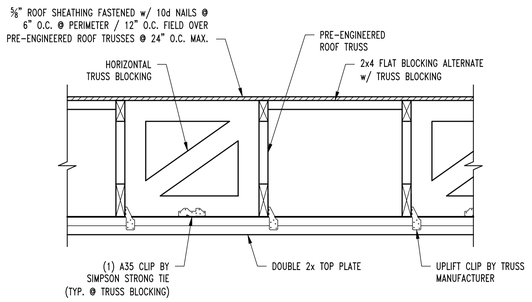
Drawing Title:
ROOF FRAMING DETAILS

No.	Revisions:	Date:
1	REVISION #1 - CITY COMMENTS	08/12/2025

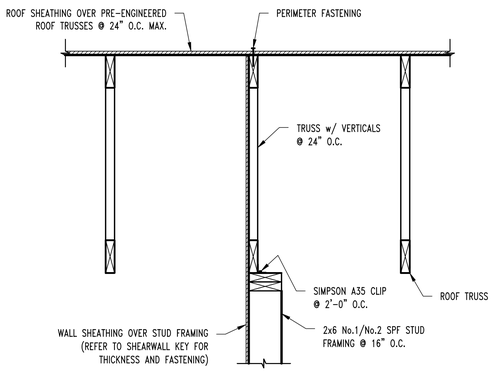
Submission Date:	Drawing Number:
08/12/2025	S310
Plot Date: 08/12/2025	



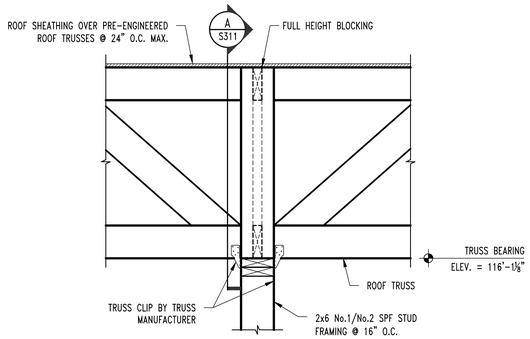
S21 / S300 **ROOF FRAMING SECTION**
SCALE: 1" = 1'-0"



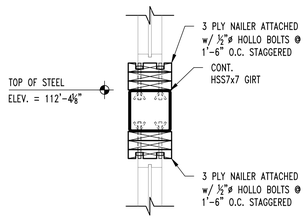
A S310,S311 **ROOF FRAMING SECTION**
SCALE: 1" = 1'-0"



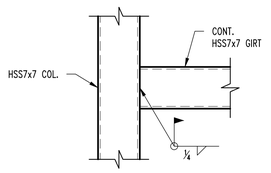
S22 / S300 **SHEAR WALL SECTION**
SCALE: 1" = 1'-0"



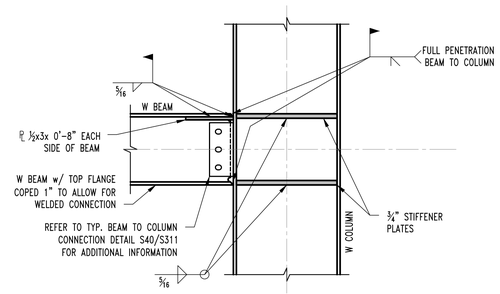
S23 / S300 **ROOF FRAMING SECTION**
SCALE: 1" = 1'-0"



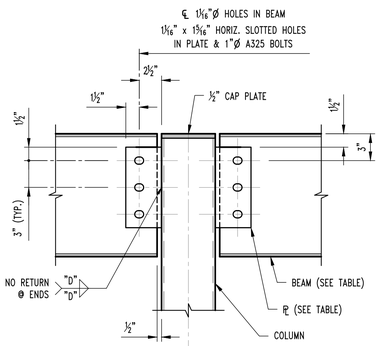
S30 / S301 **FRAMING SECTION**
SCALE: 1" = 1'-0"



S31 / S301 **FRAMING SECTION**
SCALE: 1" = 1'-0"

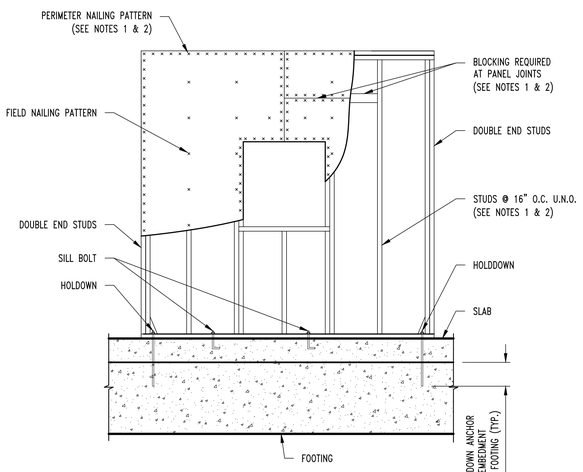


TYP. MOMENT FRAME CONNECTION DETAIL



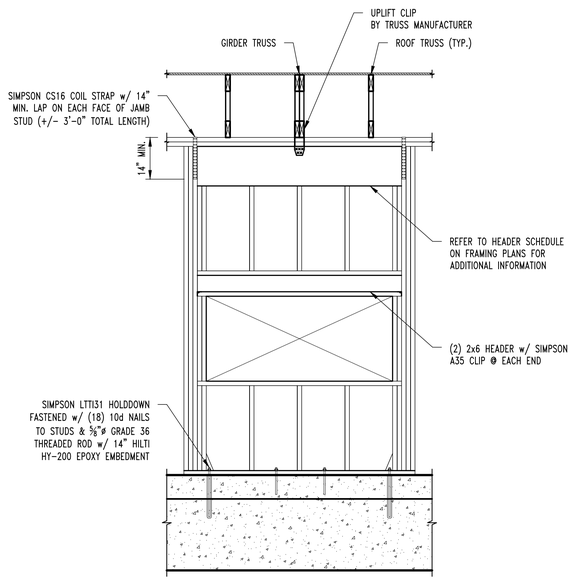
BEAM SIZE	No. OF BOLTS "N"	PLATE SIZE	WELD SIZE "D"
W12	3	⅜x4x0'-9"	5/16"
W16	4	⅜x4x1'-0"	5/16"
W21	6	⅜x4x1'-6"	5/16"

S40 / S300 **TYP. BEAM TO COLUMN SECTION**
SCALE: 1½" = 1'-0"

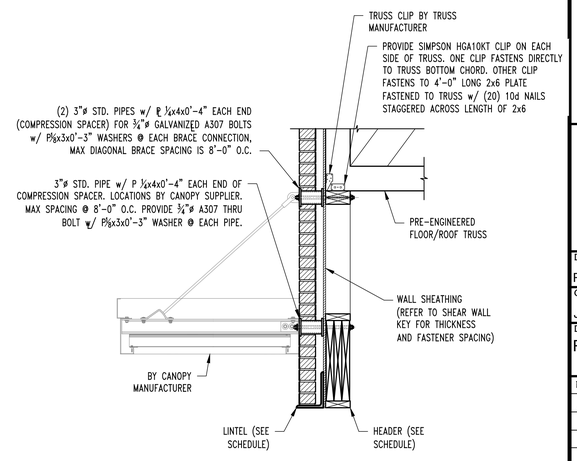


NOTES:
1. WHERE TWO SHEETS MEET, BOTH SHEETS SHOULD BE NAILED TO THE SAME FRAMING MEMBER.
2. WHEN SHEATHING NAILS ARE SPACED AT 2" O.C. FOR 8d NAILS OR 3" O.C. FOR 10d NAILS, 3x OR DOUBLE 2x FRAMING MEMBERS ARE REQUIRED WHERE SHEETS MEET. FACE NAIL DOUBLE 2x MEMBERS TOGETHER w/ 16d NAILS @ 2½" O.C. STAGGERED EACH FACE OF STUD.
3. SEE WALL SECTIONS FOR ADDITIONAL INFORMATION.

TYP. SHEAR WALL DETAIL



TYP. GIRDER TO HEADER DETAIL



TYP. CANOPY FRAMING SECTION @ BRICK

Peckham & Wright Architects, Inc., d.b.a.
PWArchitects, Inc.
2120 Forum Blvd., Ste. 101
Columbia, Missouri 65203
PWArchitects.com | 573.449.2683
Peckham & Wright Architects an Architectural Corporation
Missouri State Certificate of Authority No. 000244

STATE OF MISSOURI
JARED W. VOELSUES
NUMBER PE-2017000357
PROFESSIONAL ENGINEER

08/08/2025

Copyright Peckham & Wright Architects, Inc. 2024

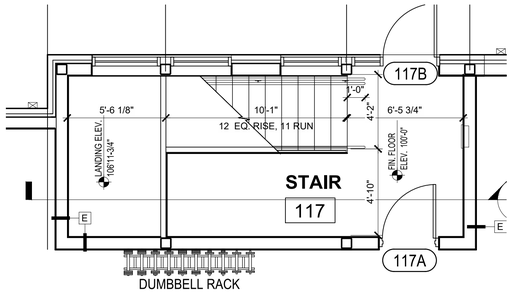
DISCOVERY
ATHLETIC CLUB
ALURA APARTMENTS

Drawn:	CEC Project Number:
RCA	230286
Checked:	CAD File Name (Number):
JWV	

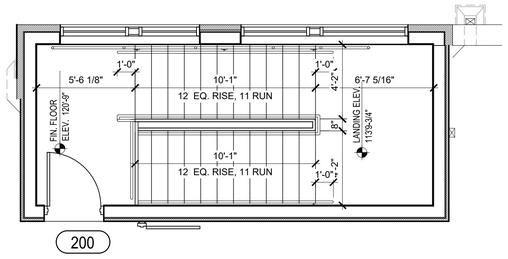
Drawing Title:
ROOF FRAMING DETAILS

No.	Revisions:	Date:
1	REVISION #1 - CITY COMMENTS	08/12/2025

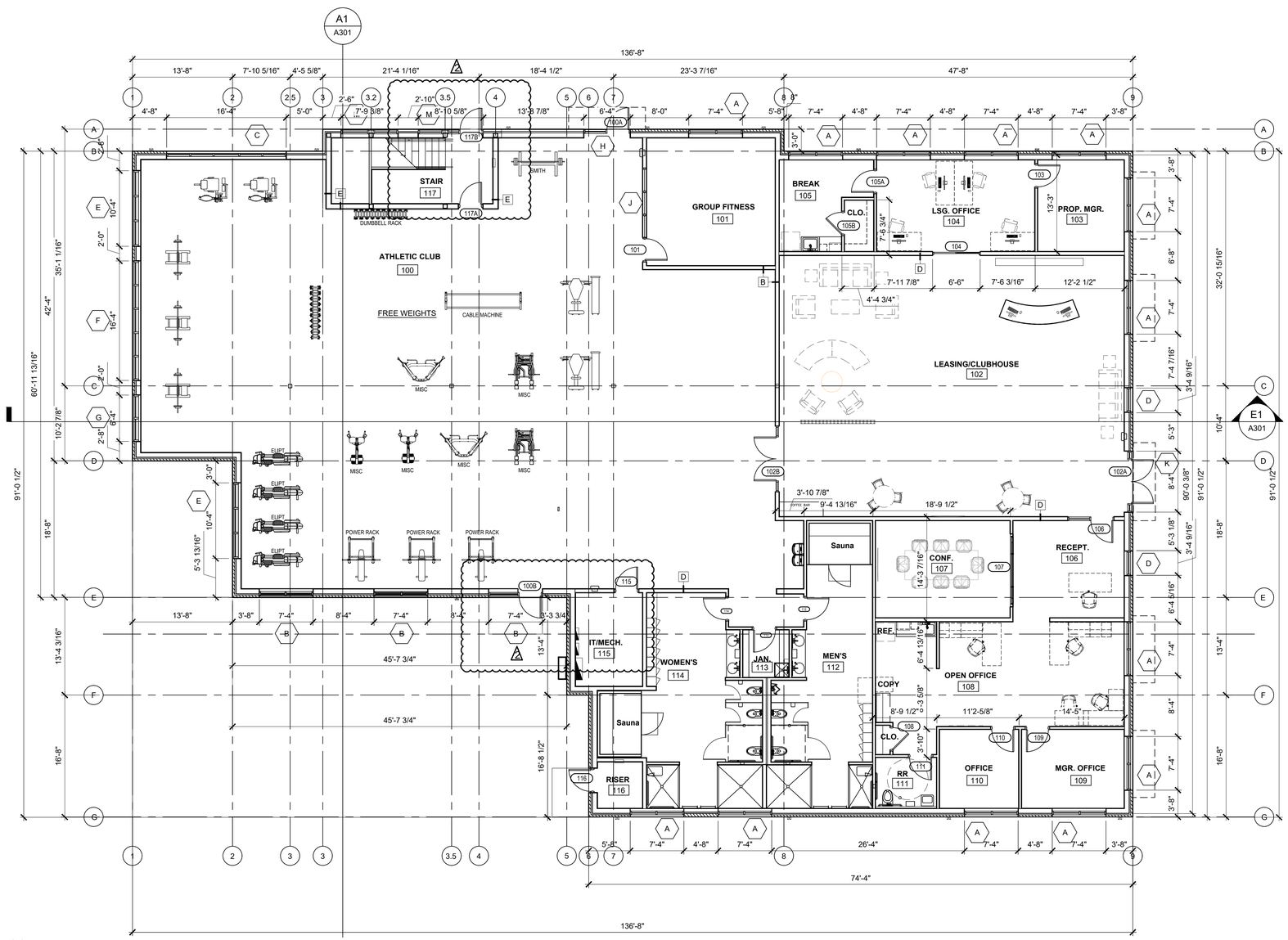
Submission Date: 08/12/2025
Plot Date: 08/12/2025
Drawing Number: S311



K1 ENLARGED STAIR PLAN - MAIN FLOOR
SCALE: 1/4" = 1'-0"



K5 ENLARGED STAIR PLAN - TOP FLOOR
SCALE: 1/4" = 1'-0"



A1 FIRST FLOOR PLAN
SCALE: 1/8" = 1'-0"

KEY NOTES

1. PAPER TOWEL DISPENSER - BOBRICK B- 4262
2. SOAP DISPENSER - BOBRICK B-2013
3. TOILET PAPER DISPENSER - BOBRICK B-2888
4. GRAB BARS - BOBRICK B-5806
5. SHOWER ROD AND CURTAIN - BOBRICK B-207
6. LOCKERS
7. MIRROR - BOBRICK B-165
8. DUAL ROLLER SHADE
9. FIRE EXTINGUISHER CABINET
10. 16" ADJUSTABLE MELAMINE SHELVES AND 60" STANDARDS @ 32" O.C. - 4 LEVELS
11. 1BOBRICK B-239 X 34 SHELF WITH MOP AND BROOM HOLDERS AND HOOKS
12. CORNER GUARD
13. TOWEL BAR BOBRICK B-545x24
14. TRASH CAN BOBRICK B-221216
15. CORNER MOP SINK FRP WALL PANELS 2 WALL 24"Wx48"T
16. SOLID SURFACE TOILET PARTITIONS
17. UTILITY SHELF WITH MOP / BROOM HOLDERS AND RAG HOOKS BOBRICK B-239
18. LOCKER ROOM BENCH
19. INFRARED SAUNA
20. TOWEL BAR BOBRICK B-545x24
21. 12" ADJUSTABLE MELAMINE SHELVES AND 60" STANDARDS @ 32" O.C. - 4 LEVELS

EXTERIOR WALL TYPES / ASSEMBLIES

TYP. EXT. WALL TYPE SHALL BE "W1" U.N.O, TYP.

- W1 MODULAR FACE BRICK VENEER OVER 1-1/2" AIR SPACE, OVER 2" RIGID INSULATION, OVER 1/2" GYPSUM SHEATHING, OVER 2x8 WOOD STUDS @ 16" O.C. w/ R-19 BATT INSULATION w/ VAPOR BARRIER AND 5/8" GYPSUM BOARD TO B.O. STRUCT. COORDINATE WITH STRUCTURAL. FINISH PER FINISH SCHEDULE.
- A **TYP. INTERIOR PARTITION U.N.O.** 2x4 WOOD STUDS @ 16" O.C. TO UNDERSIDE OF STRUCTURE, 5/8" GYPSUM BOARD BOTH SIDES TO 6" ABV. CLNG. OR STRUCT. WHERE GYP. BD. CEILINGS ARE SHOWN.
- B 2x6 WOOD STUDS @ 16" O.C. TO UNDERSIDE OF STRUCTURE, 5/8" GYPSUM BOARD BOTH SIDES TO STRUCT. W/ SOUND ATT. INSULATION.
- C 2x6 WOOD STUDS @ 16" O.C. TO UNDERSIDE OF STRUCTURE, 5/8" GYPSUM BOARD ONE SIDE TO STRUCTURE.
- D SHEAR WALL: 2x6 WOOD STUDS @ 16" O.C. TO UNDERSIDE OF STRUCTURE, 7/16" SHEATHING ONE SIDE, 5/8" GYPSUM BOARD BOTH SIDES TO STRUCT. W/ SOUND ATT. INSULATION.
- E 2x8 WOOD STUDS @ 16" O.C. TO UNDERSIDE OF STRUCTURE, 7/16" SHEATHING ONE SIDE, 5/8" GYPSUM BOARD BOTH SIDES TO STRUCT. W/ SOUND ATT. INSULATION.

GENERAL FLOOR PLAN NOTES

1. FIELD VERIFY ALL DIMENSIONS AND CONDITIONS PRIOR TO EXECUTING ANY WORK. NOTIFY ARCHITECT OF ANY DIMENSIONS OR WORK DIFFERING FROM THAT SHOWN, FOR CLARIFICATION BY THE ARCHITECT PRIOR TO PROCEEDING WITH WORK.
2. VERIFY ALL ROUGH OPENINGS FOR DOORS, WINDOWS, EQUIPMENT, & OTHER "BUILT-IN" ITEMS PRIOR TO EXECUTION OF ANY WORK AFFECTED BY SAME.
3. LOCATE DOOR OPENINGS WHICH ARE NOT DIMENSIONED OTHERWISE, CENTERED IN WALL AND 6" FROM FINISH WALL TO FINISH JAMB. LOCATE DOOR OPENINGS IN MASONRY WALLS BETWEEN 4" TO 6" OFF WALLS SO THAT PROPER COURSING IS ACHIEVED
4. COORDINATE ALL FLOOR DRAINS AND OTHER REFERENCED MECHANICAL, ELECTRICAL, OR PLUMBING ITEMS W/ M.E.P.
5. COORDINATE ALL REQUIRED UTILITIES WITH EQUIPMENT MANUFACTURER.
6. ALL DIMENSIONS ARE TO FACE OF STUD - OR MASONRY - UNLESS OTHERWISE NOTED.
7. DO NOT SCALE DRAWINGS - WHERE DIMENSIONAL DISCREPANCIES ARE ENCOUNTERED NOTIFY ARCHITECT PRIOR TO PROCEEDING WITH THE WORK.
8. COORDINATE HEIGHTS OF OUTLETS & SWITCHING WITH ALL ARCHITECTURAL ITEMS. SEE M/E DRAWINGS FOR LOCATIONS.
9. SEE A300 FOR INTERIOR PARTITION WALL TYPES AND DETAILS.
10. SEE INTERIOR ELEVATIONS FOR ADDITIONAL KEY NOTED ITEMS NOT LABELED IN PLAN.

Peckham & Wright Architects, Inc., d.b.a.
PWArchitects, Inc.
2120 Forum Blvd., Ste. 101
Columbia, Missouri 65203
PWArchitects.com | 573.449.2683
Peckham & Wright Architects an Architectural Corporation
Missouri State Certificate of Authority No. 000244

STATE OF MISSOURI
ERIN CHRISTOPHER MILLER
NUMBER A-7070
REGISTERED ARCHITECT
06/16/2025

Copyright Peckham & Wright Architects, Inc. 2025

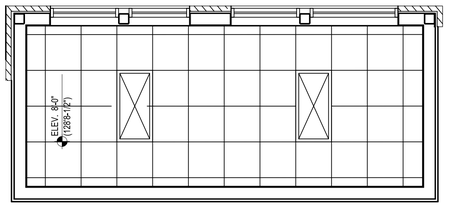
DISCOVERY PARK
ATHLETIC CLUB
AND OFFICE
ALURA APARTMENTS
250 NE ALURA WAY
LEE'S SUMMIT, MO

Drawn:	Project Number:
LC	202428
Checked:	CAD File Name (Number):
EM	

Drawing Title: FIRST FLOOR PLAN

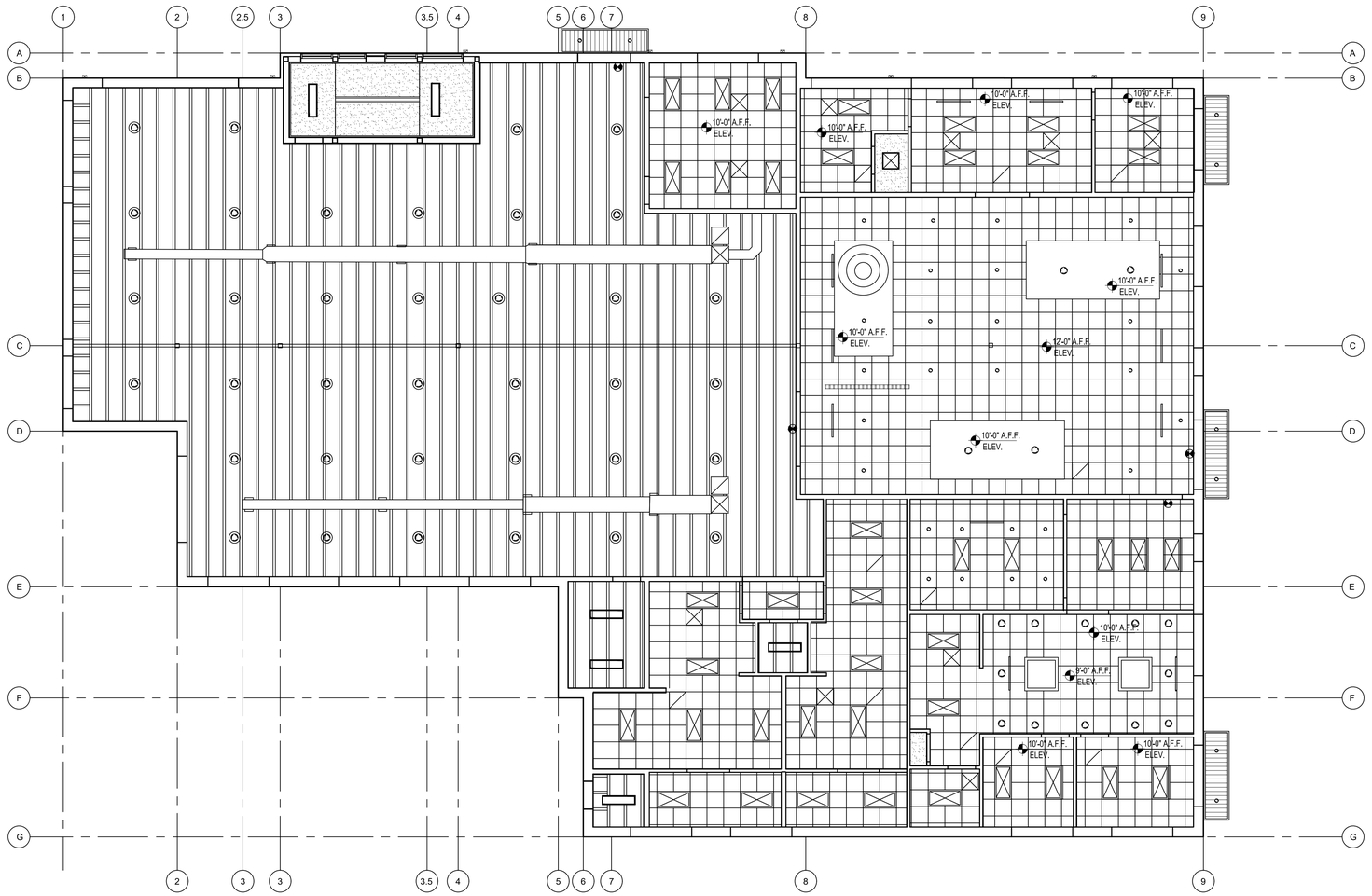
No.	Revisions:	Date:
2	CITY PERMIT REVIEW	08/15/2025

Submission Date: 06/16/2025
Plot Date: 06/16/2025
Drawing Number: A101



K1 REFLECTED CEILING PLAN - STAIR

SCALE: 1/4" = 1'-0"



A1 MAIN FLOOR REFLECTED CEILING PLAN

SCALE: 1/8" = 1'-0"

CEILING MATERIAL LEGEND

- NEW PAINTED GYPSUM BOARD
- PRE-FINISHED METAL SOFFIT
- EXPOSED METAL DECK & STRUCTURE PAINTED
- 2x2 ACT CEILING TILE: ACT-1 = 2'x2'x1" LAY-IN ARMSTRONG CALLA SQUARE LAY-IN 2820 WHITE, 15/16" PRELUDE XL WHITE SUSPENSION SYSTEM 9'-0" A.F.F. U.N.O.
- LIGHT FIXTURES SEE MEP
- MECHANICAL UNITS FLUSH MOUNTED SEE MEP

GENERAL REF. CEILING PLAN NOTES

1. FIELD VERIFY ALL DIMENSIONS AND CONDITIONS PRIOR TO EXECUTING ANY WORK. NOTIFY ARCHITECT OF ANY DIMENSIONS OR WORK DIFFERING FROM THAT SHOWN, FOR CLARIFICATION BY THE ARCHITECT PRIOR TO PROCEEDING WITH WORK.
2. VERIFY ALL ROUGH OPENINGS FOR DOORS, WINDOWS, EQUIPMENT, & OTHER "BUILT-IN" ITEMS PRIOR TO EXECUTION OF ANY WORK AFFECTED BY SAME.
3. COORDINATE ALL REQUIRED UTILITIES WITH EQUIPMENT MANUFACTURER.
4. ALL DIMENSIONS ARE TO FINISH WALL - OR MASONRY - UNLESS OTHERWISE NOTED.
5. DO NOT SCALE DRAWINGS - WHERE DIMENSIONAL DISCREPANCIES ARE ENCOUNTERED NOTIFY ARCHITECT PRIOR TO PROCEEDING WITH THE WORK.
6. COORDINATE ALL LIGHT FIXTURES, EQUIPMENT, GRILL AND VENTS WITH MEP DRAWINGS.

Peckham & Wright Architects, Inc., d.b.a.
PWArchitects, Inc.
2120 Forum Blvd., Ste. 101
Columbia, Missouri 65203
PWArchitects.com | 573.449.2683
Peckham & Wright Architects an Architectural Corporation
Missouri State Certificate of Authority No. 000244

STATE OF MISSOURI
ERIN CHRISTOPHER MILLER
NUMBER A-7070
REGISTERED ARCHITECT

06/16/2025

Copyright Peckham & Wright Architects, Inc. 2025

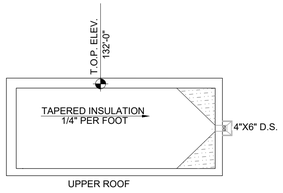
DISCOVERY PARK
ATHLETIC CLUB
AND OFFICE
ALURA APARTMENTS
250 NE ALURA WAY
LEE'S SUMMIT, MO

Drawn:	Project Number:
LC	202428
Checked:	CAD File Name (Number):
EM	

Drawing Title: REFLECTED CEILING PLAN

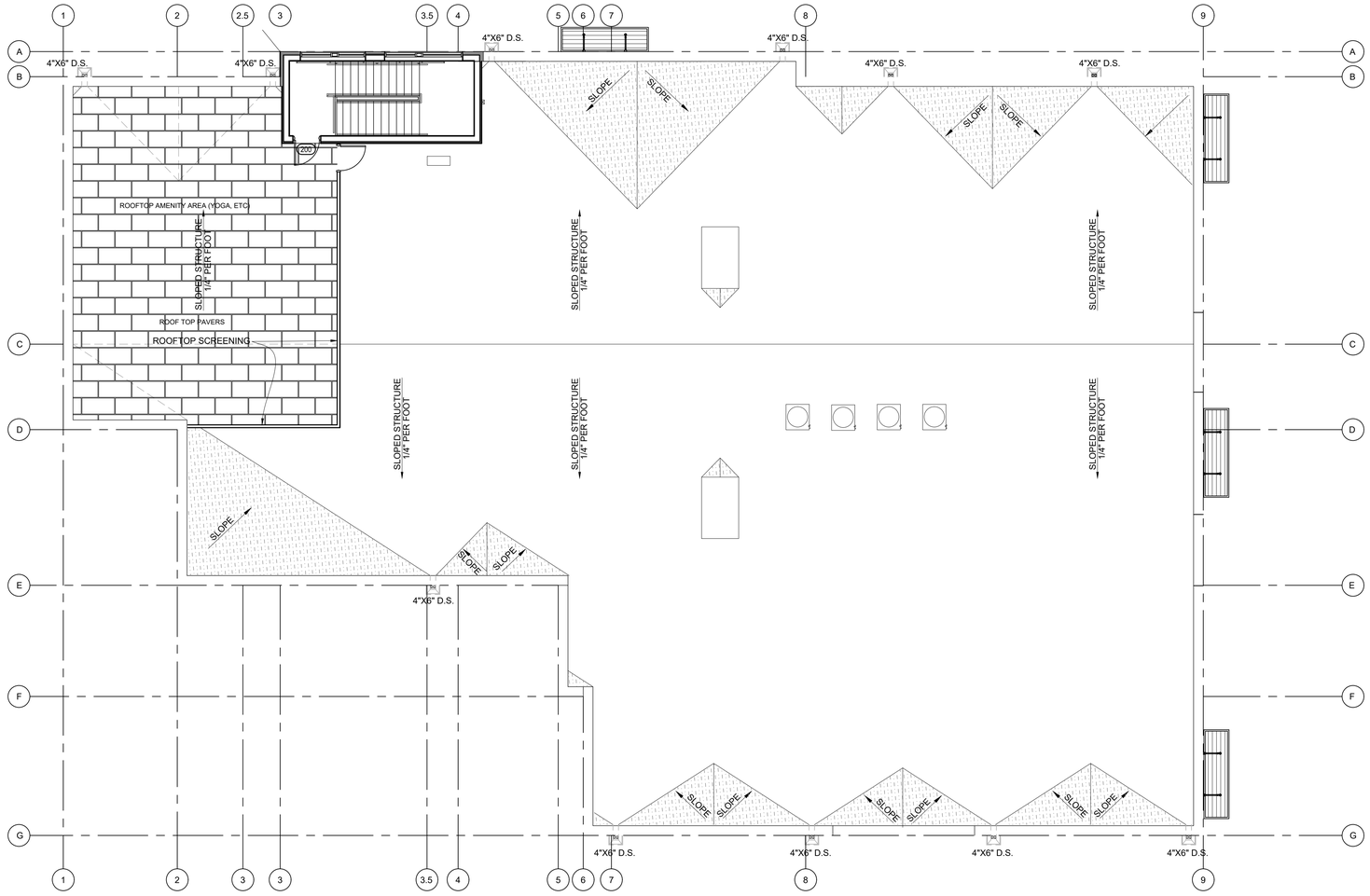
No.	Revisions:	Date:
A	CITY PERMIT REVIEW	08/15/2025

Submission Date:	Drawing Number:
06/16/2025	A102
Plot Date:	
06/16/2025	



K4 UPPER LEVEL ROOF PLAN

SCALE: 1/8" = 1'-0"



A1 ROOF PLAN

SCALE: 1/8" = 1'-0"

GENERAL ROOFING NOTES

1. ANY ROOFING DETAILS NOT SHOWN SHALL BE DONE IN ACCORDANCE W/ ROOFING FABRICATOR OR INSTALLER APPROVED DETAILS.
2. COORDINATE ALL ROOF PENETRATIONS WITH MECHANICAL, PLUMBING & ELECTRICAL WORK. PROVIDE ALL BLOCKINGS, FLASHINGS, CURBS & OTHER RELATED ITEMS AS REQUIRED FOR PROPER INSTALLATION OF MECHANICAL, PLUMBING & ELECTRICAL ITEMS. COMPLY WITH REQUIREMENTS OF NRCA &/OR SMACNA. NOTIFY ARCHITECT OF FABRICATOR OR INSTALLER REQUIREMENTS THAT DIFFER FROM THE REFERENCED STANDARDS.
3. INSTALL ALL ROOFING AND FLASHINGS IN ACCORDANCE WITH REQUIREMENTS OF ROOFING MANUFACTURER'S INSTALLATION INSTRUCTIONS.
4. INSTALL SEALANT TAPE BETWEEN ALL NON-SOLDERED CONNECTIONS OF FLASHINGS, GUTTERS, DOWNSPOUTS AND OTHER AREAS TO MAKE WATER-TIGHT ROOF & FLASHINGS.
5. THE INTENT OF THE ROOF PLANS & DETAILS IS TO ACHIEVE A COMPLETE & PROPER WATER-TIGHT INSTALLATION, REGARDLESS IF A DETAIL IS OR IS NOT SHOWN.
6. ROOFTOP MECHANICAL EQUIPMENT AND GAS LINE SLEEPER BLOCKS ARE PRE-MANUFACTURED BLOCKS PROVIDED AND INSTALLED BY MECHANICAL CONTRACTOR. SEE MEP DRAWINGS.

Peckham & Wright Architects, Inc., d.b.a.
PWArchitects, Inc.
2120 Forum Blvd., Ste. 101
Columbia, Missouri 65203
PWArchitects.com | 573.449.2683
Peckham & Wright Architects an Architectural Corporation
Missouri State Certificate of Authority No. 000244

STATE OF MISSOURI
EDWARD J. MILLER
NUMBER A-7070
REGISTERED ARCHITECT

06/16/2025

Copyright Peckham & Wright Architects, Inc. 2025

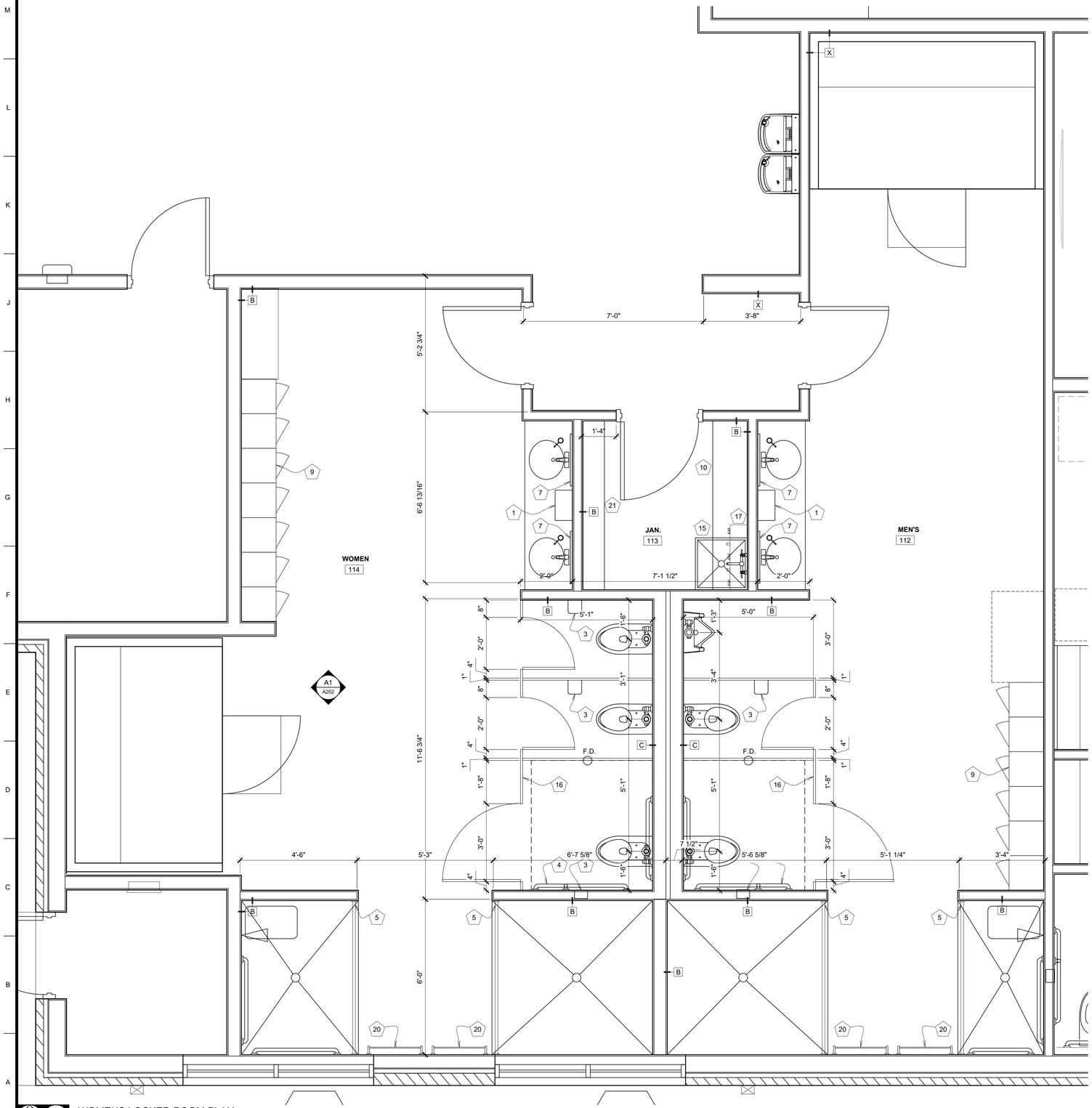
DISCOVERY PARK ATHLETIC CLUB AND OFFICE ALURA APARTMENTS
250 NE ALURA WAY
LEE'S SUMMIT, MO

Drawn:	Project Number:
LC	202428
Checked:	CAD File Name (Number):
EM	

Drawing Title: ROOF PLAN

No.	Revisions:	Date:
2	CITY PERMIT REVIEW	08/15/2025

Submission Date: 06/16/2025
Plot Date: 06/16/2025
Drawing Number: A103



A1 WOMENS LOCKER ROOM PLAN

SCALE: 1/2" = 1'-0"

EXTERIOR WALL TYPES / ASSEMBLIES

TYP. EXT. WALL TYPE SHALL BE "W1" U.N.O, TYP.

- W1 — MODULAR FACE BRICK VENEER OVER 1-1/2" AIR SPACE, OVER 2" RIGID INSULATION, OVER 1/2" GYPSUM SHEATHING, OVER 2x6 WOOD STUDS @ 16" O.C. w/ R-19 BATT INSULATION w/ VAPOR BARRIER AND 5/8" GYPSUM BOARD TO B.O. STRUCT. COORDINATE WITH STRUCTURAL. FINISH PER FINISH SCHEDULE.

TYP. INTERIOR PARTITION U.N.O.

- A — 2x4 WOOD STUDS @ 16" O.C. TO UNDERSIDE OF STRUCTURE, 5/8" GYPSUM BOARD BOTH SIDES TO 6" ABV. CLNG. OR STRUCT. WHERE GYP. BD. CEILINGS ARE SHOWN.
- B — 2x6 WOOD STUDS @ 16" O.C. TO UNDERSIDE OF STRUCTURE, 5/8" GYPSUM BOARD BOTH SIDES TO STRUCT. W/ SOUND ATT. INSULATION.
- C — 2x6 WOOD STUDS @ 16" O.C. TO UNDERSIDE OF STRUCTURE, 5/8" GYPSUM BOARD ONE SIDE TO STRUCTURE.

KEY NOTES

ITEMS PROVIDED AND INSTALLED BY G.C. U.N.U. SEE ENLARGED PLANS AND INTERIOR ELEVATIONS FOR ALL ITEMS:

1. PAPER TOWEL DISPENSER - BOBRICK B- 4262
2. SOAP DISPENSER - BOBRICK B-2013
3. TOILET PAPER DISPENSER - BOBRICK B-2888
4. GRAB BARS - BOBRICK B-5806
5. SHOWER ROD AND CURTAIN - BOBRICK B-207
6. LOCKERS
7. MIRROR - BOBRICK B-165
8. DUAL ROLLER SHADE
9. FIRE EXTINGUISHER CABINET
10. 16" ADJUSTABLE MELAMINE SHELVES AND 60" STANDARDS @ 32" O.C. - 4 LEVELS
11. 1BOBRICK B-239 X 34 SHELF WITH MOP AND BROOM HOLDERS AND HOOKS
12. CORNER GUARD
13. TOWEL BAR BOBRICK B-545x24
14. TRASH CAN BOBRICK B-221216
15. CORNER MOP SINK FRP WALL PANELS 2 WALL 24"Wx48"T
16. SOLID SURFACE TOILET PARTITIONS
17. UTILITY SHELF WITH MOP / BROOM HOLDERS AND RAG HOOKS BOBRICK B-239
18. LOCKER ROOM BENCH
19. INFRARED SAUNA
20. TOWEL BAR BOBRICK B-545x24
21. 12" ADJUSTABLE MELAMINE SHELVES AND 60" STANDARDS @ 32" O.C. - 4 LEVELS

GENERAL FLOOR PLAN NOTES

1. FIELD VERIFY ALL DIMENSIONS AND CONDITIONS PRIOR TO EXECUTING ANY WORK. NOTIFY ARCHITECT OF ANY DIMENSIONS OR WORK DIFFERING FROM THAT SHOWN, FOR CLARIFICATION BY THE ARCHITECT PRIOR TO PROCEEDING WITH WORK.
2. VERIFY ALL ROUGH OPENINGS FOR DOORS, WINDOWS, EQUIPMENT, & OTHER "BUILT-IN" ITEMS PRIOR TO EXECUTION OF ANY WORK AFFECTED BY SAME.
3. LOCATE DOOR OPENINGS WHICH ARE NOT DIMENSIONED OTHERWISE, CENTERED IN WALL AND 6" FROM FINISH WALL TO FINISH JAMB. LOCATE DOOR OPENINGS IN MASONRY WALLS BETWEEN 4" TO 6" OFF WALLS SO THAT PROPER COURSING IS ACHIEVED
4. COORDINATE ALL FLOOR DRAINS AND OTHER REFERENCED MECHANICAL, ELECTRICAL, OR PLUMBING ITEMS W/ M.E.P.
5. COORDINATE ALL REQUIRED UTILITIES WITH EQUIPMENT MANUFACTURER.
6. ALL DIMENSIONS ARE TO FACE OF STUD - OR MASONRY - UNLESS OTHERWISE NOTED.
7. DO NOT SCALE DRAWINGS - WHERE DIMENSIONAL DISCREPANCIES ARE ENCOUNTERED NOTIFY ARCHITECT PRIOR TO PROCEEDING WITH THE WORK.
8. COORDINATE HEIGHTS OF OUTLETS & SWITCHING WITH ALL ARCHITECTURAL ITEMS. SEE M/E DRAWINGS FOR LOCATIONS.
9. SEE A300 FOR INTERIOR PARTITION WALL TYPES AND DETAILS.
10. SEE INTERIOR ELEVATIONS FOR ADDITIONAL KEY NOTED ITEMS NOT LABELED IN PLAN.

Peckham & Wright Architects, Inc., d.b.a.
PWArchitects, Inc.
2120 Forum Blvd., Ste. 101
Columbia, Missouri 65203
PWArchitects.com | 573.449.2683
Peckham & Wright Architects an Architectural Corporation
Missouri State Certificate of Authority No. 000244

STATE OF MISSOURI
ERIN CHRISTINE MILLER
NUMBER A-7070
REGISTERED ARCHITECT

06/16/2025

Copyright Peckham & Wright Architects, Inc. 2025

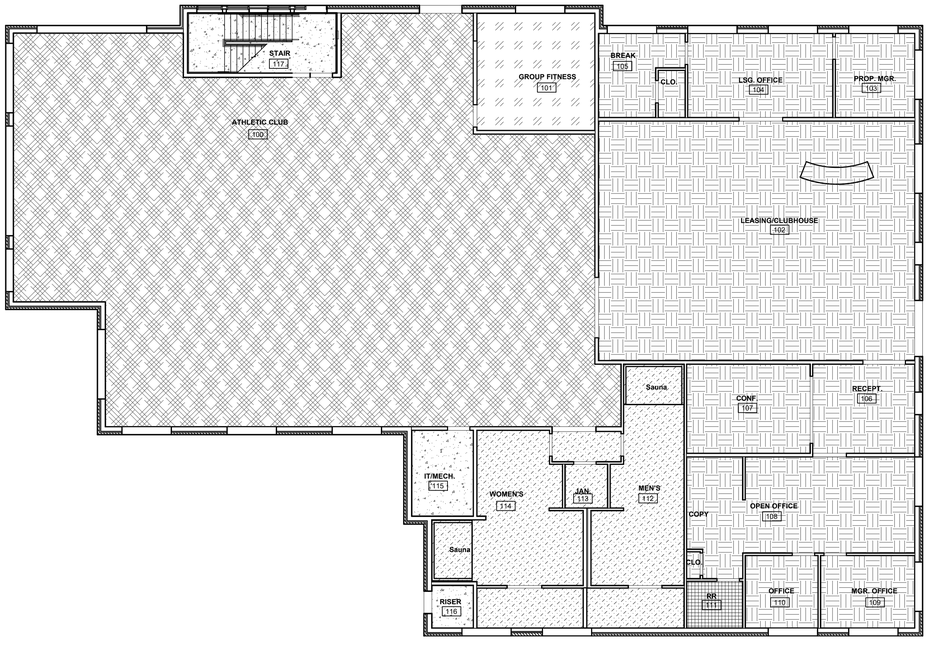
DISCOVERY PARK
ATHLETIC CLUB
AND OFFICE
ALURA APARTMENTS
250 NE ALURA WAY
LEE'S SUMMIT, MO

Drawn:	Project Number:
LC	202428
Checked:	CAD File Name (Number):
EM	

Drawing Title: ENLARGED FLOOR PLANS

No.	Revisions:	Date:

Submission Date:	Drawing Number:
06/16/2025	A104
Plot Date: 06/16/2025	



A1 FIRST FLOOR FINISH PLAN

SCALE: 3/32" = 1'-0"

FINISH KEY

- LVT-1: LUXURY VINYL TILE FLOORING: X
- LVT-2: LUXURY VINYL TILE FLOORING: X
- SC: SEALED CONCRETE. CLEAN AND SEAL ALL JOINTS
- CPT-1: CARPET TILE X
- CPT-2: CARPET TILE:X
- RSF-1: RESILIENT SPORT FLOORING: X
- EFT-1 EPOXY FLOORING: X

ROOM FINISH SCHEDULE

Room No.	Room Name	Floor	Base	Walls				Ceiling Finish	Remarks
				North	East	South	West		
100	ATHLETIC CLUB	-	-	-	-	-	-	ACT-1	-
101	GROUP FITNESS	-	-	-	-	-	-	ACT-1	-
102	LEASING / CLUBHOUSE	-	-	-	-	-	-	ACT-1	-
103	OFFICE - PROPERTY MANAGER	-	-	-	-	-	-	ACT-1	-
104	LEASING OFFICE	-	-	-	-	-	-	ACT-1	-
105A	BREAK ROOM	-	-	-	-	-	-	ACT-1	-
105B	CLOSET	-	-	-	-	-	-	ACT-1	-
106	RECEPTION	-	-	-	-	-	-	ACT-1	-
106B	CLOSET	-	-	-	-	-	-	ACT-1	-
107	CONFERENCE ROOM	-	-	-	-	-	-	ACT-1	-
108	OPEN OFFICE	-	-	-	-	-	-	ACT-1	-
109	MANAGER OFFICE	-	-	-	-	-	-	ACT-1	-
110	OFFICE	-	-	-	-	-	-	ACT-1 / P-4	-
111	RESTROOM	-	-	-	-	-	-	ACT-1	-
112	MENS LOCKER ROOM	-	-	-	-	-	-	ACT-1	-
113	JANITOR	-	-	-	-	-	-	ACT-1	-
114	WOMEN'S LOCKER ROOM	-	-	-	-	-	-	ACT-1	-
115	MECHANICAL	-	-	-	-	-	-	ACT-1	-
116	HALL	-	-	-	-	-	-	ACT-1	-
117									

FINISH SCHEDULE LEGEND:

GENERAL FLOOR PLAN NOTES

1. FIELD VERIFY ALL DIMENSIONS AND CONDITIONS PRIOR TO EXECUTING ANY WORK. NOTIFY ARCHITECT OF ANY DIMENSIONS OR WORK DIFFERING FROM THAT SHOWN, FOR CLARIFICATION BY THE ARCHITECT PRIOR TO PROCEEDING WITH WORK.
2. VERIFY ALL ROUGH OPENINGS FOR DOORS, WINDOWS, EQUIPMENT, & OTHER "BUILT-IN" ITEMS PRIOR TO EXECUTION OF ANY WORK AFFECTED BY SAME.
3. LOCATE DOOR OPENINGS WHICH ARE NOT DIMENSIONED OTHERWISE, CENTERED IN WALL AND 6" FROM FINISH WALL TO FINISH JAMB. LOCATE DOOR OPENINGS IN MASONRY WALLS BETWEEN 4" TO 6" OFF WALLS SO THAT PROPER COURSING IS ACHIEVED
4. COORDINATE ALL FLOOR DRAINS AND OTHER REFERENCED MECHANICAL, ELECTRICAL, OR PLUMBING ITEMS W/ M.E.P.
5. COORDINATE ALL REQUIRED UTILITIES WITH EQUIPMENT MANUFACTURER.
6. ALL DIMENSIONS ARE TO FACE OF STUD - OR MASONRY - UNLESS OTHERWISE NOTED.
7. DO NOT SCALE DRAWINGS - WHERE DIMENSIONAL DISCREPANCIES ARE ENCOUNTERED NOTIFY ARCHITECT PRIOR TO PROCEEDING WITH THE WORK.
8. COORDINATE HEIGHTS OF OUTLETS & SWITCHING WITH ALL ARCHITECTURAL ITEMS. SEE M/E DRAWINGS FOR LOCATIONS.
9. SEE A300 FOR INTERIOR PARTITION WALL TYPES AND DETAILS.
10. SEE INTERIOR ELEVATIONS FOR ADDITIONAL KEY NOTED ITEMS NOT LABELED IN PLAN.

Peckham & Wright Architects, Inc., d.b.a.
PWArchitects, Inc.
2120 Forum Blvd., Ste. 101
Columbia, Missouri 65203
PWArchitects.com | 573.449.2683
Peckham & Wright Architects an Architectural Corporation
Missouri State Certificate of Authority No. 000244

STATE OF MISSOURI
BRIAN CHRISTOPHER MILLER
NUMBER A-7070
REGISTERED ARCHITECT

06/16/2025

Copyright Peckham & Wright Architects, Inc. 2025

DISCOVERY PARK
ATHLETIC CLUB
AND OFFICE
ALURA APARTMENTS
250 NE ALURA WAY
LEE'S SUMMIT, MO

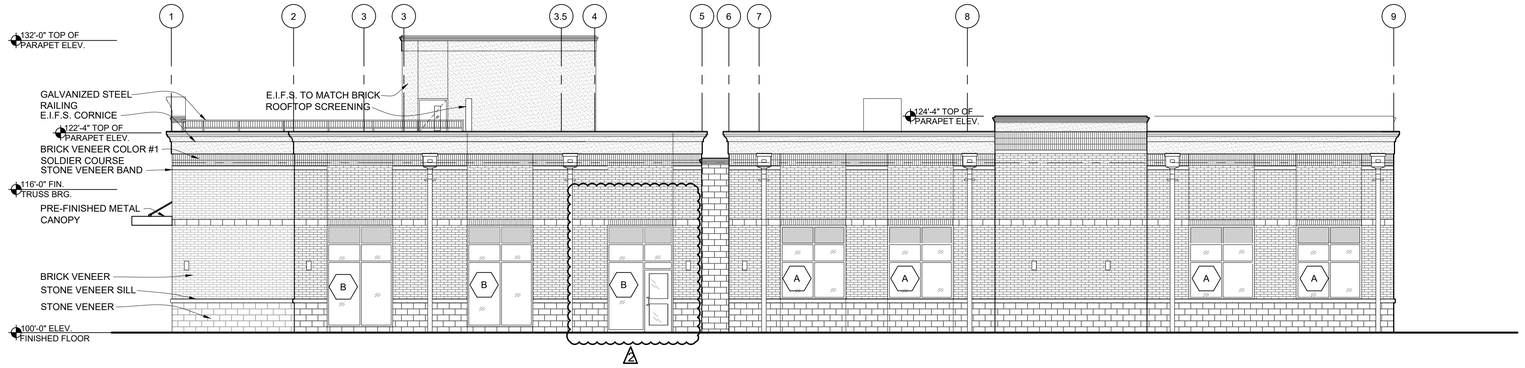
Drawn:	Project Number:
LC	202428
Checked:	CAD File Name (Number):
EM	

Drawing Title: FLOOR FINISH PLAN AND SCHEDULE

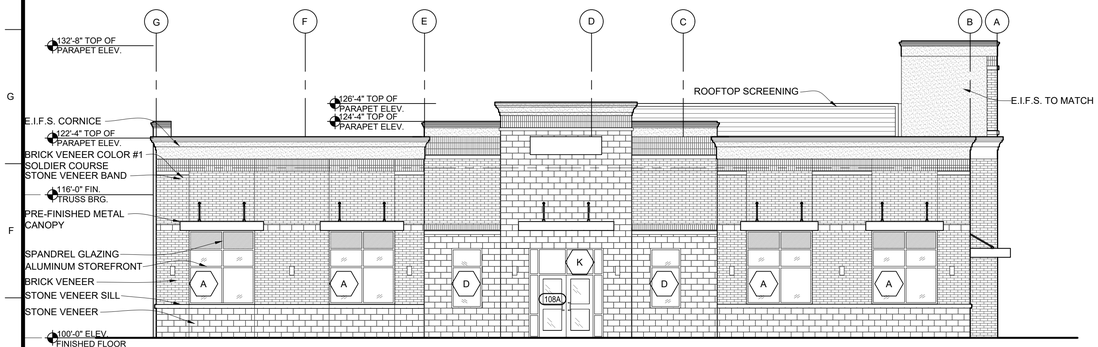
No.	Revisions:	Date:
2	CITY PERMIT REVIEW	08/15/2025

Submission Date: 06/16/2025
Plot Date: 06/16/2025

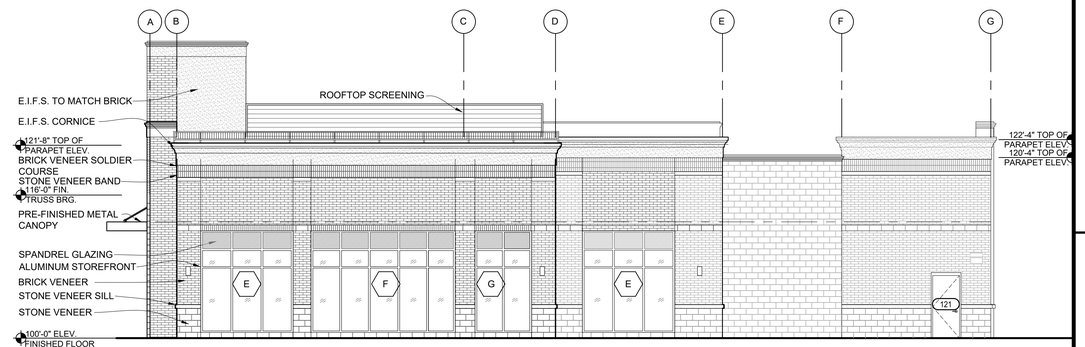
Drawing Number: A105



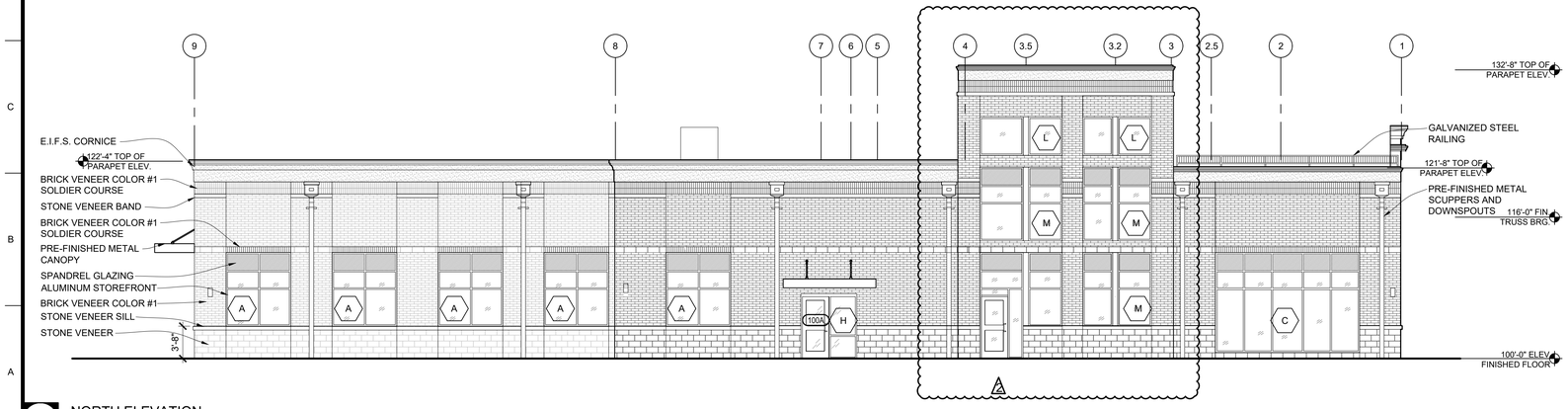
J1 **SOUTH ELEVATION**
SCALE: 1/8" = 1'-0"



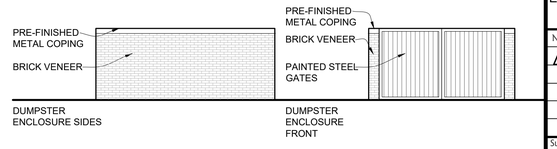
E1 **EAST ELEVATION**
SCALE: 1/8" = 1'-0"



E8 **WEST ELEVATION**
SCALE: 1/8" = 1'-0"



A1 **NORTH ELEVATION**
SCALE: 1/8" = 1'-0"



A12 **DUMPSTER ENCLOSURE ELEVATIONS**
SCALE: 1/8" = 1'-0"

GENERAL ELEVATION NOTES

1. SEE WALL SECTIONS FOR ADDITIONAL DETAILS, MATERIALS, NOTES, AND DIMENSIONS.
2. SEE SITE PLAN FOR EXACT FINISH GRADE ELEVATIONS.
3. SEE SITE PLAN FOR RETAINING WALLS, SIDEWALKS & SLABS, DETAILS, LOCATIONS AND DIMENSIONS. SEE SEPERATE CIVIL PACKAGE
4. SEE WALL SECTIONS FOR APPROPRIATE BRICK LEDGES. BRICK LEDGES TO BE BELOW FINAL GRADE. MAKE FIELD ADJUSTMENTS AS NECESSARY TO ACCOMPLISH THS W/ FIELD CONDITIONS.

Peckham & Wright Architects, Inc., d.b.a.
PWArchitects, Inc.
2120 Forum Blvd., Ste. 101
Columbia, Missouri 65203
PWArchitects.com | 573.449.2683
Peckham & Wright Architects an Architectural Corporation
Missouri State Certificate of Authority No. 000244

STATE OF MISSOURI
LEONARD C. MILLER
NUMBER A-7070
REGISTERED ARCHITECT
06/16/2025

Copyright Peckham & Wright Architects, Inc. 2025

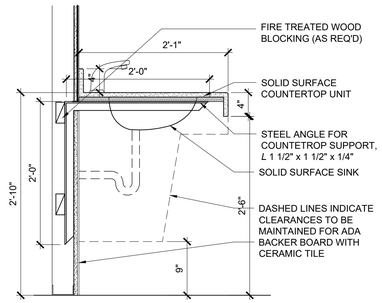
DISCOVERY PARK ATHLETIC CLUB AND OFFICE
ALURA APARTMENTS
250 NE ALURA WAY
LEE'S SUMMIT, MO

Drawn:	Project Number:
LC	202428
Checked:	CAD File Name (Number):
EM	

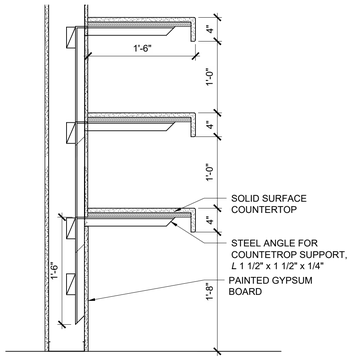
Drawing Title: ELEVATIONS

No.	Revisions:	Date:
2	CITY PERMIT REVIEW	08/15/2025

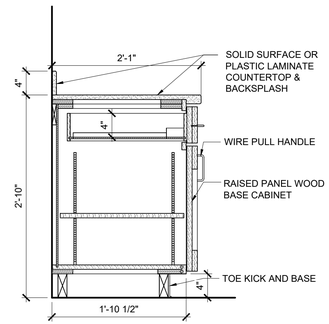
Submission Date:	Drawing Number:
06/16/2025	A201
Plot Date: 06/16/2025	



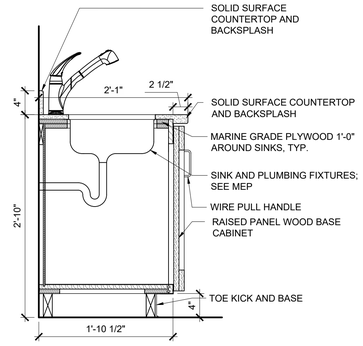
K1 CABINET DETAIL
SCALE: 1" = 1'-0"



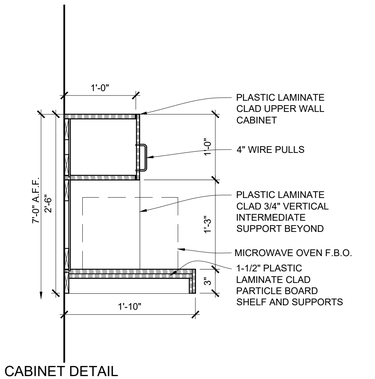
K4 CABINET DETAIL
SCALE: 1" = 1'-0"



1 CABINET DETAIL
K7 SCALE: 1" = 1'-0"



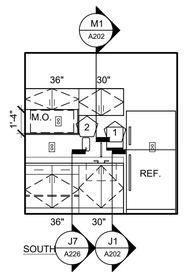
1 CABINET DETAIL
K10 SCALE: 1" = 1'-0"



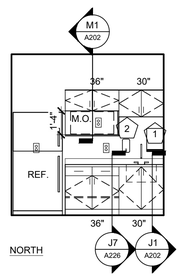
1 CABINET DETAIL
K10 SCALE: 1" = 1'-0"

GENERAL ELEVATION NOTES

1. SEE WALL SECTIONS FOR ADDITIONAL DETAILS, MATERIALS, NOTES, AND DIMENSIONS.
2. SEE SITE PLAN FOR EXACT FINISH GRADE ELEVATIONS.
3. SEE SITE PLAN FOR RETAINING WALLS, SIDEWALKS & SLABS, DETAILS, LOCATIONS AND DIMENSIONS. SEE SEPERATE CIVIL PACKAGE
4. SEE WALL SECTIONS FOR APPROPRIATE BRICK LEDGES. BRICK LEDGES TO BE BELOW FINAL GRADE. MAKE FIELD ADJUSTMENTS AS NECESSARY TO ACCOMPLISH THS W/ FIELD CONDITIONS.

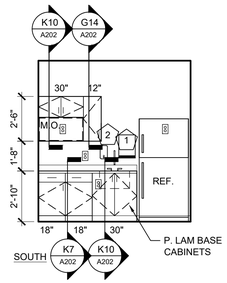


G1 INTERIOR ELEVATIONS BREAKROOM
SCALE: 1/4" = 1'-0"

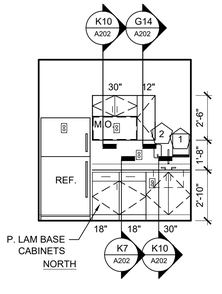


G4 INTERIOR ELEVATIONS BREAKROOM
SCALE: 1/4" = 1'-0"

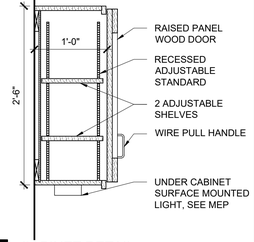
G7 INTERIOR ELEVATIONS RESTROOM
SCALE: 1/4" = 1'-0"



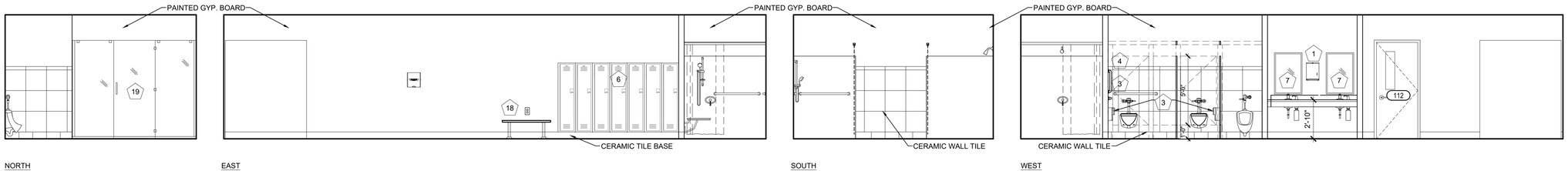
1 BREAK ROOM 105
G10 SCALE: 1/4" = 1'-0"



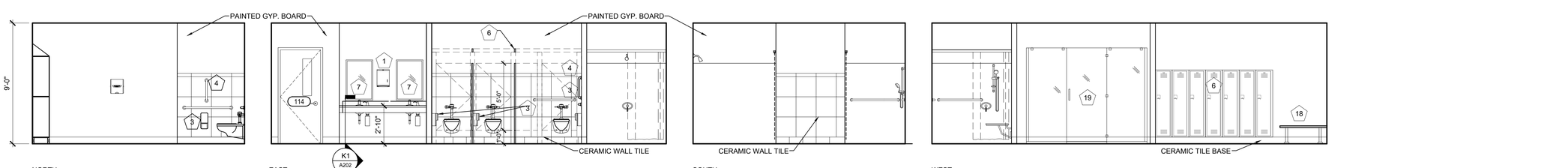
1 OPEN OFFICE 108
G12 SCALE: 1/4" = 1'-0"



1 CABINET DETAIL
G14 SCALE: 1" = 1'-0"



D1 INTERIOR ELEVATIONS MEN'S LOCKER ROOM
SCALE: 1/4" = 1'-0"



A1 INTERIOR ELEVATIONS WOMEN'S LOCKER ROOM
SCALE: 1/4" = 1'-0"

Peckham & Wright Architects, Inc., d.b.a.
PWArchitects, Inc.
2120 Forum Blvd., Ste. 101
Columbia, Missouri 65203
PWArchitects.com | 573.449.2683
Peckham & Wright Architects an Architectural Corporation
Missouri State Certificate of Authority No. 000244

STATE OF MISSOURI
ERIK CHRISTOPHER MILLER
NUMBER A-7070
REGISTERED ARCHITECT

06/16/2025

Copyright Peckham & Wright Architects, Inc. 2025

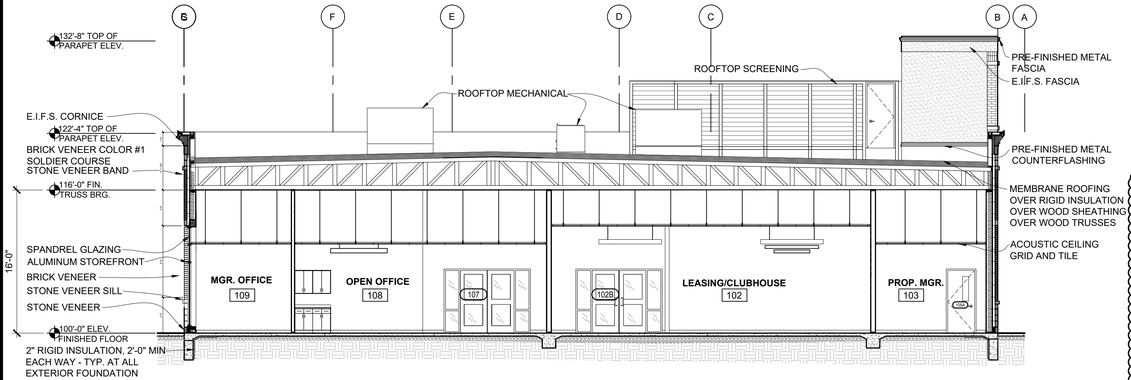
DISCOVERY PARK
ATHLETIC CLUB
AND OFFICE
ALURA APARTMENTS
250 NE ALURA WAY
LEE'S SUMMIT, MO

Drawn:	Project Number:
LC	202428
Checked:	CAD File Name (Number):
EM	

Drawing Title: INTERIOR ELEVATIONS AND DETAILS

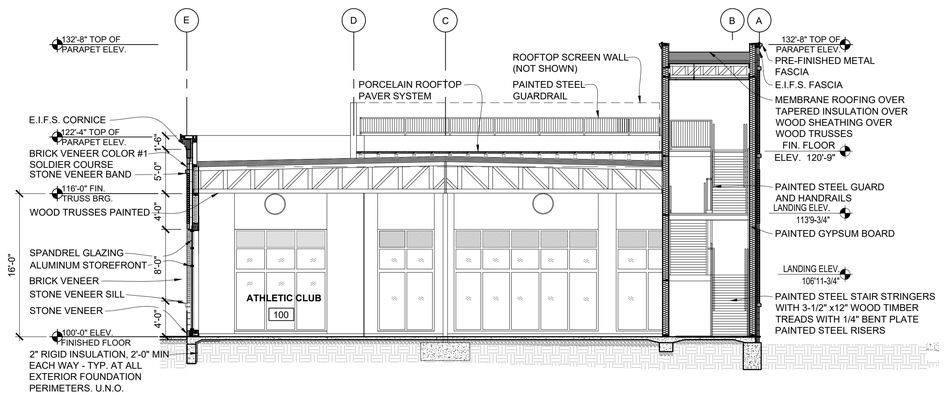
No.	Revisions:	Date:
1	CITY PERMIT REVIEW	07/07/2025

Submission Date: 06/16/2025
Plot Date: 06/16/2025
Drawing Number: A202



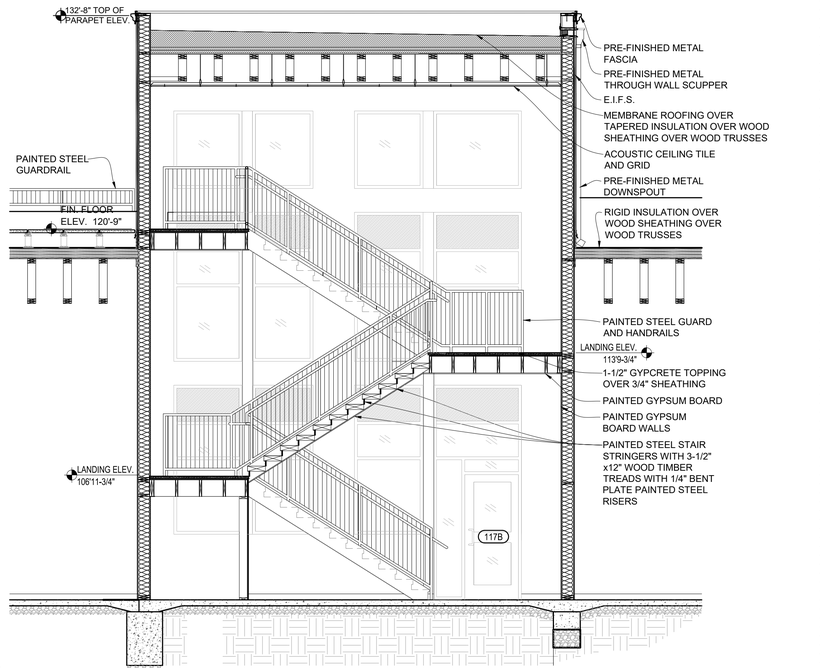
E1 BUILDING SECTION

SCALE: 1/8" = 1'-0"



A1 EAST / WEST BUILDING SECTION LOOKING NORTH

SCALE: 1/8" = 1'-0"



A8 EAST / WEST BUILDING SECTION LOOKING NORTH

SCALE: 1/8" = 1'-0"

GENERAL ELEVATION NOTES

1. SEE WALL SECTIONS FOR ADDITIONAL DETAILS, MATERIALS, NOTES, AND DIMENSIONS.
2. SEE SITE PLAN FOR EXACT FINISH GRADE ELEVATIONS.
3. SEE SITE PLAN FOR RETAINING WALLS, SIDEWALKS & SLABS, DETAILS, LOCATIONS AND DIMENSIONS. SEE SEPERATE CIVIL PACKAGE
4. SEE WALL SECTIONS FOR APPROPRIATE BRICK LEDGES. BRICK LEDGES TO BE BELOW FINAL GRADE. MAKE FIELD ADJUSTMENTS AS NECESSARY TO ACCOMPLISH THS W/ FIELD CONDITIONS.

Peckham & Wright Architects, Inc., d.b.a.
PWArchitects, Inc.
2120 Forum Blvd., Ste. 101
Columbia, Missouri 65203
PWArchitects.com | 573.449.2683
Peckham & Wright Architects an Architectural Corporation
Missouri State Certificate of Authority No. 000244

STATE OF MISSOURI
BRIAN CHRISTOPHER MILLER
NUMBER A-7070
REGISTERED ARCHITECT

06/16/2025

Copyright Peckham & Wright Architects, Inc. 2025

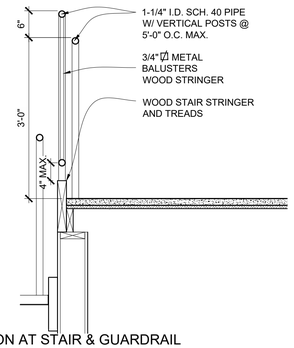
DISCOVERY PARK
ATHLETIC CLUB
AND OFFICE
ALURA APARTMENTS
250 NE ALURA WAY
LEE'S SUMMIT, MO

Drawn:	Project Number:
LC	202428
Checked:	CAD File Name (Number):
EM	

Drawing Title:
BUILDING AND WALL SECTIONS

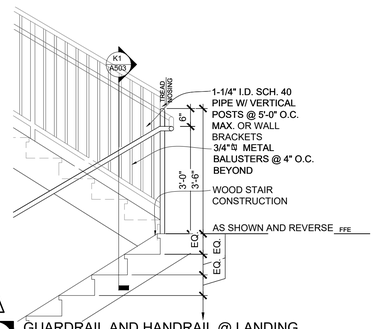
No.	Revisions:	Date:
2	CITY PERMIT REVIEW	08/15/2025

Submission Date: 06/16/2025
Plot Date: 06/16/2025
Drawing Number: A301



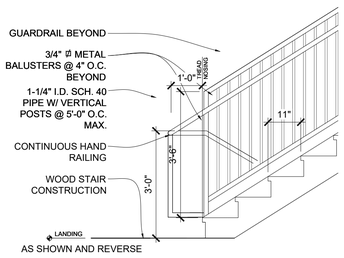
K1 SECTION AT STAIR & GUARDRAIL

SCALE: 3/4" = 1'-0"



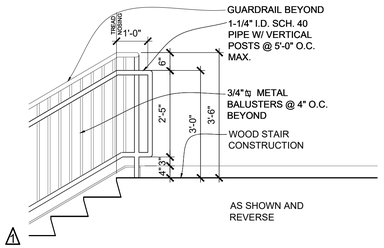
⚠1 K4 GUARDRAIL AND HANDRAIL @ LANDING

SCALE: 1/2" = 1'-0"



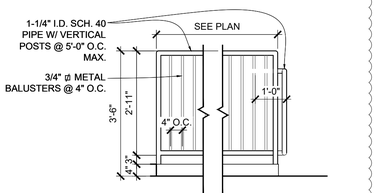
⚠1 K7 GUARDRAIL AND HANDRAIL @ LANDING

SCALE: 1/2" = 1'-0"



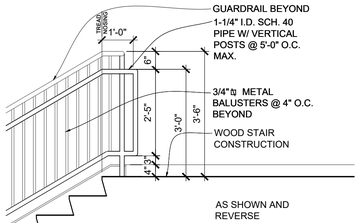
⚠1 K10 GUARDRAIL AND HANDRAIL @ LANDING

SCALE: 1/2" = 1'-0"



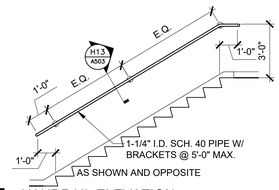
⚠1 K13 GUARDRAIL AND HANDRAIL @ TOP OF STAIR

SCALE: 1/2" = 1'-0"



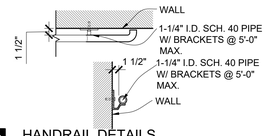
⚠1 H1 GUARDRAIL AND HANDRAIL @ TOP OF STAIR

SCALE: 1/2" = 1'-0"



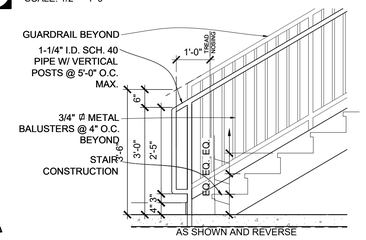
H10 HANDRAIL ELEVATION

SCALE: 1/4" = 1'-0"



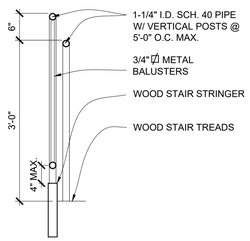
H13 (H10 A503) HANDRAIL DETAILS

SCALE: 3/4" = 1'-0"



⚠1 F1 GUARDRAIL AND HANDRAIL DETAIL

SCALE: 1/2" = 1'-0"



C1 SECTION AT STAIR & GUARDRAIL

SCALE: 3/4" = 1'-0"

Peckham & Wright Architects, Inc., d.b.a.
PWArchitects, Inc.
2120 Forum Blvd., Ste. 101
Columbia, Missouri 65203
PWArchitects.com | 573.449.2683
Peckham & Wright Architects an Architectural Corporation
Missouri State Certificate of Authority No. 000244

STATE OF MISSOURI
CHRISTOPHER
MILLER
NUMBER A-7070
REGISTERED ARCHITECT

06/16/2025

Copyright Peckham & Wright Architects, Inc. 2025

DISCOVERY PARK
ATHLETIC CLUB
AND OFFICE
ALURA APARTMENTS
250 NE ALURA WAY
LEE'S SUMMIT, MO

Drawn:	Project Number:
LC	202428
Checked:	CAD File Name (Number):
EM	

Drawing Title:
SECTIONS AND DETAILS

No.	Revisions:	Date:
⚠1	CITY PERMIT REVIEW	07/07/2025

Submission Date:	Drawing Number:
06/16/2025	A501
Plot Date:	
06/16/2025	

DOOR SCHEDULE

Door No.	Location	Door Leaf Size (WxH)	Material: Door Elevation	Material: Wood	Material: STEEL	GLAZING: Aluminum / Glass	GLAZING: 1/4" Tempered Laminated	GLAZING: Insulated	Frame: Frame Elevation	Frame: Material: Hollow Metal	Frame: Material: Aluminum	Frame: Material: Insulated	Frame: Material: Tempered Laminated	Details: Head	Details: Jamb	Details: Threshold	HDWR Hardware Group	Fire Rating	Door No.	REMARKS
MAIN LEVEL																				
100A	ENTRY	3'-0" X 7'-0"	D3			AL	T	INS	F1	HM	AL	INS	T	K13 / A601	H13 / A601	F11 / A601	1	-	100A	
100B	ENTRY	3'-0" X 7'-0"	D3			AL	T	INS	F1	HM	AL	INS	T	K13 / A601	H13 / A601	F11 / A601	1	-	100B	
101	GROUP FITNESS	3'-0" X 7'-0"	D3	W					F1	HM				H11 / A601	H11 / A601	-	1	-	101	
102A	LEASING / CLUBHOUSE	PAIR 3'-0" X 7'-0"	D3			AL	T	INS	F1		AL			K13 / A601	H13 / A601	F11 / A601	1	-	102A	
102B	LEASING / CLUBHOUSE	3'-0" X 7'-0"	D3			AL	T		F1	HM			T	H11 / A601	H11 / A601	-	1	-	102B	
103	OFFICE	3'-0" X 7'-0"	D4			AL	T		F1	HM			T	H11 / A601	H11 / A601	X	1	-	103	
104	OFFICE	PAIR 3'-0" X 7'-0" SLIDING	D4			AL	T		F1	HM			T	H11 / A601	H11 / A601	-	1	-	104	
105A	OFFICE	3'-0" X 7'-0"	D4			AL	T		F1		AL		T	K13 / A601	H13 / A601	F11 / A601	1	-	105A	
105B	CLOSET	3'-0" X 7'-0"	D1	W										H11 / A601	H11 / A601	-	1	-	105B	
106	RECEPTION	3'-0" X 7'-0"	D4			AL	T		F1		AL		T	-	-		1	-	106	
107	CONFERENCE	PAIR 3'-0" X 7'-0" SLIDING	D4			AL	T		F1		AL		T	-	-	-	1	-	107	
108	CLOSET	3'-0" X 7'-0"	D1	W					F1	HM			T	H11 / A601	H11 / A601	-	1	-	108	
109	OFFICE	3'-0" X 7'-0"	D3						F1	HM			T	H11 / A601	H11 / A601	-	1	-	109	
110	OFFICE	3'-0" X 7'-0"	D3						F1	HM			T	H11 / A601	H11 / A601	-	1	-	110	
111	TOILET	3'-0" X 7'-0"	D1	W					F1	HM			T	H11 / A601	H11 / A601	-	1	-	111	
112	WOMEN'S LOCKER ROOM	3'-0" X 7'-0"	D2	W					F1	HM			T	H11 / A601	H11 / A601	-	1	-	112	
113	MECH. / JAN.	3'-0" X 7'-0"	D1	W					F1	HM			T	H11 / A601	H11 / A601	-	1	-	113	
114	MEN'S LOCKER ROOM	3'-0" X 7'-0"	D2	W					F1	HM			T	H11 / A601	H11 / A601	-	1	-	114	
115	MECHANICAL	3'-0" X 7'-0"	D1	W					F1	HM			T	H11 / A601	H11 / A601	-	1	-	115	
116	SPRINKLER	3'-0" X 7'-0"	D1	W					F1	HM			T	H11 / A601	H11 / A601	-	1	-	116	
117A	STAIR	3'-0" X 7'-0"	D2	W					F1	HM			T	A3 / A601	A1 / A601		1	20 MIN	117A	
117B	ENTRY	3'-0" X 7'-0"	D3			AL	T	INS	F1	HM	AL	INS	T	K13 / A601	H13 / A601	F11 / A601	1	-	117B	
200	STAIR	3'-0" X 7'-0"	D2		IHM				F1	HM			T	A8 / A601	A6 / A601	A10 / A601	1	20 MIN.	200	

1. INTERIOR DOORS UNDERCUT 1" TYPICAL UNLESS NOTED OTHERWISE.
2. FIELD VERIFY ALL ROUGH OPENING DIMENSIONS PRIOR TO ORDER & INSTALLATION OF DOORS AND FRAMES
3. ALL GLASS SHALL BE TEMPERED U.N.O.
4. ALL EXTERIOR DOORS SHALL BE INSULATED
5. ALL THRESHOLDS SHALL BE ADA/ANSI A117.1 COMPLIANT
6. ALL DOORS SHALL RECEIVE DOOR STOPS. WALL STOPS PREFERRED WHEN CONDITIONS SUPPORT THEM. ADD BLOCKING BEHIND WALL STOPS TYPICAL.

WINDOW SCHEDULE

WINDOW NUMBER	ROUGH OPENING SIZE (W x H)	MATERIAL: ALUMINUM	MATERIAL: DOUBLE PANE	MATERIAL: LOW-E WITH ARGON	MATERIAL: SPANDREL GLAZING	DETAILS (SEE ELEVATIONS FOR SURROUNDING MATERIALS)
A	7'-4" x 8'-4"					F13, H13, K13 / A601
B	7'-4" x 11'-4"					F13, H13, K13 / A601
C	16'-4" x 11'-4"					F13, H13, K13 / A601
D	3'-4" x 6'-8"					F13, H13, K13 / A601
E	10'-4" x 11'-4"					F13, H13, K13 / A601
F	16'-4" x 11'-4"					F13, H13, K13 / A601
G	6'-4" x 11'-4"					F13, H13, K13 / A601
H	6'-4" x 7'-4"					F13, H13, K13 / A601
J	12'-10" x 7'-2"					K1 / A602
K	8'-4" x 10'-0"					F13, H13, K13 / A601
L	4'-4" x 7'-4"					F13, H13, K13 / A601
M	7'-4" x 8'-4"					A13, F13, H13, K13 / A601

NOTES

1) ALL GLAZING TO BE TEMPERED SAFETY GLAZING.

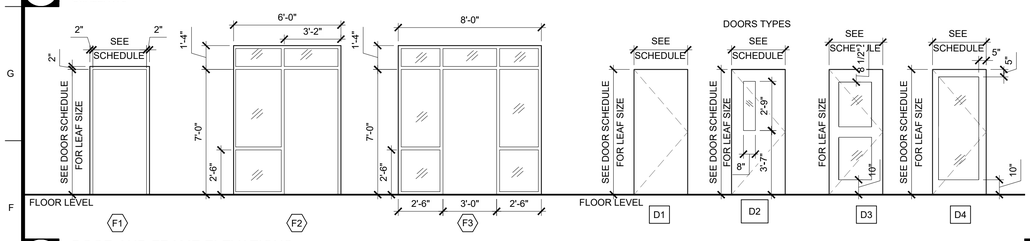
GENERAL DOOR DETAIL NOTES

1. FIELD VERIFY ALL DIMENSIONS AND CONDITIONS PRIOR TO EXECUTING ANY WORK. NOTIFY ARCHITECT OF ANY DIMENSIONS OR WORK DIFFERING FROM THAT SHOWN, FOR CLARIFICATION BY THE ARCHITECT PRIOR TO PROCEEDING WITH WORK.
2. VERIFY ALL ROUGH OPENINGS FOR DOORS, WINDOWS, EQUIPMENT, & OTHER "BUILT-IN" ITEMS PRIOR TO EXECUTION OF ANY WORK AFFECTED BY SAME.
3. LOCATE DOOR OPENINGS WHICH ARE NOT DIMENSIONED OTHERWISE, CENTERED IN WALL AND 6" FROM FINISH WALL TO FINISH JAMB.
4. SEE DOOR SCHEDULE FOR DOOR DIMENSIONS AND DETAILS.

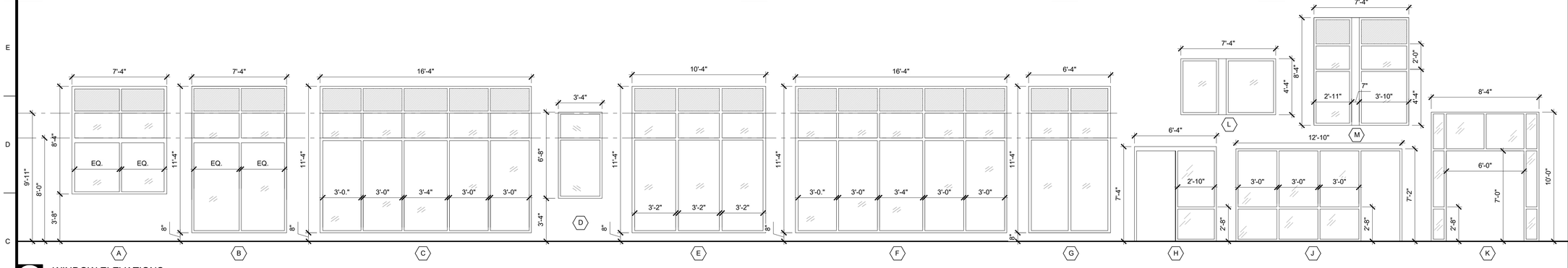
GENERAL WINDOW DETAIL NOTES

1. FIELD VERIFY ALL DIMENSIONS AND CONDITIONS PRIOR TO EXECUTING ANY WORK. NOTIFY ARCHITECT OF ANY DIMENSIONS OR WORK DIFFERING FROM THAT SHOWN, FOR CLARIFICATION BY THE ARCHITECT PRIOR TO PROCEEDING WITH WORK.
2. VERIFY ALL ROUGH OPENINGS FOR DOORS, WINDOWS, EQUIPMENT, & OTHER "BUILT-IN" ITEMS PRIOR TO EXECUTION OF ANY WORK AFFECTED BY SAME.
3. SEE WINDOW SCHEDULE FOR ALL WINDOW DIMENSIONS AND DETAILS.

H1 **DOOR SCHEDULE**
SCALE: NTS

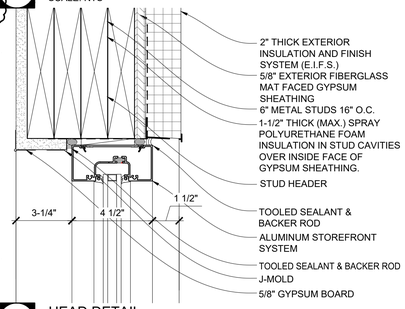


F1 **DOOR AND FRAME ELEVATIONS**
SCALE: 1/4" = 1'-0"

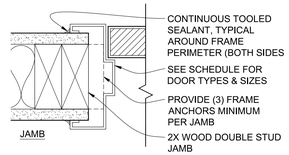


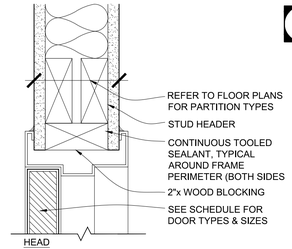
C1 **WINDOW ELEVATIONS**
SCALE: 1/4" = 1'-0"

H8 **WINDOW SCHEDULE**
SCALE: NTS

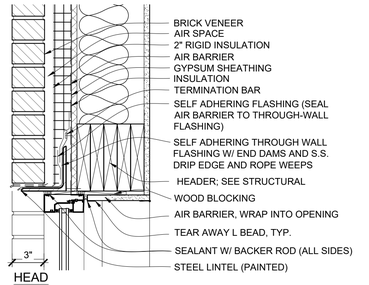


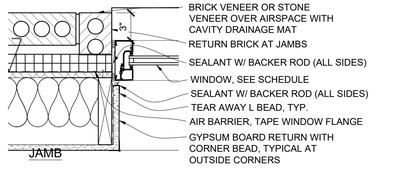
F8 **HEAD DETAIL**
SCALE: 1 1/2" = 1'-0"



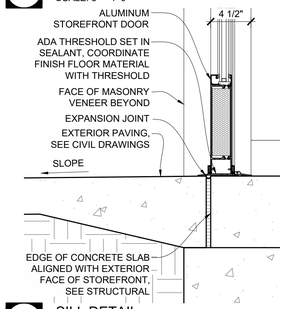


K13 **HEAD DETAIL**
SCALE: 1 1/2" = 1'-0"

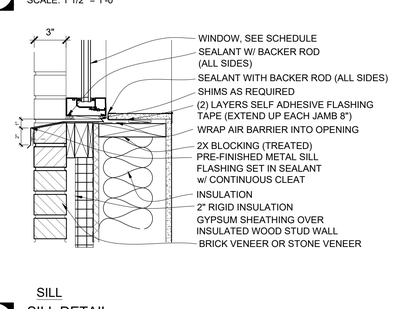




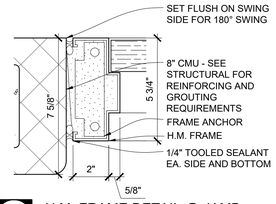
H11 **HOLLOW METAL DOOR DETAILS**
SCALE: 3" = 1'-0"



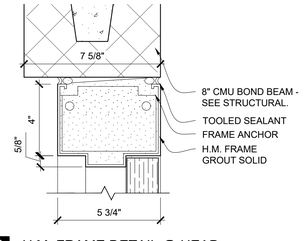
H13 **JAMB DETAIL**
SCALE: 1 1/2" = 1'-0"



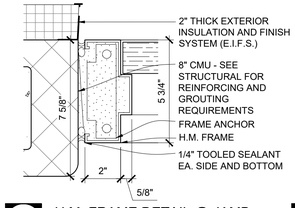
A1 **H.M. FRAME DETAIL @ JAMB**
SCALE: 3" = 1'-0"



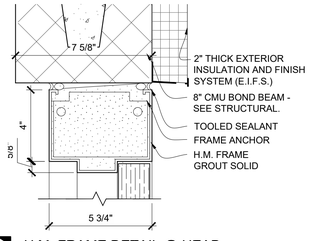
A3 **H.M. FRAME DETAIL @ HEAD**
SCALE: 3" = 1'-0"



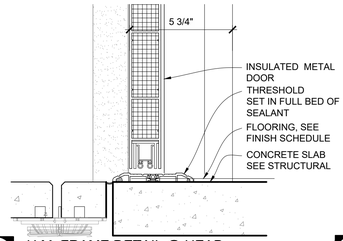
A6 **H.M. FRAME DETAIL @ JAMB**
SCALE: 3" = 1'-0"



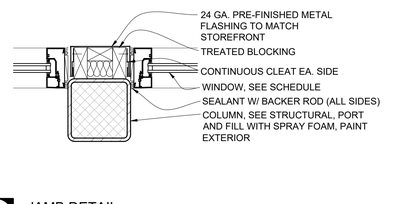
A8 **H.M. FRAME DETAIL @ HEAD**
SCALE: 3" = 1'-0"



A11 **H.M. FRAME DETAIL @ HEAD**
SCALE: 3" = 1'-0"



A13 **JAMB DETAIL**
SCALE: 1 1/2" = 1'-0"



Peckham & Wright Architects, Inc., d.b.a.
PWArchitects, Inc.
2120 Forum Blvd., Ste. 101
Columbia, Missouri 65203
PWArchitects.com | 573.449.2683
Peckham & Wright Architects an Architectural Corporation
Missouri State Certificate of Authority No. 000244

STATE OF MISSOURI — REGISTERED ARCHITECT — CHRISTOPHER MILLER — NUMBER A-7070

06/16/2025

Copyright Peckham & Wright Architects, Inc. 2025

DISCOVERY PARK ATHLETIC CLUB AND OFFICE
ALURA APARTMENTS
250 NE ALURA WAY
LEE'S SUMMIT, MO

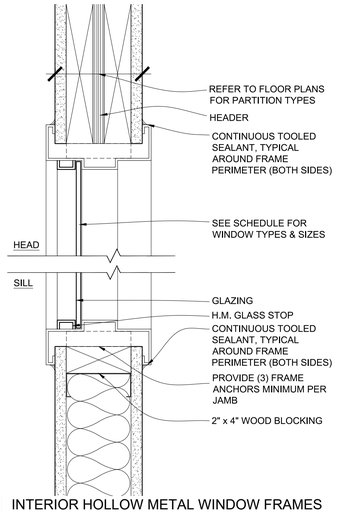
Drawn:	Project Number:
LC	202428
Checked:	CAD File Name (Number):
EM	

Drawing Title: DOOR AND WINDOW SCHEDULES AND DETAILS

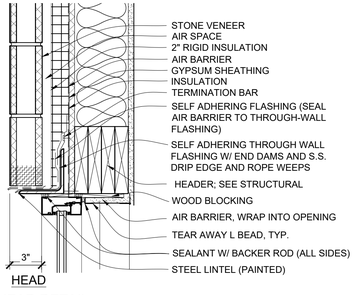
No.	Revisions:	Date:
2	CITY PERMIT REVIEW	08/15/2025

Submission Date: 06/16/2025
Plot Date: 06/16/2025

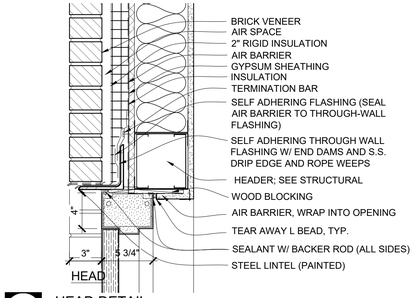
Drawing Number: **A601**



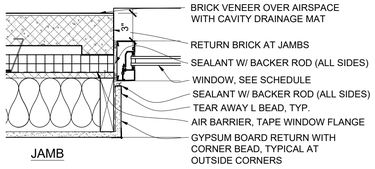
H1 INTERIOR HOLLOW METAL WINDOW FRAMES
SCALE: 3" = 1'-0"



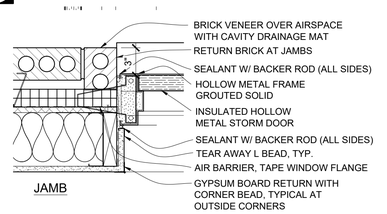
E1 HEAD DETAIL
SCALE: 1 1/2" = 1'-0"



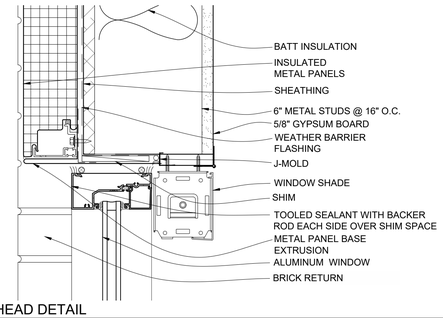
E4 HEAD DETAIL
SCALE: 1 1/2" = 1'-0"



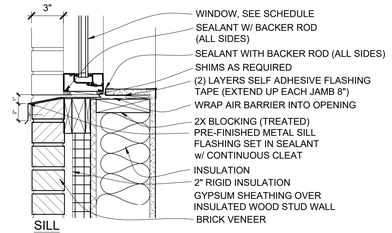
C1 JAMB DETAIL
SCALE: 1 1/2" = 1'-0"



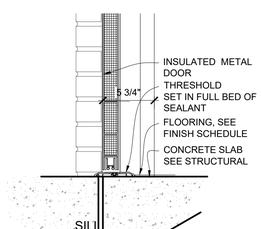
C4 JAMB DETAIL
SCALE: 1 1/2" = 1'-0"



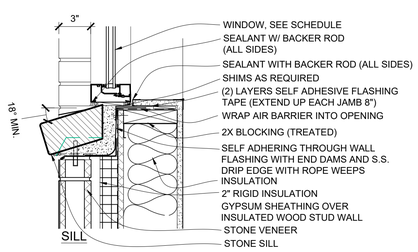
C7 HEAD DETAIL
SCALE: 3" = 1'-0"



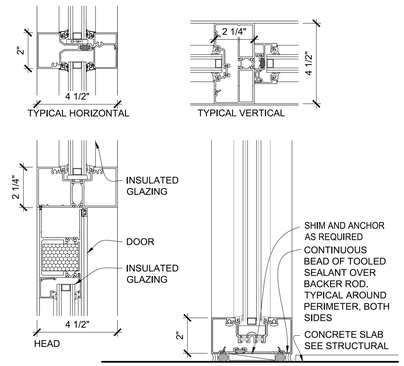
A1 SILL DETAIL
SCALE: 1 1/2" = 1'-0"



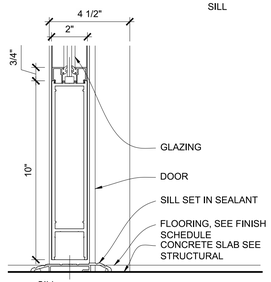
A4 SILL DETAIL
SCALE: 1 1/2" = 1'-0"

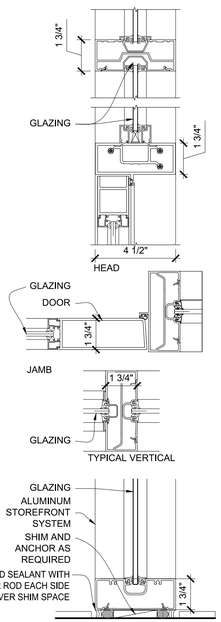


A7 HEAD DETAIL
SCALE: 1-1/2" = 1'-0"



A8 ALUMINUM STOREFRONT DETAILS
SCALE: 3" = 1'-0"





A11 ALUMINUM STOREFRONT DETAILS
SCALE: 3" = 1'-0"

GENERAL DOOR DETAIL NOTES

1. FIELD VERIFY ALL DIMENSIONS AND CONDITIONS PRIOR TO EXECUTING ANY WORK. NOTIFY ARCHITECT OF ANY DIMENSIONS OR WORK DIFFERING FROM THAT SHOWN, FOR CLARIFICATION BY THE ARCHITECT PRIOR TO PROCEEDING WITH WORK.
2. VERIFY ALL ROUGH OPENINGS FOR DOORS, WINDOWS, EQUIPMENT, & OTHER "BUILT-IN" ITEMS PRIOR TO EXECUTION OF ANY WORK AFFECTED BY SAME.
3. LOCATE DOOR OPENINGS WHICH ARE NOT DIMENSIONED OTHERWISE, CENTERED IN WALL AND 6" FROM FINISH WALL TO FINISH JAMB.
4. SEE DOOR SCHEDULE FOR DOOR DIMENSIONS AND DETAILS.

GENERAL WINDOW DETAIL NOTES

1. FIELD VERIFY ALL DIMENSIONS AND CONDITIONS PRIOR TO EXECUTING ANY WORK. NOTIFY ARCHITECT OF ANY DIMENSIONS OR WORK DIFFERING FROM THAT SHOWN, FOR CLARIFICATION BY THE ARCHITECT PRIOR TO PROCEEDING WITH WORK.
2. VERIFY ALL ROUGH OPENINGS FOR DOORS, WINDOWS, EQUIPMENT, & OTHER "BUILT-IN" ITEMS PRIOR TO EXECUTION OF ANY WORK AFFECTED BY SAME.
3. SEE WINDOW SCHEDULE FOR ALL WINDOW DIMENSIONS AND DETAILS.

Peckham & Wright Architects, Inc., d.b.a.
PWArchitects, Inc.
2120 Forum Blvd., Ste. 101
Columbia, Missouri 65203
PWArchitects.com | 573.449.2683
Peckham & Wright Architects an Architectural Corporation
Missouri State Certificate of Authority No. 000244

STATE OF MISSOURI
ERIN CHRISTOPHER MILLER
NUMBER A-7070
REGISTERED ARCHITECT
06/16/2025

Copyright Peckham & Wright Architects, Inc. 2025

DISCOVERY PARK
ATHLETIC CLUB
AND OFFICE
ALURA APARTMENTS
250 NE ALURA WAY
LEE'S SUMMIT, MO

Drawn:	Project Number:
LC	202428
Checked:	CAD File Name (Number):
EM	

Drawing Title:
DOOR AND WINDOW DETAILS

No.	Revisions:	Date:

Submission Date:	Drawing Number:
06/16/2025	A602
Plot Date:	
06/16/2025	

J-SQUARED ENGINEERING

MECHANICAL - ELECTRICAL - PLUMBING DESIGN DRAWINGS FOR:

Discovery Park Athletic Club & Office

250 NE Alura Way, Lot 13
Lee's Summit, MO 64064

GENERAL MEP SPECIFICATIONS

1. GENERAL

1.1. ALL WORK SHALL BE PERFORMED IN COMPLIANCE WITH LOCALLY ADOPTED CODES AND ORDINANCES.
1.2. IT IS THE RESPONSIBILITY OF CONTRACTOR TO REVIEW AND UNDERSTAND ALL DRAWINGS AND SPECIFICATIONS IN CONTRACT DOCUMENTS. EACH CONTRACTOR IS RESPONSIBLE FOR ALL WORK ASSOCIATED WITH THEIR TRADE, REGARDLESS OF WHERE WORK IS DEPICTED IN PROJECT DRAWINGS OR SPECIFICATIONS.
1.3. LAYOUT OF SYSTEMS SHOWN ON PLANS ARE APPROXIMATE AND SCHEMATIC IN NATURE. ALL SYSTEMS WILL NEED TO BE FIELD-COORDINATED. CONTRACTOR SHALL INCLUDE THIS COORDINATION IN THEIR SCOPE AND INCLUDE ALL COSTS OF MODIFYING LAYOUT AS REQUIRED IN THEIR BID. PLANS ARE NOT INTENDED TO BE SHOP DRAWINGS FROM WHICH MATERIALS CAN BE ORDERED, FABRICATED, OR INSTALLED WITHOUT ADDITIONAL FIELD MEASUREMENTS AND COORDINATION.
1.4. NOT ALL SPECIFIC PIECES AND COMPONENTS OF EACH SYSTEM ARE DETAILED OR OUTLINED ON PLANS. CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL NECESSARY PARTS AND LABOR TO PRODUCE A COMPLETE AND FULLY OPERATIONAL SYSTEM UNLESS STATED OTHERWISE ON PLANS. CONTRACTOR IS TO PROVIDE AND INCLUDE ALL EQUIPMENT AND MATERIAL NEEDED TO COMPLETE WORK ASSOCIATED WITH THEIR BID UNLESS ANY ITEMS ARE SPECIFICALLY NOTED ON PLANS AS PROVIDED BY OTHERS. ALL MATERIALS TO BE NEW, FIRST CLASS, AND INSTALLED PER MANUFACTURER'S PUBLISHED INSTRUCTIONS.
1.5. WHERE CONFLICTS EXIST BETWEEN MEP PLANS AND CIVIL, ARCHITECTURAL, OR STRUCTURAL PLANS, NOTIFY MEP ENGINEER OF DISCREPANCIES FOR CLARIFICATION PRIOR TO PERFORMING ANY WORK THAT MAY CONTRADICT INFORMATION ELSEWHERE IN THE PROJECT PLANS.
1.6. THESE PLANS ARE NOT TO BE SCALED. SEE ARCHITECTURAL PLANS FOR DIMENSIONS. WHERE THERE IS A CONFLICT BETWEEN ARCHITECTURAL DIMENSIONS AND MEP DIMENSIONS, ARCHITECTURAL SHALL GOVERN.
1.7. CONTRACTOR IS TO INCLUDE IN THEIR SCOPE THE COST OF ALL PERMITS, INSPECTIONS, METERING, TAPS, ETC. ASSOCIATED WITH THEIR WORK.
1.8. CONTRACTOR IS RESPONSIBLE FOR ALL EXCAVATION, CUTTING, CORING, PATCHING, AND BACKFILL REQUIRED TO COMPLETE THEIR WORK, UNLESS NOTED OTHERWISE ON PLANS.
1.9. SPECIFIC EQUIPMENT MANUFACTURERS AND/OR MODEL NUMBERS LISTED ON PLANS ARE TO ESTABLISH A BASIS-OF-DESIGN FOR QUALITY AND PERFORMANCE, VERIFY THAT SUBSTITUTIONS WILL BE ACCEPTABLE PRIOR TO PURCHASE & INSTALLATION.
1.10. NOTIFY ENGINEER OF ANY MAJOR PLAN DISCREPANCIES OR CONFLICTS PRIOR TO PROVIDING BIDS OR COMPLETING ANY WORK.
1.11. SEE DISCIPLINE SHEETS FOR ADDITIONAL TRADE SPECIFIC SPECIFICATIONS.
1.12. WHERE SHUTDOWN OF ANY EXISTING UTILITY OR SERVICE TO BUILDING IS REQUIRED FOR COMPLETION OF WORK, COORDINATE OUTAGE WITH OWNER AS TO NOT DISRUPT TYPICAL OPERATIONS.

2. WORKMANSHIP

2.1. SYSTEMS SHALL BE INSTALLED IN A FIRST-CLASS MANNER USING BEST ACCEPTABLE METHODS AND PRACTICES.
2.2. ALL SYSTEMS SHALL BE INSTALLED PARALLEL OR PERPENDICULAR TO BUILDING ORIENTATION. COMPONENTS SHALL BE INSTALLED LEVEL AND PLUMB WITH ATTENTION GIVEN TO OVERALL AESTHETICS.
2.3. CONTRACTOR IS RESPONSIBLE FOR COORDINATING EQUIPMENT LOCATIONS AND SYSTEM ROUTING WITH OTHER TRADES PRIOR TO INSTALLATION.
2.4. CONTRACTOR TO GUARANTEE ALL MATERIALS AND WORKMANSHIP FOR A PERIOD OF ONE YEAR FROM THE DATE THE COMPLETED PROJECT IS RELEASED TO THE OWNER, UNLESS NOTED OTHERWISE ON PLANS.
2.5. DURING INSTALLATION OF MATERIALS OR ACTIVITIES IN NEW WORK SCOPE, AVOID DAMAGING EXISTING SURFACES AND EQUIPMENT TO REMAIN. ANY DAMAGE TO EXISTING SURFACES OR EQUIPMENT SHALL BE CORRECTED AT NO COST TO OWNER.

DEFERRED SUBMITTAL NOTES

1. FIRE ALARM SYSTEM

1.1. FIRE ALARM CONTRACTOR SHALL PROVIDE DEFERRED SUBMITTAL PACKAGE FOR FIRE ALARM SYSTEM. SUBMITTAL SHALL INCLUDE BATTERY CALCULATIONS, VOLTAGE DROP CALCULATIONS, EQUIPMENT SPECIFICATIONS FOR DEVICES AND PANELS, ETC. DESIGN SHALL BE SEALED BY A QUALIFIED DESIGN PROFESSIONAL LICENSED BY THE STATE.
1.2. FIRE ALARM SYSTEM COMPONENTS SHOWN (IF APPLICABLE) ARE GENERAL AND SCHEMATIC IN NATURE, SHOWN FOR APPROXIMATE ROUGH-IN LOCATIONS AND QUANTITIES ONLY. CONTRACTOR TO VERIFY EXACT DEVICE LOCATIONS AND REQUIREMENTS WITH FIRE ALARM SYSTEM DESIGNER OF RECORD PRIOR TO ROUGH-IN.

2. FIRE SPRINKLER SYSTEM

1.1. FIRE SPRINKLER CONTRACTOR TO PROVIDE DEFERRED SUBMITTAL PACKAGE FOR FIRE SPRINKLER SYSTEM. SUBMITTAL SHALL INCLUDE HYDRAULIC CALCULATIONS AND SPRINKLER SYSTEM DRAWINGS SEALED BY A QUALIFIED DESIGN PROFESSIONAL LICENSED BY THE STATE.
1.2. WHERE COMBINED FIRE & DOMESTIC WATER SUPPLY LINES ARE SHOWN ON PLANS, INSTALLING CONTRACTOR SHALL VERIFY WITH FIRE SPRINKLER CONTRACTOR THAT INCOMING LINE SIZE IS ADEQUATE FOR FIRE SUPPRESSION SYSTEM.

REFERENCED CODES IN EFFECT

PROJECT HAS BEEN DESIGNED IN COMPLIANCE WITH THE FOLLOWING CODES LISTED BELOW, BUT THIS IS NOT AN EXHAUSTIVE LIST. PROJECT SHALL COMPLY WITH ALL APPLICABLE CODES, STANDARDS, AND LOCAL REQUIREMENTS.

- 2018 INTERNATIONAL MECHANICAL CODE
- 2018 INTERNATIONAL PLUMBING CODE
- 2018 INTERNATIONAL FUEL GAS CODE
- 2018 INTERNATIONAL FIRE CODE
- 2017 NATIONAL ELECTRIC CODE

SHEET LIST TABLE

SHEET #	SHEET TITLE
MEP1	MECHANICAL ELECTRICAL PLUMBING COVER SHEET
MEP2	SITE UTILITIES PLAN
MEP3	SITE LIGHTING PLAN
MEP4	ROOF MEP PLAN
M101	HVAC PLAN
M501	HVAC DETAILS
M601	HVAC SCHEDULES
EP101	POWER PLAN - FIRST FLOOR
EL101	LIGHTING PLAN
E501	ELECTRICAL DETAILS & SCHEDULES
E502	ELECTRICAL SCHEDULES
FP101	FIRE PROTECTION PLAN
PS101	SANITARY SEWER PLAN
PW101	WATER & GAS PLAN
P501	PLUMBING DETAILS & SCHEDULES

STATE OF MISSOURI
JAMES P. WATSON
NUMBER PE-2015017071
PROFESSIONAL ENGINEER

James Watson, P.E. June 13, 2025
PE-2015017071
MO Certificate of Authority # 2018029680

J-SQUARED ENGINEERING
2400 Bluff Creek Drive, Suite 101
Columbia, Missouri 65201
573.234.4492
www.j-squaredeng.com

J2 PROJECT No: J21211
J2 DESIGN: ACW

ISSUE TITLE	DATE
PERMIT SET	06 - 13 - 2025

MECHANICAL - ELECTRICAL - PLUMBING DESIGN DRAWINGS FOR:
Discovery Park Athletic Club & Office
250 NE Alura Way, Lot 13
Lee's Summit, MO 64064

AHJ APPROVAL STAMP

SHEET TITLE
MECHANICAL ELECTRICAL PLUMBING COVER SHEET

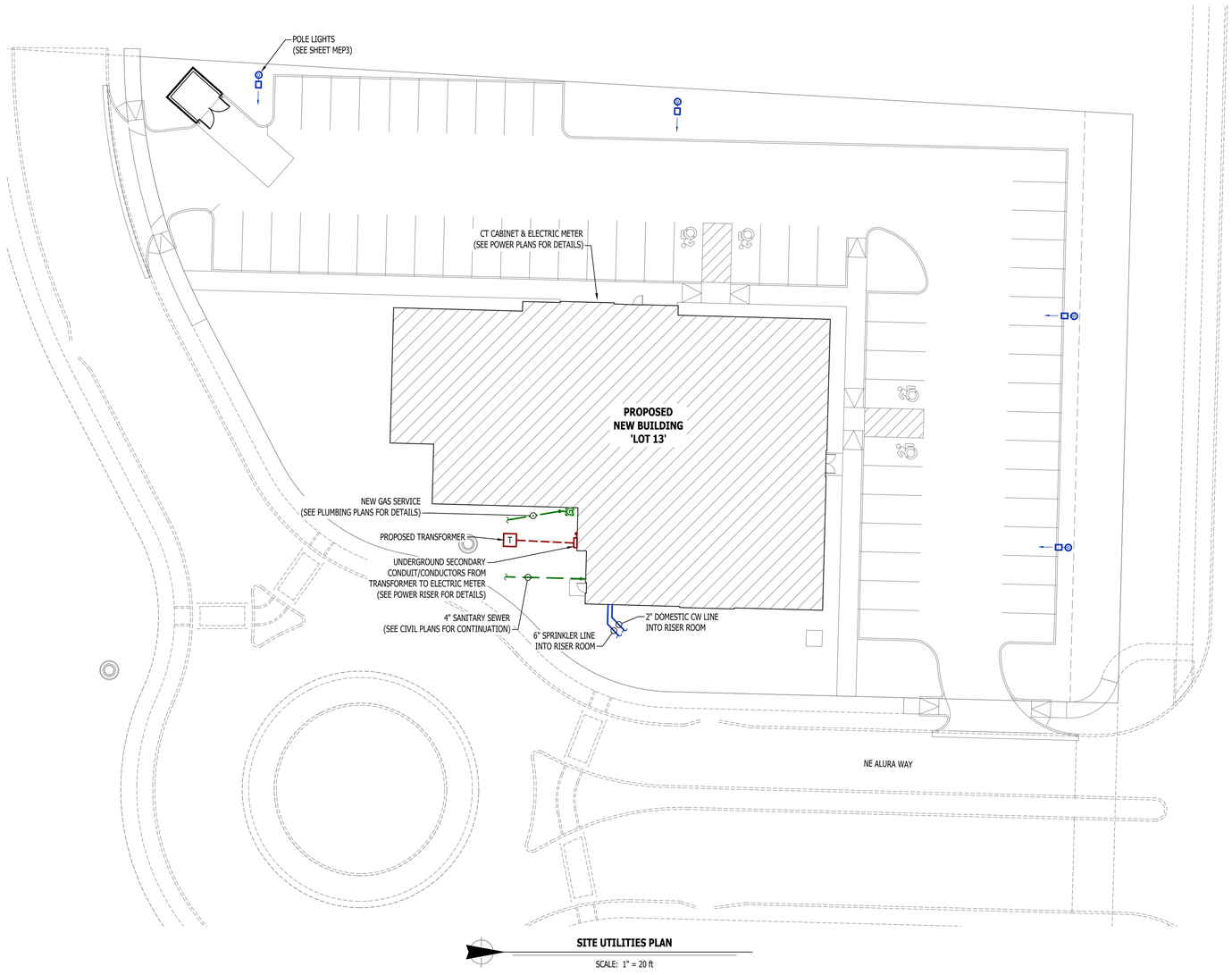
SHEET NUMBER
MEP1

SITE PLAN SYMBOL LEGEND

- SANITARY SEWER PIPING
- COLD WATER LINE
- WATER METER
- VALVE
- GAS LINE
- GAS METER
- TIE INTO EXISTING
- ELECTRIC
- PX-XX — CIRCUIT TAG
- X1 — "X1" INDICATES FIXTURE TYPE (REFER TO SCHEDULE)
- POLE LIGHT
- ARROW INDICATES FORWARD AIMING DIRECTION

SITE UTILITIES PLAN GENERAL NOTES:

1. REFER TO CIVIL PLANS FOR EXACT UTILITY LOCATIONS, CONNECTIONS, DETAILS, ETC.
2. VERIFY SPRINKLER LINE SIZING & DETAILS WITH FIRE SUPPRESSION CONTRACTOR.



SITE UTILITIES PLAN

SCALE: 1" = 20 ft

STATE OF MISSOURI
JAMES P. WATSON
NUMBER PE-2015017071
PROFESSIONAL ENGINEER

James Watson, P.E. June 13, 2025
PE-2015017071
MO Certificate of Authority # 2018029680

J-SQUARED ENGINEERING
2400 Bluff Creek Drive, Suite 101
Columbia, Missouri 65201
573.234.4492
www.j-squaredeng.com

J2 PROJECT No:	J21211
J2 DESIGN:	ACW

ISSUE TITLE	DATE
PERMIT SET	06 - 13 - 2025

MECHANICAL - ELECTRICAL - PLUMBING DESIGN DRAWINGS FOR:

Discovery Park Athletic Club & Office

250 NE Alura Way, Lot 13
Lee's Summit, MO 64064

AHJ APPROVAL STAMP

SHEET TITLE

SITE UTILITIES PLAN

SHEET NUMBER

MEP2

SITE LIGHTING CALCULATION SUMMARY

AREA / LABEL	CALC TYPE	UNITS	AVG	MAX	MIN	AVG/MIN	MAX/MIN
SITE	ILLUMINANCE	FC	2.04	4.6	0.7	2.9	6.6
SPILL LIGHT	ILLUMINANCE	FC	0.12	1.6	0	N/A	N/A

NOTES:
1. PHOTOMETRIC CALCULATIONS DO NOT INCLUDE EXISTING LIGHTING

SITE LIGHTING FIXTURE SCHEDULE

TAG	MANUFACTURER (OR EQUAL)	MODEL NUMBER (OR EQUAL)	DESCRIPTION	MOUNTING	LUMEN OUTPUT	CCT (°K)	CRI	VOLTS	WATTS	NOTES
PL1	MCGRAW-EDISON	PRV-XL-PA3A-740-U-T4W-HSS	LED POLE LIGHT	20' #SSS POLE ON 30" BASE	17,617	4000	70	208	172	WITH #MS/DIM-L40W MOTION SENSING DIMMING

NOTES:
1. VERIFY LIGHT FIXTURE FINISHES WITH OWNER / ARCHITECT PRIOR TO ORDERING.

SITE LIGHTING PLAN SYMBOL LEGEND

- CIRCUIT WIRING
- PX-XX — CIRCUIT TAG
- X1 — "X1" INDICATES FIXTURE TYPE (REFER TO SCHEDULE)
- POLE LIGHT
- ARROW INDICATES FORWARD AIMING DIRECTION
- 1.1 — PHOTOMETRIC CALCULATIONS (IN FOOT-CANDLES)

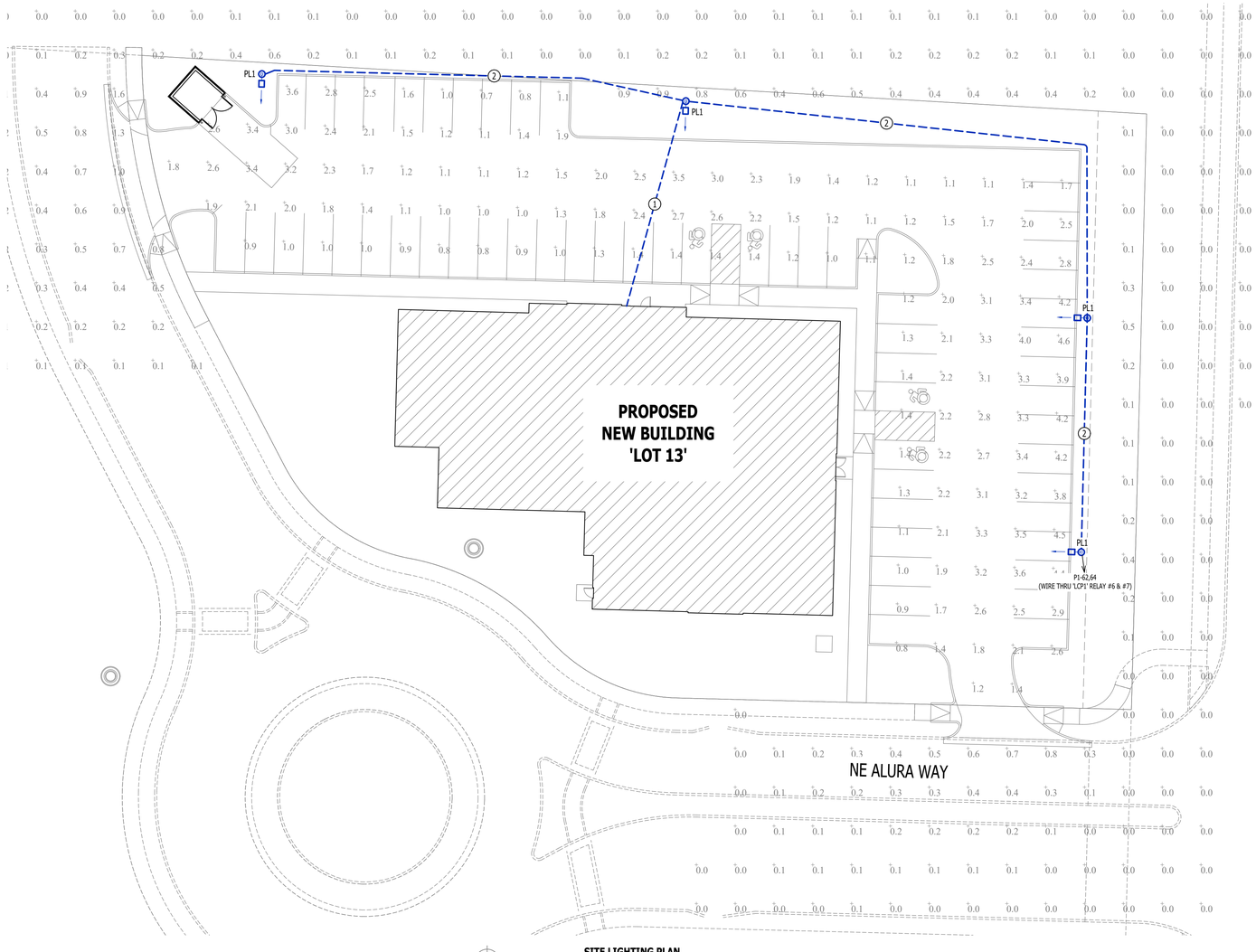
SITE LIGHTING PLAN GENERAL NOTES:

1. SITE PHOTOMETRIC VALUES SHOWN HAVE BEEN CALCULATED PER SPECIFIED LIGHT FIXTURES AT INDICATED MOUNTING HEIGHTS. ANY CHANGES OR ALTERATIONS TO LIGHTING LAYOUT SHOWN WILL REQUIRE RECALCULATING SITE PHOTOMETRICS AND WILL THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR / EQUIPMENT SUPPLIER.
2. PHOTOMETRIC CALCULATIONS SHOWN DO NOT INCLUDE EXISTING LIGHT FIXTURE(S), ONLY NEW POLE LIGHT FIXTURE(S) SHOWN.
3. BUILDING-MOUNTED EXTERIOR LIGHTING IS NOT YET DESIGNED FOR PROPOSED BUILDING. ALL BUILDING-MOUNTED LIGHTING WILL BE INTENDED AS ACCENT LIGHTING AND NOT INTENDED TO PROVIDE GENERAL AREA LIGHTING. ALL BUILDING-MOUNTED LIGHTING SHALL COMPLY WITH CITY OF LEE'S SUMMIT UDO SECTIONS 8.220, 8.260, & 8.270.

SITE LIGHTING PLAN GENERAL NOTES:

(1) 1" CONDUIT WITH (2) #8 CU. & (1) #8 CU. EQ. GRD.

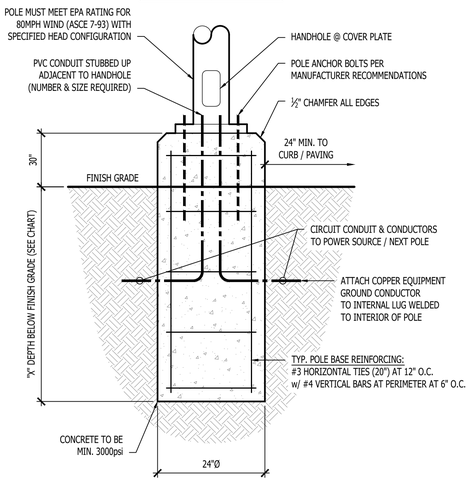
(2) 1" CONDUIT WITH (2) #10 CU. & (1) #10 CU. EQ. GRD.



SITE LIGHTING PLAN

SCALE: 1" = 20 ft

POLE HEIGHT	"X" DEPTH
10ft - 14ft	4'-6"
15ft - 20ft	6'-0"
21ft - 25ft	7'-0"
26ft - 30ft	8'-0"



TYPICAL LIGHT POLE DETAIL

STATE OF MISSOURI
JAMES P. WATSON
NUMBER PE-2015017071
PROFESSIONAL ENGINEER

James Watson, P.E. June 13, 2025
PE-2015017071
MO Certificate of Authority # 2018029680

J-SQUARED ENGINEERING
2400 Bluff Creek Drive, Suite 101
Columbia, Missouri 65201
573.234.4492
www.j-squaredeng.com

J2 PROJECT No:	J21211
J2 DESIGN:	ACW

ISSUE TITLE	DATE
PERMIT SET	06 - 13 - 2025

MECHANICAL - ELECTRICAL - PLUMBING DESIGN DRAWINGS FOR:

Discovery Park Athletic Club & Office

250 NE Alura Way, Lot 13
Lee's Summit, MO 64064

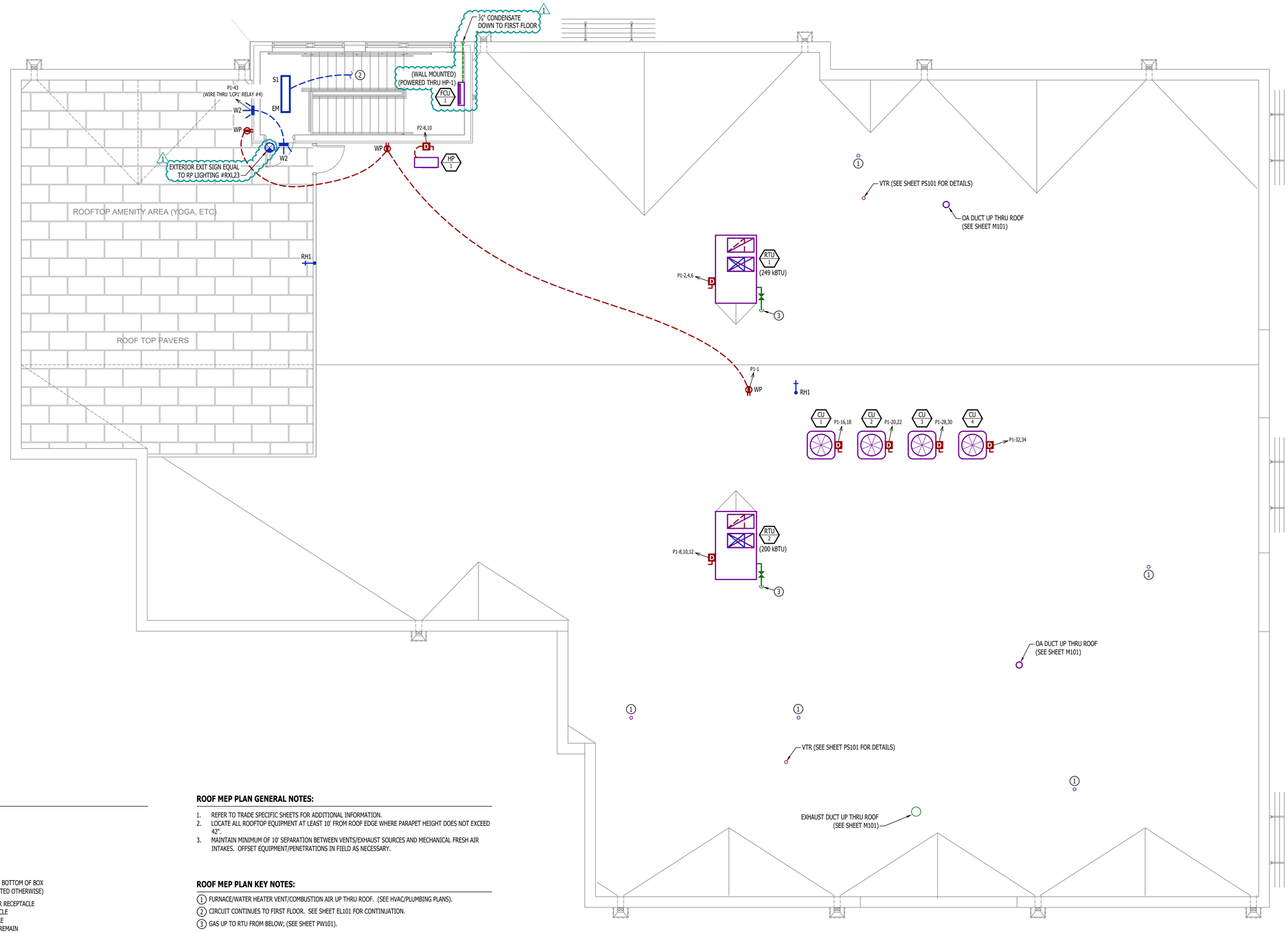
AHJ APPROVAL STAMP

SHEET TITLE

SITE LIGHTING PLAN

SHEET NUMBER

MEP3



ROOF MEP PLAN SYMBOL LEGEND

- CIRCUIT WIRING
- PX-XX — CIRCUIT TAG
- J — JUNCTION BOX
- XX +42 — RECEPTACLE
  - INDICATES MOUNTING HEIGHT TO BOTTOM OF BOX (STANDARD @ 18" AFF UNLESS NOTED OTHERWISE)
  - "WP" = WEATHERPROOF OUTDOOR RECEPTACLE
  - "AW" = ABOVE WINDOW RECEPTACLE
  - "AC" = ABOVE CEILING RECEPTACLE
  - "EX" = EXISTING RECEPTACLE TO REMAIN
- GFCI DUPLEX CONVENIENCE RECEPTACLE
- D — DISCONNECT
- CONDENSING UNIT

ROOF MEP PLAN GENERAL NOTES:

1. REFER TO TRADE SPECIFIC SHEETS FOR ADDITIONAL INFORMATION.
2. LOCATE ALL ROOFTOP EQUIPMENT AT LEAST 10' FROM ROOF EDGE WHERE PARAPET HEIGHT DOES NOT EXCEED 42".
3. MAINTAIN MINIMUM OF 10' SEPARATION BETWEEN VENTS/EXHAUST SOURCES AND MECHANICAL FRESH AIR INTAKES. OFFSET EQUIPMENT/PENETRATIONS IN FIELD AS NECESSARY.

ROOF MEP PLAN KEY NOTES:

(1) FURNACE/WATER HEATER VENT/COMBUSTION AIR UP THRU ROOF. (SEE HVAC/PLUMBING PLANS).

(2) CIRCUIT CONTINUES TO FIRST FLOOR. SEE SHEET EL101 FOR CONTINUATION.

(3) GAS UP TO RTU FROM BELOW; (SEE SHEET PW101).

ROOF MEP PLAN

SCALE: 3/16" = 1'-0"

STATE OF MISSOURI
JAMES P. WATSON
NUMBER PE-2015017071
PROFESSIONAL ENGINEER

James Watson, P.E. August 11, 2025
PE-2015017071
MO Certificate of Authority # 2018029680

J-SQUARED ENGINEERING
2400 Bluff Creek Drive, Suite 101
Columbia, Missouri 65201
573.234.4492
www.j-squaredeng.com

J2 PROJECT No:	J21211
J2 DESIGN:	ACW

ISSUE TITLE	DATE
PERMIT SET	06 - 13 - 2025
CITY COMMENTS	08 / 11 / 2025

1

MECHANICAL - ELECTRICAL - PLUMBING DESIGN DRAWINGS FOR:

Discovery Park Athletic Club & Office

250 NE Alura Way, Lot 13
Lee's Summit, MO 64064

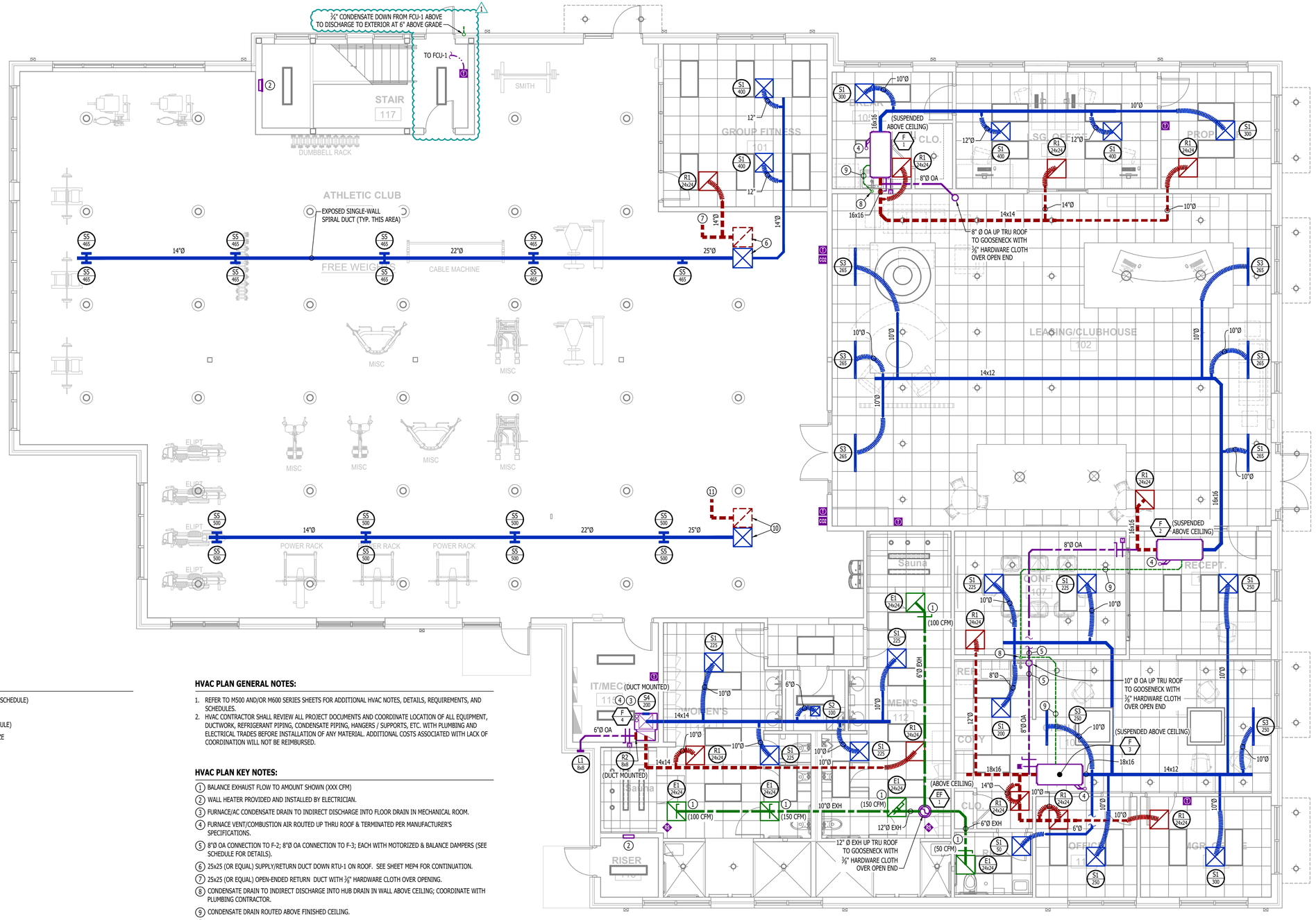
AHJ APPROVAL STAMP

SHEET TITLE

ROOF MEP PLAN

SHEET NUMBER

MEP4



HVAC PLAN SYMBOL LEGEND

- X/A — EQUIPMENT TYPE (REFER TO EQUIPMENT SCHEDULE)
- EQUIPMENT REFERENCE NUMBER
- X/Z — DIFFUSER/GRILLE TYPE (REFER TO SCHEDULE)
- CUBIC FEET PER MINUTE (CFM) / FACE SIZE
- SUPPLY DUCTWORK
- RETURN DUCTWORK
- EXHAUST DUCTWORK
- OUTSIDE AIR DUCTWORK
- FLEX DUCT
- VENT / COMBUSTION AIR
- CONDENSATION LINE
- VENT/COMBUSTION AIR
- TIE INTO EXISTING
- SUPPLY DIFFUSER (HATCH INDICATES "NO FLOW ZONE")
- RETURN DIFFUSER
- BALANCE DAMPER
- MOTORIZED DAMPER
- THERMOSTAT
- REMOTE TEMPERATURE SENSOR (AVERAGE TEMPERATURES IF MULTIPLE SHOWN IN SINGLE ZONE)

HVAC PLAN GENERAL NOTES:

1. REFER TO M500 AND/OR M600 SERIES SHEETS FOR ADDITIONAL HVAC NOTES, DETAILS, REQUIREMENTS, AND SCHEDULES.
2. HVAC CONTRACTOR SHALL REVIEW ALL PROJECT DOCUMENTS AND COORDINATE LOCATION OF ALL EQUIPMENT, DUCTWORK, REFRIGERANT PIPING, CONDENSATE PIPING, HANGERS / SUPPORTS, ETC. WITH PLUMBING AND ELECTRICAL TRADES BEFORE INSTALLATION OF ANY MATERIAL. ADDITIONAL COSTS ASSOCIATED WITH LACK OF COORDINATION WILL NOT BE REIMBURSED.

HVAC PLAN KEY NOTES:

1. BALANCE EXHAUST FLOW TO AMOUNT SHOWN (XXX CFM)
2. WALL HEATER PROVIDED AND INSTALLED BY ELECTRICIAN.
3. FURNACE/AC CONDENSATE DRAIN TO INDIRECT DISCHARGE INTO FLOOR DRAIN IN MECHANICAL ROOM.
4. FURNACE VENT/COMBUSTION AIR ROUTED UP THRU ROOF & TERMINATED PER MANUFACTURER'S SPECIFICATIONS.
5. 8"Ø OA CONNECTION TO F-2; 8"Ø OA CONNECTION TO F-3; EACH WITH MOTORIZED & BALANCE DAMPERS (SEE SCHEDULE FOR DETAILS).
6. 25x25 (OR EQUAL) SUPPLY/RETURN DUCT DOWN RTU-1 ON ROOF. SEE SHEET MEP4 FOR CONTINUATION.
7. 25x25 (OR EQUAL) OPEN-ENDED RETURN DUCT WITH 3/4" HARDWARE CLOTH OVER OPENING.
8. CONDENSATE DRAIN TO INDIRECT DISCHARGE INTO HUB DRAIN IN WALL ABOVE CEILING; COORDINATE WITH PLUMBING CONTRACTOR.
9. CONDENSATE DRAIN ROUTED ABOVE FINISHED CEILING.
10. 24x24 (OR EQUAL) SUPPLY/RETURN DUCT DOWN RTU-2 ON ROOF. SEE SHEET MEP4 FOR CONTINUATION.
11. 24x24 (OR EQUAL) OPEN-ENDED RETURN DUCT WITH 3/4" HARDWARE CLOTH OVER OPENING.

HVAC PLAN

SCALE: 3/16" = 1'-0"

STATE OF MISSOURI
JAMES P. WATSON
NUMBER PE-2015017071
PROFESSIONAL ENGINEER

James Watson, P.E. August 11, 2025
PE-2015017071
MO Certificate of Authority # 2018029680

J-SQUARED ENGINEERING
2400 Bluff Creek Drive, Suite 101
Columbia, Missouri 65201
573.234.4492
www.j-squaredeng.com

J2 PROJECT No:	J21211
J2 DESIGN:	ACW

ISSUE TITLE	DATE
PERMIT SET	06 - 13 - 2025
CITY COMMENTS	08 / 11 / 2025

MECHANICAL - ELECTRICAL - PLUMBING DESIGN DRAWINGS FOR:

Discovery Park Athletic Club & Office

250 NE Alura Way, Lot 13
Lee's Summit, MO 64064

AHU APPROVAL STAMP

SHEET TITLE

HVAC PLAN

SHEET NUMBER

M101

HVAC SPECIFICATIONS

1. GENERAL

1.1. REFER TO GENERAL MEP SPECIFICATIONS SECTION FOR ADDITIONAL REQUIREMENTS.

2. WORKMANSHIP

2.1. COORDINATE WITH ALL OTHER TRADES SO THAT HVAC EQUIPMENT AND DUCT WORK DOES NOT BLOCK REQUIRED ACCESS OR CLEARANCE TO ANY EQUIPMENT, ACCESS PANELS, ELECTRICAL JUNCTION BOXES, ELECTRICAL PANELS, ETC.

2.2. ALL HVAC EQUIPMENT IS TO BE INSTALLED PER MANUFACTURER'S PUBLISHED RECOMMENDATIONS AND/OR INSTALLATION INSTRUCTIONS.

2.3. ALL EQUIPMENT TO BE INSTALLED LEVEL AND PLUMB, PARALLEL OR PERPENDICULAR TO BUILDING ORIENTATION WHERE POSSIBLE.

2.4. ROOFTOP MOUNTED RTU's & EXHAUST FANS SHALL BE INSTALLED ON CURBS PER MANUFACTURER'S INSTRUCTIONS. CURB HEIGHT SHALL PROVIDE A MINIMUM OF 12" BETWEEN EQUIPMENT AND TOP OF ROOF IN ALL LOCATIONS.

2.5. GRADE MOUNTED RTUS, CONDENSING UNITS, AND HEAT PUMPS TO BE INSTALLED ON 4" REINFORCED CONCRETE PAD EXTENDING 4" BEYOND EACH EDGE OF THE EQUIPMENT, OR A MANUFACTURER APPROVED PRE-MANUFACTURED BASE.

2.6. APPROPRIATE ATTENTION SHALL BE GIVEN TO INDOOR AIR QUALITY THROUGHOUT CONSTRUCTION; PROTECT INSIDE OF NEW DUCTWORK & AIR-HANDLING EQUIPMENT FROM DUST, DIRT, DEBRIS, PAINT, MOISTURE, ETC. INSULATION SHALL BE REPLACED IF EXPOSED TO MOISTURE. AN INDEPENDENT, PROFESSIONAL DUCT CLEANING COMPANY SHALL CLEAN ALL NEW DUCTWORK IF EQUIPMENT WAS USED DURING CONSTRUCTION, AND EQUIPMENT/COILS SHALL ALSO BE THOROUGHLY CLEANED.

2.7. FIELD COORDINATE LOCATIONS OF ALL DIFFUSERS, GRILLES, REGISTERS, ETC. WITH LIGHT FIXTURE LOCATIONS AND ADJUST AS NECESSARY.

3. EQUIPMENT

3.1. ALL EQUIPMENT SHOWN ON MECHANICAL PLANS SHALL BE PROVIDED & INSTALLED BY MECHANICAL CONTRACTOR UNLESS NOTED OTHERWISE.

3.2. ALL EQUIPMENT MUST PROVIDE PERFORMANCE AS SPECIFIED ON PLANS. WHERE SPECIFIC MANUFACTURERS AND/OR MODELS ARE INDICATED ON PLANS, CONTRACTOR TO PROVIDE MODEL INDICATED OR APPROVED EQUAL. VERIFY SUBSTITUTION APPROVAL PRIOR TO PURCHASE OR INSTALLATION OF EQUIPMENT.

3.3. CONTRACTOR TO SUPPLY SUBMITTALS FOR ALL EQUIPMENT FOR REVIEW BY ARCHITECT AND ENGINEER. FORMAL APPROVAL SHALL BE RECEIVED BY CONTRACTOR PRIOR TO EQUIPMENT PURCHASE.

3.4. CONTRACTOR TO SHARE APPROVED EQUIPMENT SUBMITTALS WITH ANY PERTINENT ELECTRICAL OR PLUMBING REQUIREMENTS WITH RESPECTIVE CONTRACTORS WITHIN TWO WEEKS OF RECEIVING APPROVED SUBMITTALS FROM ARCHITECT/ENGINEER.

3.5. ALL EQUIPMENT SHOWN ON PLANS SHALL BE INSTALLED PER MANUFACTURER'S SPECIFICATIONS WITH ADEQUATE ACCESS AND CLEARANCE FOR SERVICING OR REPLACEMENT.

3.6. ALL HORIZONTAL FURNACES WITH AC COILS SHALL BE EQUIPPED WITH CORROSION RESISTANT DRAIN PAIN. DRAIN PAN TO DISCHARGE TO SANITARY WASTE VIA INDIRECT CONNECTION WITH AIR GAP. DRAIN PAN TO PROVIDE SECONDARY OVERFLOW OR FLOAT SWITCH INTERLOCKED WITH UNIT TO SHUT DOWN UNIT ON HIGH WATER SIGNAL.

3.7. ALL EXTERIOR REFRIGERANT COILS TO BE PROTECTED BY FACTORY EQUIPPED HAIL GUARDS.

3.8. REFRIGERANT PIPING TO BE ACR COPPER OR TYPE L COPPER.

3.9. ALL AIR HANDLING EQUIPMENT SHALL BE EQUIPPED WITH MERV-8 FILTRATION AT RETURN OPENING UNLESS OTHERWISE NOTED.

3.10. ALL AIR FILTERS SHALL BE SIZED FOR A MAXIMUM FACE VELOCITY OF 500FPM.

3.11. PROVIDE & INSTALL ALL EQUIPMENT FLUES/VENTS PER MANUFACTURER'S SPECIFICATIONS. TERMINATIONS SHALL BE AT LEAST 10' FROM ANY FRESH AIR INTAKE.

3.12. PROVIDE NEW AIR FILTERS IN ALL EQUIPMENT PRIOR TO TESTING & BALANCING AND BEFORE TURNING OVER SYSTEM(S) TO OWNERSHIP.

3.13. IF ANY EXISTING EQUIPMENT IS TO BE REUSED, CLEAN AND INSPECT EQUIPMENT PRIOR TO BEGINNING WORK. VERIFY THAT EQUIPMENT IS IN GOOD WORKING CONDITION, REPORT ANY DEFICIENCIES TO ENGINEER.

4. DUCTWORK

4.1. DUCTWORK TO BE GALVANIZED STEEL, SEAL CLASS B, CONSTRUCTED PER SMACNA STANDARDS.

4.2. DUCTWORK THICKNESS:

4.2.1. 26 GA. MINIMUM UP TO 16" DUCT

4.2.2. 24 GA. UP TO 20"

4.2.3. 22 GA. UP TO 24"

4.2.4. 20 GA. UP TO 28"

4.2.5. 18 GA. UP TO 36"

4.3. TURNING VANES SHALL BE PROVIDED AND INSTALLED AT ALL 90° BENDS AND TEES.

4.4. ALL DUCT DIMENSIONS LISTED ARE TO INTERIOR OF DUCT LINER UNLESS NOTED OTHERWISE ON PLANS.

4.5. BALANCE DAMPERS MUST BE PROVIDED TO ALLOW ADJUSTMENT AT EACH AIR TERMINAL.

4.5.1. WHERE BRANCH TAKEOFF IS ACCESSIBLE (ABOVE LAY-IN CEILING OR EXPOSED DUCT), BALANCE DAMPER IS TO BE INSTALLED AT TAKEOFF.

4.5.2. WHERE TAKEOFF IS INACCESSIBLE (IN ATTIC OR SOFFIT), BALANCE DAMPER IS TO BE LOCATED SUCH THAT IT IS ACCESSIBLE FROM FACE OF AIR DEVICE.

4.6. HVAC CONTRACTOR RESPONSIBLE FOR ALL DUCTWORK TRANSITIONS AND FITTINGS AS REQUIRED FOR FINAL CONNECTIONS TO HVAC EQUIPMENT.

4.7. UNLESS NOTED OTHERWISE ON PLANS, FLEXIBLE DUCT CONNECTIONS MAY USED FROM BRANCH DUCTS TO FINAL AIR DEVICES, BUT SHALL NOT EXCEED 8'-0" IN LENGTH. FLEXIBLE DUCT CONNECTORS MUST BE SUPPORTED PER PLAN DETAILS.

5. INSULATION

5.1. DUCTWORK

5.1.1. SEE "TYPICAL DUCT INSULATION DIAGRAM" FOR INSTALLATION SPECIFIC REQUIREMENTS.

5.1.2. INTERNAL DUCT LINER TO BE EQUAL TO 'JOHNS MANVILLE LINACOUSTIC R-300'.

5.1.3. EXTERNAL DUCT WRAP TO INCLUDE VAPOR BARRIER. EQUAL TO 'JOHNS MANVILLE MICROLITE' WITH FSK JACKET.

5.1.4. WHERE INSULATION IS REQUIRED IN "TYPICAL DUCT INSULATION DIAGRAM", INCLUDE INSULATION ON ALL FITTINGS, INCLUDING CANVAS FLEX CONNECTION FITTINGS.

5.2. REFRIGERANT PIPING

5.2.1. SPLIT SYSTEM (SUCTION LINE ONLY) - 1" CLOSED CELL ELASTOMERIC FOAM (EQUAL TO 'ARMAFLEX AP').

5.3. VRV/VRF SYSTEMS (BOTH SUCTION AND HOT GAS LINES) 1 ½" EPDM (EQUAL TO 'AEROFLEX AEROCEL AC') WITHIN CONDITIONED SPACES & 2" EDPM (EQUAL TO 'AEROFLEX AEROCEL AC') IN UNCONDITIONED SPACES, AND WITH BANDED ALUMINUM SHIELDING IN EXTERIOR SPACES.

5.4. CONDENSATE PIPING

5.4.1. SPLIT SYSTEMS - WHERE CONDENSATE PIPING IS LOCATED IN UNCONDITIONED SPACE, INSULATE WITH ½" ELASTOMERIC. NO INSULATION REQUIRED WITHIN CONDITIONED SPACES.

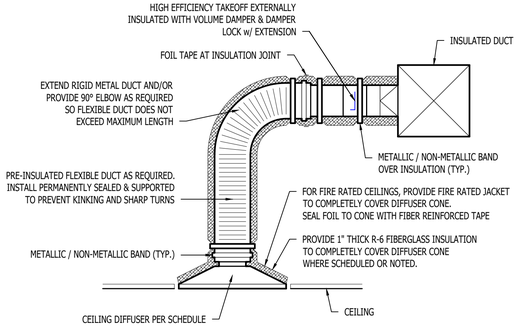
5.4.2. VRV/VRF - INSULATE WITH ½" ELASTOMERIC.

6. TESTING AND BALANCING

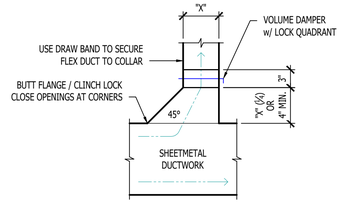
6.1. ALL SYSTEMS MUST BE BALANCED TO WITHIN 10% OF VALUES INDICATED ON PLAN.

6.2. HVAC CONTRACTOR TO PROVIDE WRITTEN BALANCE REPORT INCLUDING FLOW VALUES INDICATED ON PLANS, INITIAL MEASURED FLOW VALUES, AND FINAL MEASURED VALUES.

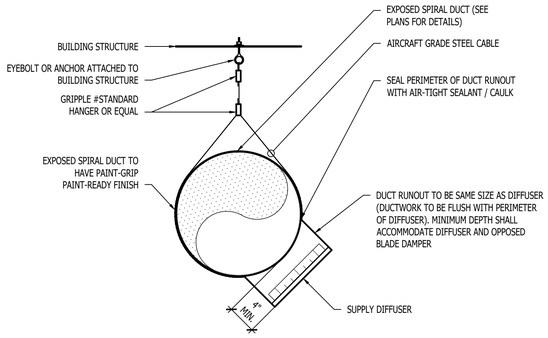
6.3. THIRD PARTY CERTIFIED TEST AND BALANCE NOT REQUIRED UNLESS OTHERWISE NOTED ON PLANS OR WITHIN PROJECT MANUAL.



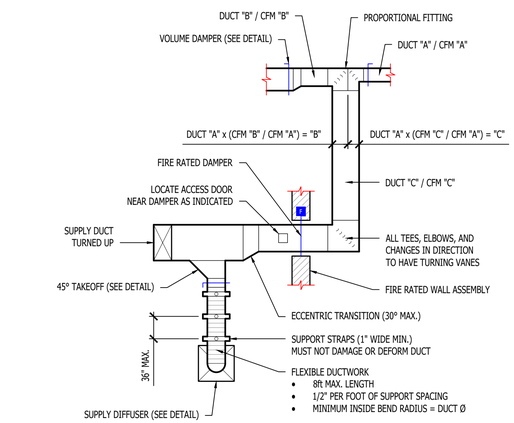
TYPICAL LAY-IN DIFFUSER DETAIL



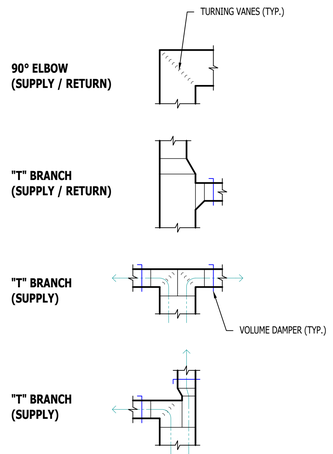
TYPICAL 45° TAKEOFF DETAIL



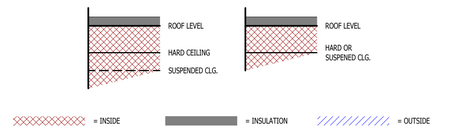
EXPOSED SPIRAL DUCT SECTION DETAIL



TYPICAL DUCTWORK DETAIL



TYPICAL DUCTWORK FITTINGS DETAIL



DUCT INSIDE THERMAL ENVELOPE INSULATION REQUIREMENTS

RECTANGULAR

• SUPPLY =	1" LINER
• RETURN =	1" LINER
• EXHAUST =	NONE
• OUTSIDE AIR =	2" WRAP

ROUND

• SUPPLY =	1½" WRAP
• RETURN =	NONE
• EXHAUST =	NONE
• OUTSIDE AIR =	2" WRAP

SPIRAL

• SUPPLY =	NONE
• RETURN =	NONE
• EXHAUST =	NONE
• OUTSIDE AIR =	2" WRAP

DUCT OUTSIDE THERMAL ENVELOPE INSULATION REQUIREMENTS

RECTANGULAR

• SUPPLY =	1" LINER & 1½" WRAP
• RETURN =	1" LINER & 1½" WRAP
• EXHAUST =	1½" WRAP
• OUTSIDE AIR =	NONE

ROUND

• SUPPLY =	2" WRAP
• RETURN =	2" WRAP
• EXHAUST =	1½" WRAP
• OUTSIDE AIR =	NONE

SPIRAL

• SUPPLY =	2" WRAP
• RETURN =	2" WRAP
• EXHAUST =	1½" WRAP
• OUTSIDE AIR =	NONE

TYPICAL BUILDING INTERIOR DUCT INSULATION DIAGRAM

STATE OF MISSOURI
JAMES P. WATSON
NUMBER PE-2015017071
PROFESSIONAL ENGINEER

James Watson, P.E. June 13, 2025
PE-2015017071
MO Certificate of Authority # 2018029680

J-SQUARED ENGINEERING
2400 Bluff Creek Drive, Suite 101
Columbia, Missouri 65201
573.234.4492
www.j-squaredeng.com

J2 PROJECT No:	J21211
J2 DESIGN:	ACW

ISSUE TITLE	DATE
PERMIT SET	06 - 13 - 2025

MECHANICAL - ELECTRICAL - PLUMBING DESIGN DRAWINGS FOR:

Discovery Park Athletic Club & Office

250 NE Alura Way, Lot 13
Lee's Summit, MO 64064

AHU APPROVAL STAMP

SHEET TITLE

HVAC DETAILS

SHEET NUMBER

M501

RTU SCHEDULE

TAG	EQUIPMENT DESCRIPTION	SIZE (TONS)	ORIENTATION	TOTAL AIRFLOW (CFM)	E.S.P. (in. H20)	OA AIRFLOW MAX/MIN (CFM)	GAS HEATING		COOLING (IA: 80 DB/67 WB, OA: 95 DB)			ELECTRICAL			NOTES
							INPUT (kBTU)	OUTPUT (kBTU)	SENSIBLE (KBTU)	TOTAL (KBTU)	MIN. EFFICIENCY	VOLTS / PHASE	MCA	OCP	
RTU-1	ROOFTOP UNIT	12.5	DOWN FLOW	5000	1.0	5000 / 300	249	194	118.8	154.3	14.0 IEER	208/3	61	80	1, 2, 3, 4, 5, 6, 7, 8
RTU-2	ROOFTOP UNIT	10	DOWN FLOW	4000	1.0	5000 / 300	200	162	96.1	124.4	14.6 IEER	208/3	49	60	1, 2, 3, 4, 5, 7, 8

NOTES:

1. PROVIDE AND INSTALL 7 DAY PROGRAMABLE HONEYWELL THERMOSTAT. COORDINATE EXACT MOUNTING LOCATION WITH OWNER.
2. WITH FACTORY HAIL GUARD.
3. WITH FACTORY INSTALLED DISCONNECT.
4. ECONOMIZER (WITH EITHER BAROMETRIC RELIEF SIZED AT 100% OF FLOW AT 1/10" RETURN DUCT STATIC PRESSURE, OR POWERED EXHAUST); CONTROL TO BE ADJUSTABLE FIXED POINT SET AT 65°F. ECONOMIZER TO BE IECC COMPLIANT WITH FAULT DETECTION AND NOTIFICATION.
5. WITH POWERED WEATHERPROOF GFCI RECEPTACLE.
6. WITH HOT GAS REHEAT/DEHUMIDIFICATION OPTION.
7. WITH SMOKE DETECTOR IN RETURN AIR DUCT TO SHUT DOWN UNIT AND SEND SIGNAL TO BUILDING FIRE ALARM SYSTEM UPON DETECTION OF SMOKE.
8. PROVIDE CO2 SENSOR MODULATE BETWEEN MAX AND MIN OA AMOUNTS INDICATED.

SPLIT SYSTEM SCHEDULE

TAG	EQUIPMENT DESCRIPTION	SIZE (TONS)	ORIENTATION	TOTAL AIRFLOW (CFM)	E.S.P. (in. H20)	OA AIRFLOW MAX/MIN (CFM)	HEATING		COOLING (IA: 80 DB/67 WB, OA: 95 DB)			ELECTRICAL			NOTES
							GAS INPUT (KBTU)	MIN. AFUE EFF. (%)	SENSIBLE (KBTU)	TOTAL (KBTU)	MIN EFF. (SEER2)	VOLTS/PH	MCA	OCP	
F-1	FURNACE	3.5	HORIZONTAL	1400	0.5	125 / 0	80	90	-	-	-	120	10	20	1, 2, 3
F-2	FURNACE	4.0	HORIZONTAL	1600	0.5	150 / 0	100	90	-	-	-	120	12	20	1, 2, 3
F-3	FURNACE	5.0	HORIZONTAL	2000	0.5	170 / 0	100	90	-	-	-	120	14	20	1, 2, 3
F-4	FURNACE	3.0	UPFLOW	1200	0.5	100 / 100	60	90	-	-	-	120	10	20	1, 2
CU-1	CONDENSING UNIT	3.5	-	-	-	-	-	-	31.2	41.5	13.4	208/1	20	35	4, 5
CU-2	CONDENSING UNIT	4.0	-	-	-	-	-	-	35.1	46.9	13.4	208/1	24	40	4, 5
CU-3	CONDENSING UNIT	5.0	-	-	-	-	-	-	44.1	56.4	13.4	208/1	34	60	4, 5
CU-4	CONDENSING UNIT	3.0	-	-	-	-	-	-	25.0	33.7	13.4	208/1	18	30	4, 5

NOTES:

1. PROVIDE AND INSTALL 7 DAY PROGRAMABLE HONEYWELL THERMOSTAT. COORDINATE EXACT MOUNTING LOCATION WITH OWNER.
2. INCLUDE CORROSION RESISTANT DRAIN PAN WITH OVERFLOW SWITCH WIRED TO SHUT DOWN UNIT.
3. WITH LOW LEAKAGE MOTORIZED OUTSIDE AIR DAMPER, DAMPER TO OPEN DURING OCCUPIED HOURS AND CLOSE DURING UNOCCUPIED HOURS THRU THERMOSTAT SCHEDULE.
4. WITH FACTORY HAIL GUARD.
5. LOW AMBIENT PACKAGE FOR OPERATION TO 0°F.

MINI-SPLIT SYSTEM SCHEDULE

TAG	EQUIPMENT DESCRIPTION	MANUFACTURER (OR EQUAL)	MODEL NUMBER (OR EQUAL)	SIZE (TONS)	ORIENTATION	TOTAL AIRFLOW (CFM)	HEATING (IA:70 DB, OA:5 DB)	COOLING (IA: 80 DB/67 WB, OA: 95 DB)			ELECTRICAL			NOTES
							TOTAL (KBTU)	SENSIBLE (KBTU)	TOTAL (KBTU)	EFFICIENCY (SEER2)	VOLTS/PH	MCA	OCP	
FCU-1	WALL-MOUNT FAN COIL UNIT	MITSUBISHI	MSZ-GX24NL	2.0	HORIZONTAL	324 - 765	-	-	-	-	POWERED THRU HP-1			1
HP-1	HEAT PUMP	MITSUBISHI	MUZ-GX24NL	2.0	STANDARD	-	19.4	17.5	22.4	21.5	208/1	14	25-2	2, 3

NOTES:

1. WITH WIRED REMOTE CONTROLLER & LOCKING COVER
2. WITH HEAT PUMP STAND
3. WITH HAIL GUARDS

EXHAUST FAN SCHEDULE

TAG	EQUIPMENT TYPE	MANUFACTURER (OR EQUAL)	MODEL (OR EQUAL)	FLOW		ELECTRICAL			PHYSICAL		NOTES
				CFM	S.P.	VOLT/PH	MCA	OCP	DIM.	WEIGHT	
EF-1	IN-LINE EXHAUST FAN	SOLER & PALAU	TD-SILENT	550	3/8"	120/1	1	20-1	23x13x11	20 lbs.	1, 2

NOTES:

1. WITH BACKDRAFT DAMPER
2. WITH SPEED CONTROLLER

DIFFUSER NECK SIZING SCHEDULE

AIRFLOW (CFM)	NECK SIZE (in)
0 - 120	6"
120 - 210	8"
210 - 325	10"
325 - 470	12"
470 - 640	14"

AIR DEVICE SCHEDULE

TAG	SERVICE	MANUFACTURER (OR EQUAL)	MODEL (OR EQUAL)	SIZE	COLOR / FINISH	NOTES
L1	EXH / OA	POTTORFF	EFD	AS INDICATED	PRIMED	PAINT TO MATCH EXTERIOR
R1	RETURN	PRICE	80	AS INDICATED	WHITE	
R2	RETURN	PRICE	530	AS INDICATED	WHITE	
S1	SUPPLY	PRICE	SPD	24x24	WHITE	WITH DRYWALL KIT WHERE REQUIRED
S2	SUPPLY	PRICE	SPD	12x12	WHITE	
S3	SUPPLY	PRICE	SDS100	48"L x 4-SLOT	WHITE	WITH 'SDB' PLENUM
S4	SUPPLY	PRICE	520	10x6	WHITE	
S5	SUPPLY	PRICE	520	18x8	WHITE	

NOTES:

1. VERIFY AIR DEVICE FINISHES WITH OWNER/ARCHITECT PRIOR TO INSTALLATION

BUILDING AIR BALANCE SUMMARY

EQUIPMENT	OA / EXH (CFM)	
	OCCUPIED HOURS	UNOCCUPIED HOURS
RTU-1	300	300
RTU-2	300	300
F-1	125	0
F-2	150	0
F-3	170	0
F-4	100	100
EF-1	-550	-550
NET CFM	595	150

NOTES:

1. EF-1 TO OPERATE CONTINUOUSLY

STATE OF MISSOURI
JAMES P. WATSON
NUMBER PE-2015017071
PROFESSIONAL ENGINEER

James Watson, P.E. June 13, 2025
PE-2015017071
MO Certificate of Authority # 2018029680

J-SQUARED ENGINEERING
2400 Bluff Creek Drive, Suite 101
Columbia, Missouri 65201
573.234.4492
www.j-squaredeng.com

J2 PROJECT No: J21211
J2 DESIGN: ACW

ISSUE TITLE	DATE
PERMIT SET	06 - 13 - 2025

MECHANICAL - ELECTRICAL - PLUMBING DESIGN DRAWINGS FOR:

Discovery Park Athletic Club & Office

250 NE Alura Way, Lot 13
Lee's Summit, MO 64064

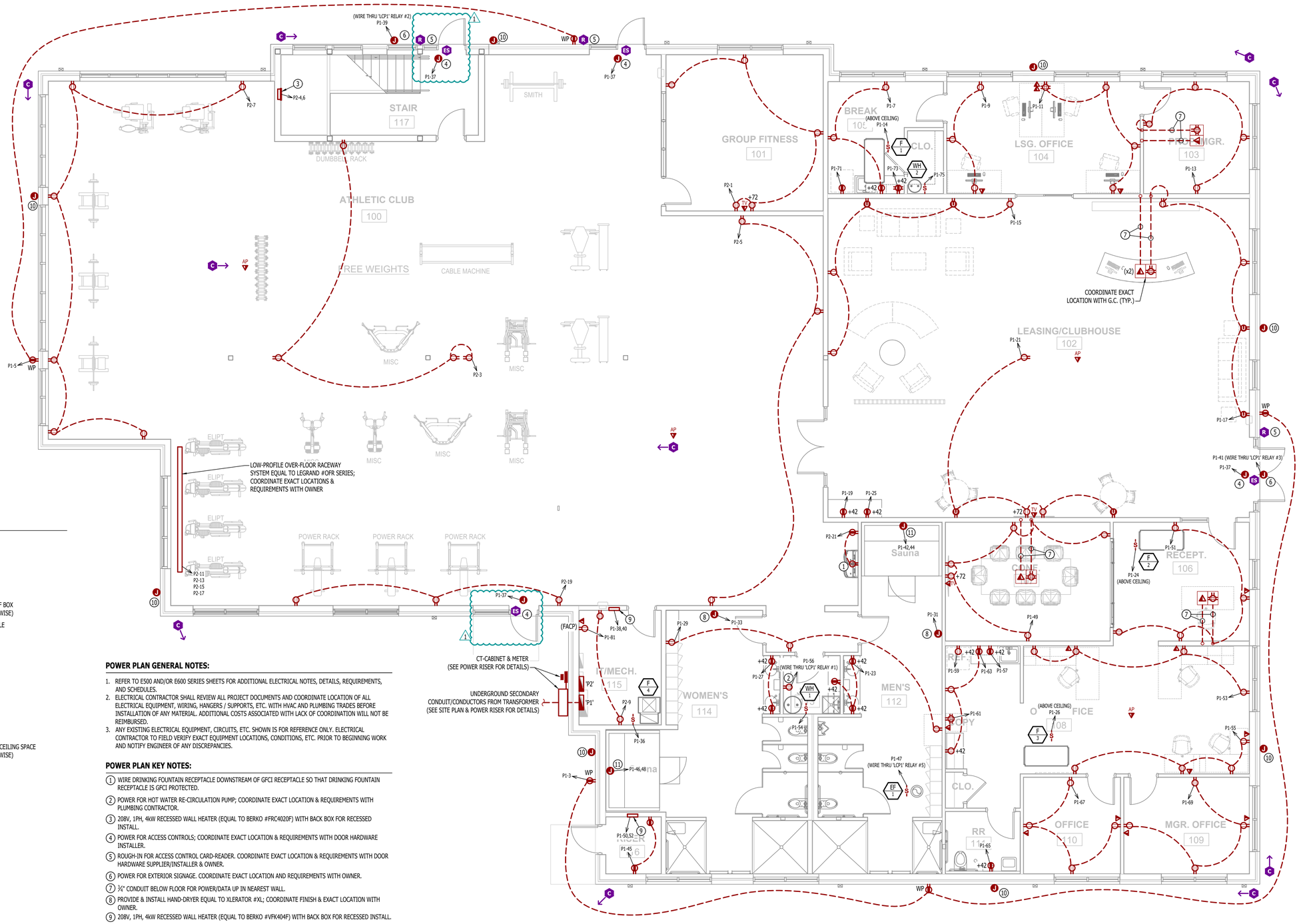
AHJ APPROVAL STAMP

SHEET TITLE

HVAC SCHEDULES

SHEET NUMBER

M601



POWER PLAN SYMBOL LEGEND

- CIRCUIT WIRING
- PX-XX — CIRCUIT TAG
- J — JUNCTION BOX
- XX +42 — RECEPTACLE
  - INDICATES MOUNTING HEIGHT TO BOTTOM OF BOX (STANDARD @ 18" AFF UNLESS NOTED OTHERWISE)
  - "WP" = WEATHERPROOF OUTDOOR RECEPTACLE
  - "AW" = ABOVE WINDOW RECEPTACLE
  - "AC" = ABOVE CEILING RECEPTACLE
  - "EX" = EXISTING RECEPTACLE TO REMAIN
- GFCI DUPLEX CONVENIENCE RECEPTACLE
- 208V RECEPTACLE
- QUADPLEX CONVENIENCE RECEPTACLE
- U — USB OUTLET WITH USB-A & USB-C CHARGING PORT
- DATA / PHONE JACK BOX WITH 1" CONDUIT & PULL STRING UP TO CEILING SPACE (STANDARD @ 18" AFF UNLESS NOTED OTHERWISE)
- AP — WIRELESS ACCESS POINT, CEILING MOUNTED
- FLOOR RECEPTACLE
- FLOOR DATA
- D — DISCONNECT
- FD — FUSED DISCONNECT
- FS — FUSED SWITCH
- SD — STARTER / DISCONNECT
- TIE INTO EXISTING
- C — CAMERA (ARROW INDICATES VIEW DIRECTION)
- R — CARD READER
- ES — ELECTRIC STRIKE

POWER PLAN GENERAL NOTES:

1. REFER TO E500 AND/OR E600 SERIES SHEETS FOR ADDITIONAL ELECTRICAL NOTES, DETAILS, REQUIREMENTS, AND SCHEDULES.
2. ELECTRICAL CONTRACTOR SHALL REVIEW ALL PROJECT DOCUMENTS AND COORDINATE LOCATION OF ALL ELECTRICAL EQUIPMENT, WIRING, HANGERS / SUPPORTS, ETC. WITH HVAC AND PLUMBING TRADES BEFORE INSTALLATION OF ANY MATERIAL. ADDITIONAL COSTS ASSOCIATED WITH LACK OF COORDINATION WILL NOT BE REIMBURSED.
3. ANY EXISTING ELECTRICAL EQUIPMENT, CIRCUITS, ETC. SHOWN IS FOR REFERENCE ONLY. ELECTRICAL CONTRACTOR TO FIELD VERIFY EXACT EQUIPMENT LOCATIONS, CONDITIONS, ETC. PRIOR TO BEGINNING WORK AND NOTIFY ENGINEER OF ANY DISCREPANCIES.

POWER PLAN KEY NOTES:

1. WIRE DRINKING FOUNTAIN RECEPTACLE DOWNSTREAM OF GFCI RECEPTACLE SO THAT DRINKING FOUNTAIN RECEPTACLE IS GFCI PROTECTED.
2. POWER FOR HOT WATER RE-CIRCULATION PUMP; COORDINATE EXACT LOCATION & REQUIREMENTS WITH PLUMBING CONTRACTOR.
3. 208V, 1PH, 4kW RECESSED WALL HEATER (EQUAL TO BERKO #FRC4020F) WITH BACK BOX FOR RECESSED INSTALL.
4. POWER FOR ACCESS CONTROLS; COORDINATE EXACT LOCATION & REQUIREMENTS WITH DOOR HARDWARE INSTALLER.
5. ROUGH-IN FOR ACCESS CONTROL CARD-READER. COORDINATE EXACT LOCATION & REQUIREMENTS WITH DOOR HARDWARE SUPPLIER/INSTALLER & OWNER.
6. POWER FOR EXTERIOR SIGNAGE. COORDINATE EXACT LOCATION AND REQUIREMENTS WITH OWNER.
7. ¾" CONDUIT BELOW FLOOR FOR POWER/DATA UP IN NEAREST WALL.
8. PROVIDE & INSTALL HAND-DRYER EQUAL TO XLERATOR #XL; COORDINATE FINISH & EXACT LOCATION WITH OWNER.
9. 208V, 1PH, 4kW RECESSED WALL HEATER (EQUAL TO BERKO #VFK404F) WITH BACK BOX FOR RECESSED INSTALL.
10. POWER FOR LANDSCAPE LIGHTING AT GRADE; COORDINATE EXACT LOCATION & REQUIREMENTS WITH OWNER; CIRCUIT P1-77, WIRE THRU 'LCP1' RELAY #8.
11. POWER FOR SAUNA. COORDINATE EXACT LOCATION & POWER REQUIREMENTS WITH SAUNA SUPPLIER / INSTALLER PRIOR TO ROUGH-IN.

POWER PLAN - FIRST FLOOR

SCALE: 3/16" = 1'-0"

STATE OF MISSOURI
JAMES P. WATSON
NUMBER PE-2015017071
PROFESSIONAL ENGINEER

James Watson, P.E. August 11, 2025
PE-2015017071
MO Certificate of Authority # 2018029680

J-SQUARED ENGINEERING
2400 Bluff Creek Drive, Suite 101
Columbia, Missouri 65201
573.234.4492
www.j-squaredeng.com

J2 PROJECT No:	J21211
J2 DESIGN:	ACW

ISSUE TITLE	DATE
PERMIT SET	06 - 13 - 2025
CITY COMMENTS	08 / 11 / 2025

MECHANICAL - ELECTRICAL - PLUMBING DESIGN DRAWINGS FOR:

Discovery Park Athletic Club & Office

250 NE Alura Way, Lot 13
Lee's Summit, MO 64064

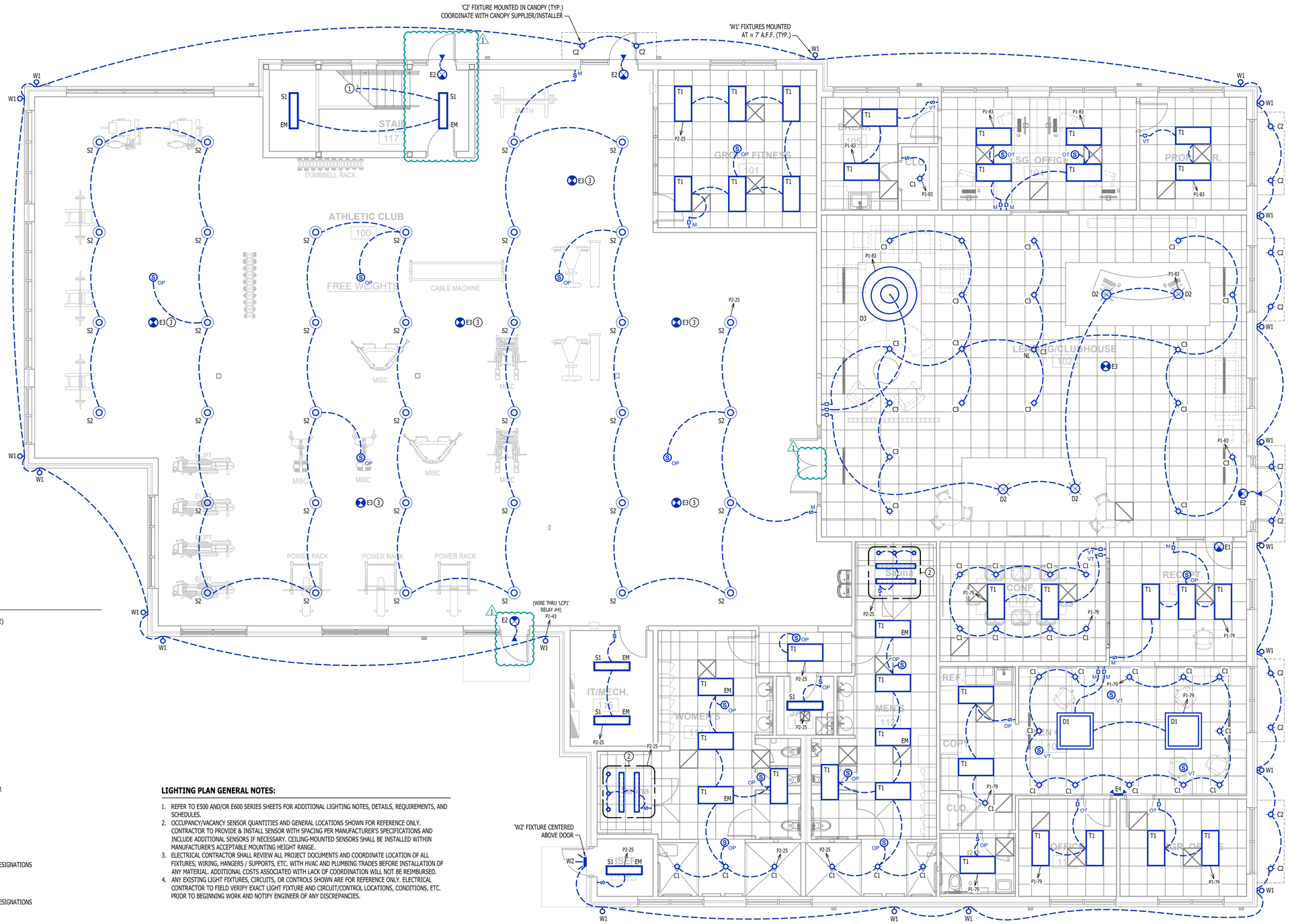
AHU APPROVAL STAMP

SHEET TITLE

POWER PLAN - FIRST FLOOR

SHEET NUMBER

EP101



LIGHTING PLAN SYMBOL LEGEND

- X1 / EM / NL — "X1" INDICATES FIXTURE TYPE (REFER TO SCHEDULE); LIGHTING FIXTURE; "EM" INDICATES EMERGENCY BATTERY BACKUP; "NL" INDICATES UN-SWITCHED NIGHT LIGHT
- EXIT LIGHT — INDICATES REQUIRED REMOTE HEAD
- EMERGENCY EGRESS LIGHT
- SWITCH (WALL MOUNTED)
  - SWITCH TYPE:
    - 3 = 3-WAY
    - 4 = 4-WAY
    - OP = PASSIVE INFRARED OCCUPANCY SENSOR
    - OU = ULTRASONIC OCCUPANCY SENSOR
    - OT = DUAL-TECHNOLOGY OCCUPANCY SENSOR
    - VP = PASSIVE INFRARED VACANCY SENSOR
    - VU = ULTRASONIC VACANCY SENSOR
    - VT = DUAL-TECHNOLOGY VACANCY SENSOR
    - M = MOMENTARY SWITCH
    - SS = SCENE SWITCH
- DIMMER SWITCH (WALL MOUNTED)
  - SWITCH TYPE:
    - SEE "SWITCH (WALL MOUNTED)" FOR TYPE DESIGNATIONS
- SWITCH (CEILING MOUNTED)
  - SWITCH TYPE:
    - SEE "SWITCH (WALL MOUNTED)" FOR TYPE DESIGNATIONS

OCCUPANCY SENSOR
- AUTO FULL-ON (OR 50% IF NOTED)
- AUTOMATICALLY TURN OFF LIGHTING AFTER 20 MINUTES WITHOUT OCCUPANT DETECTION
- WITH MANUAL OVERRIDE CONTROL (IF NOTED)

VACANCY SENSOR
- MANUAL FULL-ON
- AUTOMATICALLY TURN OFF LIGHTING AFTER 20 MINUTES WITHOUT OCCUPANT DETECTION
- WITH MANUAL OVERRIDE CONTROL (IF NOTED)

LIGHTING PLAN GENERAL NOTES:

1. REFER TO E500 AND/OR E600 SERIES SHEETS FOR ADDITIONAL LIGHTING NOTES, DETAILS, REQUIREMENTS, AND SCHEDULES.
2. OCCUPANCY/VACANCY SENSOR QUANTITIES AND GENERAL LOCATIONS SHOWN FOR REFERENCE ONLY. CONTRACTOR TO PROVIDE & INSTALL SENSOR WITH SPACING PER MANUFACTURER'S SPECIFICATIONS AND INCLUDE ADDITIONAL SENSORS IF NECESSARY. CEILING-MOUNTED SENSORS SHALL BE INSTALLED WITHIN MANUFACTURER'S ACCEPTABLE MOUNTING HEIGHT RANGE.
3. ELECTRICAL CONTRACTOR SHALL REVIEW ALL PROJECT DOCUMENTS AND COORDINATE LOCATION OF ALL FIXTURES, WIRING, HANGERS / SUPPORTS, ETC. WITH HVAC AND PLUMBING TRADES BEFORE INSTALLATION OF ANY MATERIAL. ADDITIONAL COSTS ASSOCIATED WITH LACK OF COORDINATION WILL NOT BE REIMBURSED.
4. ANY EXISTING LIGHT FIXTURES, CIRCUITS, OR CONTROLS SHOWN ARE FOR REFERENCE ONLY. ELECTRICAL CONTRACTOR TO FIELD VERIFY EXACT LIGHT FIXTURE AND CIRCUIT/CONTROL LOCATIONS, CONDITIONS, ETC. PRIOR TO BEGINNING WORK AND NOTIFY ENGINEER OF ANY DISCREPANCIES.

LIGHTING PLAN KEY NOTES:

1. CIRCUIT CONTINUES TO SECOND FLOOR.
2. INSTALL LIGHTING AS PART OF SAUNA PACKAGE; CIRCUIT AS SHOWN. COORDINATE DETAILS WITH OWNER.
3. PAINT LIGHT FIXTURE HOUSING TO MATCH CEILING.

LIGHTING PLAN

SCALE: 3/16" = 1'-0"

STATE OF MISSOURI
JAMES P. WATSON
NUMBER PE-2015017071
PROFESSIONAL ENGINEER

James Watson, P.E. August 11, 2025
PE-2015017071
MO Certificate of Authority # 2018029680

J-SQUARED ENGINEERING
2400 Bluff Creek Drive, Suite 101
Columbia, Missouri 65201
573.234.4492
www.j-squaredeng.com

J2 PROJECT No:	J21211
J2 DESIGN:	ACW

ISSUE TITLE	DATE
PERMIT SET	06 - 13 - 2025

MECHANICAL - ELECTRICAL - PLUMBING DESIGN DRAWINGS FOR:

Discovery Park Athletic Club & Office

250 NE Alura Way, Lot 13
Lee's Summit, MO 64064

AHJ APPROVAL STAMP

SHEET TITLE

LIGHTING PLAN

SHEET NUMBER

EL101

ELECTRICAL SPECIFICATIONS

1. GENERAL

1.1. CONTRACTOR IS RESPONSIBLE TO PROVIDE ALL NECESSARY PIECES AND COMPONENTS TO PROVIDE A COMPLETE AND COMPLIANT ELECTRICAL SYSTEM UNLESS OTHERWISE NOTED ON PLANS.

1.2. THE ENTIRE ELECTRICAL SYSTEM SHALL BE CONTINUOUSLY GROUNDED. EVERY BRANCH CONDUIT SHALL INCLUDE A GREEN GROUND CONDUCTOR SIZED PER NEC.

1.3. ARC-FAULT CIRCUITS SHALL BE RUN WITH A DEDICATED NEUTRAL AS REQUIRED BY MANUFACTURER.

1.4. PROVIDE PERMANENT ARC-FLASH LABEL AFFIXED TO EVERY DISCONNECT AND PANEL.

1.5. PROVIDE TYPE WRITTEN PANEL SCHEDULE FOR EACH PANEL.

2. WORKMANSHIP

2.1. ALL ELECTRICAL SYSTEM COMPONENTS SHALL BE INSTALLED LEVEL, PLUMB, AND PARALLEL/PERPENDICULAR TO BUILDING ORIENTATION WHERE POSSIBLE.

2.2. ALL ELECTRICAL DEVICES AND LIGHT FIXTURES SHALL BE INSTALLED IN A SAFE, FIRST-CLASS MANNER WITH ATTENTION GIVEN TO OVERALL AESTHETICS.
CARE SHOULD BE TAKEN TO ALLOW FOR FUTURE REPLACEMENT AND ACCESS FOR SERVICE.

3. MATERIALS

3.1. CONDUIT & CONDUCTORS

3.1.1. ALL CONDUCTORS SIZES INDICATED ARE COPPER UNLESS NOTED OTHERWISE ON PLANS.

3.1.2. ABOVE GRADE CONDUCTORS SHALL BE TYPE THHN.
BELOW GRADE CONDUCTORS SHALL BE TYPE XHHW-2.

3.1.3. MINIMUM CONDUCTOR SIZE SHALL BE #12 AWG UNLESS NOTED OTHERWISE. 120-VOLT, 20-AMP CIRCUITS WITH CONDUCTOR LENGTHS GREATER THAN 100' SHALL BE #10 AWG MINIMUM. ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR MEASURING ACTUAL CONDUCTOR LENGTH AND INCREASING CONDUCTOR SIZE TO COMPENSATE FOR VOLTAGE DROP AS REQUIRED BY NEC.

3.1.4. RIGID GALVANIZED OR SCHEDULE 40 PVC CONDUIT SHALL BE USED FOR SERVICE WIRING, BELOW GRADE INSTALLATIONS, OR WHERE EXPOSED TO WEATHER.

3.1.5. IN APPLICATIONS OTHER THAN THOSE LISTED IN 3.1.4, EMT OR MC CABLE IS ACCEPTABLE. WHERE CONDUCTORS ARE PROTECTED FROM DAMAGE, ENCLOSED IN BUILDING MATERIALS, AND CONSTRUCTION IS OF A PERMITTED TYPE, NM CABLE MAY BE USED.

3.1.6. FOR CAST-IN-PLACE CONCRETE, TILT-UP WALL CONSTRUCTION, OR PRE-MANUFACTURED WALL SYSTEMS, COORDINATE EXACT LOCATIONS OF ALL DEVICES WITHIN WALLS WITH WALL SUPPLIER. CONDUIT EMBEDDED IN WALLS SHALL BE SCHEDULE 80 PVC OR LFMC, OR OTHER SYSTEM APPROVED BY WALL MANUFACTURER.

3.1.7. EXPOSED CONDUIT SHALL BE PAINTED TO MATCH ADJACENT SURFACES, VERIFY COLOR WITH ARCHITECT/OWNER.

3.2. DEVICES

3.2.1. CONTRACTOR TO PROVIDE J-BOXES, COVER PLATES, AND ANY ACCESSORIES REQUIRED TO PROVIDE A COMPLETE SYSTEM. SEE ARCHITECTURAL PLANS FOR DEVICE COLORS.

3.2.1. DUPLEX RECEPTACLES SHALL BE TAMPER RESISTANT, 20-AMP, EQUAL TO LEVITON #TBR-20.

3.2.2. SINGLE POLE TOGGLE WALL SWITCHES SHALL BE EQUAL TO LEVITON CS120-2.
THREE-WAY TOGGLE WALL SWITCHES SHALL BE EQUAL TO LEVITON CS320-2.

3.2.3. DIMMER SWITCHES SHALL BE TESTED WITH FIXTURES AND LAMPS FOR COMPATIBILITY. SEE LIGHTING PLANS FOR DETAILS.

3.2.4. WHERE GFCI PROTECTION IS SHOWN ON PLANS AND UNLESS OTHERWISE NOTED, PROVIDE A LISTED GFCI-PROTECTED RECEPTACLE WHERE THE RECEPTACLE IS ACCESSIBLE ON PLANS. IF THE RECEPTACLE LOCATION IS NOT ACCESSIBLE AS DEFINED BY NEC, PROVIDE GFCI PROTECTION AT CIRCUIT BREAKER.

3.2.5. DO NOT INSTALL OCCUPANCY/VACANCY SENSORS WITHIN 48" OF HVAC DIFFUSERS/GRILLES OR SIMILAR OBSTRUCTION THAT MAY AFFECT SENSOR FUNCTIONALITY. ALL SENSORS SHALL BE INSTALLED PER MANUFACTURER'S SPECIFICATIONS.

3.2.6. ALL APPLICABLE SWITCHES, RECEPTACLES, CONTROLS, ETC. SHALL BE MOUNTED AT ADA-ACCESSIBLE HEIGHTS.

3.2.7. WIRING DEVICES SHOWN ON PLANS NEXT TO ONE ANOTHER SHALL UTILIZE A SINGLE COVER PLATE UNLESS NOTED OTHERWISE.

3.2.8. WIRING DEVICES SHOWN BACK-TO-BACK ON EACH SIDE OF A WALL SHALL BE OFFSET TO REDUCE SOUND TRANSMISSION.

3.2.9. EACH RECEPTACLE COVER SHALL BE NEATLY AND LEGIBLY LABELED WITH CORRESPONDING PANEL AND CIRCUIT NUMBER FOR CIRCUIT IDENTIFICATION.

4. EMERGENCY LIGHTING

4.1. BRANCH CIRCUIT FEEDING EMERGENCY FIXTURE(S) SHALL BE SAME BRANCH CIRCUIT AS THAT SERVING NORMAL LIGHTING IN SAME AREA AND CONNECTED AHEAD OF ANY LOCAL SWITCHES.

4.2. EMERGENCY LIGHTING SYSTEM SHALL PROVIDE 1FC AVERAGE AND 0.1FC MINIMUM ALONG EGRESS PATHS. ADJUST ANY EMERGENCY FIXTURES AS NECESSARY TO PROVIDE PROPER ILLUMINATION WITHOUT OBSTRUCTION FROM FURNITURE OR OBSTACLES.

LIGHT FIXTURE SCHEDULE

TAG	MANUFACTURER (OR EQUAL)	MODEL NUMBER (OR EQUAL)	DESCRIPTION	MOUNTING	LUMEN OUTPUT	CCT (°K)	CRI	VOLTAGE	WATTS	DIMMING	NOTES
C1	HALO	SLD6129SE010MWR	6" LED SURFACE CAN	SURFACE / CEILING	1200	3500	90	120	15	0 - 10V	
C2	HALO	SLD6129SE010MWR	6" LED SURFACE CAN	SURFACE / CANOPY	1200	4000	90	120	15	0 - 10V	
C3	HALO	HC6-50-D010 / HM6-4560-835-61-WD-H	6" RECESSED DOWNLIGHT	RECESSED / CEILING	5000	3500	80	120	40	0 - 10V	
D1	-	-	DECORATIVE EXECUTIVE OFFICE PEDNANT	PENDANT	-	-	-	120	100 MAX	-	SELECTED BY OWNER
D2	-	-	DECORATIVE CLUBHOUSE PENDANT	PENDANT	-	-	-	120	75 MAX	-	SELECTED BY OWNER
D3	-	-	DECORATIVE LEASING DESK PENDANT	PENDANT	-	-	-	120	200 MAX	-	SELECTED BY OWNER
E1	SURE LITES	APCH7R	INTERIOR EXIT LIGHT WITH HEADS	WALL / CEILING	-	-	-	120	1	-	WITH RED LETTERS
E2	SURE LITES	APCH7R WITH APWR2	INTR EXIT LIGHT WITH EXTR RMT HD	CEILING	-	-	-	120	1	-	WITH RED LETTERS
E3	SURE LITES	SELRA50SD	RECESSED EMERGENCY LIGHT	RECESSED / CEILING	-	-	-	120	3	-	
E4	SURE LITES	SEL60R4SD	EMERGENCY EGRESS LIGHT	WALL	-	-	-	120	2	-	
S1	METALUX	RSLSTP4040DD-UNV	4' LED STRIP	WALL / CEILING	5210	4000	80	UNV	39	0 - 10V	WITH 'EBPLED14W' BATTERY BACKUP WHERE INDICATED
S2	SPECTRUM LIGHTING	PRSUR16GV-55L-35K-DS10X-FS-SM-DF16	16" LED MIDBAY	SURFACE / CEILING	4832	3500	80	120	39	0 - 10V	
T1	METALUX	24FPSL2SCT3	2x4 LED FLAT PANEL	CEILING / GRID	4550	3500	80	120	40	0 - 10V	
W1	TECH LIGHTING	700OWVEX9404ZUNV	UP/DOWN WALL SCONCE	EXTERIOR WALL	554	4000	90	120	19	-	
W2	LUMARK	XTOR2B-W	EXTERIOR WALLPACK	EXTERIOR WALL	2103	4000	70	120	18	-	

NOTES:

1. VERIFY LIGHT FIXTURE FINISHES WITH OWNER / ARCHITECT PRIOR TO INSTALLATION.
2. REFER TO ARCHITECTURAL REFLECTED CEILING PLAN FOR CEILING TYPES THROUGHOUT. COORDINATE EXACT MOUNTING DETAILS WITH GENERAL CONTRACTOR.
3. CONTACT JUSTIN HATFIELD (573) 289-0880 (JHATFIELD@LAIWEB.NET) OR PAUL WARNER (314) 531-3500 (PWARNER@LAIWEB.NET) AT LIGHTING ASSOCIATES FOR NATIONAL ACCOUNT DETAILS.
4. CONTACT TRAVIS VOGT (471) 621-5210 (TVOGT@CED1135.COM) AT CED-PHILLIPS & COMPANY FOR NATIONAL ACCOUNT DETAILS.

BRANCH CIRCUIT CONDUCTOR SCHEDULE

AMPACITY	COPPER AWG SIZE	MAXIMUM DISTANCE (FEET)				MINIMUM CONDUIT SIZE
		1Ø		3Ø		
		120V	277V	208V	480V	
20	12	55'	130'	115'	260'	1/2"
	10	90'	205'	180'	415'	3/4"
30	10	60'	135'	120'	275'	3/4"
	8	95'	220'	190'	445'	1"
35	8	80'	190'	165'	380'	1"
	6	130'	300'	260'	605'	1"
40	8	70'	165'	145'	330'	1"
	6	110'	260'	225'	525'	1"
45	6	100'	235'	200'	470'	1'
	4	160'	370'	325'	750'	1-1/4"
50	6	90'	210'	180'	420'	1-1/4"
	4	145'	335'	290'	675'	1-1/4"
60	6	75'	175'	150'	350'	1-1/4"
	4	120'	280'	240'	560'	1-1/4"
70	4	105'	240'	205'	480'	1-1/4"
	3	130'	300'	260'	605'	1-1/4"
80	4	55'	210'	180'	420'	1-1/4"
	3	90'	260'	230'	530'	1-1/4"
90	3	100'	235'	200'	470'	1-1/4"
	2	125'	295'	255'	595'	1-1/4"
100	3	90'	210'	180'	420'	1-1/4"
	2	115'	265'	230'	535'	1-1/4"

NOTES:

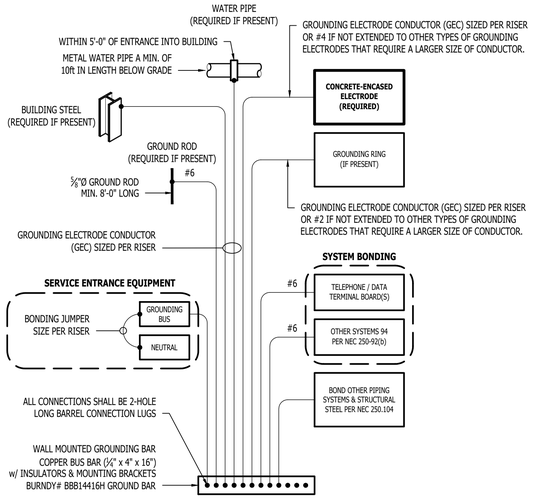
1. ALL BRANCH CIRCUIT CONDUCTORS SHALL BE COPPER. ALL WIRE SIZES SHOWN ARE BASED ON CONDUCTOR TEMPERATURE RATING OF 75°C & AMBIENT TEMPERATURE OF 30°C PER NEC.
2. DISTANCE SHOWN ABOVE IS LENGTH FROM OVERCURRENT PROTECTION TO DEVICE/EQUIPMENT.
3. REFER TO PLAN SHEETS FOR BRANCH CONDUCTOR SIZING LENGTHS GREATER THAN SHOWN ABOVE.
4. VOLTAGE DROP CALCULATIONS BASED ON 3% DROP, 80% CIRCUIT LOAD, THHN/THWN INSULATION, 100% POWER FACTOR, BALANCED LOAD, NEGLIGIBLE REACTANCE, & SIX OR LESS CURRENT-CARRYING CONDUCTORS IN RACEWAY.

FEEDER CONDUCTOR SCHEDULE

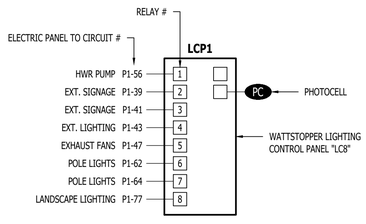
AMPACITY	CONDUCTORS					EQUIPMENT GROUND		MINIMUM CONDUIT SIZE (PER SET)
	# OF SETS	QUANTITY PER SET		AWG SIZE		AWG SIZE		
		3Ø 'WYE'	1Ø OR 3Ø▲	COPPER	ALUMINUM	COPPER	ALUMINUM	
30	1	4	3	10	8	10	8	3/4"
40	1	4	3	8	8	8	8	1"
45	1	4	3	8	6	8	8	1"
50	1	4	3	8	6	10	8	1"
60	1	4	3	6	4	10	6	1"
70	1	4	3	4	2	8	6	1-1/4"
80	1	4	3	4	2	8	6	1-1/4"
90	1	4	3	3	2	8	6	1-1/4"
100	1	4	3	3	1	8	6	1-1/4"
110	1	4	3	2	1/0	6	4	1-1/4"
125	1	4	3	1	2/0	6	4	2"
150	1	4	3	1/0	3/0	6	4	2"
175	1	4	3	2/0	4/0	6	4	2"
200	1	4	3	3/0	250	6	4	2-1/2"
225	1	4	3	4/0	300	4	2	2-1/2"
250	1	4	3	250	350	4	2	3"
300	1	4	3	350	500	4	2	4"
350	1	4	3	400	600	3	1	4"
400	1	4	3	500	750	3	1	4"
500	2	4	3	250	350	2	1/0	4"
600	2	4	3	350	500	1	2/0	4"
800	2	4	3	500	750	1/0	3/0	4"
1000	3	4	3	400	350	2/0	4/0	4"
1200	4	4	3	350	500	3/0	250	4"
1600	5	4	3	400	750	4/0	350	4"
2000	6	4	3	400	750	250	400	4"

NOTES:

1. ALL WIRE SIZES SHOWN ARE BASED ON CONDUCTOR TEMPERATURE RATING OF 75°C & AMBIENT TEMPERATURE RATING OF 30°C PER NEC.
2. MAXIMUM ALLOWABLE VOLTAGE DROP FOR FEEDER CONDUCTORS SHALL BE 2%.
3. ELECTRICAL CONTRACTOR TO ADJUST CONDUCTOR SIZES FOR LONG CIRCUIT LENGTHS & AMBIENT TEMPERATURES HIGHER THAN 30°C.



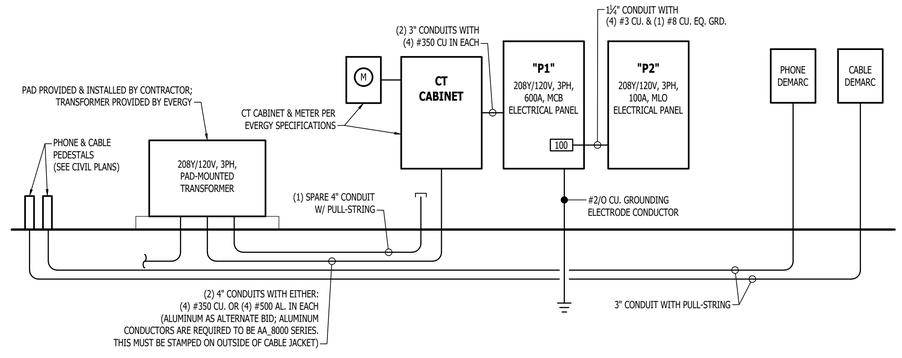
TYPICAL GROUNDING & BONDING DETAIL



LIGHTING CONTROL PANEL SCHEDULE

RELAY #	OVERRIDE SWITCH	OPERATIONAL SCHEDULE
1	NO	ON DURING OCCUPIED HOURS
2	NO	ON DURING NIGHT HOURS (PHOTOCELL)
3	NO	ON DURING NIGHT HOURS (PHOTOCELL)
4	NO	ON DURING NIGHT HOURS (PHOTOCELL)
5	NO	ON CONTINUOUSLY
6	NO	ON DURING NIGHT HOURS (PHOTOCELL)
7	NO	ON DURING NIGHT HOURS (PHOTOCELL)
8	NO	ON DURING NIGHT HOURS (PHOTOCELL)

LIGHTING CONTROL PANEL



POWER RISER

POWER RISER GENERAL NOTES:

1. COORDINATE DETAILS & REQUIREMENTS OF NEW ELECTRIC SERVICE WITH EVERGY.
2. ALL NEW METERING EQUIPMENT MUST BE APPROVED BY EVERGY.
3. EACH METER MUST BE PERMANENTLY LABELED.
4. AIC-RATINGS BASED ON:
   - 4.1. TRANSFORMER: 225kVA, 100% POWER FACTOR, 3.50% Z, LOCATED APPROXIMATELY WHERE SHOWN ON PLANS.
   - 4.2. METER LOCATION INSTALLED APPROXIMATELY WHERE SHOWN ON PLANS.
   - 4.3. ELECTRICAL PANEL LOCATION INSTALLED APPROXIMATELY WHERE SHOWN ON PLANS.
   - 4.4. CONTRACTOR TO FIELD VERIFY FINAL EQUIPMENT LOCATIONS AND PERFORM ADDITIONAL AIC RATING CALCULATIONS IF NECESSARY.

STATE OF MISSOURI
JAMES P. WATSON
NUMBER PE-2015017071
PROFESSIONAL ENGINEER

James Watson, P.E. June 13, 2025
PE-2015017071
MO Certificate of Authority # 2018029680

J-SQUARED ENGINEERING
2400 Bluff Creek Drive, Suite 101
Columbia, Missouri 65201
573.234.4492
www.j-squaredeng.com

J2 PROJECT No: J21211
J2 DESIGN: ACW

ISSUE TITLE	DATE
PERMIT SET	06 - 13 - 2025

MECHANICAL - ELECTRICAL - PLUMBING DESIGN DRAWINGS FOR:

Discovery Park Athletic Club & Office

250 NE Alura Way, Lot 13
Lee's Summit, MO 64064

AHJ APPROVAL STAMP

SHEET TITLE

ELECTRICAL DETAILS & SCHEDULES

SHEET NUMBER

E501

PANEL 'P1' SCHEDULE

PANEL SPECIFICATIONS					TOTAL CONNECTED LOAD
VOLTAGE: 120/208V 3-PH	**NEMA RATING:** 1			**PHASE "A" LOAD:** 355	AMPS
AMPACITY: 600A MCB	**PANEL MOUNTING:** SURFACE			**PHASE "B" LOAD:** 374	AMPS
AIC-RATING: 22kA				**PHASE "C" LOAD:** 345	AMPS

CIRCUIT NUMBER	DESCRIPTION	BREAKER SIZE	AMPS	PHASE	AMPS	BREAKER SIZE	DESCRIPTION	CIRCUIT NUMBER
1	ROOFTOP RECEPTS.	20-1	3	A	61	80-3	RTU-1	2
3	EXTERIOR RECEPTS.	20-1	4.5	B	61	-	-	4
5	EXTERIOR RECEPTS.	20-1	3	C	61	-	-	6
7	BREAK ROOM RECEPTS.	20-1	4.5	A	39	60-3	RTU-2	8
9	LEASING OFFICE RECEPTS.	20-1	4.5	B	39	-	-	10
11	LEASING OFFICE RECEPTS.	20-1	7.5	C	39	-	-	12
13	COMM. LEASING MANAGER OFFICE RECEPTS.	20-1	9	A	10	20-1	F-1	14
15	LEASING AREA RECEPTS.	20-1	7.5	B	20	35-2	CU-1	16
17	LEASING AREA RECEPTS.	20-1	9	C	20	-	-	18
19	LEASING COFFEE STATION RECEPT.	20-1	1.5	A	24	40-2	CU-2	20
21	LEASING AREA RECEPTS.	20-1	7.5	B	24	-	-	22
23	RESTROOM RECEPTS.	20-1	3	C	12	20-1	F-2	24
25	LEASING COFFEE STATION RECEPT.	20-1	1.5	A	14	20-1	F-3	26
27	RESTROOM RECEPTS.	20-1	3	B	24	60-2	CU-3	28
29	RESTROOM RECEPTS.	20-1	4.5	C	24	-	-	30
31	HAND DRYER	20-1	8	A	18	30-2	CU-4	32
33	HAND DRYER	20-1	8	B	18	-	-	34
35	SPARE	20-1		C	10	20-1	F-4	36
37	ACCESS CONTROLS	20-1	8	A	14	20-2	WALL HEATER	38
39	EXTERIOR SIGNAGE	20-1	5	B	14	-	-	40
41	EXTERIOR SIGNAGE	20-1	5	C	24	30-2	MENS SAUNA	42
43	EXTERIOR LIGHTING	20-1	5	A	24	-	-	44
45	RISER ROOM RECEPTS.	20-1	3	B	24	30-2	WOMENS SAUNA	46
47	EF-1	20-1	5	C	24	-	-	48
49	CONFERENCE RECEPTS.	20-1	10.5	A	14	20-2	WALL HEATER	50
51	RECEPTION RECEPTS.	20-1	9	B	14	-	-	52
53	OPEN OFFICE RECEPTS.	20-1	7.5	C	5	20-1	WH-1	54
55	OPEN OFFICE RECEPTS.	20-1	6	A	2	20-1	RECIRCULATION PUMP	56
57	BREAK ROOM COUNTERTOP RECEPT.	20-1	1.5	B		20-1	SPARE	58
59	BREAK ROOM REFRIGERATOR	20-1	8	C		20-1	SPARE	60
61	PRINTER/COPIER	20-1	8	A	4	20-2	POLE LIGHTS	62
63	PRINT AREA QUAD	20-1	3	B	4	-	-	64
65	RESTROOM RECEPT.	20-1	1.5	C			OPEN	66
67	OFFICE RECEPTS.	20-1	6	A			OPEN	68
69	MGR. OFFICE RECEPTS.	20-1	6	B			OPEN	70
71	BREAK ROOM REFRIGERATOR	20-1	8	C			OPEN	72
73	BREAK ROOM COUNTERTOP RECEPT.	20-1	3	A			OPEN	74
75	WH-2	20-1	15	B			OPEN	76
77	LANDSCAPE LIGHTING	20-1	5	C			OPEN	78
79	OFFICE AREA LIGHTING	20-1	7	A	50	100-3	SUB-FEED PANEL 'P2'	80
81	FACP	20-1	1	B	53.5	-	-	82
83	CLUBHOUSE AREA LIGHTING	20-1	7	C	52	-	-	84

NOTES:
A: PANEL SHALL BE EQUAL TO SQUARE D MODEL "NQ"
B: ELECTRICIAN SHALL VERIFY EXACT EQUIPMENT OVERCURRENT PROTECTION REQUIREMENTS PRIOR TO PURCHASE & INSTALLATION OF EQUIPMENT.
C: AFTER COMPLETION OF WORK, ELECTRICAN SHALL PROVIDE A TYPE WRITTEN PANEL DIRECTORY IN NEW PANEL.

PANEL 'P2' SCHEDULE

PANEL SPECIFICATIONS					TOTAL CONNECTED LOAD
VOLTAGE: 120/208V 3-PH	**NEMA RATING:** 1			**PHASE "A" LOAD:** 50	AMPS
AMPACITY: 100A MLO	**PANEL MOUNTING:** SURFACE			**PHASE "B" LOAD:** 53.5	AMPS
AIC-RATING: 10kA				**PHASE "C" LOAD:** 52	AMPS

CIRCUIT NUMBER	DESCRIPTION	BREAKER SIZE	AMPS	PHASE	AMPS	BREAKER SIZE	DESCRIPTION	CIRCUIT NUMBER
1	GROUP FITNESS RECEPTS.	20-1	7.5	A		20-1	SPARE	2
3	FITNESS AREA RECEPTS.	20-1	6	B	14	20-2	WALL HEATER	4
5	FITNESS AREA RECEPTS.	20-1	6	C	14	20-1	-	6
7	FITNESS AREA RECEPTS.	20-1	9	A	14	25-2	STAIR MINI-SPLIT (FCU-1 / HP-1)	8
9	MECHANICAL ROOM RECEPTS.	20-1	4.5	B	14	-	-	10
11	FITNESS EQUIPMENT	20-1	10	C		20-1	SPARE	12
13	FITNESS EQUIPMENT	20-1	10	A		20-1	SPARE	14
15	FITNESS EQUIPMENT	20-1	10	B		20-1	SPARE	16
17	FITNESS EQUIPMENT	20-1	10	C		20-1	SPARE	18
19	FITNESS AREA RECEPTS.	20-1	4.5	A			OPEN	20
21	DRINKING FOUNTAIN	20-1	5	B			OPEN	22
23	FITNESS LIGHTING	20-1	12	C			OPEN	24
25	GROUP FITNESS / RESTROOMS LIGHTING	20-1	5	A			OPEN	26
27	SPARE	20-1		B			OPEN	28
29	SPARE	20-1		C			OPEN	30

NOTES:
A: PANEL SHALL BE EQUAL TO SQUARE D MODEL "QO"
B: ELECTRICIAN SHALL VERIFY EXACT EQUIPMENT OVERCURRENT PROTECTION REQUIREMENTS PRIOR TO PURCHASE & INSTALLATION OF EQUIPMENT.
C: AFTER COMPLETION OF WORK, ELECTRICAN SHALL PROVIDE A TYPE WRITTEN PANEL DIRECTORY IN NEW PANEL.

STATE OF MISSOURI
JAMES P. WATSON
NUMBER PE-2015017071
PROFESSIONAL ENGINEER

James Watson, P.E. June 13, 2025
PE-2015017071
MO Certificate of Authority # 2018029680

J-SQUARED ENGINEERING
2400 Bluff Creek Drive, Suite 101
Columbia, Missouri 65201
573.234.4492
www.j-squaredeng.com

J2 PROJECT No: J21211
J2 DESIGN: ACW

ISSUE TITLE	DATE
PERMIT SET	06 - 13 - 2025

MECHANICAL - ELECTRICAL - PLUMBING DESIGN DRAWINGS FOR:

Discovery Park Athletic Club & Office

250 NE Alura Way, Lot 13
Lee's Summit, MO 64064

AHJ APPROVAL STAMP

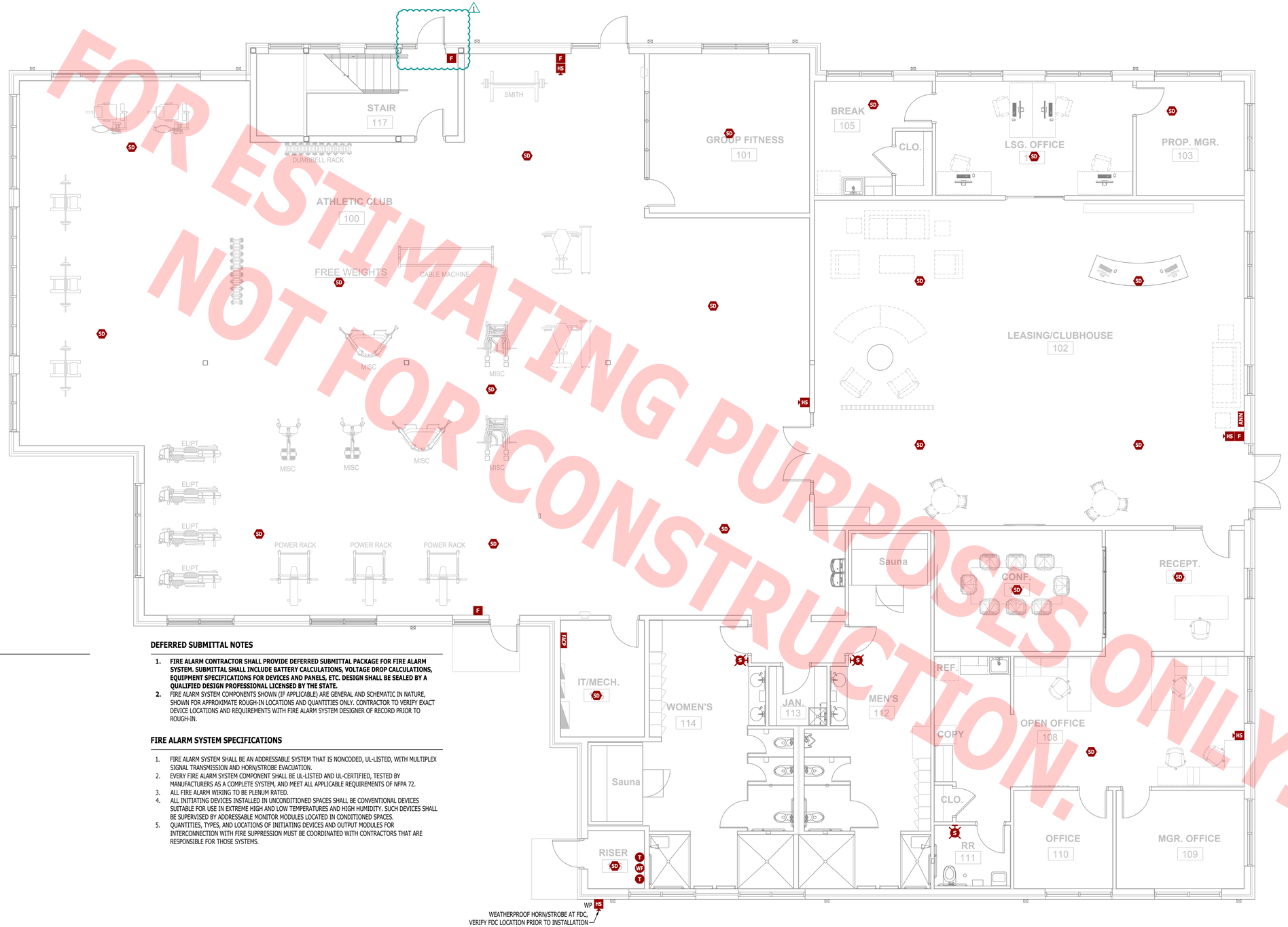
SHEET TITLE

ELECTRICAL SCHEDULES

SHEET NUMBER

E502

FOR ESTIMATING PURPOSES ONLY.
NOT FOR CONSTRUCTION.



FIRE ALARM PLAN SYMBOL LEGEND

F	MANUAL PULL STATION
M	MODULE
O	OUTPUT MODULE
SD	SMOKE DETECTOR
HD	HEAT DETECTOR
CO	CARBON MONOXIDE DETECTOR
S	STROBE - CEILING MOUNT
S	STROBE - WALL MOUNT
HS	HORN STROBE - WALL MOUNT
HS	HORN STROBE - CEILING MOUNT
SS	SPEAKER STROBE - WALL MOUNT
SS	SPEAKER STROBE - CEILING MOUNT
T	TAMPER SWITCH
WF	WATER FLOW SWITCH
FACP	FIRE ALARM CONTROL PANEL
ANN	FIRE ALARM ANNUNCIATOR

DEFERRED SUBMITTAL NOTES

1. **FIRE ALARM CONTRACTOR SHALL PROVIDE DEFERRED SUBMITTAL PACKAGE FOR FIRE ALARM SYSTEM. SUBMITTAL SHALL INCLUDE BATTERY CALCULATIONS, VOLTAGE DROP CALCULATIONS, EQUIPMENT SPECIFICATIONS FOR DEVICES AND PANELS, ETC. DESIGN SHALL BE SEALED BY A QUALIFIED DESIGN PROFESSIONAL LICENSED BY THE STATE.**
2. FIRE ALARM SYSTEM COMPONENTS SHOWN (IF APPLICABLE) ARE GENERAL AND SCHEMATIC IN NATURE, SHOWN FOR APPROXIMATE ROUGH-IN LOCATIONS AND QUANTITIES ONLY. CONTRACTOR TO VERIFY EXACT DEVICE LOCATIONS AND REQUIREMENTS WITH FIRE ALARM SYSTEM DESIGNER OF RECORD PRIOR TO ROUGH-IN.

FIRE ALARM SYSTEM SPECIFICATIONS

1. FIRE ALARM SYSTEM SHALL BE AN ADDRESSABLE SYSTEM THAT IS NONCODED, UL-LISTED, WITH MULTIPLEX SIGNAL TRANSMISSION AND HORN/STROBE EVACUATION.
2. EVERY FIRE ALARM SYSTEM COMPONENT SHALL BE UL-LISTED AND UL-CERTIFIED, TESTED BY MANUFACTURERS AS A COMPLETE SYSTEM, AND MEET ALL APPLICABLE REQUIREMENTS OF NFPA 72.
3. ALL FIRE ALARM WIRING TO BE PLENUM RATED.
4. ALL INITIATING DEVICES INSTALLED IN UNCONDITIONED SPACES SHALL BE CONVENTIONAL DEVICES SUITABLE FOR USE IN EXTREME HIGH AND LOW TEMPERATURES AND HIGH HUMIDITY. SUCH DEVICES SHALL BE SUPERVISED BY ADDRESSABLE MONITOR MODULES LOCATED IN CONDITIONED SPACES.
5. QUANTITIES, TYPES, AND LOCATIONS OF INITIATING DEVICES AND OUTPUT MODULES FOR INTERCONNECTION WITH FIRE SUPPRESSION MUST BE COORDINATED WITH CONTRACTORS THAT ARE RESPONSIBLE FOR THOSE SYSTEMS.

FIRE PROTECTION PLAN

SCALE: 3/16" = 1'-0"

FOR ESTIMATING PURPOSES ONLY.
NOT FOR CONSTRUCTION.

J-SQUARED ENGINEERING
2400 Bluff Creek Drive, Suite 101
Columbia, Missouri 65201
573.234.4492
www.j-squaredeng.com

J2 PROJECT No:	J21211
J2 DESIGN:	ACW

ISSUE TITLE	DATE
PERMIT SET	06 - 13 - 2025
CITY COMMENTS	08 / 11 / 2025

MECHANICAL - ELECTRICAL - PLUMBING DESIGN DRAWINGS FOR:

Discovery Park Athletic Club & Office

250 NE Alura Way, Lot 13
Lee's Summit, MO 64064

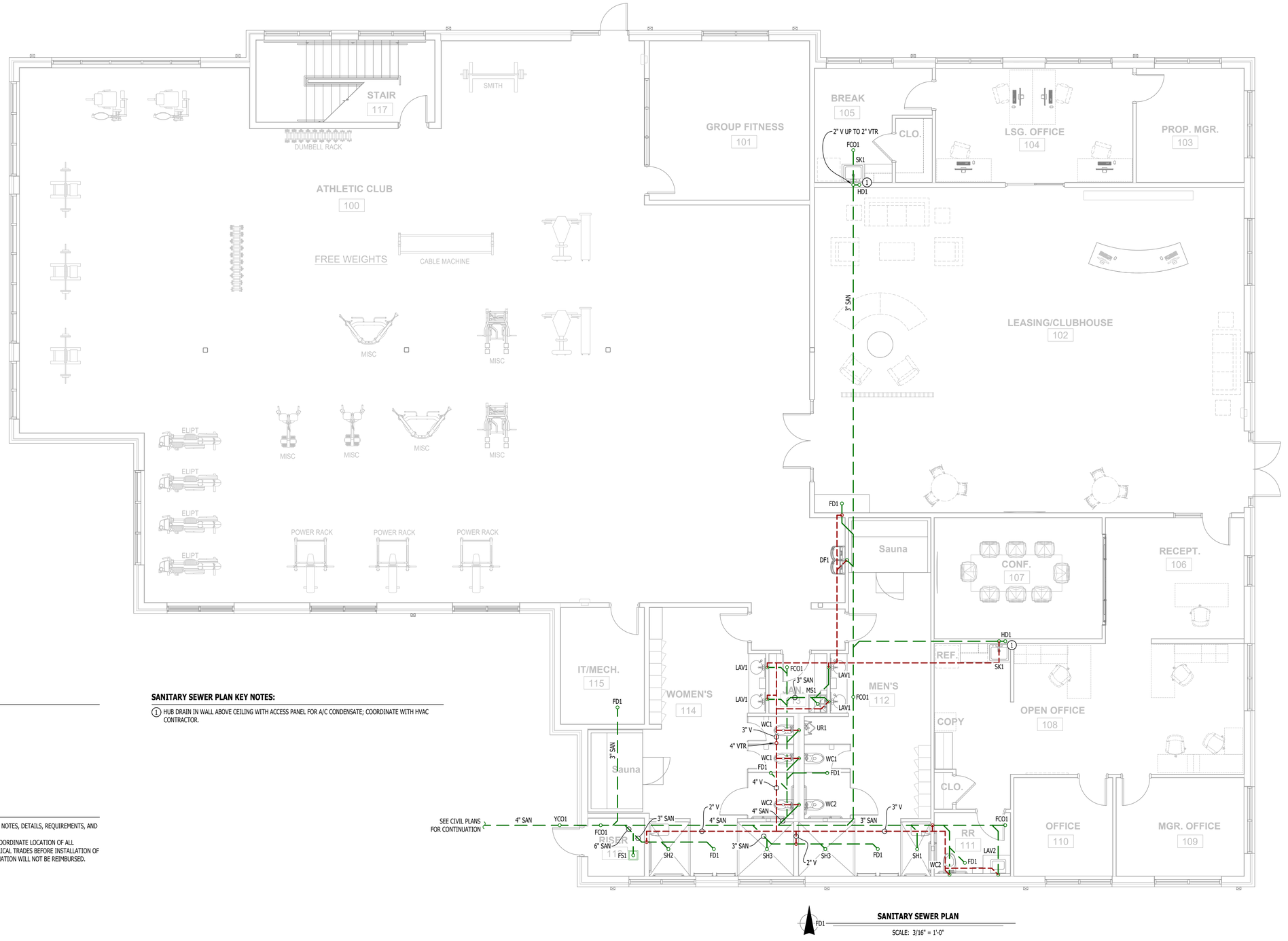
AHJ APPROVAL STAMP

SHEET TITLE

FIRE PROTECTION PLAN

SHEET NUMBER

FP101



SANITARY SEWER PLAN

SCALE: 3/16" = 1'-0"

SANITARY SEWER PLAN SYMBOL LEGEND

- SANITARY SEWER PIPING
- VENT PIPING
- PIPING TURNED DOWN / TURNED UP
- TIE INTO EXISTING

SANITARY SEWER PLAN GENERAL NOTES:

1. REFER TO PS00 AND/OR P600 SERIES SHEETS FOR ADDITIONAL PLUMBING NOTES, DETAILS, REQUIREMENTS, AND SCHEDULES.
2. PLUMBING CONTRACTOR SHALL REVIEW ALL PROJECT DOCUMENTS AND COORDINATE LOCATION OF ALL EQUIPMENT, PIPING, HANGERS / SUPPORTS, ETC. WITH HVAC AND ELECTRICAL TRADES BEFORE INSTALLATION OF ANY MATERIAL. ADDITIONAL COSTS ASSOCIATED WITH LACK OF COORDINATION WILL NOT BE REIMBURSED.

SANITARY SEWER PLAN KEY NOTES:

(1) HUB DRAIN IN WALL ABOVE CEILING WITH ACCESS PANEL FOR A/C CONDENSATE; COORDINATE WITH HVAC CONTRACTOR.

STATE OF MISSOURI
JAMES P. WATSON
NUMBER PE-2015017071
PROFESSIONAL ENGINEER

James Watson, P.E. June 13, 2025
PE-2015017071
MO Certificate of Authority # 2018029680

J-SQUARED ENGINEERING
2400 Bluff Creek Drive, Suite 101
Columbia, Missouri 65201
573.234.4492
www.j-squaredeng.com

J2 PROJECT No:	J21211
J2 DESIGN:	ACW

ISSUE TITLE	DATE
PERMIT SET	06 - 13 - 2025

MECHANICAL - ELECTRICAL - PLUMBING DESIGN DRAWINGS FOR:

Discovery Park Athletic Club & Office

250 NE Alura Way, Lot 13
Lee's Summit, MO 64064

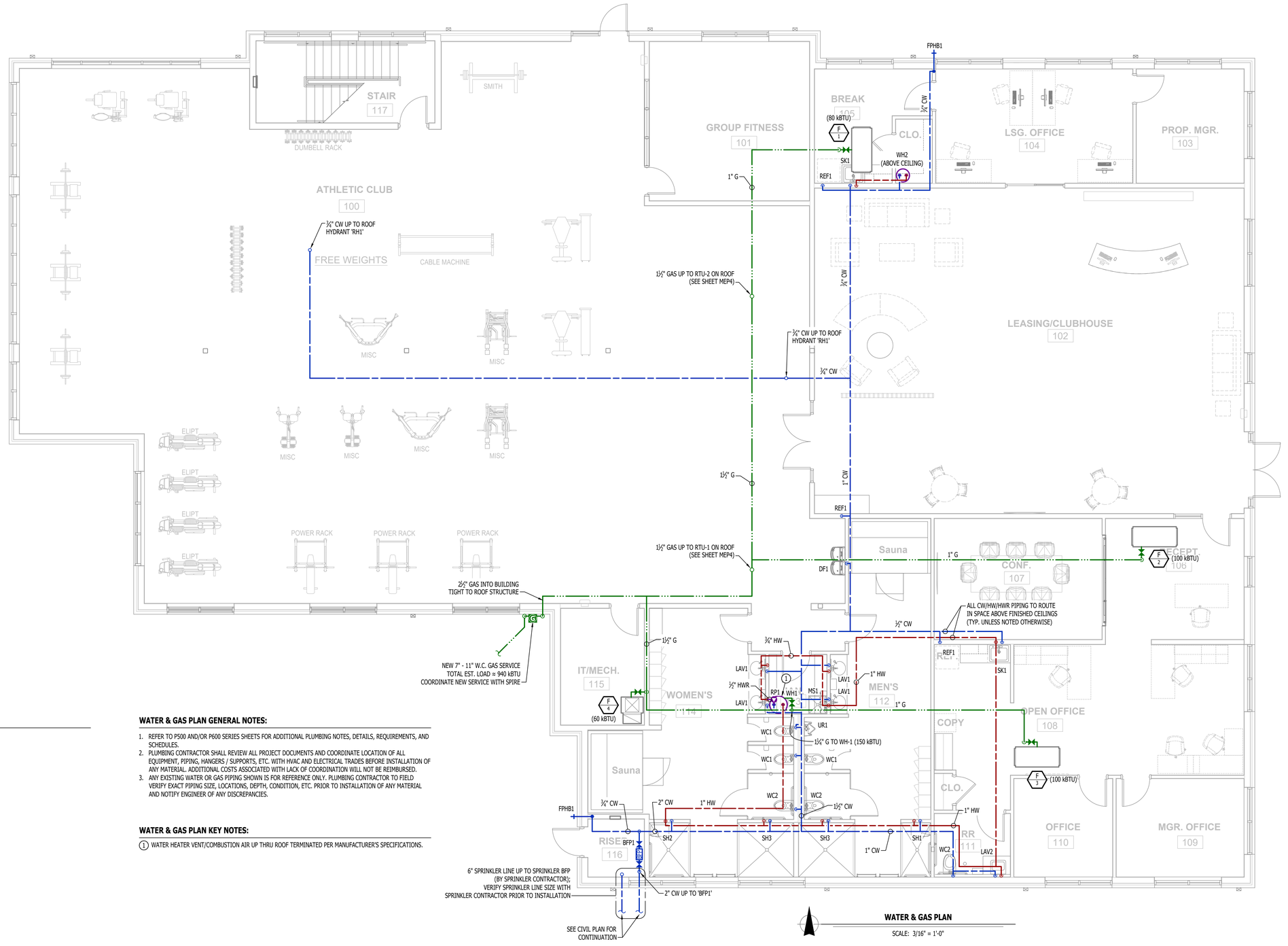
AHJ APPROVAL STAMP

SHEET TITLE

SANITARY SEWER PLAN

SHEET NUMBER

PS101



WATER & GAS PLAN SYMBOL LEGEND

- COLD WATER LINE
- HOT WATER LINE
- HOT WATER RECIRCULATION LINE
- WATER METER
- VALVE
- PUMP
- GAS LINE
- GAS METER
- VENT/COMBUSTION AIR
- PIPING TURNED DOWN / TURNED UP
- TIE INTO EXISTING

WATER & GAS PLAN GENERAL NOTES:

1. REFER TO P500 AND/OR P600 SERIES SHEETS FOR ADDITIONAL PLUMBING NOTES, DETAILS, REQUIREMENTS, AND SCHEDULES.
2. PLUMBING CONTRACTOR SHALL REVIEW ALL PROJECT DOCUMENTS AND COORDINATE LOCATION OF ALL EQUIPMENT, PIPING, HANGERS / SUPPORTS, ETC. WITH HVAC AND ELECTRICAL TRADES BEFORE INSTALLATION OF ANY MATERIAL. ADDITIONAL COSTS ASSOCIATED WITH LACK OF COORDINATION WILL NOT BE REIMBURSED.
3. ANY EXISTING WATER OR GAS PIPING SHOWN IS FOR REFERENCE ONLY. PLUMBING CONTRACTOR TO FIELD VERIFY EXACT PIPING SIZE, LOCATIONS, DEPTH, CONDITION, ETC. PRIOR TO INSTALLATION OF ANY MATERIAL AND NOTIFY ENGINEER OF ANY DISCREPANCIES.

WATER & GAS PLAN KEY NOTES:

(1) WATER HEATER VENT/COMBUSTION AIR UP THRU ROOF TERMINATED PER MANUFACTURER'S SPECIFICATIONS.

WATER & GAS PLAN

SCALE: 3/16" = 1'-0"

STATE OF MISSOURI
JAMES P. WATSON
NUMBER PE-2015017071
PROFESSIONAL ENGINEER

James Watson, P.E. June 13, 2025
PE-2015017071
MO Certificate of Authority # 2018029680

J-SQUARED ENGINEERING
2400 Bluff Creek Drive, Suite 101
Columbia, Missouri 65201
573.234.4492
www.j-squaredeng.com

J2 PROJECT No:	J21211
J2 DESIGN:	ACW

ISSUE TITLE	DATE
PERMIT SET	06 - 13 - 2025

MECHANICAL - ELECTRICAL - PLUMBING DESIGN DRAWINGS FOR:

Discovery Park Athletic Club & Office

250 NE Alura Way, Lot 13
Lee's Summit, MO 64064

AHJ APPROVAL STAMP

SHEET TITLE

WATER & GAS PLAN

SHEET NUMBER

PW101

PLUMBING SPECIFICATIONS

1. GENERAL

1.1. PLUMBING CONTRACTOR IS RESPONSIBLE TO PROVIDE ALL ESCUTCHEONS, ½ TURN STOPS, P-TRAPS, AND SUPPLY LINES TO PROVIDE A COMPLETE SYSTEM AT EACH FIXTURE INDICATED ON PLANS UNLESS NOTED OTHERWISE.

1.2. ALL PLUMBING SYSTEMS SHALL BE INSTALLED LEVEL, PLUMB, AND PARALLEL/PERPENDICULAR TO BUILDING ORIENTATION WHERE POSSIBLE.

1.3. COORDINATE ALL PIPING INSTALLATIONS WITH STRUCTURAL GRADE BEAMS, FOOTINGS, COLUMN PIERS, ETC. SLEEVE PIPING THRU STRUCTURAL ELEMENTS AS NECESSARY, VERIFY WITH STRUCTURAL ENGINEER.

1.4. VERIFY ALL UTILITY CONNECTION POINTS WITH PROPOSED PLUMBING LAYOUTS PRIOR TO BEGINNING WORK.

1.5. CLEAN ALL PLUMBING FIXTURES AND CHANGE FAUCET AERATORS AND SINK STRAINERS AT PROJECT COMPLETION PRIOR TO TURNING OVER TO OWNERSHIP.

2. EQUIPMENT / FIXTURES

2.1. ALL EQUIPMENT AND/OR FIXTURES MUST MEET OR EXCEED THE PERFORMANCE, FUNCTIONAL INTENT, AND AESTHETICS AS MODELS SPECIFIED ON PLANS. WHERE SPECIFIC MANUFACTURERS AND/OR MODELS ARE INDICATED ON PLANS OR WITHIN SCHEDULES, CONTRACTOR TO PROVIDE MODEL INDICATED OR APPROVED EQUAL. VERIFY SUBSTITUTION APPROVAL PRIOR TO PURCHASE OR INSTALLATION OF EQUIPMENT.

2.2. CONTRACTOR TO SUPPLY SUBMITTALS FOR ALL EQUIPMENT FOR REVIEW BY ARCHITECT AND ENGINEER. FORMAL APPROVAL SHALL BE RECEIVED BY CONTRACTOR PRIOR TO EQUIPMENT PURCHASE.

2.3. CONTRACTOR TO SHARE APPROVED EQUIPMENT SUBMITTALS WITH ANY PERTINENT ELECTRICAL REQUIREMENTS WITH ELECTRICAL CONTRACTORS WITHIN TWO WEEKS OF RECEIVING APPROVED SUBMITTALS FROM ARCHITECT/ENGINEER.

3. SANITARY

3.1. BELOW AND ABOVE GRADE WASTE AND VENT PIPING IN BUILDING TO BE SOLID CORE SCHEDULE 40 PVC LISTED FOR DWV APPLICATIONS.

3.2. NO WASTE OR VENT PIPING INSTALLED BELOW GRADE SHALL BE SMALLER THAN 2".

3.3. MINIMUM SLOPES FOR WASTE PIPING (UNLESS NOTED OTHERWISE ON PLANS):

3.3.1. 2 ½" OR LESS DIAMETER: ¼" PER FOOT

3.3.2. 3" TO 6" DIAMETER: ⅛" PER FOOT

3.3.3. 8" OR LARGER DIAMETER: 1/16" PER FOOT

3.4. ACCESSIBLE FULL PIPE SIZE CLEANOUTS SHALL BE PROVIDED & INSTALLED ON BUILDING SANITARY LINES AT LOCATIONS SHOWN ON PLANS, AT INTERVALS OF NO MORE THAN 100', AT EVERY CHANGE IN DIRECTION GREATER THAN 45°, AND AT THE BASE OF EACH WASTE STACK.

3.5. WASTE AND VENT PIPING IN PLENUMS SHALL BE CAST IRON, PLENUM-RATED CPVC, OR PVC WITH AN INSULATION WRAP LISTED FOR USE AS SUCH AN ASSEMBLY.

3.6. ALL VENT PIPE TERMINATIONS SHALL BE LOCATED EITHER 10' HORIZONTALLY OR 3' ABOVE MECHANICAL AIR INTAKE LOCATIONS. TERMINATIONS SHALL NOT BE INSTALLED UNDER ANY OPERABLE BUILDING OPENING OR OPERABLE ADJACENT BUILDING OPENING. CONTRACTOR TO OFFSET VENT PIPING AS NECESSARY TO MEET THESE REQUIREMENTS.

4. DOMESTIC WATER

4.1. ALL DOMESTIC WATER PIPING TO BE EITHER COPPER OR PEX, SHALL CONFORM TO NSF 61 AND BE LISTED FOR USE IN POTABLE WATER SYSTEMS.

4.1.1. WHERE PEX PIPING IS USED, IT SHALL BE INCREASED ONE PIPE SIZE FROM WHAT IS INDICATED ON PLANS FOR ALL PORTIONS OF DISTRIBUTION SYSTEM.

4.1.2. PEX-A MAY BE INSTALLED AT SIZES INDICATED ON PLANS ONLY IF AN ENGINEERED PLAN IS SUBMITTED SHOWING ACCEPTABLE PRESSURE DROPS AND FLUID VELOCITIES, APPROVAL MUST BE GRANTED PRIOR TO PURCHASE AND INSTALLATION.

4.1.3. COPPER WATER PIPING BELOW GRADE SHALL BE TYPE "K". BELOW GRADE JOINTS SHALL BE SILVER SOLDERED. THERE SHALL BE NO JOINTS IN WATER PIPING LOCATED BENEATH BUILDING SLAB.

4.1.4. COPPER WATER PIPING ABOVE GRADE SHALL BE TYPE "L".

4.2. PROVIDE WATER HAMMER ARRESTORS AT ALL QUICK-CLOSE VALVES. FIXTURES REQUIRING WATER HAMMER ARRESTORS INCLUDE BUT ARE NOT LIMITED TO FLUSH VALVES, SENSOR FAUCETS, AND WASHING MACHINE BOXES. AIR CHAMBERS SHALL NOT BE PERMITTED.

4.3. ALL DOMESTIC WATER PIPING SHALL BE ROUTED WITHIN BUILDING THERMAL ENVELOPE AND WITHIN WALL CAVITIES, ABOVE FINISHED CEILINGS, OR BELOW SLAB TO REMAIN CONCEALED UNLESS OTHERWISE NOTED. NOTIFY ENGINEER OF ANY NECESSARY ADJUSTMENTS THAT REQUIRE PIPING TO BE EXPOSED.

4.4. DOMESTIC WATER PIPING INSULATION

4.4.1. ALL HW & HWR PIPING, WHETHER COPPER OR PEX, SHALL BE INSULATED WITH PLENUM RATED CLOSED CELL ELASTOMERIC INSULATION.

4.4.1.1. FOR PIPING LESS THAN 1½", INSULATION THICKNESS TO BE 1".

4.4.1.2. FOR PIPING 1½" OR GREATER, INSULATION THICKNESS SHALL BE 1½".

4.4.2. CW COPPER PIPING TO INSULATED WITH ½" PLENUM RATED CLOSED CELL ELASTOMERIC INSULATION. CW PEX NEED NOT BE INSULATED UNLESS NOTED OTHERWISE ON PLANS.

5. GAS PIPING

5.1. GAS PIPING SHALL BE INSTALLED LEVEL, PLUMB, AND PARALLEL OR PERPENDICULAR TO BUILDING ORIENTATION WHERE POSSIBLE.

5.2. QUARTER-TURN FULL-PORT SHUTOFF VALVES SHALL BE INCLUDED AT EACH APPLIANCE CONNECTION, AS WELL AS AN IN-LINE REGULATOR FROM DELIVERY PRESSURE TO APPLIANCE OPERATING PRESSURE IF REQUIRED. INCLUDE SEDIMENT TRAPS PER IFGC REQUIREMENTS.

5.1. NATURAL GAS AND LIQUID PROPANE (LP) PIPING TO SHALL BE SCHEDULE 40 BLACK STEEL.

5.2. PIPE JOINTS SHALL BE THREADED WITH CLASS 150 FITTINGS, OR WELDED. NOTIFY OWNER/GC OF ANY NECESSARY HOT-WORK ASSOCIATED WITH WELDED CONNECTIONS.

5.3. WHERE PIPING IS EXPOSED ON EXTERIOR FACE OF BUILDING, PAINT TO MATCH BUILDING. PAINT YELLOW IN ALL OTHER LOCATIONS.

5.4. ON ROOFTOPS, INSTALL GAS PIPE WITH "ROOFTOP BLOX" PER MANUFACTURER'S INSTRUCTION.

6. STORM DRAIN PIPING

6.1. ABOVE AND BELOW GRADE STORM PIPING SHALL BE SOLID CORE SCHEDULE 40 PVC.

6.2. ALL PRIMARY & SECONDARY STORM DRAIN PIPING & FITTINGS SHALL BE INSULATED WITH ½" FIBERGLASS INSULATION WITH ASJ JACKET.

6.3. STORM DRAIN PIPING IN PLENUMS SHALL BE CAST IRON, PLENUM-RATED CPVC, OR PVC WITH AN INSULATION WRAP LISTED FOR USE AS SUCH AN ASSEMBLY.

PLUMBING FIXTURE SCHEDULE

TAG	DESCRIPTION	MANUFACTURER (OR EQUAL)	MODEL (OR EQUAL)	NOTES
BFP1	BACKFLOW PREVENTER	WILKINS	975XL2	2" RPZ
DF1	DRINKING FOUNTAIN WITH BOTTLE FILLER	ELKAY	LZSTL8WLSK	HIGH / LOW WITH BOTTLE FILLER
EXP1	EXPANSION TANK	WATTS	PLT-12	
EXP2	EXPANSION TANK	WATTS	PLT-5	
FCO1	FLOOR CLEANOUT	ZURN	1400	
FD1	FLOOR DRAIN	ZURN	Z415-BZ	WITH Z1072 TRAP SEAL
FPHB1	FROST PROOF HOSE BIB	WOODFORD	MODEL 67	
FS1	FLOOR SINK	ZURN	FS12	
LAV1	LAVATORY - (INTEGRAL BOWL W/ HANDS FREE FAUCET)	-	-	WITH ZURN Z6915-XL-L-TMV-1 FAUCET, 1/4 TURN STOPS, BRAIDED STAINLESS STEEL SUPPLIES
LAV2	LAVATORY (WALL HUNG W/MANUAL FAUCET)	AMERICAN STANDARD	0355.012	WITH ZURN Z81104-XL FAUCET, 1/4 TURN STOPS, BRAIDED STAINLESS STEEL SUPPLIES, AND TRUBRO LAV GUARD 2
MS1	MOP SINK	FIAT	MSB2424	WITH ZURN Z843M1 FAUCET WITH WALL HOOK
REF1	REFRIGERATOR BOX	SIOUX CHIEF	696-G1000	
RH1	ROOF HYDRANT	WOODFORD	SRH-MS	
RP1	RECIRCULATION PUMP	GRUNDFOS	UP10-15BUA/TLC	WITH AQUASTAT CONTROL KIT
SH1	ADA SHOWER	ZURN	Z415-BZ	WITH Z1072 TRAP SEAL; WITH MOEN POSI-TEMP MIXING VALVE, SLIDE BAR AND HANDHELD SHOWER ASSEMBLY
SH2	SHOWER	ZURN	Z415-BZ	WITH Z1072 TRAP SEAL; WITH MOEN POSI-TEMP MIXING VALVE AND TRIM KIT
SH3	SHOWER	ZURN	Z415-BZ	WITH Z1072 TRAP SEAL; WITH MOEN POSI-TEMP MIXING VALVE AND TRIM KIT
TMV1	THERMOSTATIC MIXING VALVE - POINT OF USE	WATTS	LFUSG	
UR1	URINAL - MANUAL FLUSH	AMERICAN STANDARD	6550.001	WITH ZURN Z6003AV-WS1 MANUAL FLUSH VALVE (1.0 GPM/FLUSH)
WC1	WATER CLOSET - STANDARD HEIGHT - PRESSURE ASSIST TANK	AMERICAN STANDARD	2462.016	WITH CHURCH 9500SSCT SELF SUSTAINING SEAT
WC2	WATER CLOSET - ADA HEIGHT - PRESSURE ASSIST TANK	AMERICAN STANDARD	2467.016	WITH CHURCH 9500SSCT SELF SUSTAINING SEAT
WH1	WATER HEATER - GAS - 100 GALLON	A.O. SMITH	BTH-150	150KBTU, 100 GALLON, WITH 'EXP1'
WH2	WATER HEATER - ELECTRIC - 6 GALLON	RUUD	EGSP6	120V, 1500W, WITH 'EXP2'
YCO1	YARD CLEAN OUT	ZURN	Z1400	

NOTES:

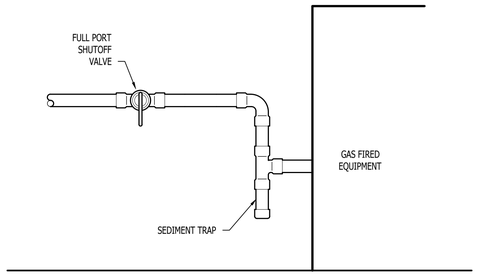
1. VERIFY NECESSARY FIXTURES MEET ADA REQUIREMENTS WITH ARCHITECT PRIOR TO INSTALLATION.
2. VERIFY FIXTURE FINISHES WITH OWNER / ARCHITECT.

PLUMBING CONNECTION SIZING SCHEDULE

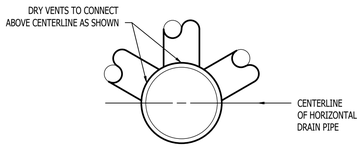
FIXTURE		SANITARY PIPING		SUPPLY PIPING	
TYPE	TYPICAL ABBREVIATION	WASTE CONNECTION	VENT CONNECTION	COLD WATER CONNECTION	HOT WATER CONNECTION
DRINKING FOUNTAIN	DF	1-1/2"	1-1/4"	1/2"	-
FLOOR DRAIN	FD	3"	2"	-	-
HAND / HAIR SINK	HS / SK	2"	1-1/4"	1/2"	1/2"
HOSE BIBB	HB	-	-	3/4"	-
LAVATORY	LAV	1-1/2"	1-1/4"	1/2"	1/2"
MOP SINK	MS	3"	1-1/2"	1/2"	1/2"
ICE MAKER OUTLET BOX	REF	-	-	1/2"	-
SHOWER	SH	3"	1-1/2"	1/2"	1/2"
URINAL	UR	2"	1-1/4"	3/4"	-
WATER CLOSET (FLUSH TANK)	WC	3"	2"	1/2"	-
WATER CLOSET (FLUSH VALVE)	WC	3"	2"	1"	-

NOTES:

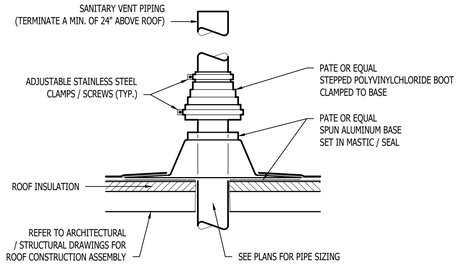
1. SIZES SHOWN ABOVE ARE TYPICAL UNLESS NOTED OTHERWISE ON PLANS



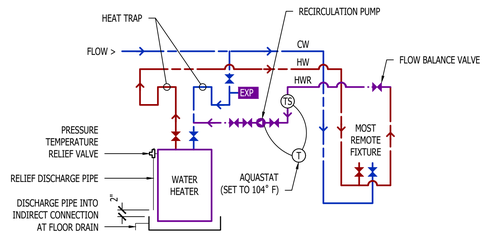
GAS EQUIPMENT SUPPLY DETAIL W/O REGULATOR



DRY VENT DETAIL



SANITARY VENT THRU ROOF DETAIL



HOT WATER RECIRCULATION DETAIL

STATE OF MISSOURI
JAMES P. WATSON
NUMBER PE-2015017071
PROFESSIONAL ENGINEER

James Watson, P.E. June 13, 2025
PE-2015017071
MO Certificate of Authority # 2018029680

J-SQUARED ENGINEERING
2400 Bluff Creek Drive, Suite 101
Columbia, Missouri 65201
573.234.4492
www.j-squaredeng.com

J2 PROJECT NO: J21211
J2 DESIGN: ACW

ISSUE TITLE	DATE
PERMIT SET	06 - 13 - 2025

MECHANICAL - ELECTRICAL - PLUMBING DESIGN DRAWINGS FOR:

Discovery Park Athletic Club & Office

250 NE Alura Way, Lot 13
Lee's Summit, MO 64064

AHJ APPROVAL STAMP

SHEET TITLE

PLUMBING DETAILS & SCHEDULES

SHEET NUMBER

P501