TM FIELDHOUSE

1600 SE HAMBLEN ROAD LEE'S SUMMIT, MISSOURI 64081

PERMIT SET 2 MAY 2023 COLLINS WEBB #: 22103

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ARCHITECT

COLLINS | WEBB ARCHITECTURE 307B SW MARKET STREET LEE'S SUMMIT, MISSOURI 64063 P: 816.249.2270 www.collinsandwebb.com

CIVIL ENGINEER

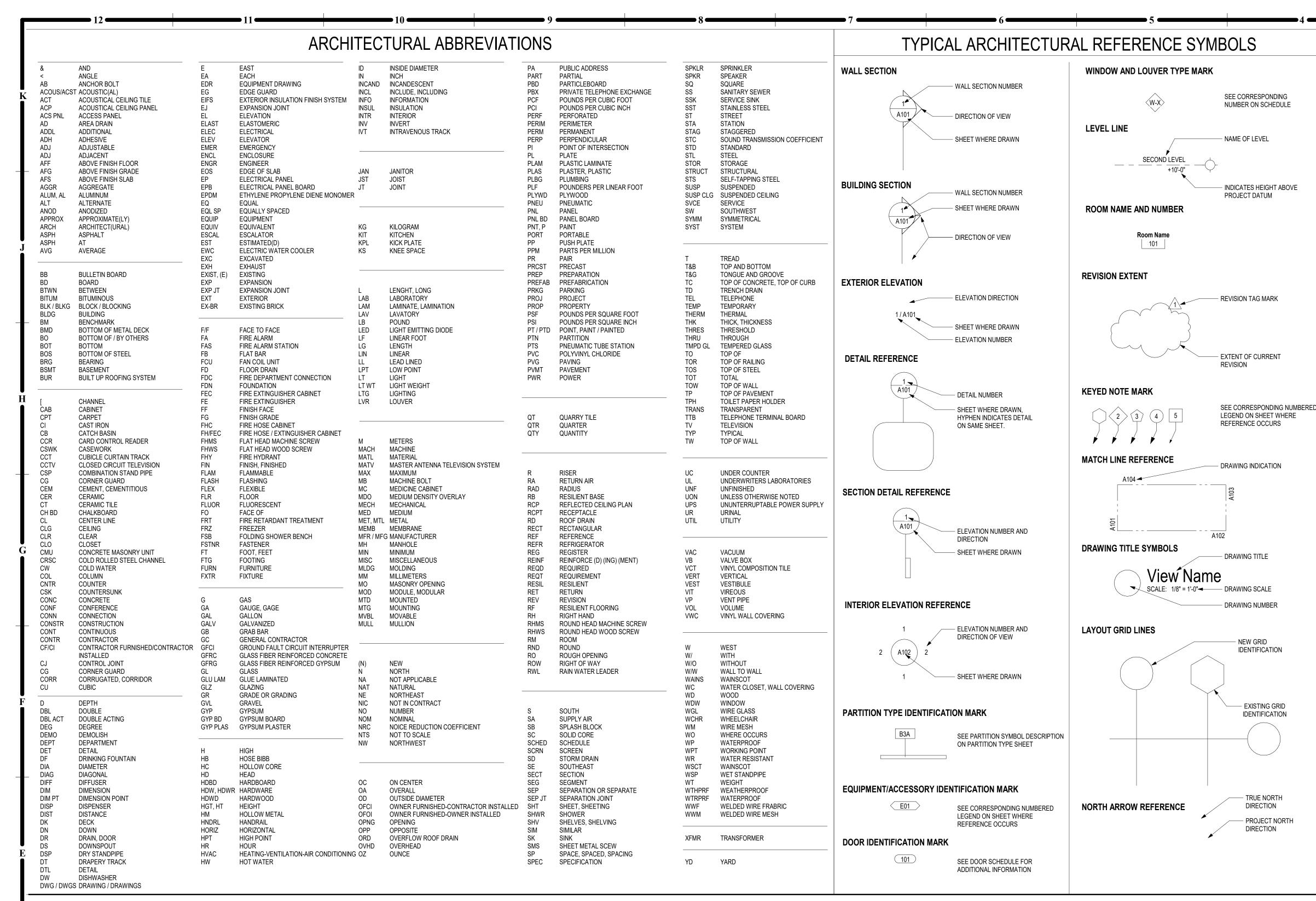
ENGINEERING SOLUTIONS 50 SE 30TH STREET LEE'S SUMMIT, MO 64082 P: 816.623.9888 www.es-kc.com

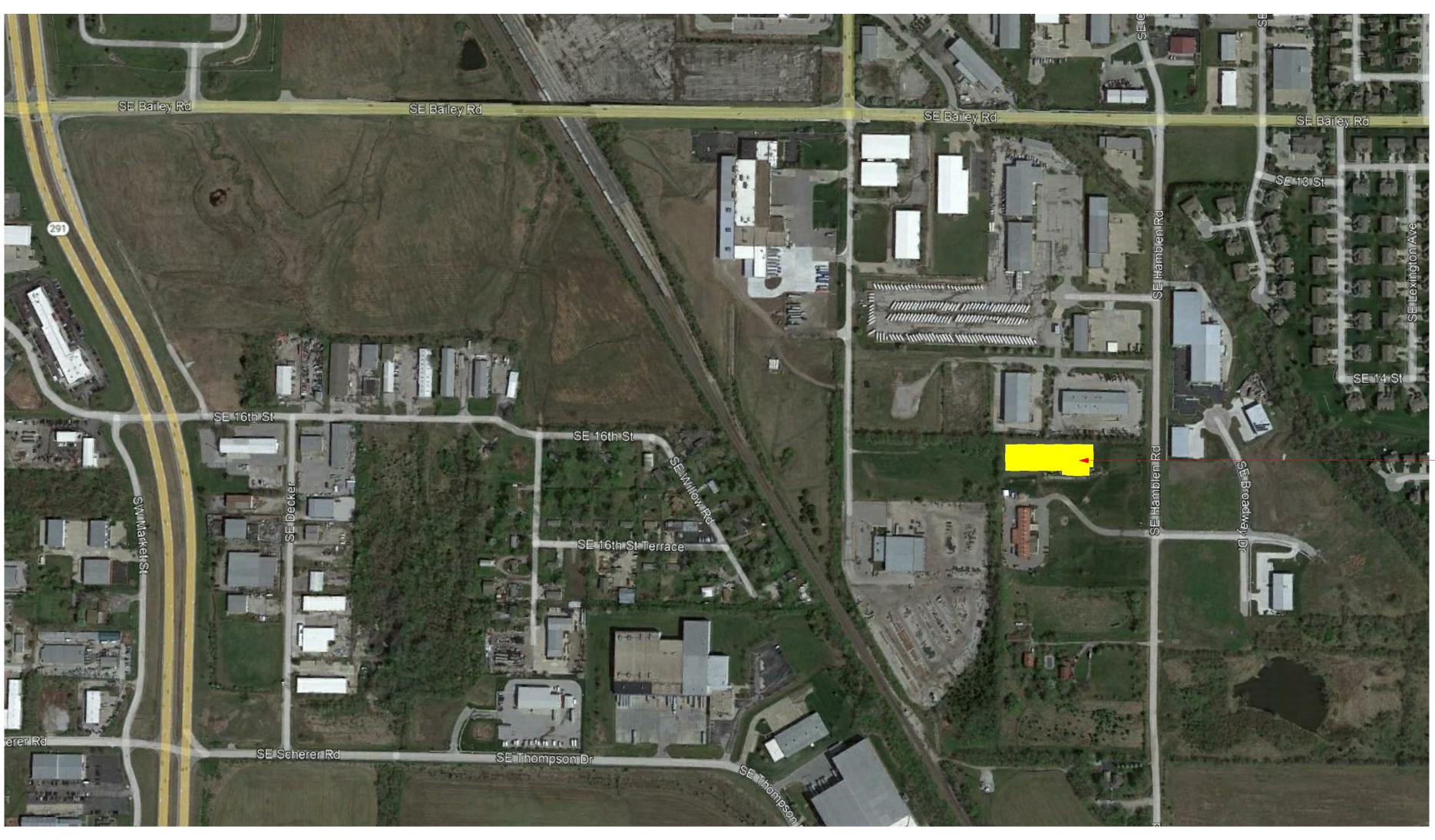
STRUCTURAL ENGINEER

STAND STRUCTURAL ENGINEERING INC. 8234 ROBINSON ST. OVERLAND PARK, KS 66204 P: 913.214.2169 www.stand-sei.com

MEP ENGINEER

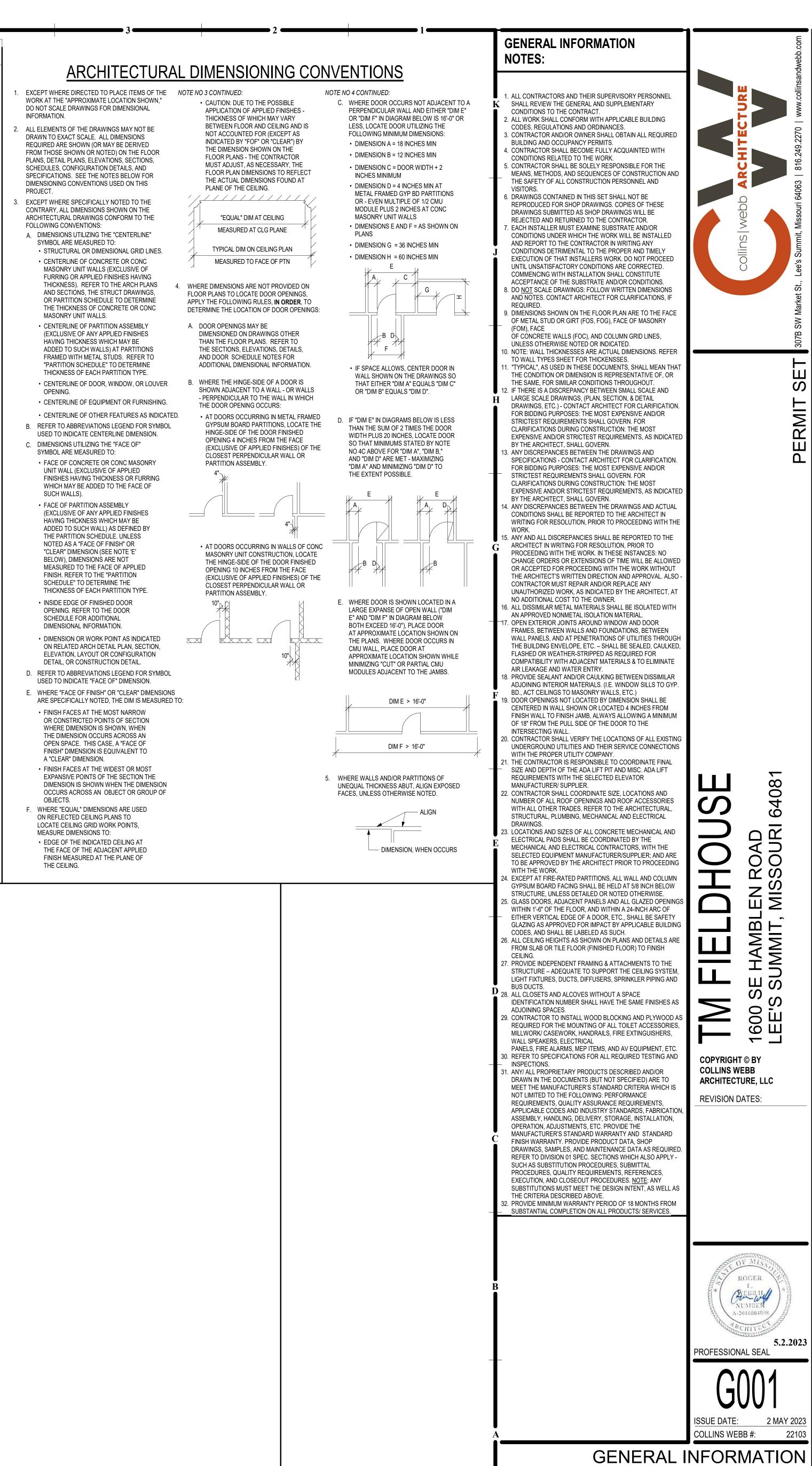
ENGINEERED BUILDING SOLUTIONS P.O. BOX #11101 OVERLAND PARK, KS 66207 P: 913.735.5654 www.EBSolutionsKC.com

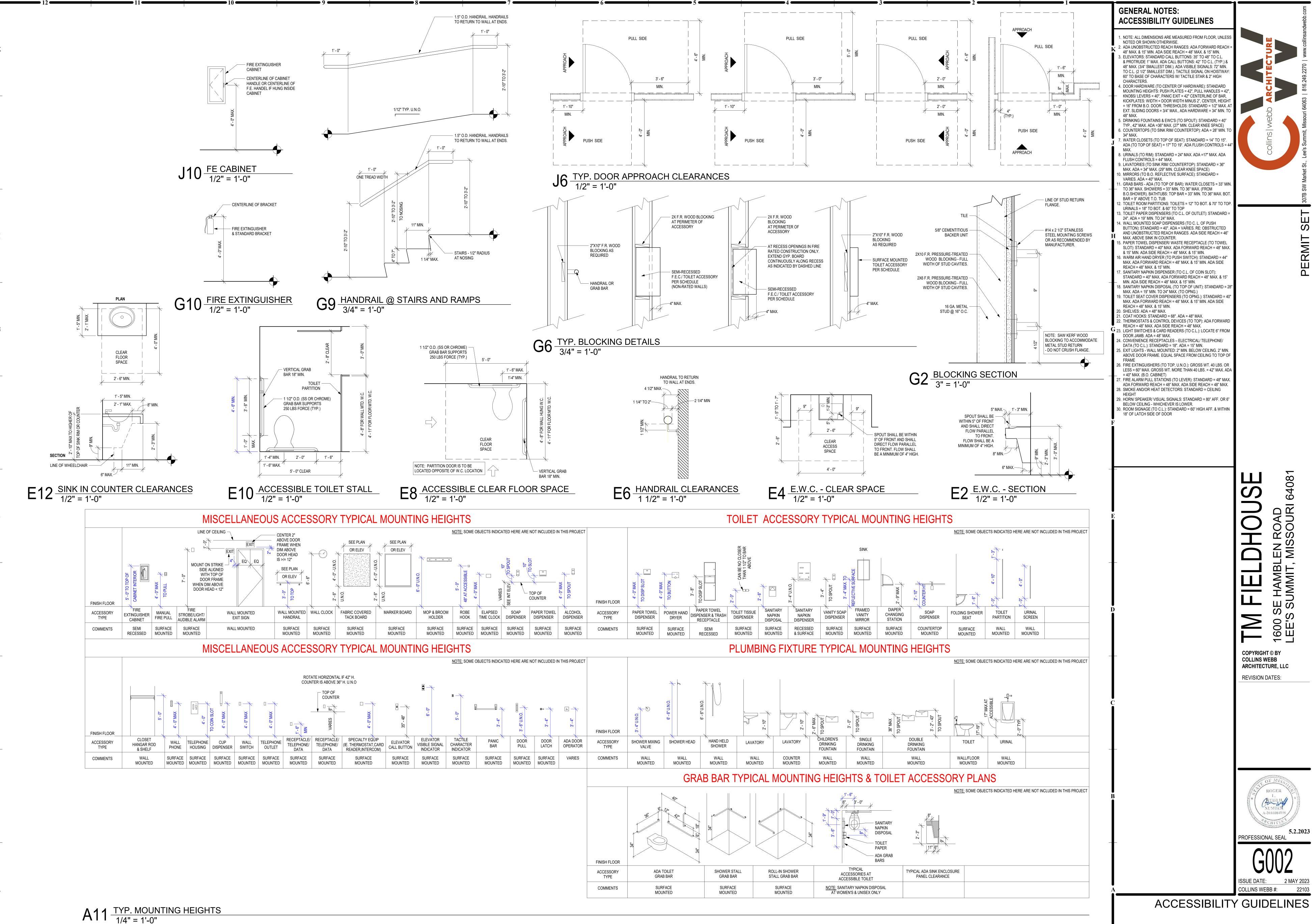


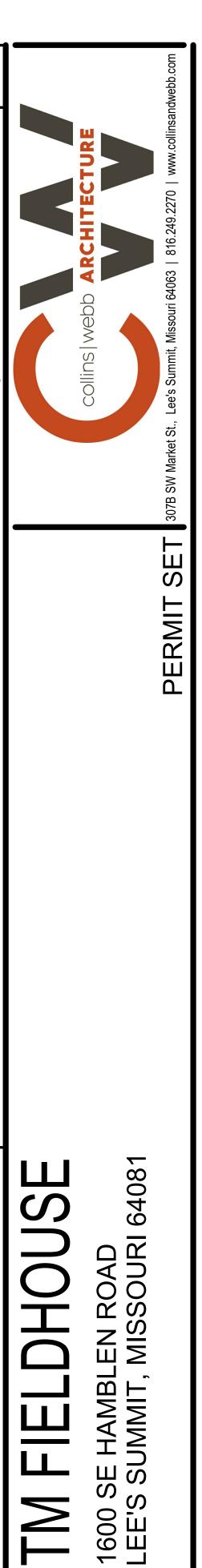


PROJECT LOCATION 1600 SE HAMBLEN ROAD LEE'S SUMMIT, MISSOURI 64063

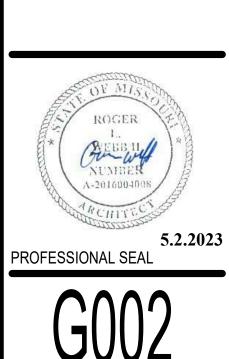
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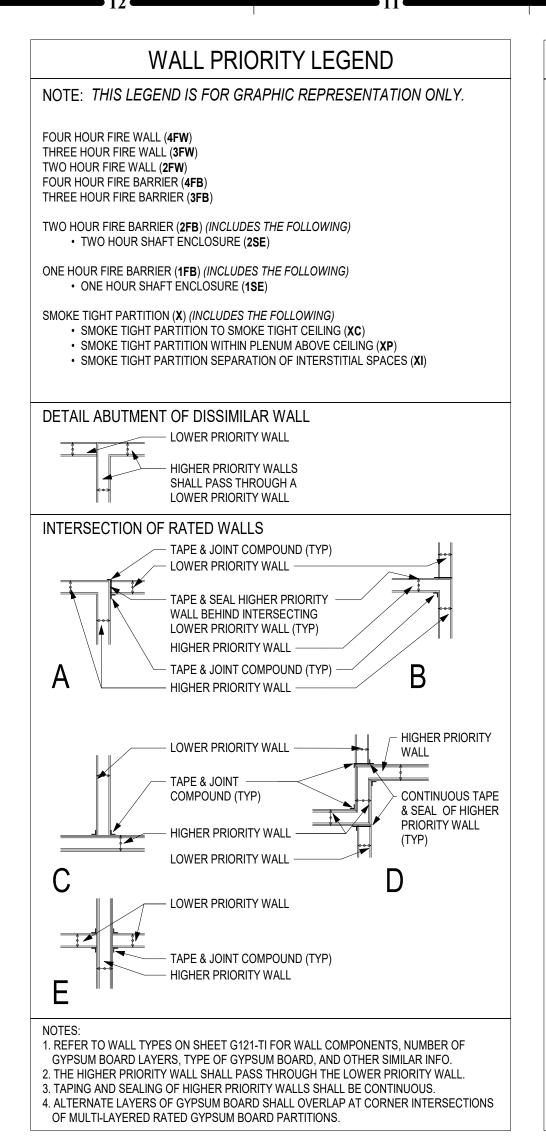


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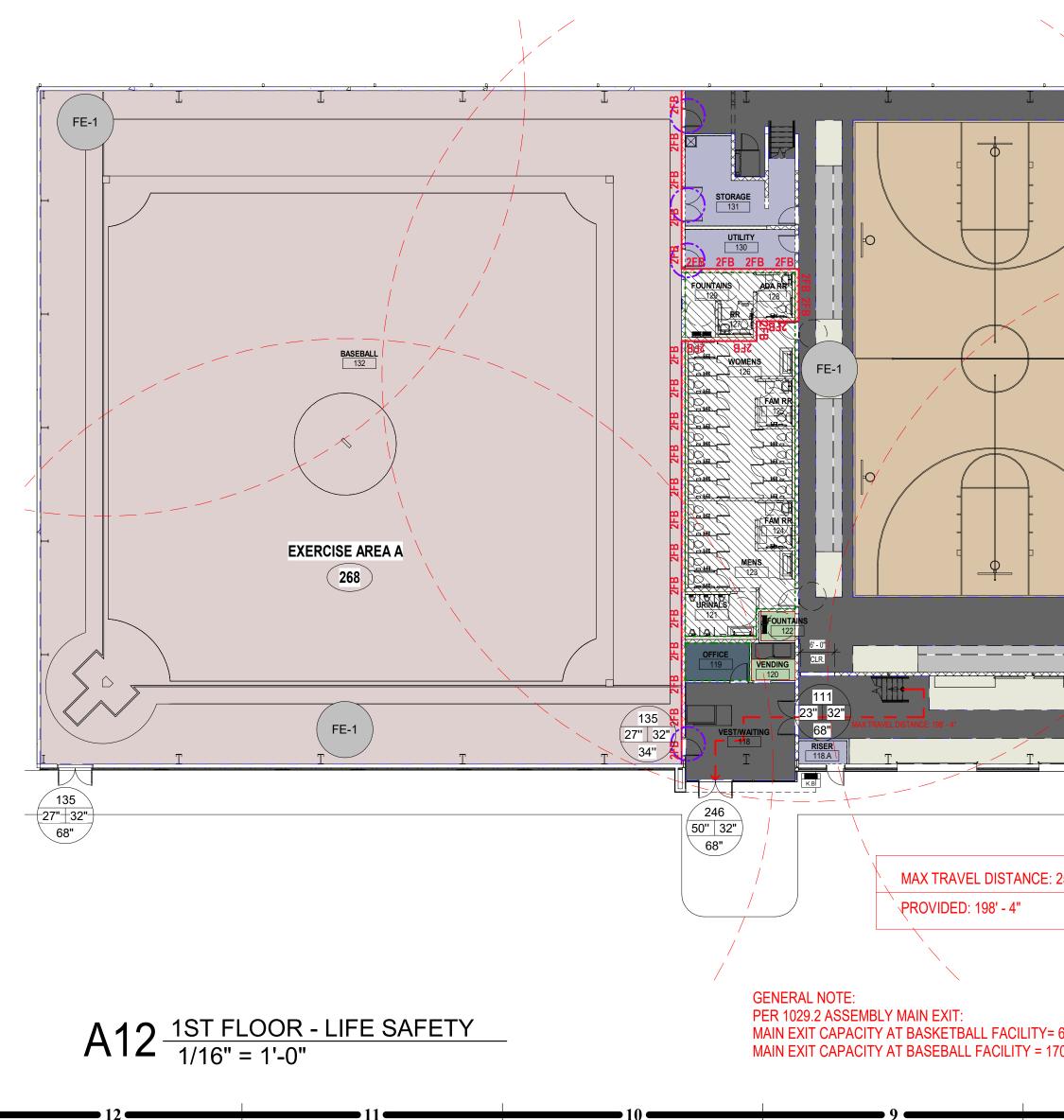


FIRE WALLS (FW)	FIRE PARTI
DEFINITION A FIRE RATED WALL THAT IS CONTINUOUS VERTICALLY FROM FOUNDATION TO ROOF TO SEPARATE CONSTRUCTION INTO SEPARATE BUILDINGS. <u>ISE</u> IRE WALLS SERVE TO CREATE SEPARATE BUILDINGS FOR THE FOLLOWING	DEFINITION A FIRE RATED PARTITI SHALL BE CONTINUOU FLOOR/CEILING OR RC EXCEPTION, A FIRE PA MEMBRANE OF A FIRE
REASONS. CONSTRUCTION TYPE VARIES FROM ONE BUILDING TO ANOTHER. COMPLIANCE WITH MAXIMUM ALLOWABLE AREA REQUIREMENTS. TO SEPARATE BUILDINGS WITH DIFFERENT LEVELS OF FIRE PROTECTION. TO ADDRESS A PROPERTY LINE DEFINING DIFFERENT OWNERSHIP.	USE FIRE PARTITIONS ARE • SEPARATE DWELLIN • SEPARATE SLEEPIN • SEPARATE CORRIDO
SPECIAL CONSIDERATIONS THE FIRE WALL REQUIRES SUFFICIENT STRUCTURAL STABILITY UNDER FIRE CONDITIONS TO ALLOW THE COLLAPSE OF CONSTRUCTION ON EITHER SIDE WITHOUT COLLAPSE OF THE WALL. OPENINGS ARE REQUIRED TO BE PROTECTED. OPENINGS ARE LIMITED BASED ON A PERCENTAGE OF WALL LENGTH. EXTENDING THE FIRE WALL THROUGH THE ROOF WITH A PARAPET IS REQUIRED FOR SOME CONSTRUCTION CLASSIFICATIONS. THE REQUIRED FIRE RATING OF A FIRE WALL IS BASED ON OCCUPANCY GROUPS AND CLASS OF CONSTRUCTION. HARDWARE FOR SWING DOORS SHALL INCLUDE A LATCH AND CLOSER.	SEPARATE ELEVATC SEPARATE TENANT SPECIAL CONSIDERAT OPENINGS ARE REQ HARDWARE FOR SW BEARING W DEFINITION AN INTERIOR OR EXTE
FIRE BARRIERS (FB) DEFINITION INFIRE RATED WALL CONSTRUCTED TO RESTRICT THE SPREAD OF FIRE.	A BEARING WALL IS FII FIRE RATED STRUCTU SEPARATION FROM OF
CONTINUITY SHALL BE MAINTAINED FROM TOP OF FLOOR TO UNDERSIDE OF THE CLOOR OR ROOF DECK ABOVE.	<u>USE</u> A VERTICAL, LOAD BEA
ISE IRE BARRIERS HAVE THE FOLLOWING APPLICATIONS. TO CREATE HORIZONTAL EXITS. TO SEPARATE EXIT PASSAGEWAYS. OCCUPANCY SEPARATIONS. TO SEPARATE INCIDENTAL USE AREAS. ISOLATION OF HAZARDS. TO SEPARATE ROOMS WITH DIFFERENT LEVELS OF FIRE PROTECTION. SMOKE BARRIERS AND SHAFT ENCLOSURES ARE FIRE BARRIERS. SEE ADDITIONAL	SPECIAL CONSIDERAT • DOORS AND WINDOW • HVAC DUCT PENETR • PLUMBING, ELECTRI REQUIRED TO BE FIF CONSTRUCTED OF I
REQUIREMENTS. <u>SPECIAL CONSIDERATIONS</u> WITHIN SOME CONSTRUCTION CLASSIFICATIONS, CONSTRUCTION THAT PROVIDES	1. THE FOLLOWING INF CONCISE DEFINITION INFORMATION IS NO
STRUCTURAL SUPPORT OF A FIRE BARRIER IS REQUIRED TO BE OF THE SAME HOURLY FIRE RATING AS THE FIRE BARRIER, OR BETTER. OPENINGS ARE REQUIRED TO BE PROTECTED. HARDWARE FOR SWING DOORS SHALL INCLUDE A LATCH AND CLOSER.	 WHEN A WALL HAS REQUIREMENTS FO FOR NEW CONSTR RATED DOORS IN 0

PROTECT OPENINGS IN FIRE RATED FLOOR/CEILING ASSEMBLIES.

PERIMETER SMOKE SEALS.

- SPECIAL CONSIDERATIONS PENETRATIONS IN SHAFT ENCLOSURES ARE PROHIBITED UNLESS NECESSARY FOR THE FUNCTION OF THE SHAFT. WHERE ALLOWED, OPENINGS ARE REQUIRED
- TO BE PROTECTED. DUCT PENETRATIONS REQUIRE COMBINATION SMOKE AND FIRE DAMPERS EXCEPT FOR EXISTING CONDITIONS THAT ARE GRANDFATHERED. HARDWARE FOR SWING DOORS SHALL INCLUDE A LATCH, CLOSER, AND



ч 	GENERAL DESCRIPTION	GENERAL EXITING REQUIREMENTS TABLE/SECTION/REFERENCE	FIRE RESISTIVE LEGE
PARTITIONS (FP)	PROJECT NAME: TM SPORTS COMPLEX PROJECT LOCATION: 1600 SE HAMBLEN ROAD, LEE'S SUMMIT, MO 64081 COUNTY: JACKSON	EXIT TRAVEL DISTANCE 250 FEET IBC SECTION 1017.2 DEAD END CORRIDOR 20 FEET IBC SECTION 1020.4 COMMON PATH OF TRAVEL 30 FEET, OR 75' IF OCC. < 50	<u>3FW 3FW 3FW 3FW</u> 3 HOUR F
D PARTITION THAT IS USED FOR THE APPLICATIONS LISTED BELOW. IT DNTINUOUS FROM TOP OF FLOOR TO UNDERSIDE OF A FIRE-RATED ING OR ROOF/CEILING ASSEMBLY. WHERE ALLOWED BY CODE	COLLINS WEBB ARCHITECTURE 307B SW MARKET STREET LEES SUMMIT, MISSOURI 64063	MIN. CORRIDOR WIDTH 44", OR 36" IF OCC. < 50 IBC TABLE 1029.3 POSTING OF OCCUPANT LOAD: (IBC 1004.9)	K 2FW 2FW 2FW 2FW 2 HOUR F
A FIRE PARTITION SHALL BE ALLOWED TO TERMINATE AT THE UPPER OF A FIRE RATED CEILING	APPLICABLE CODES: INTERNATIONAL BUILDING CODE - 2018 ED. INTERNATIONAL PLUMBING CODE - 2018 ED. INTERNATIONAL MECHANICAL CODE - 2018 ED.	EVERY ROOM OR SPACE THAT IS AN ASSEMBLY OCCUPANCY SHALL HAVE THE OCCUPANT LOAD OF THE ROOM OR SPACE POSTED IN A CONSPICUOUS PLACE, NEAR THE MAIN EXIT OR EXIT ACCESS DOORWAY FROM THE ROOM OR SPACE. POSTED SIGNS SHALL BE OF AN APPROVED LEGIBLE PERMANENT DESIGN AND SHALL BE MAINTAINED BY THE OWNER OR AUTHORIZED AGENT.	2FB 2FB 2FB 2FB 2 HOUR F 1FB 1FB 1FB 1FB 1 HOUR F
IONS ARE USED IN CERTAIN OCCUPANCIES TO DO THE FOLLOWING. DWELLING UNITS SLEEPING SPACES CORRIDORS FROM ADJACENT SPACES	INTERNATIONAL FUEL GAS CODE - 2018 ED. INTERNATIONAL PRIVATE SEWAGE DISPOSAL CODE - 2018 ED. INTERNATIONAL ENERGY CONSERVATION CODE - 2012 ED.	EXIT REQUIREMENTS TABLE/SECTION/REFERENCE	
ELEVATOR LOBBIES TENANT SPACES IN COVERED MALL BUILDINGS	NATIONAL ELECTRICAL CODE - 2017 ED. INTERNATIONAL FIRE CODE - 2018 ED. ADA STANDARDS FOR ACCESSIBLE DESIGN - 2010 ED. ICC/ANSI A117.1-2009 ACCESSIBILITY AND USABILITY CODE	A. REQUIRED CAPACITY 1. STAIRS - 0.3" / PERSON 2. OTHER COMPONENTS - 0.2" / PERSON	1FP 1FP 1FP 1FP 1 HOUR
ARE REQUIRED TO BE PROTECTED. E FOR SWING DOORS SHALL INCLUDE A LATCH AND CLOSER.	CODE INFORMATION TABLE/SECTION/REFERENCE	B. MINIMUM NUMBER	0.5FP 0.5FP 0.5FP 0.5FP 0.5X 0.5X 0.5X 0.5X
NG WALLS (BW) R OR EXTERIOR WALL DESIGNED TO SUPPORT FLOOR OR ROOF LOADS.	BUILDING/PROJECT USE: ATHLETIC CLUB CONSTRUCTION TYPE TYPE II-B (FULLY SPRINKLED) IBC TABLE 601 OCCUPANCY CLASSIFICATION GROUP "A-4" IBC SECTION 303 BUILDING FRAME METAL FRAME	1. OCCUPANT LOAD OF 1-500 PERSONS - 2 EXITS PER STORY IBC TABLE 1006.3.2 2. OCCUPANT LOAD OF 501-1000 PERSONS - 3 EXITS PER STORY IBC TABLE 1006.3.2 3. OCCUPANT LOAD OF MORE THAN 1000 PERSONS - 4 EXITS PER STORY IBC TABLE 1006.3.2	J SB SB SB SB 1 HOUR S
WALL IS FIRE-RATED ONLY TO MAINTAIN THE INTEGRITY OF ITSELF AS A STRUCTURAL ELEMENT. THE WALL DOES NOT SERVE AS A FIRE N FROM ONE SIDE TO THE OTHER SIDE.	BASE ALLOWABLE AREA A-4 38,000 SQ.FT. IBC TABLE 506.2	SIGNAGE	2BW 2BW 2BW 2BW 2 HOUR E
LOAD BEARING STRUCTURAL ELEMENT.	ACTUAL TENANT AREA (GROSS) - WEST BLDG14,220 SQ. FT.SEPARATION WALL BETWEEN TWO SPACES2 HRACTUAL TENANT AREA (GROSS) - EAST BLDG37,448 SQ. FT.	1. STAIR TACTILE AND BRAILLE SIGNAGE ON EACH FLOOR FOR EXIT STAIRWELL, FLOOR DISCHARGE, AND ROOF TOP ACCESS IN ACCORDANCE WITH ICC A117.1	<u>1BW 1BW 1BW 1BW</u> 1 HOUR E
ID WINDOWS ARE NOT REQUIRED TO BE RATED. T PENETRATIONS ARE NOT REQUIRED TO BE FIRE-DAMPERED. , ELECTRICAL, SPRINKLER SYSTEM, AND CABLE PENETRATIONS ARE	BLDG GROSS SQ. FT. TOTAL 51,668 SQ. FT. <u>EAST BLDG</u> LEVEL 1 35,072 SQ. FT.	 2. PROVIDE SIGNAGE "IN CASE OF FIRE, ELEVATORS ARE OUT OF SERVICE. USE EXIT STAIRS" IN ACCORDANCE WITH IBC (3002.3) 3. EVACUATION DIAGRAM PROVIDED IN ACCORDANCE WITH IBC 1023.9 	NUMBER OF OCCUPANTS EXITING EXIT WIDTH PROVIDED (IN.)
TO BE FIRE-STOPPED WITH FIRE SEALANT AT BOTH SIDES, FOR WALLS CTED OF HOLLOW CMU OR STUD FRAMING.	MEZZANINE 2,376 SQ. FT. IBC TABLE 504.4 ALLOWABLE STORIES 3 STORIES	OCCUPANT LOAD : (IBC 1004) TABLE/SECTION/REFERENCE NFPA 101 SECTION 12.1.7.2	NUMBER OF OCCUPANTS EXITING CALCULATED EXIT
RAL NOTES OWING INFORMATION SERVES TO PROVIDE BUILDING OWNERS WITH	ACTUAL NUMBER OF STORIES 1 STORIES IBC TABLE 504.3 ALLOWABLE HEIGHT 75'-0" ACTUAL HEIGHT IN FEET 37' 0"	UNCONCENTRATED SEATING186 OCCUNCONCENTRATED:15 SF/OCCSTANDING SPACE107 OCCSTANDING SPACE:5 SF/OCCEXERCISE BASEBALL INFIELD268 OCCEXERCISE:50 SF/OCC	H EXIT WIDTH PROVIDED (IN.) 68" 68" 68" 68" 68" 68" 68" 68"
DEFINITIONS OF WALL TYPES RELATED TO LIFE SAFETY ISSUES. THIS TON IS NOT MEANT TO BE A SUBSTITUTE FOR APPLICABLE BUILDING CODES. WALL HAS MORE THAN ONE CLASSIFICATION, THE MOST RESTRICTIVE EMENTS FOR EACH CLASSIFICATION SHALL APPLY.	FIRE RESISTIVE REQUIREMENTS TABLE/SECTION/REFERENCE	EXERCISE BASKETBALL COURTS 336 OCC EXERCISE: 50 SF/OCC BLEACHERS 458 OCC FIXED SEATS: 18"/OCC OFFICE SUITE 3 OCC OFFICE: 150 SF/OCC	X" FROM ROOM OR LEVEL X = CLEAR WIDTH OF OPEN
V CONSTRUCTION, PERIMETER SMOKE-SEALS MAY BE REQUIRED AT FIRE DOORS IN CERTAIN OCCUPANCIES.	PRIMARY FRAME0 HRSIBC TABLE 601NON-BEARING WALLS0 HRSIBC TABLE 601BEARING WALLS INT./ EXT.0 INT. / 0 EXT. HRSIBC TABLE 601	CONCESSIONS 7 OCC KITCHEN: 200 SF/OCC OCCUPANT LOAD THIS LEVEL 1,370 TOTAL OCCUPANTS	F.E.C. FIRE RISER CABINET
	FLOOR CONSTRUCTION 0 HRS IBC TABLE 601 CEILING/ROOF 0 HRS IBC TABLE 601 CORRIDORS 0 HRS IBC TABLE 1020.1	EXITS REQUIRED THIS LEVEL 4 EXITS IBC TABLE 1006.3.2 EXITS PROVIDED THIS LEVEL 8 EXITS	F.A.C.P. FIRE ALARM CONTROL PAR
	FIRE EXTINGUISHERS 1. PROVIDE PORTABLE FIRE EXTINGUISHERS IN OCCUPANCIES AND LOCATIONS AS REQUIRED BY THE STATE FIRE PREVENTION CODE. SEE PLANS FOR SUGGESTED LOCATIONS. NOTIFY ADDULTED TO SAND PROPOSED BEL CONTINUE TO ENCOUNTERED	TOTAL OCCUPANT LOAD	
	ARCHITECT OF ANY PROPOSED RELOCATION OR IF A CONFLICT IS ENCOUNTERED. 2. PORTABLE FIRE EXTINGUISHERS SHALL BE INSTALLED, INSPECTED, AND MAINTAINED IN ACCORDANCE WITH NFPA 10, STANDARD FOR PORTABLE FIRE EXTINGUISHERS.		G KNOX BOX
	CEILING HEIGHT NOTES: (IBC 1207) 1. ALL MEANS OF EGRESS TO HAVE A MINIMUM CEILING HEIGHT OF 7'-6" A.F.F., NOR SHALL HAVE ANY PROJECTION FROM THE CEILING BE LESS THAN 6'-8" A.F.F. 2. OCCUPIED SPACES, HABITABLE SPACES AND CORRIDORS SHALL HAVE A CEILING HEIGHT OF NOT LESS THAN 7'-6" A.F.F.	PLUMBING FIXTURE REQUIREMENTS	ASSISTANCE ACCESSIBLE EGRESS COMPONENT
	3. BATHROOMS, TOILET ROOMS, KITCHENS, STORAGE ROOMS AND LAUNDRY ROOMS SHALL HAVE A CEILING HEIGHT OF NOT LESS THAN 7'-0" A.F.F. 4. A CLEAR HEIGHT ABOVE AND BELOW THE MEZZANINE FLOOR CONSTRUCTION SHALL NOT BE LESS THAN 7'-0" A.F.F.	A4 OCC MEN WATER CLOSETS = 1/75 FOR FIRST 1,500, 1/120 FOR REMAINDER A4 OCC WOMEN WATER CLOSETS = 1/40 FOR FIRST 1,520, 1/60 FOR REMAINDER A4 OCC MEN LAVATORIES = 1/200 A4 OCC WOMEN LAVATORIES = 1/150 BOTH MALE/FEMALE	← −
	INTERIOR FINISHES GROUP A-4 MAX. FLAME SPREAD	A4 OCC DRINKING FOUNTAIN = 1/1,000 A4 OCC SERVICE SINK = 1 PLUMBING FIXTURES REQUIRED	FE-1 INDICATES FIRE EXTINGUIS LOCATION WITH 75'-0" RAD SEE SPECIFICATIONS FOR
	EXIT ENCLOSURES CLASS B IBC 803.13 LOBBIES & CORRIDORS CLASS B IBC 803.13 ALL OTHER SPACES CLASS C IBC 803.13	MEN WATER CLOSETS: 685/75 = 10 REQUIRED WOMEN WATER CLOSETS: 685/40 = 18 REQUIRED MEN LAVATORIES: 685/200 = 4 REQUIRED	FE-2K INDICATES KITCHEN/ BAR (FE) LOCATION WITH 75'-0" AREA. SEE SPECIFICATION
	TEXTILES CLASS A (0-25) IBC 803.5.2 NOTE: IBC 803.5.2	WOMEN LAVATORIES: 685/150 = 5 REQUIRED DRINKING FOUNTAINS: 1,370/1,000 = 2 REQUIRED SERVICE SINKS: 1 = 1 REQUIRED	F FE-3 INDICATES TEMPORARY W EXTINGUISHER (FE) LOCAT RADIUS COVERAGE AREA.
	Decorative Materials and Trim (including plastics) must comply with IBC 806 MEZZANINE NOTES: (IBC 505.2)	PLUMBING FIXTURES PROVIDED UNISEX WATER CLOSETS: = 4 PROVIDED MEN WATER CLOSETS/URINALS: = 11 PROVIDED WOMEN WATER CLOSETS = 14 PROVIDED (+ 4 UNISEX = 18 TOTAL)	FOR FE TYPE.
	1. A MEZZANINE SHALL BE CONSIDERED A PORTION OF THE STORY BELOW AND SHALL NOT CONTRIBUTE TO EITHER THE BUILDING AREA OR NUMBER OF STORIES AS REGULATED BY SECTION 503.1.	UNISEX LAVATORIES:= 4 PROVIDEDMEN LAVATORIES:= 4 PROVIDEDWOMEN LAVATORIES= 2 PROVIDED (+ 4 UNISEX = 6 TOTAL)	20 MIN. DOOR
	 THE AREA OF THE MEZZANINE SHALL BE INCLUDED IN DETERMINING THE FIRE AREA. THE AGGREGATE AREA OF A MEZZANINE SHALL NOT BE GREATER THAN ONE-THIRD OF THE FLOOR AREA OF THAT ROOM OR SPACE IN WHICH THEY ARE LOCATED. MEZZANINES OR PORTIONS THEREOF ARE NOT REQUIRED TO BE OPEN TO THE ROOM IN WHICH THE MEZZANINES ARE LOCATED, PROVIDED THAT THE AGGREGATE FLOOR AREA OF THE ENCLOSED SPACE IS NOT GREATER THAN 10 PERCENT OF THE MEZZANINE AREA. 	DRINKING FOUNTAINS: = 4 PROVIDED SERVICE SINKS: = 1 PROVIDED	45 MIN. DOOR
	UL LISTING:		90 MIN. DOOR
	 SEE UL ASSEMBLIES ON SHEET G141. PRIOR REQUIREMENTS TO INSTALLATION ON GYPSUM BOARD AT RATED ALLS, SEE UL REQUIREMENTS FOR FIRE SEALANT AND DRAFT STOP INSTALLATION. 2-HR FIRE RATED STACKED WALL, SEE WALL TYPE F1 - SHEET A101 1ST LEVEL: 2-HR FIRE RATED CMU SEPARATION WALL, SEE UL #U905 		E 100 OCCUPANCY LOAD
	MEZZANINE LEVEL: 2- HR FIRE RATED 8" STUD SEPARATION WALL, SEE UL #425		
		UNCONCENTRATED: 15 NET	
	FE-1 FE-1 FE-1 FE-1 CON	2,804 SQ.FT. = 186 OCC.	
		UNCONCENTRATED - STANDING ROOM: 5 NET 535 SQ.FT.	
		EXERCISE AREA A - BASEBALL FIELD: 50 GROSS	D
		13,420 SQ.FT. = 268 OCC. ₩EZZANINE /	
	EXERCISE AREA B 336	EXERCISE AREA B - BASKETBALL COURTS: 50 GROSS	
	BLEACHERS		
		1 ONE-ROW BLEACHER @ 324" LENGTH = 18 10 TWO-ROW BLEACHERS @ 324" LENGTH = 360 OCC. 2 THREE-ROW BLEACHERS @ 240" LENGTH = 80 OCC.	
		TOTAL BLEACHER COUNT: = 458 OCC.	С
		OFFICE: 150 GROSS 443 SQ.FT. = 3 OCC.	
		ACCESSORY STORAGE/MECH: 300 GROSS 1,380 SQ.FT.	
			+
	$\begin{array}{c c c c c c c c c c c c c c c c c c c $	CONCESSIONS: 150 GROSS 1,123 SQ.FT. = 7 OCC. HAX TRAVEL DISTANCE: 198'-4"	
UNCONCENTRATED 186	UNCONCENTRATED - STANDING	ANCILLARY SPACE -	B
<u> </u>		NOT USED FOR OCCUPANT LOAD CALCULATION	
		CIRCULATION SPACE - NOT USED FOR OCCUPANT LOAD CALCULATION	
ANCE: 250' - 0"	Image: Non-Structure Image: Non-Structure <td>,370 TOTAL OCC</td> <td>+</td>	,370 TOTAL OCC	+
		, VIVIOIAL UUU	
	68" 68" 34"		A
CILITY = 680 OCC. > 551 (1/2 OCC. LOAD AT BASKETBALL FACILIT TX = 170 OCC. > 135 (1/2 OCC. LOAD AT BASEBALL FACILITY)	Y)	A2 MEZZANINE - LIFE SAFETY $\frac{1}{16} = 1-0$	LIF
TY = 170 OCC. > 135 (1/2 OCC. LOAD AT BASEBALL FACILITY)		~~ 1/16" = 1'-0"	

END

FIRE WALL FIRE WALL

FIRE BARRIER FIRE BARRIER

SHAFT ENCLOSURE SHAFT ENCLOSURE

FIRE PARTITION R FIRE PARTITION R CORRIDOR PARTITION

SMOKE BARRIER

BEARING WALL BEARING WALL

WIDTH REQ'D (IN.)

- MIN. WIDTH OF MEANS OF EGRESS COMPONENT (IN.)

NING IN INCHES

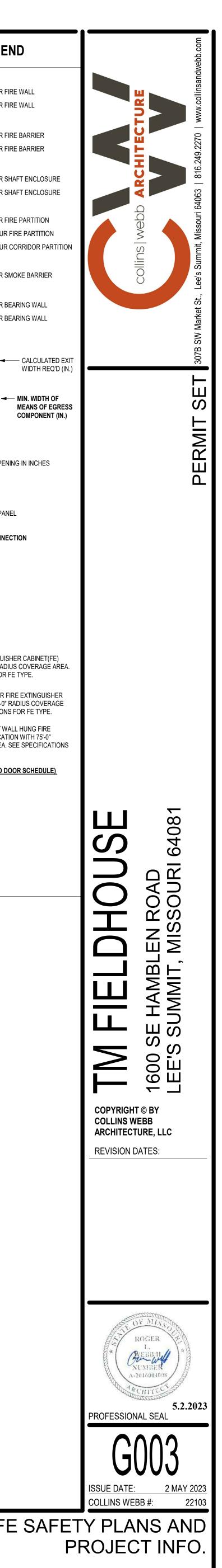
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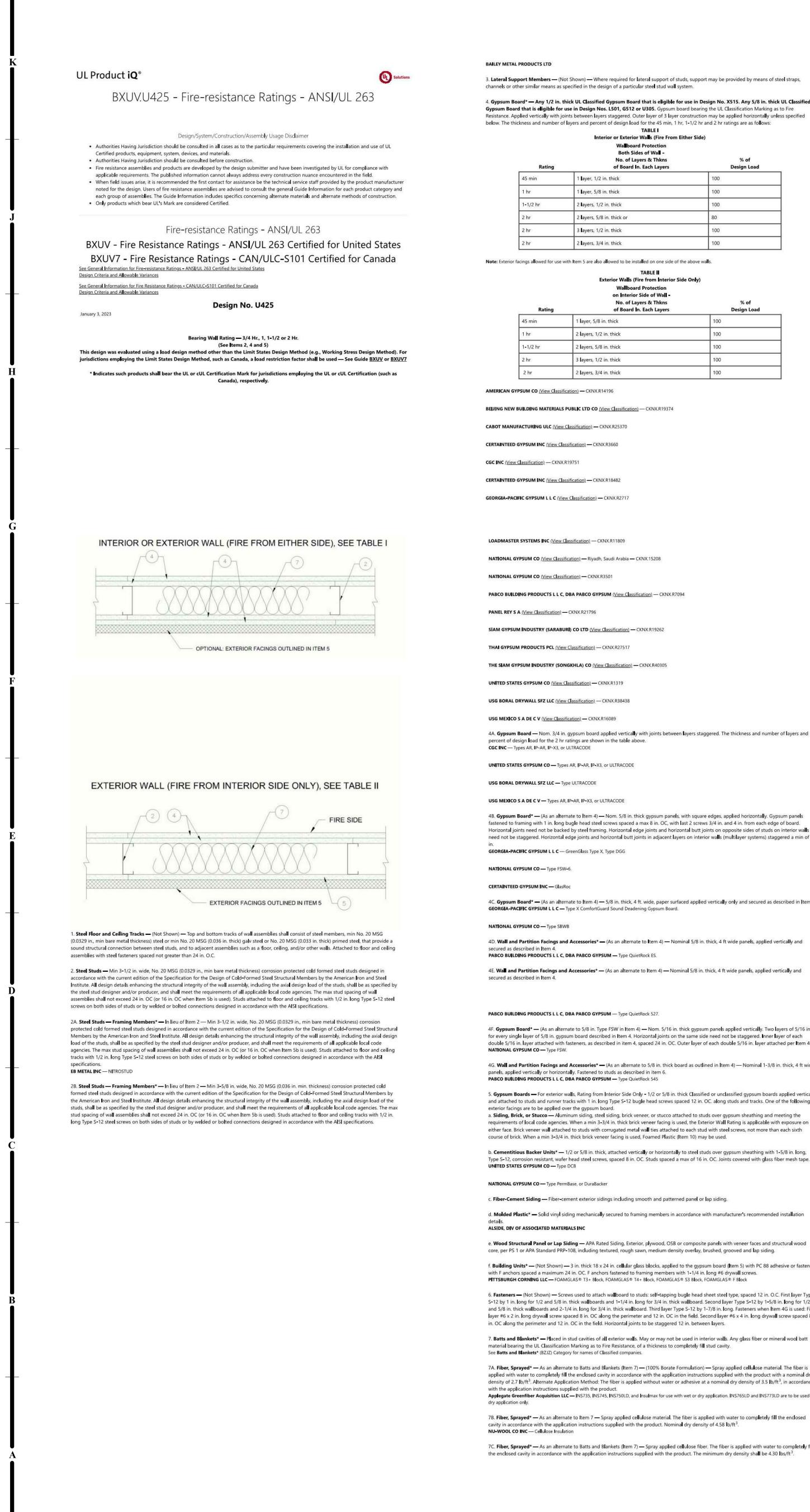
ECTION

SHER CABINET(FE) DIUS COVERAGE AREA. R FE TYPE.

R FIRE EXTINGUISHER 0" RADIUS COVERAGE DNS FOR FE TYPE. WALL HUNG FIRE ATION WITH 75'-0" A. SEE SPECIFICATIONS

DOOR SCHEDULE)





3. Lateral Support Members — (Not Shown) — Where required for lateral support of studs, support may be provided by means of steel straps, 4. Gypsum Board* — Any 1/2 in. thick UL Classified Gypsum Board that is eligible for use in Design No. X515. Any 5/8 in. thick UL Classified

Resistance. Applied vertically with joints between layers staggered. Outer layer of 3 layer construction may be applied horizontally unless specified below. The thickness and number of layers and percent of design load for the 45 min, 1 hr, 1-1/2 hr and 2 hr ratings are as follows: TABLE Interior or Exterior Walls (Fire From Either Side)

% of Design Load
100
100
100
80
100
100
bove walls.

Wallboard Protectio on Interior Side of Wall -No. of Layers & Thkns of Board In. Each Layers

Each Layers	Design Load	
	100	
	100	
	100	
	100	
	100	

% of

4B. Gypsum Board* — (As an alternate to Item 4) — Nom. 5/8 in. thick gypsum panels, with square edges, applied horizontally. Gypsum panels fastened to framing with 1 in. long bugle head steel screws spaced a max 8 in. OC, with last 2 screws 3/4 in. and 4 in. from each edge of board. Horizontal joints need not be backed by steel framing. Horizontal edge joints and horizontal butt joints on opposite sides of studs on interior walks need not be staggered. Horizontal edge joints and horizontal butt joints in adjacent layers on interior walls (multilayer systems) staggered a min of 12

4C. Gypsum Board* — (As an alternate to Item 4) — 5/8 in. thick, 4 ft. wide, paper surfaced applied vertically only and secured as described in Item 6.

4D. Wall and Partition Facings and Accessories* — (As an alternate to Item 4) — Nominal 5/8 in. thick, 4 ft wide panels, applied vertically and

4E. Wall and Partition Facings and Accessories* — (As an alternate to Item 4) — Nominal 5/8 in. thick, 4 ft wide panels, applied vertically and

4F. Gypsum Board* — (As an alternate to 5/8 in. Type FSW in Item 4) — Nom. 5/16 in. thick gypsum panels applied vertically. Two layers of 5/16 in. for every single layer of 5/8 in. gypsum board described in Item 4. Horizontal joints on the same side need not be staggered. Inner layer of each double 5/16 in. layer attached with fasteners, as described in item 4, spaced 24 in. OC. Outer layer of each double 5/16 in. layer attached per Item 4.

4G. Wall and Partition Facings and Accessories* - (As an alternate to 5/8 in. thick board as outlined in Item 4) - Nominal 1-3/8 in. thick, 4 ft wide

5. Gypsum Boards — For exterior walls, Rating from Interior Side Only - 1/2 or 5/8 in. thick Classified or unclassified gypsum boards applied vertically and attached to studs and runner tracks with 1 in. long Type S-12 bugle head screws spaced 12 in. OC. along studs and tracks. One of the following a. Siding, Brick, or Stucco - Aluminum siding, steel siding, brick veneer, or stucco attached to studs over gypsum sheathing and meeting the requirements of local code agencies. When a min 3-3/4 in. thick brick veneer facing is used, the Exterior Wall Rating is applicable with exposure on

b. Cementitious Backer Units* — 1/2 or 5/8 in. thick, attached vertically or horizontally to steel studs over gypsum sheathing with 1-5/8 in. long, Type S-12, corrosion resistant, wafer head steel screws, spaced 8 in. OC. Studs spaced a max of 16 in. OC. Joints covered with glass fiber mesh tape.

e. Wood Structural Panel or Lap Siding — APA Rated Siding, Exterior, plywood, OSB or composite panels with veneer faces and structural wood core, per PS 1 or APA Standard PRP-108, including textured, rough sawn, medium density overlay, brushed, grooved and lap siding. f. Building Units* — (Not Shown) — 3 in. thick 18 x 24 in. cellular glass blocks, applied to the gypsum board (Item 5) with PC 88 adhesive or fastened

with F anchors spaced a maximum 24 in. OC. F anchors fastened to framing members with 1-1/4 in. long #6 drywall screws. PITTSBURGH CORNING LLC — FOAMGLAS® T3+ Block, FOAMGLAS® T4+ Block, FOAMGLAS® S3 Block, FOAMGLAS® F Block S-12 by 1 in. long for 1/2 and 5/8 in. thick wallboards and 1-1/4 in. long for 3/4 in. thick wallboard. Second layer Type S-12 by 1-5/8 in. long for 1/2

ed to attach wallboard to studs: self-tapping bugle head sheet steel type, spaced 12 in. O.C. First layer Type and 5/8 in. thick wallboards and 2-1/4 in. long for 3/4 in. thick wallboard. Third layer Type S-12 by 1-7/8 in. long. Fasteners when Item 4G is used: First layer #6 x 2 in. long drywall screw spaced 8 in. OC along the perimeter and 12 in. OC in the field. Second layer #6 x 4 in. long drywall screw spaced 8 7. Batts and Blankets* - Placed in stud cavities of all exterior walls. May or may not be used in interior walls. Any glass fiber or mineral wool batt

7A. Fiber, Sprayed* — As an alternate to Batts and Blankets (Item 7) — (100% Borate Formulation) — Spray applied cellulose material. The fiber is applied with water to completely fill the enclosed cavity in accordance with the application instructions supplied with the product with a nominal dry density of 2.7 lb/ft³. Alternate Application Method: The fiber is applied without water or adhesive at a nominal dry density of 3.5 lb/ft³, in accordance Applegate Greenfiber Acquisition LLC — INS735, INS745, INS750LD, and Insulmax for use with wet or dry application. INS765LD and INS773LD are to be used for

7B. Fiber, Sprayed* — As an alternate to Item 7 — Spray applied cellulose material. The fiber is applied with water to completely fill the enclosed

7C. Fiber, Sprayed* — As an alternate to Batts and Blankets (Item 7) — Spray applied cellulose fiber. The fiber is applied with water to completely fill the enclosed cavity in accordance with the application instructions supplied with the product. The minimum dry density shall be 4.30 lbs/ft³.

INTERNATIONAL CELLULOSE CORP - Celbar-RL

adhesive, at a minimum density of 4.0 pcf, to completely fill the enclosed cavity in accordance with the application instructions supplied with the product. See Fiber, Sprayed (CCAZ). AMERICAN ROCKWOOL MANUFACTURING, LLC — Type Rockwool Premium Plus

8. Joint Tape and Compound — (Not Shown) — Vinyl or casein, dry or premixed joint compound applied in two coats to joints and screw heads of outer layer. Perforated paper tape, 2 in. wide, embedded in first layer of compound over all joints of outer layer.

9. Furring Channels — (Optional, Not Shown, for single or double layer systems) — Resilient furring channels fabricated from min 25 MSG corrosionprotected steel, spaced vertically a max of 24 in. OC. Flange portion attached to each intersecting stud with 1/2 in. long Type S-12 steel screws.

10. Foamed Plastic* — (Optional, Not Shown) For use with brick veneer as outlined in Item 5a - Maximum 2 in. thick rigid polystyrene insulation attached to studs with fasteners of sufficient length to penetrate the foam and 3/16 in. into the stud. A minimum 1 in. air space is to be maintained between the outer surface of the foamed plastic and the inner surface of the brick veneer. ATLAS MOLDED PRODUCTS, A DIVISION OF ATLAS ROOFING CORPORATION - Type ThermalStar

OWENS CORNING SCIENCE AND TECHNOLOGY, LLC

10A. Foamed Plastic* — (Optional, Not shown) — For use with brick veneer as outlined in Item 5a - Mortar drop protection - Foamed plastic with mortar control device attached, continuous, by drainage holes at bottom of air space behind brick veneer. OWENS CORNING SCIENCE AND TECHNOLOGY, LLC - WeepGuard

10B. Foamed Plastic* — Polyisocyanurate foamed plastic insulation boards, any thickness, Classified in accordance with BRYX and / or CCVW. May be used with any exterior facing shown under items 5a, 5c, 5d and 5e. ATLAS ROOFING CORP — "EnergyShield Pro Wall Insulation", "EnergyShield Pro 2 Wall Insulation", EnergyShield CGF Pro and EnergyShield Ply Pro

DUPONT DE NEMOURS, INC. — Type Thermax Sheathing, Thermax Light Duty Insulation, Thermax Heavy Duty Insulation, Thermax Metal Building Board, Thermax White Finish Insulation, Thermax ci Exterior Insulation, Thermax XARMOR ci Exterior Insulation, Thermax IH Insulation, Thermax Plus Liner Panel, Thermax Heavy Duty Plus (HDP), TUFF-R™ ci Insulation, Thermax Butler Stylwall Insulation Board and Thermax Morton Heavy Duty Insulation Board

FIRESTONE BUILDING PRODUCTS COLLC — "Enverge™ CI Foil Exterior Wall Insulation" and "Enverge™ CI Glass Exterior Wall Insulation"

HUNTER PANELS, A DIVISION OF CARLISLE CONSTRUCTION MATERIALS, LLC — Type "Xci-Class A"," Xci 286", "Xci Foil (Class A)", "Xci Foil", "Xci NH", "Xci Foil NH"

RMAX, A BUSINESS UNIT OF SIKA CORPORATION - Types "TSX-8500", "ECOMAXci FR", "TSX-8510", "ECOMAX xi FR White", "ECOMAXci", "ECOMAXci FR Air Barrier", "Thermasheath-XP", "Thermasheath", "Durasheath", "Thermasheath-3", "Durasheath-3".

JOHNS MANVILLE — Type "AP Foil-Faced Foam Sheathing"

10C. Building Unit* — Polyisocyanurate foamed plastic composite insulation boards, any thickness, Classified in accordance with BZXX. May be used with any exterior facing shown under items 5a, 5c, 5d and 5e. HUNTER PANELS, A DIVISION OF CARLISLE CONSTRUCTION MATERIALS, LLC — Type "Xci NB" and "Xci Ply"

LAMINATORS INC — Type "Omega ci"

RMAX, A BUSINESS UNIT OF SIKA CORPORATION - Types Thermasheath-SI, ECOBASEci, ECOMAXci FR Ply, ThermaBase-CI, "ECOMAXci Ply", attached to studs with Type S screws long enough to penetrate the studs a minimum of three threads.

10D. Foamed Plastic* — (As an alternate to Item 10 - Not Shown) — Expanded polystyrene insulation installed to a maximum nominal density of 2.0 b/ft2

BASF CORP STYRENIC FOAMS DIV — Types Neopor® GPS, Neopor® GPS IE GPS, Neopor® GPS EIFS GPS, Progressive Foam Technologies Halo, and ProBoard. 10E. Foamed Plastic* — (Optional, As an alternate to Item 10 - Not Shown) — Spray applied, foamed plastic insulation, at any thickness, Classified in accordance with CCVW. May be used with any exterior facing shown under items 5a, 5c, 5d and 5e.

CARLISLE SPRAY FOAM INSULATION — Types SealTite Pro Closed Cell (CC), SealTite Pro Open Cell (OC), SealTite Pro OCX, SealTite Pro No Trim 21, SealTite Pro One Zero, Foamsulate Closed Cell, Foamsulate OCX, Foamsulate 70, and Foamsulate HFO.

11. Cementitious Backer Units* — (Optional, Not Shown - For Use as an additional layer over required gypsum boards) - 7/16 in., 1/2 in., 5/8 in., 3/4 in. or 1 in. thick, min. 32 in. wide.- Applied vertically or horizontally with vertical joints centered over studs. Fastened to studs and runners with cement board screws of adequate length to penetrate stud by a minimum of 3/8 in. spaced a max of 8 in. OC. When 4 ft. wide boards are used, horizontal joints need not be backed by framing. NATIONAL GYPSUM CO — Type DuraBacker, PermaBase, DuraBacker Plus, or PermaBase Plus

11A. Building Units - (Optional Item Not Shown - For use over Gypsum Board, Item 4 or Item 5) 1 in., 2 in. or 3 in. thick. 4 ft. wide - Applied vertically or horizontally with vertical joints centered over studs. Fastened to studs and runners with wafer head screws of adequate length to penetrate framing by a minimum of of 3/4 in., spaced a max 8 in. o.c. NATIONAL GYPSUM CO – Type PBCI

12. Wall and Partition Facings and Accessories* — (CLBV) (Optional, Not Shown) — For use with Item 1, Items 2 and 2A, Item 3, Item 4 to 4B, Item 6, Item 7, Item 8 and Item 9. For maximum fire rating of 1 hour. On one side of the wall, over the first layer of Gypsum Board (Item 4 to 4B), install RefleXor membrane with the gold side facing outwards. Membrane installed with T50 staples spaced 12 inches on center in both directions as per manufacturer's instructions, seams in membrane to be overlapped by 2 inches. When Reflexor membrane is used an additional layer of Gypsum Board that is identical to the one used in the first layer and as specified in Item 4 to 4B shall be installed over the membrane. The additional layer of Gypsum Board to be installed through the membrane to the stud as specified in Item 4 to 4B except the fastener length shall be increased by a minimum of 5/8 inch. Install Batts and Blankets in the stud cavity as per Item 7.

On the other side of the wall prior to the installation of the Gypsum Board install Resilient Channels , 25 MSG galv steel, spaced vertically 24 in. OC, flange portion screw attached to one side of studs with 1-1/4 in. long diamond shaped point, double lead Phillips head steel screws. Over the Resilient Channels install 3/4 inch thick SONOpan panel secured to the Resilient Channels with min. 1-1/4 in. long drywall screws and washers spaced at 16 in. OC on the perimeter of the panel and 8 in. OC in the field of the panel. Over the SONOpan panel instal the same Gypsum Board as specified in Item 4 (or 4 alternates) with the fastener length increased by minimum 3/4 inch. Not evaluated or intended as a substitute for the required layer(s) of UL Classified Gypsum Board. Alternately, on the other side of the wall prior to the installation of the Gypsum Board (Item 4), install 3/4 in. thick SONOpan panels, secured to one side of stude either horizontally or vertically. Panels secured to each stud with min. 1-1/4 in. long drywall screws spaced 12 in. OC. Over the SONOpan, install 25 MSG galv steel,

Resilient Channels, spaced vertically 24 in. OC. Resilient Channels fastened through panels to each stud with min. 2 in. long drywall screws or self-tapping screws. Over the Resilient Channels install Gypsum Board as specified in Item 4 (or 4 alternates) with drywall screws as specified in Item 6. Panels not evaluated or intended as a substitute for the required layer(s) of UL Classified Gypsum Board. MSL — RefleXor membrane, SONOpan panel.

13. Wall and Partition Facings and Accessories* — (Optional, Not Shown) - When the Wall Assembly is used as an External Wall, on the External side of the wall one of the following Wall and Partition and Facing Accessories may be used, refer to items (A) to (C) below. A. Non Insulated System with Metal Channels — Install moisture barrier over the Gypsum Board Item 4 and Install Acry Metal Channels vertically at a horizontal spacing not greater than 24 inches OC over the moisture barrier. Acry Metal Channels attached through the moisture barrier and the Gypsum Board to the Steel Studs Item 2 using fasteners specified by the manufacturer and fasteners spaced max., 24 in. OC. Install Acrytec Panels on

Acry Metal Channels using 1-1/4" long corrosion coated stainless steel screws spaced at a max spacing of 24 inches OC, along with manufacturer's approved adhesive (3M 540 or Tremco Vulcum 116). Adhesive to be applied in a zigzag pattern along every channel. Joint treatment in between panels shall be Tremco illmod 600 pre compressed polyurethane foam sealant. B. Insulated System with Metal Channels — Install moisture barrier over the Gypsum Board Item 4. Install galvanized Z girt channels specified by

the manufacturer over the moisture barrier and the Gypsum Board Item 4. Z girt channels to be installed horizontally at a max. spacing of 24" OC. Z girt channels attached through the Gypsum Board and the moisture barrier to the Steel Studs Item 2, with screws provided by the manufacturer at a max spacing of 24 inches OC. Install mineral wool insulation between the Z girts. Maximum thickness of mineral wool insulation not to exceed 6 in. As per manufacturer's instructions install Acry Metal Channels vertically over the Z girts at a max horizontal spacing of 24 in. OC. Acrytec Panels installed on Acry channel with 1-1/4" long corrosion coated stainless steel screws at a max spacing of 24 in. OC, along with manufacturers approved adhesive (3M 540 or Tremco Vulcum 116). Adhesive to be applied in a zigzag pattern along every channel. Joint treatment in between panels to be Tremco

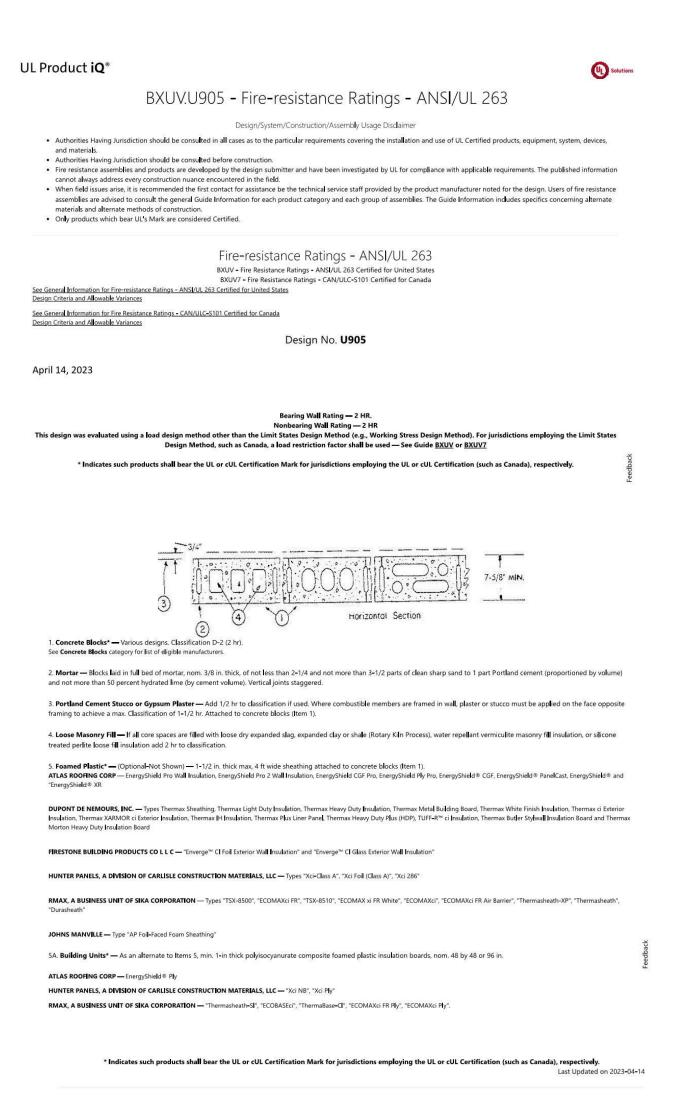
illmod 600 pre compressed polyurethane foam sealant. C. Non Insulated Wood Strapping System — Install moisture barrier over the Gypsum Board Item 4 and Install 1" x 3" wood strapping vertically at a horizontal spacing not greater than 24 inches OC., over the moisture barrier. 1" x 3" wood strapping attached through the moisture barrier and the Gypsum Board to the Steel Studs Item 2, using fasteners specified by the manufacturer and fasteners spaced max., 24 in. OC. Acrytec Panels to be installed on the 1" x 3" wood strapping using manufacturers approved stainless steel fasteners spaced at maximum 24 inches OC along with Tremco Vulcum 116 adhesive applied in a zigzag pattern along every wood strap. Joint treatment in between panels to be Tremco illmod 600 pre compressed

poyurethane foam sealant.

D. Insulated Wood Strapping System — Install moisture barrier over the Gypsum Board Item 4. Install Extruded Polystyrene Insulation over moisture barrier, max thickness of insulation not to exceed 4 inches. Install 1" x 3" wood strapping vertically at a horizontal spacing not greater than 24 inches OC. Wood strapping attached through the Insulation, the Gypsum Board and moisture barrier to the Steel Studs Item 2 using fasteners specified by the manufacturer and fasteners spaced max. 24 in. OC. Acrytec Panels to be installed over the wood strapping using manufacturers approved stainless steel fasteners at a max spacing of 24 in. OC and Tremco Vulcum 116 adhesive applied in a zigzag pattern along every wood strap. Joint treatment in between panels to be Tremco illmod 600 pre compressed polyurethane foam sealant. ACRYTEC PANEL INDUSTRIES - Nominal 5/8 inch thick Acrytec Panel.

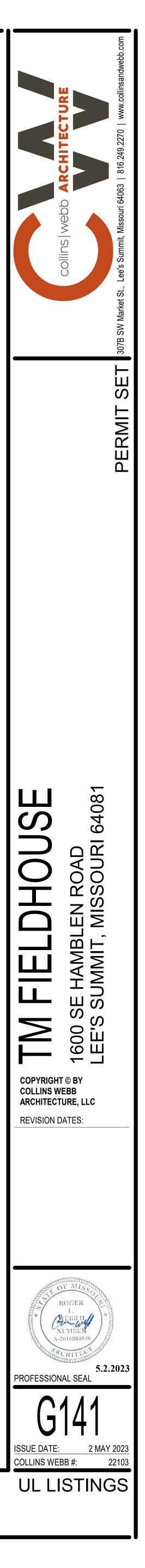
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SPECIFICATIONS - PRODUCT & INSTALLATION GENERAL REQUIREMENTS

GENERAL REQUIREMENTS APPLICABLE TO ALL MATERIALS FOR THE PROJECT:

CONTRACT

1. NO SUBSTITUTIONS OF MATERIALS WITHOUT COMPLETION OF A SUBSTITUTION REQUEST FORM & APPROVAL OF SUBSTITUTION BY BOTH ARCHITECT & OWNER PROJECT MANAGER. FORM CAN BE REQUESTED FROM ARCHITECT. 2. A CONDENSED SET OF SPECIFICATIONS ARE PROVIDED FOR THE PROJECT. STRICT ADHEARANCE TO MANUFACTURER REQUIREMENTS AND INSTALLATION ARE REQUIRED TO BE FOLLOWED WITH SECTIONS PROVIDED WITHIN. IF REQUIRED THE ARCHITECT WILL ISSUE ADDITIONAL SECTIONS TO PROVIDE CLARITY TO PRODUCTS OR INSTALLATION REQUIREMENTS.

DIVISION 1 - GENERAL REQUIREMENTS I. 1 SEE ADMINISTRATIVE SPECIFICATION FOR GENERAL REQUIREMENTS RELATED TO ADMINISTATION OF THIS

- A. CONTRACTOR LICENSES . THE CONTRACTOR AND ALL SUBCONTRACTORS INVOLVED IN THE PROJECT SHALL BE REQUIRED TO OBTAIN AND PAY FOR ALL NECESSARY LICENSES AS REQUIRED BY ANY LAW OR AGENCIES HAVING JURISDICTION (AHJ) OVER THE PROJECT
- HE GENERAL CONTRACTOR WILL PAY FOR ALL PERMITS REQUIRED BY ANY AGENCY HAVING JURISDICTION (AHJ) OVER THE PROJECT FOR ALL WORK TO BE PREFORMED BY THE GENERAL CONTRACTOR.
- . THE CONTRACTOR SHALL PAY THE NECESSARY FEES TO CONNECT TO EXISTING UTILITIES AT THE PROPERTY LINE OR IN ADJACENT STREETS AND RIGHT OF WAY AS SPECIFIED, NECESSARY, AND/OR INCLUDED IN THE CONSTRUCTION DOCUMENTS. THE CONTRACTOR SHALL PAY ALL UTILITY COSTS (BILLS) DURING CONSTRUCTION UNTIL OWNER TAKES POSSESSION OF THE FACILITY OR THE FACILITY IS CERTIFIED AS SUBSTANTIALLY COMPLETE.
- . PROTECTION OF FINISHED WORK . IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROTECT FINISHED SURFACES. PROTECTION FOR FINISHES SUCH AS DOORS, WALLS AND FLOORS SHOULD BE PROVIDED AS REQUIRED. ANY DAMAGES TO THESE AREAS WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REPAIR OR REPLACE.
- E. <u>General Conditions</u> I. ANY DISCREPANCY OR CONFLICT WITHIN OR BETWEEN DRAWINGS AND ANY DISCREPANCY OR CONFLICT BETWEEN ANY DRAWING AND ANY SPECIFICATIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT. NOTWITHSTANDING, DISCREPANCIES OR CONFLICTS NOT BROUGHT TO THE ARCHITECT'S AND/ OWNERS ATTENTION AND CLARIFIED DURING THE BIDDING OF THE PROJECT WILL BE DEEMED TO HAVE BEEN BID OR PROPOSED IN THE MORE COSTLY OR DIFFICULT MANNER, AND THE BETTER QUALITY OR GREATER QUANTITY OF THE WORK SHALL BE PROVIDED
- BY THE CONTRACTOR IN ACCORDANCE WITH ARCHITECT'S INTERPRETATION. 2. THE GENERAL CONTRACTOR SHALL KEEP A COMPLETE SET OF DOCUMENTS ON THE PROJECT SITE AT ALL TIMES FOR REFERENCE DURING CONSTRUCTION. 3. THE GENERAL CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK, USING THE CONTRACTOR'S BEST SKILLS AND ATTENTION. THE GENERAL CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR AND HAVE CONTROL OVER CONSTRUCTION MEANS AND METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES AND FOR COORDINATING ALL
- PORTIONS OF THE WORK UNDER THE CONTRACT. 4. THE GENERAL CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR AND HAVE CONTROL OVER ALL JOB SITE SAFETY PROCEDURES AND POLICIES. THE GENERAL CONTRACTOR SHALL HAVE A SAFETY COORDINATOR AND BE RESPONSIBLE TO HOLD REGULARLY SCHEDULED SAFETY TRAINING WITH ALL JOB SITE PERSONNEL, INCLUDING ALL SUB CONTRACTOR
- PERSONNEL 5. NEITHER THE ARCHITECT'S OR THE OWNERS INSPECTION NOR FAILURE TO INSPECT SHALL RELIEVE THE CONTRACTOR OF ANY OBLIGATION HEREUNDER. IF ANY WORK FAILS TO CONFORM TO THE CONTRACT DOCUMENTS, THE CONTRACTOR SHALL PROMPTLY REMEDY AND/OR REPLACE THE SAME AT THE CONTRACTOR'S EXPENSE. NO ACCEPTANCE OR PAYMENT BY THE OWNER OR ARCHITECT SHALL CONSTITUTE A WAIVER OF THE FOREGOING AND NOTHING HEREIN SHALL EXCLUDE OR LIMIT ANY WARRANTIES IMPLIED BY LAW. 6. THE GENERAL CONTRACTOR SHALL SO CONDUCT ITS OPERATIONS AS NOT TO UNREASONABLY INTERFERE WITH
- TRAFFIC ON PUBLIC THOROUGHFARES ADJACENT OR NEAR TO THE PROJECT SITE. 7. DO NOT SCALE DRAWINGS. F. PROJECT REQUIREMENT
- THE GENERAL CONTRACTOR REPRESENTS THAT IT POSSESSES THE SKILLS REQUIRED FOR THE WORK. ASSUMES THE RESPONSIBILITIES OF AN EMPLOYER FOR PERFORMANCE OF THE WORK, AND ACTS AS AN EMPLOYER OF ONE OR MORE EMPLOYEES BY PAYING WAGES, DIRECTING ACTIVITIES AND PERFORMING OTHER SIMILAR FUNCTIONS. THE GENERAL CONTRACTOR IS AN INDEPENDENT CONTRACTOR, FREE TO DETERMINE THE MANNER IN WHICH THE WORK IS
- PERFORMED 2. THE GENERAL CONTRACTOR SHALL PROVIDE, AND MAINTAIN IN GOOD WORKING ORDER, THE FOLLOWING ITEMS FOR USE BY THE PROJECT SUPERINTENDENT DAILY DURING THE ENTIRE DURATION OF THE PROJECT: A. LAPTOP WITH INTERNET ACCESS. B. DIGITAL CAMERA WITH 'DATE STAMP' CAPABILITY AND WITH PROPER CABLES TO ATTACH TO LAPTOP. C. EMAIL ACCESS THROUGH THE LAPTOP. A PRINTER/SCANNER/FAX MACHINE WITH PROPER CABLES TO ATTACH TO LAPTOP.
- E. CELL PHONE F. PROJECT INTERNET CLOUD BASED SITE FOR MANAGEMENT OF PROJECT INFORMATION. SITE WILL BE USED FOR SUBMITTAL OF SHOP DRAWINGS, RFI'S & PHOTOS. SITE SHALL BE PROCORE OR EQUAL FUNCTIONALITY. 3. THE GENERAL CONTRACTOR SHALL HAVE A CONSTRUCTION SUPERINTENDENT ASSIGNED TO THIS PROJECT. AND THIS SUPERINTENDENT SHALL BE ON SITE EVERY DAY THERE IS ANY CONSTRUCTION ON THIS PROJECT. THE SUPERINTENDENT SHALL BE REACHABLE BY PHONE DURING NORMAL BUSINESS HOURS. ONCE ASSIGNED, THE SUPERINTENDENT SHALL NOT BE REMOVED OR REPLACED WITHOUT WRITTEN APPROVAL FROM OWNER & ARCHITECT. UNLESS SPECIFICALLY REQUESTED TO BE REPLACED BY OWNER. I. THE SUPERINTENDENT WILL BE REQUIRED TO PROVIDE PHOTOGRAPHS (VIA EMAIL USING A DIGITAL CAMERA) TO THE OWNER & ARCHITECT EACH FRIDAY BY NOON CST, SHOWING THE PROGRESS OF CONSTRUCTION. THE GENERAL CONTRACTOR IS ENCOURAGED TO TAKE PHOTOS SEVERAL TIMES EACH WEEK TO HELP MAINTAIN PROOF OF CONSTRUCTION PROGRESS, RECORD UNCOVERED CONDITIONS, RECORD CONDITION AND AMOUNTS OF VENDOR

GOODS UPON RECEIPT, AND RECORD CONSTRUCTION THAT VARIES FROM THE CD'S (AS PART OF THE AS-BUILTS). ALL

- PHOTOS WILL HAVE A 'DATE STAMP'. G. INSPECTIONS/OBSERVATIONS
- . IT IS THE RESPONSIBILITY OF THE GENERAL CONTRACTOR TO OVERSEE CONSTRUCTION OF THE PROJECT, CONTINUALLY INSPECTING THE WORK, MATERIALS, AND WORKMANSHIP PROVIDED BY ALL OF HIS TRADESMEN, SUBCONTRACTORS,
- AND SUPPLIERS. EXCELLENCE IN QUALITY OF CONSTRUCTION CAN ONLY BE ACHIEVED IF THE CONTRACTOR ENFORCES HIGH STANDARDS OF ACCEPTABILITY. THE GENERAL CONTRACTOR CANNOT DELEGATE HIS RESPONSIBILITY TO THE SUBCONTRACTORS, BUT MUST CONTINUALLY MONITOR THE WORK OF EACH TRADE ON THE PROJECT. 2. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ARRANGE AND SCHEDULE ALL AGENCIES HAVING JURISDICTION (AHJ) INSPECTIONS NECESSARY TO OBTAIN THE CERTIFICATE OF OCCUPANCY (CERTIFICATE OF COMPLIANCE). PRIOR TO THE
- DATE OF THE AGENCY INSPECTION, THE GENERAL CONTRACTOR SHOULD INSPECT THE PROJECT TO INSURE THAT CONSTRUCTION COMPLIES WITH THE AGENCY REQUIREMENTS. SCHEDULING FINAL INSPECTIONS WITH AGENCY REPRESENTATIVES WHEN THE PROJECT IS NOT COMPLETE MUST BE AVOIDED. COPIES OF FINAL INSPECTIONS MUST BE PROVIDED TO OWNER & ARCHITECT AS THEY ARE AVAILABLE. 3. PRIOR TO REQUESTING THE SUBSTANTIAL COMPLETION INSPECTION, IT IS THE CONTRACTOR'S
- RESPONSIBILITY TO CONDUCT HIS OWN PRE-SUBSTANTIAL COMPLETION INSPECTION OF THE CONSTRUCTION FOR QUALITY OF CONSTRUCTION AND COMPLIANCE WITH THE CONSTRUCTION DOCUMENTS. 4. THE FOLLOWING PEOPLE SHOULD BE IN ATTENDANCE FOR THE SUBSTANTIAL COMPLETION INSPECTION:
- A. GENERAL CONTRACTOR **B. GENERAL CONTRACTOR SUPERINTENDENT**
- C. MECHANICAL CONTRACTOR D. ELECTRICAL CONTRACTOR E. PLUMBING CONTRACTOR
- F. PAINTING CONTRACTOR H. FLOORING CONTRACTOR
- 5. ITEMS TO BE SUBMITTED AS A PREREQUISITE TO THE REQUEST FOR THE CERTIFICATE OF SUBSTANTIAL COMPLETION AND OWNER / ARCHITECT OBSERVATION OF ITEMS TO BE COMPLETED AND CORRECTED. A. GENERAL CONTRACTOR'S PUNCH LISTS B. HVAC TEST AND BALANCE REPORT
- C. SPRINKLER SYSTEM ACCEPTANCE INSPECTION REPORT D. COPY OF VIDEO OF COMPLETED SEWER SYSTEM
-). THE REVIEW TEAM SHOULD PROCEED IN AN ORGANIZED MANNER THROUGHOUT THE BUILDING INSPECTING EACH SPACE OR ROOM. THE PUNCH LIST GENERATED BY THE SUBSTANTIAL COMPLETION INSPECTION TOUR IS TO BE PREPARED BY THE CONTRACTOR. ALONG WITH THE PUNCH LIST, THE ARCHITECT SHALL PREPARE THE "CERTIFICATE OF SUBSTANTIAL COMPLETION." 7. IMMEDIATELY AFTER RECEIPT OF THE PUNCH LIST, THE GENERAL CONTRACTOR AND SUBCONTRACTORS ARE EXPECTED TO BEGIN CORRECTION OF THE OUTSTANDING ITEMS. AFTER COMPLETION OF PUNCHLIST, THE CONTRACTOR SHALL NOTIFY OWNER & ARCHITECT IN WRITTING THAT FULL LIST OF ITENMS TO BE COMPLETED AND OR CORRECT IS
- I. RECORD (CLOSE-OUT) DOCUMENTS

FINALIZED.

- . THE OWNER REQUIRES THE GENERAL CONTRACTOR AND SUBCONTRACTORS TO MAINTAIN AN ACCURATE, CURRENT SET OF RECORD DOCUMENTS (AS-BUILTS) AS CONSTRUCTION PROGRESSES. ALL PERTINENT INFORMATION RELATING TO THE PROJECT MUST BE TIMELY MAINTAINED ON THE AS-BUILTS. THE AS-BUILTS MUST BE MAINTAINED ON-SITE IN THE GENERAL CONTRACTOR'S OFFICE AND WILL NOT BE USED FOR ANY OTHER PURPOSE. SINCE THE OWNER WILL OWN AND OPERATE THE FACILITY, IT IS IMPERATIVE THAT ALL PARTIES MAINTAIN ACCURATE INFORMATION REGARDING THE ACTUAL CONSTRUCTION OF THE PROJECT. ALL DEVIATIONS FROM THE CONTRACT SET OF DRAWINGS MUST BE NOTED ON THE AS-BUILTS IN RED WITH CLOUDS FOR CLEAR IDENTIFICATION. THE OWNER WILL REVIEW THE AS-BUILTS FOR ACCURACY AND COMPLETENESS MONTHLY,
- DURING THE PAYMENT APPLICATION REVIEW PROCESS. FAILURE TO POST CHANGES TO THE PROJECT ON THE AS-BUILTS AS IDENTIFIED DURING THE ON-SITE MONTHLY REVIEW WILL BE CAUSE TO SUSPEND PAYMENT UNTIL RECTIFIED. IT IS THE GENERAL CONTRACTOR'S RESPONSIBILITY TO ENFORCE THE TIMELY POSTING OF AS-BUILT CHANGES WITH THE SUBCONTRACTORS.
- FINAL CLOSE-OUT OF THE PROJECT . WITHIN THIRTY (30) CALENDAR DAYS AFTER THE FINAL PROJECT SUBSTANTIAL COMPLETION, THE GENERAL
- CONTRACTOR SHALL COMPILE ALL CLOSE-OUT DOCUMENTS AND SUBMIT THEM TO THE OWNER FOR REVIEW. IF THE CONTRACTOR FAILS TO COMPLETE ITS REQUIREMENTS WITHIN THIS TIMELINE NOTED ABOVE THE CONTRACTOR MAY BE SUBJECT TO ADDITONAL ADMINISTATION FEES.
- J. <u>CLOSE-OUT DOCUMENTS</u> . THE CATEGORIES LISTED BELOW SHOULD BE SUBMITTED AT THE SAME TIME. A. A DISK WITH ALL PHOTOS TAKEN DURING CONSTRUCTION.
- B. CHANGE ORDERS AND ALL ADDENDA ATTACHED AND POSTED TO THE AS-BUILT DRAWINGS. C. AS-BUILT DRAWINGS: ONE HARD COPY TO REMAIN ON SITE AND IN PLAN TUBE; ONE ELECTRONIC COPY TO BE SENT WITH CLOSE-OUT PAPERWORK
- D. MATERIALS SELECTION DATA PROVIDE ALL APPROVED SUBMITTALS. E. OPERATION AND MAINTENANCE MANUALS (0&M) - PROVIDE 0&M MANUALS BOXED AND BOUND. THIS ITEM IS OF SIGNIFICANT IMPORTANCE TO MSI FUTURE MAINTENANCE ACTIVITIES.
- F. ALL HVAC TEST AND BALANCE REPORTS. H. RELEASE OF LIEN (AIA FORM 706A), PAYMENT OF DEBT (AIA FORM 706),
- I. WARRANTIES, CERTIFICATES, AFFIDAVITS: 2. ALL INFORMATION INCLUDED IN THIS CATEGORY WILL BE FURNISHED IN ONE (1) COPY AND BOUND IN A STURDY THREE-RING BINDER WITH A LABEL ON THE OUTSIDE READING "GENERAL CLOSE-OUT DOCUMENTS" TO INCLUDE AN INDEX OF THE CONTENTS. ALL AIA DOCUMENTS WILL BE ORIGINAL (WITH RED LETTERING ON THE BOTTOM OF THE FORM) AND NOTARIZED. IF THE ELECTRONIC VERSION IS USED A COPY WITH ORIGINAL SIGNATURES WILL BE SUBMITTED. THE GENERAL CONTRACTOR AND EACH SUBCONTRACTOR WILL HAVE SEPARATE TABS IDENTIFYING EACH BY NAME. THE GENERAL CONTRACTOR WILL LIST EACH SUBCONTRACTOR AL PHABETICALLY AND WILL CHECK TO INSURE THAT A "RELEASE OF LIEN" - AIA FORM G706A AND A "PAYMENT OF DEBT-AIA FORM G706 IS INCLUDED FOR HIMSELF AND EACH SUBCONTRACTOR. THE GENERAL CONTRACTOR WILL INCLUDE A "CONSENT OF SURETY" - AIA FORM G707. IN ADDITION, THE GENERAL CONTRACTOR WILL INCLUDE BEHIND HIS TAB THE FOLLOWING INFORMATION: A. A LIST OF NAMES, BUISNESS ADDRESSES, PHONE NUMBERS AND EMAIL ADRESSES FOR THE GENERAL CONTRACTOR AND FACH SUBCONTRACTOR
- B. AN ANNOTATED COPY OF THE SUBSTANTIAL COMPLETION PUNCH LIST INDICATING ACTION TAKEN ON EACH ITEM. C. WARRANTIES, CERTIFICATES AND AFFIDAVITS SHALL BE INCLUDED FOR ANY EQUIPMENT, MATERIALS OR SYSTEMS, COMBINED WITH ALL OF THE ABOVE INFORMATION AND PLACED BEHIND THE TAB OF THE CONTRACTOR THAT ISSUED IT

DIVISION 5 - METALS

05 7000 - DECORATIVE METAL A. <u>SUBMITTALS</u>

- PRODUCT DATA AND SHOP DRAWINGS WITH PLANS ELEVATIONS AND SECTIONS INDICATING MEMBER SIZES AND LAYOUT, VERTICAL AND HORIZONTAL DIMENSIONS, EDGE CONDITIONS, AND CONNECTION DETAILS. INDICATE RAILING SYSTEM ELEVATIONS AND SECTIONS, DETAILS OF PROFILE, DIMENSIONS, SIZES, CONNECTION ATTACHMENTS, ANCHORAGE, SIZE AND TYPE OF FASTENERS, AND ACCESSORIES, INDICATE ANCHOR AND JOINT LOCATIONS. BRAZED CONNECTIONS. TRANSITIONS. AND TERMINATIONS. 1. DELEGATED-DESIGN SUBMITTAL: FOR HANDRAIL AND GUARDRAIL SYSTEMS, INCLUDING ANALYSIS DATA SIGNED
- B. DESIGN: METAL TUBE RAILINGS SHALL BE DESIGNED BY FABRICATOR TO SUPPORT CODE-REQUIRED LOADING AND TO MATCH THE CONFIGURATIONS INDICATED IN THE CONSTRUCTION DOCUMENTS. SEE DRAWINGS FOR REQUIRED RAILING ELEVATIONS.
- I. FIELD MEASUREMENTS: VERIFY ACTUAL LOCATIONS OF WALLS AND OTHER CONSTRUCTION CONTIGUOUS WITH METAL FABRICATIONS BY FIELD MEASUREMENTS BEFORE FABRICATION.
- D. <u>RAILING SYSTEM</u> 1. RAILING SYSTEMS - GENERAL: FACTORY- OR SHOP-FABRICATED IN DESIGN INDICATED, TO SUIT SPECIFIC PROJECT CONDITIONS, AND FOR PROPER CONNECTION TO BUILDING STRUCTURE, AND IN LARGEST PRACTICAL SIZES FOR DELIVERY TO SITE
- A. PERFORMANCE REQUIREMENTS: DESIGN AND FABRICATE RAILINGS AND ANCHORAGES TO RESIST THE FOLLOWING LOADS WITHOUT FAILURE, DAMAGE, OR PERMANENT SET; LOADS DO NOT NEED TO BE APPLIED SIMULTANEOUSLY. 1. LATERAL FORCE: 75 LB MINIMUM, AT ANY POINT, WHEN TESTED IN ACCORDANCE WITH ASTM 2. DISTRIBUTED LOAD: 50 LB/FT MINIMUM, APPLIED IN ANY DIRECTION AT THE TOP OF THE HANDRAIL, WHEN TESTED IN ACCORDANCE WITH ASTM E935.
- 3. CONCENTRATED LOADS ON INTERMEDIATE RAILS: 50 PSF, MINIMUM. 4. CONCENTRATED LOAD: 200 LBS MINIMUM. APPLIED IN ANY DIRECTION AT ANY POINT ALONG THE HANDRAIL SYSTEM, WHEN TESTED IN ACCORDANCE WITH ASTM E935. B. ASSEMBLY: JOIN LENGTHS, SEAL OPEN ENDS, AND CONCEAL EXPOSED MOUNTING BOLTS AND NUTS USING SLIP-ON NON-WELD MECHANICAL FITTINGS, FLANGES, ESCUTCHEONS, AND WALL BRACKETS.
- C. JOINTS: TIGHTLY FITTED AND SECURED, MACHINED SMOOTH WITH HAIRLINE SEAMS. D. . FIELD CONNECTIONS: PROVIDE SLEEVES TO ACCOMMODATE SITE ASSEMBLY AND INSTALLATION. 2. METAL TUBE RAILING: ENGINEERED, POST SUPPORTED RAILING SYSTEM WITH METAL INFILL.
- A. WALL MOUNTED COMPONENTS: COMPONENTS NECESSARY TO SUPPORT RAILING WITH 1-1/2 INCH CLEARANCE FROM WALL, AND AS FOLLOWS: 1. UNDERSLUNG SUPPORT BRACKETS: SUPPORTS AT 60 INCHES, MAXIMUM. 2. WALL RETURN WITHOUT SUPPORT: TERMINATES 1/4 INCH FROM SIDE WALL.
- B. HANDRAIL BRACKETS: SAME METAL AS RAILING. C. INFILL AT PICKET RAILINGS: VERTICAL PICKETS. 1. HORIZONTAL SPACING: MAXIMUM 4 INCHES ON CENTER. 2. MATERIAL: SOLID STEEL BAR.
- 3. SIZE: 3/4 INCH IPS / 1.05 INCH OD. 4. TOP MOUNTING: MECHANICALLY ATTACHED BY INTERNAL FITTINGS. 5. BOTTOM MOUNTING: WELDED TO TOP SURFACE OF STRINGER. D. INFILL AT PIPE RAILINGS: PIPE OR TUBE RAILS SLOPED PARALLEL TO STAIR.
- 1. OUTSIDE DIAMETER: 1 INCH. 2. MATERIAL: STEEL PIPE OR TUBE, ROUND. 3. JOINTING: WELDED AND GROUND SMOOTH AND FLUSH.
- E. INFILL AT MESH RAILINGS: METAL MESH PANELS. 1. METAL INFILL PANELS: WELDED WIRE MESH; 0.120 INCH DIAMETER STEEL WIRE, 2 INCH BY 2 INCH PATTERN AND 0.125 INCH THICK STEEL SHEET HEM WITH MANUFACTURER'S STANDARD
- FACTORY APPLIED COATING. 2. CARBON STEEL PANEL FINISH: MANUFACTURER'S STANDARD FACTORY FINISH; COMPLY WITH AAMA 2604 F. INFILL AT CABLE RAILINGS: STAINLESS STEEL CABLE.
- 1. MATERIAL: ASTM A666, TYPE 304. 2. MOUNTING: MECHANICALLY ATTACHED TO FRAME.
- G. CUSTOM FABRICATED INFILL AT METAL TUBE RAILINGS:. 1. MATERIAL: SOLID STEEL BAR.
- 2. MATERIAL: STEEL TUBE. 3. TOP MOUNTING: WELDED TO UNDERSIDE OF TOP RAIL. 4. BOTTOM MOUNTING: WELDED TO TOP SURFACE OF STRINGER.
- H. END AND INTERMEDIATE POSTS: AS SHOWN ON DRAWING 1. HORIZONTAL SPACING: AS INDICATED ON DRAWINGS.
- 2. MOUNTING: WELDED. J. WALL-MOUNTED HANDRAIL 1. 1-1/2 INCH DIAMETER STAINLESS STEEL
- E. <u>MATERIALS:</u> 1. STEEL COMPONENTS: A. SECTIONS, SHAPES, PLATE AND BAR: ASTM A36/A36M. B. TUBING: ASTM A501/A501M STRUCTURAL TUBING, ROUND AND SHAPES AS INDICATED.
- C. PIPE: ASTM A53/A53M GRADE B SCHEDULE 40, BLACK FINISH. D. UNGALVANIZED STEEL SHEET: HOT- OR COLD-ROLLED, EXCEPT USE COLD-ROLLED WHERE FINISHED WORK WILL BE EXPOSED TO VIEW.
- E. GALVANIZED STEEL SHEET: ASTM A653/A653M, STRUCTURAL STEEL (SS) GRADE 33/230 WITH G40/Z120 COATING. F. BOLTS, NUTS, AND WASHERS: ASTM F3125/F3125M, TYPE 1, AND GALVANIZED TO ASTM
- A153/A153M WHERE CONNECTING GALVANIZED COMPONENTS. G. WELDING MATERIALS: AWS D1.1/D1.1M; TYPE REQUIRED FOR MATERIALS BEING WELDED.
- ACCESSORIE 1. NON-WELD MECHANICAL FITTINGS FOR STAINLESS STEEL RAILINGS: SLIP-ON, GALVANIZED MALLEABLE IRON BOLTS OR SCREW FASTENERS. CASTINGS, FOR SCHEDULE 40 PIPE, WITH FLUSH SETSCREWS FOR TIGHTENING BY STANDARD HEX WRENCH, NO
- 2. WELDING FITTINGS: FACTORY- OR SHOP-WELDED FROM MATCHING PIPE OR TUBE; JOINTS AND SEAMS GROUND SMOOTH 3. ANCHORS AND FASTENERS: PROVIDE ANCHORS AND OTHER MATERIALS AS REQUIRED TO ATTACH TO STRUCTURE, MADE OF SAME MATERIALS AS RAILING COMPONENTS UNLESS OTHERWISE INDICATED; WHERE EXPOSED FASTENERS ARE UNAVOIDABLE PROVIDE FLUSH COUNTERSUNK FASTENERS. A. EXPOSED FASTENERS: NO EXPOSED BOLTS OR SCREWS.
- 1. COMPLY WITH ALL DRAWINGS AND WRITTEN INSTRUCTIONS. 2. INSTALL COMPONENTS PLUMB AND LEVEL, ACCURATELY FITTED, FREE FROM DISTORTION OR DEFECTS AND WITH TIGHT JOINTS, EXCEPT WHERE NECESSARY FOR EXPANSION. 3. ANCHOR SECURELY TO STRUCTURE.
- 05 6000- STRUCTURAL METAL STUDS AND TRACK

THIS SECTION IS A DELEGATED DESIGN SUBMITTAL. CONTRACTOR SHALL ENGAGE A STRUCUTRAL ENGINEER LICENSED IN THE JURISDICTION WHRE THIS PROJECT IS LOCATED. ALL FEES SUBJECT OF THIS SERVICE WILL BE PART OF BASE CONTRACT.

- A. <u>SUBMITTALS</u>: PRODUCT DATA: MANUFACTURER'S DATA SHEETS ON EACH PRODUCT TO BE USED, INCLUDING:
- 1. SHOWING PLANS, SECTIONS, ELEVATIONS, LAYOUTS, PROFILES AND PRODUCT COMPONENT LOCATIONS, INCLUDING ANCHORAGE, BRACING, FASTENERS, ACCESSORIES AND FINISHES. 2. INDICATE COMPONENT DETAILS, FRAMED OPENINGS, BEARING, ANCHORAGE, LOADING, WELDS, TYPE AND
- LOCATION OF FASTENERS, AND ACCESSORIES. 3. INDICATE METHOD FOR SECURING STUDS AND OTHER COMPONENTS TO TRACKS AND FOR FRAMING
- CONNECTIONS. 4. SUBMIT CALCULATIONS FOR LOADINGS AND STRESSES UNDER PROFESSIONAL ENGINEER'S SEAL REGISTERED IN THE STATE OF THE PROJECT.
- B. <u>QUALITY STANDAR</u> 1. MANUFACTURER QUALIFICATIONS: COMPANY SPECIALIZING IN MANUFACTURING PRODUCTS SPECIFIED IN THIS SECTION WITH MINIMUM FIVE YEARS DOCUMENTED EXPERIENCE. 2. INSTALLER QUALIFICATIONS: COMPANY SPECIALIZING IN PERFORMING WORK OF THIS SECTION WITH MINIMUM 3 YEARS DOCUMENTED EXPERIENCE. 3. DESIGN STRUCTURAL ELEMENTS UNDER DIRECT SUPERVISION OF PROFESSIONAL ENGINEER EXPERIENCED IN
- DESIGN OF THIS WORK AND REGISTERED IN THE STATE OF THE PROJECT. F. INSTALLATION: 1. FOLLOW MANUFACTURER INSTALLATION GUIDLINES. INSTALLATION SHALL BE COMPLIANT WITH APPLICABLE BUILDING CODES.

DIVISION 6 - WOOD AND PLASTICS

- 06 1000- ROUGH CARPENTRY
- 1. PROVIDE SUFFICIENT FIRE RETARDANT TREATED WOOD BLOCKING AT ALL STUDS FOR SECURING OF WALL & CEILING ITEMS, WHETHER FURNISHED BY OWNER OR CONTRACTOR. 2. CONCEALED WOOD IS TO BE FIRE RETARDANT TREATED UNLESS NOTED OTHERWISE.
- 3. PRESERVATIVE TREATED LUMBER IS REQUIRED FOR ALL ITEMS TO REMAIN IN CONTACT WITH CONCRETE OR MASONRY TO CONFORM TO AWPA STANDARD 5. 4. PLYWOOD SHALL BE CD GRADE APA FIR OR YELLOW PINE. ALL PLY-WOOD TO BE FIRE RATED WHERE WALLS ARE INDICATED AS RATED CONSTRUCTION
- 5. BLOCKING SHALL BE CLOSELY FITTED. ACCURATELY SET TO REQUIRED LINES & LEVELS. SECURELY CONNECTED & RIGIDLY FIXED IN PLACE, USING NAILS, SCREWS, &/OR BOLTS AS INDICATED OR REQUIRED BY GOOD PRACTICE AND MANUFACTURER'S RECOMMENDATIONS.

AND SEALED BY THE QUALIFIED PROFESSIONAL ENGINEER RESPONSIBLE FOR THEIR PREPARATION.

DIVISION 7 - THERMAL AND MOISTURE PROTECTION

07 2100 - THERMAL INSULATION A. <u>SUBMITTALS</u>: PRODUCT DATA FOR EACH TYPE OF INSULATION SPECIFIED.

B. SURFACE BURNING CHARACTERISTICS: 1. FLAME SPREAD INDEX: 25 OR LESS

2. SMOKE DEVELOPED INDEX: 50 OR LESS IN EXPOSED AREAS AND PLENUMS; 450 OR LESS WHERE CONCEALED. . INSULATION PRODUCTS 1. MINERAL FIBER OR GLASS FIBER BLANKET INSULATION: TYPE I, UNFACED WHERE SPECIFIED WITH SEPARATE VAPOR BARRIER.FIBERS MANUFACTURED FROM GLASS, SLAG WOOL, OR ROCK WOOL. FLEXIBLE PREFORMED BATT OR BLANKET. COMPLYING WITH ASTM C665: FRICTION FIT.SEE DRAWINGS FOR SPECIFIC TYPES. A. FLAME SPREAD INDEX: 25 OR LESS, WHEN TESTED IN ACCORDANCE WITH ASTM E84.

B. SMOKE DEVELOPED INDEX: 450 OR LESS, WHEN TESTED IN ACCORDANCE WITH ASTM E84. C. COMBUSTIBILITY: NON-COMBUSTIBLE, WHEN TESTED IN ACCORDANCE WITH ASTM E136, EXCEPT FOR FACING. IF ANY. 2. BOARD INSULATION: BOARD INSULATION AT CAVITY WALL CONSTRUCTION, EXTERIOR WALL BEHIND [RATED AND ACOUSTIC CONDITIONS] WALL FINISH, AND INTERIOR WALL WITH FACER PROVIDING EXPOSED FINISH. A. EXPANDED POLYSTYRENE (EPS) BOARD INSULATION: COMPLIES WITH ASTM C578. 1. FLAME SPREAD INDEX (FSI): CLASS A - 0 TO 25, WHEN TESTED IN ACCORDANCE WITH ASTM E84. 2. SMOKE DEVELOPED INDEX (SDI): 450 OR LESS, WHEN TESTED IN ACCORDANCE WITH ASTM E84.

3. BOARD SIZE: 48 INCH BY 96 INCH. 4. BOARD THICKNESS: 1-1/2 INCH. 5. TYPE AND COMPRESSIVE RESISTANCE: TYPE XI, 5 PSI (35 KPA), MINIMUM. 6. TYPE AND WATER ABSORPTION: TYPE XI, 4.0 PERCENT BY VOLUME, MAXIMUM, BY TOTAL IMMERSION.

1. VAPOR RETARDER: 6 MIL POLYETHYLENE AT CONCEALED AREAS (FLAME SPREAD/SMOKE DEVELOPED: 25/450), FOIL/SCRIM AT PLENUMS AND EXPOSED AREAS (FLAME SPREAD/SMOKE DEVELOPED: 25/50). PROVIDE WHERE INDICATED IN DRAWINGS. 2. TAPE: REINFORCED POLYETHYLENE FILM WITH ACRYLIC PRESSURE SENSITIVE ADHESIVE. APPLICATION: SEALING OF INTERIOR CIRCULAR PENETRATIONS, SUCH AS PIPES OR CABLES.

1. DO NOT INSTALL INSULATION ADHESIVES WHEN TEMPERATURE OR WEATHER CONDITIONS ARE DETRIMENTAL TO SUCCESSFUL INSTALLATION. 2. INSTALL INSULATION IN AREAS AND IN THICKNESSES INDICATED OR REQUIRED TO PRODUCE R-VALUES WHERE INDICATED. CUT AND FIT TIGHTLY AROUND OBSTRUCTIONS AND FILL VOIDS WITH INSULATION. 3. INSTALL IN EXTERIOR WALL AND CEILING SPACES WITHOUT GAPS OR VOIDS. DO NOT COMPRESS INSULATION. 4. TRIM INSULATION NEATLY TO FIT SPACES. INSULATE MISCELLANEOUS GAPS AND VOIDS.

5. EXTEND VAPOR RETARDER TO EXTREMITIES OF AREAS TO BE PROTECTED FROM VAPOR TRANSMISSION. SECURE IN PLACE WITH ADHESIVES OR OTHER ANCHORAGE AS RECOMMENDED BY MANUFACTURER. LOCATE SEAMS AT FRAMING MEMBERS, OVERLAP AND SEAL WITH SUITABLE TAPE (DUCT TAPE IS NOT SUITABLE). 6. DO NOT PERMIT INSTALLED INSULATION TO BE DAMAGED PRIOR TO ITS CONCEALMENT.

07 2500 - WEATHER BARRIERS

A. <u>SUBMITTALS</u>: PRODUCT DATA: PROVIDE DATA ON MATERIAL CHARACTERISTICS. SHOP DRAWINGS: PROVIDE DRAWINGS OF SPECIAL JOINT CONDITIONS.

B. <u>MOCK-UP:</u> INSTALL AIR BARRIER, VAPOR RETARDER, AND WATER-RESISTIVE BARRIER MATERIALS IN MOCK-UP. C. PRODUCTS: AIR BARRIER, FLUID APPLIED: VAPOR PERMEABLE, ELASTOMERIC WATERPROOFING.

D. BASIS OF DESIGN: BASF CORPORATION; MASTERSEAL AWB 665:

- 1. SEALANTS, TAPES, AND ACCESSORIES FOR SEALING WEATHER BARRIER AND SEALING WEATHER BARRIER TO ADJACENT SUBSTRATES: AS SPECIFIED OR AS RECOMMENDED BY WEATHER BARRIER MANUFACTURER. 2. FLEXIBLE FLASHING: SHEATHING FABRIC SATURATED WITH AIR BARRIER COATING AND COMPLYING WITH THE APPLICABLE REQUIREMENTS OF ICC-ES AC148. 3. LIQUID FLASHING: ONE PART, FAST CURING, NON-SAG, ELASTOMERIC, GUN GRADE, TROWELABLE LIQUID FLASHING.
- . PREPARATION VERIFY THAT SURFACES AND CONDITIONS ARE READY TO ACCEPT THE WORK OF THIS SECTION. 2. REMOVE PROJECTIONS, PROTRUDING FASTENERS, AND LOOSE OR FOREIGN MATTER THAT MIGHT INTERFERE WITH PROPER INSTALLATION. 3. CLEAN AND PRIME SUBSTRATE SURFACES TO RECEIVE ADHESIVES IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
- G. INSTALLATION: 1. INSTALL MATERIALS IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. 2. AIR BARRIERS: INSTALL CONTINUOUS AIR TIGHT BARRIER OVER SURFACES INDICATED, WITH SEALED SEAMS AND WITH SEALED JOINTS TO ADJACENT SURFACES. 3. PREPARE SUBSTRATE IN MANNER RECOMMENDED BY COATING MANUFACTURER; TREAT JOINTS IN SUBSTRATE AND BETWEEN DISSIMILAR MATERIALS AS RECOMMENDED BY MANUFACTURER. 4. MASTIC COATING: INSTALL BY TROWEL OR ROLLER TO MINIMUM THICKNESS OF 1/4 INCH: USE SHEET SEAL TO
- JOIN TO ADJACENT CONSTRUCTION. SEAL AIR TIGHT WITH SEALANT. 5. USE FLASHING TO SEAL TO ADJACENT CONSTRUCTION AND TO BRIDGE JOINTS. 6. INSTALL FLASHING OVER SILLS, COVERING ENTIRE SILL FRAME MEMBER, EXTENDING AT LEAST 5 INCHES ONTO WEATHER BARRIER AND AT LEAST 6 INCHES UP JAMBS; MECHANICALLY FASTEN STRETCHED EDGES. 7. AT OPENINGS TO BE FILLED WITH FRAMES HAVING NAILING FLANGES, SEAL HEAD AND JAMB FLANGES USING A CONTINUOUS BEAD OF SEALANT COMPRESSED BY FLANGE AND COVER FLANGES WITH SEALING TAPE AT LEAST 4

INCHES WIDE; DO NOT SEAL SILL FLANGE. 8. AT OPENINGS TO BE FILLED WITH NON-FLANGED FRAMES, SEAL WEATHER BARRIER TO EACH SIDE OF OPENING FRAMING, USING FLASHING AT LEAST 9 INCHES WIDE, COVERING ENTIRE DEPTH OF FRAMING. 9. AT HEAD OF OPENINGS, INSTALL FLASHING UNDER WEATHER BARRIER EXTENDING AT LEAST 2 INCHES BEYOND FACE OF JAMBS: SEAL WEATHER BARRIER TO FLASHING. 10. AT INTERIOR FACE OF OPENINGS, SEAL GAP BETWEEN WINDOW/DOOR FRAME AND ROUGH FRAMING, USING JOINT SEALANT OVER BACKER ROD.

07 4113 - ROOFING MATERIALS & ACCESSORIES A. <u>SUBMITTALS:</u> PRODUCT DATA, AND SAMPLES OF EACH PRODUCT AND COLOR OPTIONS.

B. <u>WARRANTY:</u> SPECIAL WARRANTY: MANUFACTURER'S STANDARD FORM IN WHICH MANUFACTURER AGREES TO REPAIR OR REPLACE COMPONENTS OF METAL PANEL SYSTEMS THAT FAIL IN MATERIALS OR WORKMANSHIP WITHIN SPECIFIED WARRANTY PERIOD.

1. WARRANTY PERIOD: TWO YEARS FROM DATE OF SUBSTANTIAL COMPLETION. SPECIAL WARRANTY ON PANEL FINISHES: MANUFACTURER'S STANDARD FORM IN WHICH MANUFACTURER AGREES TO REPAIR FINISH OR REPLACE METAL PANELS THAT SHOW EVIDENCE OF DETERIORATION OF FACTORY-APPLIED FINISHES WITHIN SPECIFIED WARRANTY PERIOD.

SPECIAL WEATHERTIGHTNESS WARRANTY: MANUFACTURER'S STANDARD FORM IN WHICH MANUFACTURER AGREES TO REPAIR OR REPLACE STANDING-SEAM METAL ROOF PANEL ASSEMBLIES THAT FAIL TO REMAIN WEATHERTIGHT, INCLUDING LEAKS, WITHIN SPECIFIED WARRANTY PERIOD. 1. WARRANTY PERIOD: 20 YEARS FROM DATE OF SUBSTANTIAL COMPLETION.

C. BASIS OF DESIGN: VERTICAL-RIB, SNAP-JOINT, STANDING-SEAM METAL ROOF PANELS:SUBJECT TO COMPLIANCE WITH REQUIREMENTS PROVIDE HIGH SEAM TEE-PANEL ROOFING, WITH 18-1/4 INCH COVERAGE AND 1" HIGH RIBS AS MANUFACTURED BY BERRIDGE MANUFACTURING COMPANY OR APPROVED EQUAL. 1. METALLIC-COATED STEEL SHEET: ZINC-COATED (GALVANIZED) STEEL SHEET COMPLYING WITH ASTM A 653/A 653M, G90 (Z275) COATING DESIGNATION, OR ALUMINUM-ZINC ALLOY-COATED

STEEL SHEET COMPLYING WITH ASTM A 792/A 792M, CLASS AZ50 (CLASS AZM150) COATING DESIGNATION; STRUCTURAL QUALITY. PREPAINTED BY THE COIL-COATING PROCESS TO COMPLY WITH ASTM A 755/A 755M. A. NOMINAL THICKNESS: 0.034 INCH, 22 GA. B. EXTERIOR FINISH: TWO-COAT FLUOROPOLYMER C. COLOR: AS SELECTED BY ARCHITECT FROM MANUFACTURER'S FULL RANGE. D. PANEL COVERAGE: NOMINAL 18 INCHES.

1. FINISH WARRANTY PERIOD: 20 YEARS FROM DATE OF SUBSTANTIAL COMPLETION.

E. PANEL HEIGHT: 1.0 INCH.

1. SELF-ADHERING, HIGH-TEMPERATURE UNDERLAYMENT: PROVIDE SELF-ADHERING, COLD-APPLIED, SHEET UNDERLAYMENT, A MINIMUM OF 30 MILS THICK, CONSISTING OF SLIP-RESISTANT, POLYETHYLENE-FILM TOP SURFACE LAMINATED TO A LAYER OF BUTYL OR SBS-MODIFIED ASPHALT ADHESIVE, WITH RELEASE-PAPER BACKING. PROVIDE PRIMER WHEN RECOMMENDED BY UNDERLAYMENT MANUFACTURER. 2. FELT UNDERLAYMENT: ASTM D 226/D 22M, TYPE II (NO. 30), ASPHALT-SATURATED ORGANIC FELTS 3. SLIP SHEET: MANUFACTURER'S RECOMMENDED SLIP SHEET, OF TYPE REQUIRED FOR APPLICATION. 4. MISCELLANEOUS METAL SUBFRAMING AND FURRING: ASTM C 645; COLD-FORMED, METALLIC-COATED STEEL SHEET, ASTM A 653/A 653M, G90 (Z275 HOT-DIP GALVANIZED) COATING DESIGNATION OR ASTM A 792/A 792M, CLASS AZ50 (CLASS AZM150) COATING DESIGNATION UNLESS OTHERWISE INDICATED. PROVIDE MANUFACTURER'S STANDARD SECTIONS AS REQUIRED FOR SUPPORT AND ALIGNMENT OF

METAL PANEL SYSTEM. E. ACCESSORIES: 1. PANEL ACCESSORIES: PROVIDE COMPONENTS REQUIRED FOR A COMPLETE, WEATHERTIGHT PANEL SYSTEM INCLUDING TRIM, COPINGS, FASCIAE, MULLIONS, SILLS, CORNER UNITS, CLIPS, FLASHINGS, SEALANTS, GASKETS, FILLERS, CLOSURE STRIPS, AND SIMILAR ITEMS. MATCH MATERIAL AND FINISH OF METAL PANELS UNLESS OTHERWISE INDICATED A. CLOSURES: PROVIDE CLOSURES AT EAVES AND RIDGES, FABRICATED OF SAME METAL AS METAL PANELS.

B. BACKING PLATES: PROVIDE METAL BACKING PLATES AT PANEL END SPLICES, FABRICATED FROM MATERIAL RECOMMENDED BY MANUFACTURER C. FLASHING AND TRIM: PROVIDE FLASHING AND TRIM FORMED FROM SAME MATERIAL AS METAL PANELS AS REQUIRED TO SEAL AGAINST WEATHER AND TO PROVIDE FINISHED APPEARANCE. LOCATIONS INCLUDE, BUT ARE NOT LIMITED TO, EAVES, RAKES, CORNERS, BASES, FRAMED OPENINGS, RIDGES, FASCIAE, AND FILLERS. FINISH FLASHING AND TRIM WITH SAME FINISH SYSTEM AS ADJACENT METAL PANELS. D. PANEL FASTENERS: SELF-TAPPING SCREWS DESIGNED TO WITHSTAND DESIGN LOADS. E. PANEL SEALANTS: PROVIDE SEALANT TYPE RECOMMENDED BY MANUFACTURER THAT ARE COMPATIBLE WITH

PANEL MATERIALS, ARE NONSTAINING, AND DO NOT DAMAGE PANEL FINISH. 1. SEALANT TAPE: PRESSURE-SENSITIVE, 100 PERCENT SOLIDS, GRAY POLYISOBUTYLENE COMPOUND SEALANT TAPE WITH RELEASE-PAPER BACKING: 1/2 INCH WIDE AND 1/8 INCH THICK. 2. JOINT SEALANT: ASTM C 920; AS RECOMMENDED IN WRITING BY METAL PANEL MANUFACTURER. 3. BUTYL-RUBBER-BASED, SOLVENT-RELEASE SEALANT: ASTM C 1311. . INSTALLATION: 1. INSTALL ACCORDING TO MANUFACTURER'S WRITTEN INSTRUCTIONS.

07 1300 - SHEET WATERPROOFING

1. PRODUCT DATA: PROVIDE DATA FOR MEMBRANE. 2. PROVIDE SHOP DRAWINGS: INDICATE SPECIAL JOINT OR TERMINATION CONDITIONS AND CONDITIONS OF INTERFACE WITH OTHER MATERIALS. 3. CERTIFICATE: CERTIFY THAT PRODUCTS MEET OR EXCEED SPECIFIED REQUIREMENTS.

B. SURFACE BURNING CHARACTERISTICS:

. FLAME SPREAD INDEX: 25 OR LESS 2. SMOKE DEVELOPED INDEX: 50 OR LESS IN EXPOSED AREAS AND PLENUMS; 450 OR LESS WHERE CONCEALED. 1. MAINTAIN AMBIENT TEMPERATURES ABOVE 40 DEGREES F FOR 24 HOURS BEFORE AND DURING APPLICATION AND UNTIL LIQUID OR MASTIC ACCESSORIES HAVE CURED.

1. CONTRACTOR SHALL CORRECT DEFECTIVE WORK WITHIN A FIVE YEAR PERIOD AFTER DATE OF SUBSTANTIAL COMPLETION; REMOVE AND REPLACE MATERIALS CONCEALING WATERPROOFING AT NO EXTRA COST TO E. BASIS OF DESIGN:

1. W.R. MEADOWS, INC; MEL-ROL: WWW.WRMEADOWS.COM

1. SELF-ADHERED MODIFIED BITUMINOUS SHEET MEMBRANE: LOCATION: LOCATIONS AS IDENTIFIED IN DRAWINGS 2. ROLLED, SELF-ADHERED MODIFIED BITUMINOUS SHEET MEMBRANE: THICKNESS: 60 MIL, 0.060 INCH, MINIMUM. THICKNESS: 60 MIL, 0.060 INCH, MINIMUM. CARRIER FILM: 4 MILS, POLYMERIC MEMBRANE:56 MILS, SHEET WIDTH:

36 INCH, MINIMUM, 3. SEAMING MATERIALS: AS RECOMMENDED BY MEMBRANE MANUFACTURER 4. MEMBRANE SEALANT: AS RECOMMENDED BY MEMBRANE MANUFACTURER. 5. TERMINATION BARS: ALUMINUM; COMPATIBLE WITH MEMBRANE AND ADHESIVES.

6. SURFACE CONDITIONER: COMPATIBLE WITH MEMBRANE. 7. ADHESIVES: AS RECOMMENDED BY MEMBRANE MANUFACTURER. 8. THINNER AND CLEANER: AS RECOMMENDED BY ADHESIVE MANUFACTURER, COMPATIBLE WITH SHEET MEMBRANE.

1. SEALANT FOR CRACKS AND JOINTS IN SUBSTRATES: RESILIENT ELASTOMERIC JOINT SEALANT COMPATIBLE WITH SUBSTRATES AND WATERPROOFING MATERIALS. 2. PROTECTION BOARD: PROVIDE TYPE CAPABLE OF PREVENTING DAMAGE TO WATERPROOFING DUE TO BACKFILLING AND CONSTRUCTION TRAFFIC.

1. DO NOT INSTALL INSULATION ADHESIVES WHEN TEMPERATURE OR WEATHER CONDITIONS ARE DETRIMENTAL TO SUCCESSFUL INSTALLATION. DO NOT APPLY WATERPROOFING TO SURFACES UNACCEPTABLE TO MEMBRANE MANUFACTURER.

2. CLEAN AND PREPARE SURFACES TO RECEIVE WATERPROOFING IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS; VACUUM SUBSTRATE CLEAN.

MOVING CRACKS WITH SEALANT AND NON-RIGID FILLER, USING PROCEDURES RECOMMENDED BY SEALANT

AND WATERPROOFING MANUFACTURERS. 4. INSTALL MEMBRANE WATERPROOFING IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS AND NRCA (WM) APPLICABLE REQUIREMENTS. 5. SELF-ADHERING MEMBRANE: REMOVE RELEASE PAPER LAYER, AND ROLL OUT ONTO SUBSTRATE WITH A MECHANICAL ROLLER TO PROVIDE FULL CONTACT BOND.

6. OVERLAP EDGES AND ENDS, MINIMUM 3 INCHES, SEAL PERMANENTLY WATERPROOF BY METHOD RECOMMENDED BY MANUFACTURER, AND APPLY UNIFORM BEAD OF SEALANT TO JOINT EDGE. 7. REINFORCE MEMBRANE WITH MULTIPLE THICKNESS OF MEMBRANE MATERIAL OVER JOINTS, WHETHER JOINTS

ARE STATIC OR DYNAMIC. 8. WEATHER LAP JOINTS ON SLOPED SUBSTRATE IN DIRECTION OF DRAINAGE, AND SEAL JOINTS AND SEAMS.

WITH FLEXIBLE FLASHINGS. 10. SEAL MEMBRANE AND FLASHINGS TO ADJOINING SURFACES. INSTALL TERMINATION BAR ALONG EDGES. INSTALL COUNTERFLASHING OVER EXPOSED EDGES.

INSTALLATION PROCEDURES. 12. UPON COMPLETION OF HORIZONTAL MEMBRANE INSTALLATION, DAM INSTALLATION AREA IN PREPARATION FOR FLOOD TESTING. FLOOD TO MINIMUM DEPTH OF 1 INCH WITH CLEAN WATER. AND AFTER 48 HOURS INSPECT IS PROVEN WATERTIGHT, DRAIN WATER AND REMOVE DAM.

07 1400 - FLUID-APPLIED WATERPROOFING A. SUBMITTALS

PRODUCT DATA: PROVIDE DATA FOR MEMBRANE, SURFACE CONDITIONER, FLEXIBLE FLASHINGS, JOINT COVER SHEET, AND JOINT AND CRACK SEALANTS. WARRANTY SUBMIT MANUFACTURER WARRANTY AND ENSURE THAT FORMS HAVE BEEN COMPLETED IN OWNER'S NAME AND REGISTERED WITH MANUFACTURER.

B. <u>REFERENCE STANDARDS</u> 1. ASTM E154/E154M - STANDARD TEST METHODS FOR WATER VAPOR RETARDERS USED IN CONTACT WITH EARTH UNDER CONCRETE SLABS, ON WALLS, OR AS GROUND COVER 2008A, WITH EDITORIAL REVISION (2013). 2. NRCA (WM) - THE NRCA WATERPROOFING MANUAL 2021.

. MANUFACTURER QUALIFICATIONS: COMPANY SPECIALIZING IN MANUFACTURING PRODUCTS SPECIFIED IN THIS SECTION, WITH NOT LESS THAN THREE YEARS DOCUMENTED EXPERIENCE. 2. INSTALLER QUALIFICATIONS: COMPANY SPECIALIZING IN PERFORMING WORK OF THE TYPE SPECIFIED AND WITH AT LEAST THREE YEARS OF DOCUMENTED EXPERIENCE.

1. CONSTRUCT MOCK-UP CONSISTING OF 100 SQ FT OF HORIZONTAL WATERPROOFED PANEL; TO REPRESENT FINISHED WORK INCLUDING INTERNAL AND EXTERNAL CORNERS, DRAINAGE PANEL, BASE FLASHINGS, CONTROL JOINTS, EXPANSION JOINTS, COUNTERFLASHINGS

1. MAINTAIN AMBIENT TEMPERATURES ABOVE 40 DEGREES F FOR 24 HOURS BEFORE AND DURING APPLICATION AND UNTIL CURED.

1. COLD-APPLIED RUBBERIZED ASPHALT WATERPROOFING: A. AVM INDUSTRIES, INC; AVM SYSTEM 500 (AUSSIE MEMBRANE): WWW.AVMINDUSTRIES.COM/#SLE. B. EPRO WATERPROOFING SYSTEMS; ECOLINE-S: WWW.EPROSERV.COM/#SLE.

SUITABLE FOR INSTALLATION ON CONCRETE AND CONCRETE MASONRY. 1. COMPLYING WITH ICC-ES AC29; EVIDENCE OF COMPLIANCE INCLUDES CURRENT ICC-ES EVALUATION REPORT CITING ICC-ES AC29.

2. HYDROSTATIC PRESSURE RESISTANCE: WHEN TESTED IN ACCORDANCE WITH ASTM C1306/C1306M, AT LEAST 50 POUNDS PER SQUARE INCH BY THE RAPID TEST AND AT LEAST 35 POUNDS PER SQUARE INCH BY THE LONG TERM TEST. 3. LOW TEMPERATURE RESISTANCE: NO CRACKING, LOSS OF ADHESION, SPLITTING OR PINHOLES WHEN TESTED AT MINUS 15 DEGREES F IN ACCORDANCE WITH ASTM C836/C836M.

4. ADHESION: NO SEPARATION WHEN TESTED IN ACCORDANCE WITH ASTM C836/C836M. 5. DECAY RESISTANCE: NO DECAY WHEN TESTED IN ACCORDANCE WITH ASTM E154/E154M 6. WET FILM SAG RESISTANCE: NO SAG OR SAG WITHIN PLUS/MINUS 5 MILS WHEN TESTED IN

ACCORDANCE WITH ASTM C836/C836M. 2. WATER-BASED ASPHALT EMULSION WATERPROOFING: A. MAR-FLEX WATERPROOFING & BUILDING PRODUCTS; ARMORMEMBRANE 363 WATER-BASED:

WWW.MAR-FLEX.COM/#SLE. B. TREMCO COMMERCIAL SEALANTS & WATERPROOFING; TREMPROOF 260: WWW.TREMCOSEALANTS.COM/#SLE. C. W.R. MEADOWS, INC; MEL-ROL LM: WWW.WRMEADOWS.COM/#SLE

1. CURED THICKNESS: 60 MILS, 0.060 INCH, MINIMUM, 2. SUITABLE FOR INSTALLATION OVER CONCRETE SUBSTRATES. 3. ELONGATION: 1000 PERCENT, MEASURED IN ACCORDANCE WITH ASTM D412. 4. PEEL ADHESION: ACCORDING TO ASTM D412, FOR THE FOLLOWING SUBSTRATES. 5. ADHESION: GREATER THAN 150 PSI, MEASURED IN ACCORDANCE WITH ASTM D4541.

1. SEALANT FOR JOINTS AND CRACKS IN SUBSTRATE: TYPE COMPATIBLE WITH WATERPROOFING MATERIAL AND AS RECOMMENDED BY WATERPROOFING MANUFACTURER.

1. VERIFY EXISTING CONDITIONS BEFORE STARTING WORK. 2. VERIFY SUBSTRATE SURFACES ARE FREE OF FROZEN MATTER, DAMPNESS, LOOSE PARTICLES, CRACKS, PITS, PROJECTIONS, PENETRATIONS, OR FOREIGN MATTER DETRIMENTAL TO ADHESION OR APPLICATION OF WATERPROOFING SYSTEM 3. VERIFY THAT SUBSTRATE SURFACES ARE SMOOTH, FREE OF HONEYCOMB OR PITTING, AND NOT DETRIMENTAL TO FULL CONTACT BOND OF WATERPROOFING MATERIALS. 4. VERIFY ITEMS THAT PENETRATE SURFACES TO RECEIVE WATERPROOFING ARE SECURELY INSTALLED.

1. PROTECT ADJACENT SURFACES FROM DAMAGE NOT DESIGNATED TO RECEIVE WATERPROOFING. CLEAN AND PREPARE SURFACES TO RECEIVE WATERPROOFING IN ACCORDANCE WITH

MANUFACTURER'S INSTRUCTIONS; VACUUM SUBSTRATE CLEAN. 3. DO NOT APPLY WATERPROOFING TO SURFACES UNACCEPTABLE TO WATERPROOFING MANUFACTURER. 4. FILL NON-MOVING JOINTS AND CRACKS WITH A FILLER COMPATIBLE WITH WATERPROOFING MATERIALS. 5. SEAL MOVING CRACKS WITH SEALANT AND NON-RIGID FILLER, USING PROCEDURES RECOMMENDED BY

SEALANT AND WATERPROOFING MANUFACTURERS. 6. PREPARE BUILDING EXPANSION JOINTS AT LOCATIONS AS INDICATED ON DRAWINGS. 7. INSTALL CANT STRIPS AT INSIDE CORNERS.

J. INSTALLATION: 1. INSTALL WATERPROOFING TO SPECIFIED MINIMUM THICKNESS IN ACCORDANCE WITH MANUFACTURERS INSTRUCTIONS AND NRCA (WM) APPLICABLE REQUIREMENTS. 2. APPLY PRIMER OR SURFACE CONDITIONER AT A RATE RECOMMENDED BY MANUFACTURER, AND PROTECT CONDITIONER FROM RAIN OR FROST UNTIL DRY. 3. AT JOINTS AND CRACKS LESS THAN 1/2 INCH IN WIDTH INCLUDING JOINTS BETWEEN HORIZONTAL AND VERTICAL SURFACES, APPLY 12 INCH WIDE STRIP OF JOINT COVER SHEET. 4. APPLY EXTRA THICKNESS OF WATERPROOFING MATERIAL AT CORNERS, INTERSECTIONS, AND ANGLES.

5. SEAL MEMBRANE AND FLASHINGS TO ADJOINING SURFACES.

3. FILL NON-MOVING JOINTS AND CRACKS WITH A FILLER COMPATIBLE WITH WATERPROOFING MATERIALS.SEAL

9. FLEXIBLE FLASHINGS: SEAL ITEMS WATERTIGHT THAT PENETRATE THROUGH WATERPROOFING MEMBRANE

11. INSTALLATION OF DRAINAGE PANEL AND PROTECTION BOARD. INSTALLER TO FOLLOW MANUFACTURERS

FOR LEAKS. IF LEAKING IS FOUND, REMOVE WATER, REPAIR LEAKING AREAS WITH NEW WATERPROOFING MATERIALS AS DIRECTED BY ARCHITECT; REPEAT FLOOD TEST, AND REPAIR DAMAGE TO BUILDING. WHEN AREA

COLD-APPLIED RUBBERIZED ASPHALT WATERPROOFING: RUBBERIZED ASPHALTIC COMPOUND,

1. SHOP DRAWINGS: INDICATE MATERIAL PROFILE, JOINTING PATTERN, JOINTING DETAILS, FASTENING METHODS, FLASHINGS, TERMINATIONS, AND INSTALLATION DETAILS. C. QUALITY ASSURANCI 1. PERFORM WORK IN ACCORDANCE WITH SMACNA (ASMM) AND CDA A4050 REQUIREMENTS AND STANDARD DETAILS, EXCEPT AS OTHERWISE INDICATED. D. DELIVERY, STORAGE, AND HANDLING 1. STACK MATERIAL TO PREVENT TWISTING, BENDING, AND ABRASION, AND TO PROVIDE VENTILATION. SLOPE METAL SHEETS TO ENSURE DRAINAGE. 2. PREVENT CONTACT WITH MATERIALS THAT COULD CAUSE DISCOLORATION OR STAINING. PRE-FINISHED ALUMINUM: ASTM B209 (ASTM B209M); 20 GAGE, (0.032 INCH) THICK; PLAIN FINISH SHOP PRE-COATED WITH MODIFIED SILICONE COATING. 1. FLUOROPOLYMER COATING: HIGH PERFORMANCE ORGANIC FINISH, AAMA 2604; MULTIPLE COAT, THERMALLY CURED FLUOROPOLYMER FINISH SYSTEM. 2. COLOR: AS SELECTED BY ARCHITECT FROM MANUFACTURER'S STANDARD COLORS. 1. FORM SECTIONS TRUE TO SHAPE, ACCURATE IN SIZE, SQUARE, AND FREE FROM DISTORTION OR DEFECTS. 2. FORM PIECES IN LONGEST POSSIBLE LENGTHS. 3. HEM EXPOSED EDGES ON UNDERSIDE 1/2 INCH; MITER AND SEAM CORNERS. 4. FORM MATERIAL WITH FLAT LOCK SEAMS, EXCEPT WHERE OTHERWISE INDICATED; AT MOVING JOINTS, USE SEALED LAPPED, BAYONET-TYPE OR INTERLOCKING HOOKED SEAMS. 5. FABRICATE FLASHINGS TO ALLOW TOE TO EXTEND 2 INCHES OVER ROOFING GRAVEL. RETURN AND BRAKE EDGES.

FABRICATED SHEET METAL ITEMS. INCLUDING FLASHINGS. COUNTERFLASHINGS. AND OTHER ITEMS INDICATED IN

AAMA 611 - VOLUNTARY SPECIFICATION FOR ANODIZED ARCHITECTURAL ALUMINUM 2014 (2015 ERRATA).

• ASTM C920 - STANDARD SPECIFICATION FOR ELASTOMERIC JOINT SEALANTS 2018.

CDA A4050 - COPPER IN ARCHITECTURE - HANDBOOK CURRENT EDITION.

• SMACNA (ASMM) - ARCHITECTURAL SHEET METAL MANUAL 2012.

1. FASTENERS: GALVANIZED STEEL, WITH SOFT NEOPRENE WASHERS. 2. PRIMER: ZINC CHROMATE TYPE.

3. CONCEALED SEALANTS: NON-CURING BUTYL SEALANT. 4. EXPOSED SEALANTS: ASTM C920; ELASTOMERIC SEALANT, WITH MINIMUM MOVEMENT CAPABILITY AS 5. RECOMMENDED BY MANUFACTURER FOR SUBSTRATES TO BE SEALED; COLOR TO MATCH ADJACENT MATERIAL.

1. SECURE FLASHINGS IN PLACE USING CONCEALED FASTENERS, AND USE EXPOSED FASTENERS ONLY WHERE PFRMITTFD

2. APPLY PLASTIC CEMENT COMPOUND BETWEEN METAL FLASHINGS AND FELT FLASHINGS. 3. FIT FLASHINGS TIGHT IN PLACE; MAKE CORNERS SQUARE, SURFACES TRUE AND STRAIGHT IN PLANES, AND LINES ACCURATE TO PROFILES. 4. SEAL METAL JOINTS WATERTIGHT.

07 5423 - TPO MEMBRANE ROOFING & ACCESSORIES

THAN 56 MPH BUT LESS THAN 90 MPH.

REQUIRED. MINIMUM R-30

07 6200 - SHEET METAL FLASHING AND TRIM

SCHEDULE

A. SUBMITTALS: PRODUCT DATA, AND SHOP DRAWINGS: INDICATE JOINT OR TERMINATION DETAIL CONDITIONS, CONDITIONS OF INTERFACE WITH OTHER MATERIALS, AND PAVER OR WALKWAY PAD LAYOUT. 1. MANUFACTURER'S FIELD REPORTS: INDICATE PROCEDURES FOLLOWED, AMBIENT TEMPERATURES, HUMIDITY, WIND VELOCITY DURING APPLICATION, AND SUPPLEMENTARY INSTRUCTIONS GIVEN. SUBMIT FINAL MANUFACTURER'S PUNCH -LIST FIELD REPORT WHEN COMPLETE SYSTEM IS INSTALLED. 2. MANUFACTURER'S INSTALLATION INSTRUCTIONS: INDICATE MEMBRANE SEAMING PRECAUTIONS AND

PERIMETER CONDITIONS REQUIRING SPECIAL ATTENTION.

1. MATERIAL WARRANTY: PROVIDE MEMBRANE MANUFACTURER'S WARRANTY AGREEING TO REPLACE MATERIAL THAT SHOWS MANUFACTURING DEFECTS WITHIN 10 YEARS AFTER INSTALLATION. 2. SYSTEM WARRANTY: PROVIDE MANUFACTURER'S SYSTEM WARRANTY AGREEING TO REPAIR OR REPLACE ROOFING THAT LEAKS OR IS DAMAGED DUE TO WIND OR OTHER NATURAL CAUSES, WARRANTY TERM: 20 YEARS. A. FOR REPAIR AND REPLACEMENT INCLUDE COSTS OF BOTH MATERIAL AND LABOR IN WARRANTY. B. INCLUDE ACCIDENTAL PUNCTURES ACCORDING TO THE MANUFACTURER'S STANDARD WARRANTY TERMS. C. INCLUDE HAIL DAMAGE ACCORDING TO THE MANUFACTURER'S STANDARD WARRANTY TERMS. D. EXCEPTIONS NOT PERMITTED: DAMAGE DUE TO ROOF TRAFFIC. DAMAGE DUE TO WIND OF SPEED GREATER

C. BASIS OF DESIGN: CARLISLE SYNTEC: WWW.CARLISLE-SYNTEC.COM, TPO MEMBRANE ROOFING: ONE PLY MEMBRANE, MECHANICALLY ATTACHED, OVER INSULATION. 1. WIND UPLIFT: DESIGNED TO WITHSTAND WIND UPLIFT FORCES CALCULATED WITH ASCE 7. 2. INSULATION THERMAL RESISTANCE (R-VALUE): 3 PER INCH, MINIMUM; PROVIDE INSULATION OF THICKNESS

D. ROOFING MEMBRANE MATERIALS 1. MATERIAL: THERMOPLASTIC POLYOLEFIN (TPO) COMPLYING WITH ASTM D6878/D6878M. A. REINFORCING: INTERNAL FABRIC.

B. THICKNESS: 45 MILS (0.045 INCH), MINIMUM. C. SHEET WIDTH: FACTORY FABRICATED INTO LARGEST SHEETS POSSIBLE.COLOR: WHITE.

D. PRODUCT: CARLISLE SURE-WELD. 2. SEAMING MATERIALS: AS RECOMMENDED BY MEMBRANE MANUFACTURER.

3. VAPOR RETARDER: MATERIAL APPROVED BY ROOF MANUFACTURER COMPLYING WITH REQUIREMENTS OF FIRE RATING CLASSIFICATION; COMPATIBLE WITH ROOFING AND INSULATION MATERIALS. INSTALL WITH FIRE-RETARDANT ADHESIVE 4. FLEXIBLE FLASHING MATERIAL: SAME MATERIAL AS MEMBRANE.

5. BASE FLASHING: PROVIDE WATERPROOF, FULLY ADHERED BASE FLASHING SYSTEM AT ALL PENETRATIONS, PLANE TRANSITIONS, AND TERMINATIONS.

1. DECK SHEATHING: GYPSUM SHEATHING, ASTM C1396/C1396M, TYPE X SPECIAL FIRE RESISTANT TYPE, PAPER FACE, 1/2 INCH THICK. PRODUCT: SECUROCK, DISTRIBUTED BY CARLISLE. 2. COVERBOARD: CEMENT ROOF BOARD, COMPLYING WITH ASTM C1325.

1. INSULATION COMPLYING WITH MANUFACTURERES RECOMMENDATIONS. 2. CELLULOSE FIBER BOARD INSULATION: ASTM C208, TYPE II; NATURAL FINISH.

3. EXPANDED POLYSTYRENE (EPS) BOARD INSULATION: COMPLIES WITH ASTM C578 WITH DRAINAGE CHANNELS ON ONE FACE 4. TAPERED BOARD: SLOPE AS INDICATED; MINIMUM THICKNESS 1/2 INCH; FABRICATE OF FEWEST LAYERS POSSIBI F

A. PRODUCT: CARLISLE INSULFOAM. 5. EXTRUDED POLYSTYRENE (XPS) BOARD INSULATION: COMPLIES WITH ASTM C578 WITH NATURAL SKIN SURFACE, DRAINAGE CHANNELS ON ONE FACE.

<u>ACCESSORIES:</u>
 PROVIDE AND INSTALL ONLY ACCESSORIES WHICH COMPLY WITH MANUFACTURERS RECOMMENDATIONS.

H. <u>INSTALLATION</u> 1. VERIFY THAT SURFACES AND SITE CONDITIONS ARE READY TO RECEIVE WORK. 2. VERIFY DECK IS SUPPORTED AND SECURE.

INCHES WIDE WITH SELF-SEALING STRIP FACE UP AT ROOF EDGE. INSTALL STARTER STRIP ALONG RAKE EDGE. 3. VERIFY DECK IS CLEAN AND SMOOTH, FLAT, FREE OF DEPRESSIONS, WAVES, OR PROJECTIONS, PROPERLY SLOPED AND SUITABLE FOR INSTALLATION OF ROOF SYSTEM. 4. VERIFY DECK SURFACES ARE DRY AND FREE OF RAIN, SNOW OR ICE.

5. VERIFY THAT ROOF OPENINGS, CURBS, AND PENETRATIONS THROUGH ROOF ARE SOLIDLY SET, AND CANT STRIPS ARE IN PLACE. 6. CLEAN SUBSTRATE THOROUGHLY PRIOR TO ROOF APPLICATION. 7. DO NOT BEGIN WORK UNTIL OTHER WORK THAT REQUIRES FOOT OR EQUIPMENT TRAFFIC ON ROOF IS

COMPLETE 8. APPLY MANUFACTURER'S RECOMMENDED VAPOR RETARDER OR TEMPORARY ROOF BEFORE ROOF INSTALLATION.

9. PERFORM WORK IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS AND NRCA (RM) APPLICABLE REQUIREMENTS. 10. REMOVE WRAPPINGS, EMPTY CONTAINERS, PAPER, AND OTHER DEBRIS FROM THE ROOF DAILY. DISPOSE OF

DEBRIS IN COMPLIANCE WITH LOCAL, STATE, AND FEDERAL REGULATIONS. 11. REMOVE BITUMINOUS MARKINGS FROM FINISHED SURFACES. 12. 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.

13. REPAIR OR REPLACE DEFACED OR DAMAGED FINISHES CAUSED BY WORK OF THIS SECTION.

1. PROTECT INSTALLED ROOFING AND FLASHINGS FROM CONSTRUCTION OPERATIONS. 2. WHERE TRAFFIC MUST CONTINUE OVER FINISHED ROOF MEMBRANE, PROTECT SURFACES USING DURABLE MATERIALS.

07 8400 - FIRESTOPPIN(A. SUBMITTALS: PRODUCT DATA: PROVIDE DATA ON PRODUCT CHARACTERISTICS, PERFORMANCE RATINGS, AND LIMITATIONS.

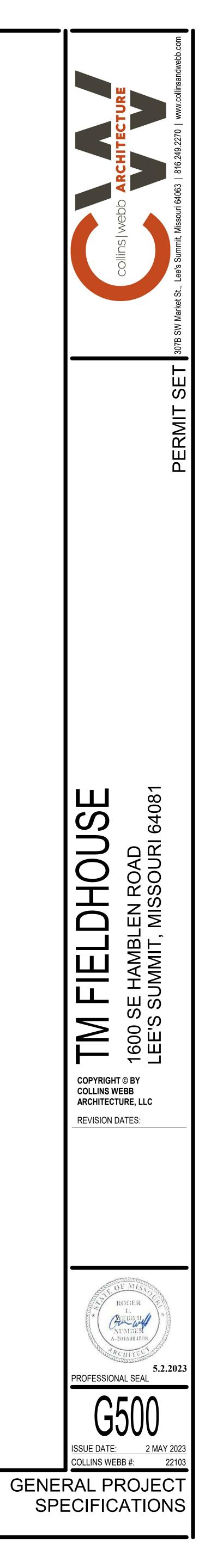
B. MANUFACTURERS . 3M FIRE PROTECTION PRODUCTS: HTTPS://WWW.3M.COM/3M/EN_US/P/C/BUILDING-MATERIALS/FIRE-PROTECTION/ 2. HILTI, INC : HTTPS://WWW.HILTI.COM/C/CLS FIRESTOP PROTECTION 7131

C. MATERIALS 1. FIRESTOPPING MATERIALS: ANY MATERIALS MEETING REQUIREMENTS. 2. PRIMERS, SLEEVES, FORMS, INSULATION, PACKING, STUFFING, AND ACCESSORIES: PROVIDE TYPE OF MATERIALS AS REQUIRED FOR TESTED FIRESTOPPING ASSEMBLY. 3. FIRE RATINGS: REFER TO DRAWINGS FOR REQUIRED SYSTEMS AND RATINGS.

D. ASSEMBLY REQUIREMENTS

1. HEAD-OF-WALL JOINT SYSTEM FIRESTOPPING AT JOINTS BETWEEN FIRE-RATED WALL ASSEMBLIES AND NON-RATED HORIZONTAL ASSEMBLIES: USE SYSTEM THAT HAS BEEN TESTED ACCORDING TO ASTM E2837 TO HAVE FIRE RESISTANCE F RATING EQUAL TO REQUIRED FIRE RATING OF FLOOR OR WALL, WHICHEVER IS GREATER. 2. FLOOR-TO-FLOOR, WALL-TO-WALL, AND WALL-TO-FLOOR JOINTS, EXCEPT PERIMETER, WHERE BOTH ARE FIRE-RATED: USE SYSTEM THAT HAS BEEN TESTED ACCORDING TO ASTM E1966 OR UL 2079 TO HAVE FIRE RESISTANCE "F" RATING EQUAL TO REQUIRED FIRE RATING OF THE ASSEMBLY IN WHICH THE JOINT OCCURS. 3.THROUGH PENETRATION FIRESTOPPING: USE SYSTEM THAT HAS BEEN TESTED ACCORDING TO ASTM E814 TO HAVE FIRE RESISTANCE F RATING EQUAL TO REQUIRED FIRE RATING OF PENETRATED ASSEMBLY.

E. <u>INSTALLATION:</u> 1. INSTALLATIONS SHALL CONFORM TO UL REQUIREMENTS OF THE ASSEMBLY WHICH FIRESTOPPING IS TO BECOME PART OF THE BUILT ASSEMBLY.



SPECIFICATIONS - PRODUCT & INSTALLATION GENERAL REQUIREMENTS		
SPECIFICATIONS - PRODUCT & INSTALLATION GENERAL REQUIREMENTS	Hardware Group No. 03 For use on Door #(s): SF5	
07 9200 - JOINT SEALANTS	Provide each PR door(s) with the following: QTY DESCRIPTION 2 EA CONT. HINGE	CATALOG NUMBER 112XY
A. <u>SUBMITTALS</u> : PRODUCT DATA, AND SCHEDULE OF LOCATIONS FOR EACH TYPE OF SEALANT SUBMITTED. B. JOINT-SEALANT SCHEDULE: INCLUDE THE FOLLOWING INFORMATION:	1 EA PANIC HARDWARE 1 EA PANIC HARDWARE 1 EA RIM CYLINDER	9947-EO 9947-NL-OP-110MD 20-057
 JOINT-SEALANT APPLICATION, JOINT LOCATION, AND DESIGNATION. JOINT-SEALANT MANUFACTURER AND PRODUCT NAME. JOINT-SEALANT FORMULATION. 	2 EA 90 DEG OFFSET PULL 1 EA OH STOP	8190HD 10" 100SE (@LEAF WITH AUTO OPERATOR
4. JOINT-SEALANT COLOR.	1 EA SURFACE CLOSER 1 EA SURF. AUTO OPERATOR	4040XP SCUSH 4642 WMS 120 VAC
C. <u>ENVIRONMENTAL LIMITATIONS</u> : DO NOT PROCEED WITH INSTALLATION OF JOINT SEALANTS WHEN AMBIENT AND SUBSTRATE TEMPERATURE CONDITIONS ARE OUTSIDE LIMITS PERMITTED BY JOINT SEALANT MANUFACTURER OR ARE BELOW 40 deg F (4.4 deg C).	1EAPA MOUNTING PLATE1EACUSH SHOE SUPPORT1EABLADE STOP SPACER	4040XP-18PA SRT 4040XP-30 SRT 4040XP-61 SRT
D. <u>COMPATIBILITY</u> : PROVIDE JOINT SEALANTS, JOINT FILLERS, AND OTHER RELATED MATERIALS THAT ARE COMPATIBLE WITH ONE ANOTHER AND WITH JOINT SUBSTRATES UNDER SERVICE AND APPLICATION CONDITIONS.	1 EA ACTUATOR, TOUCH 1 EA ACTUATOR, TOUCH	8310-818T 8310-853T (EXTERIOR)
E. JOINT SEALANTS:	1 EA RAIN DRIP 2 EA DOOR SWEEP 1 EA THRESHOLD	142AA 8197AA 65A-223
 COLORS OF EXPOSED JOINT SEALANTS: AS SELECTED BY ARCHITECT FROM MANUFACTURER'S FULL RANGE. INTERIOR JOINTS IN CERAMIC TILE AND OTHER HARD SURFACES IN KITCHENS, TOILET ROOMS, AND AROUND PLUMBING FIXTURES: SINGLE COMPONENT, MILDEW-RESISTANT SILICONE SEALANT, ASTM C 920, TYPE S; GRADE 	2 EA DOOR CONTACT EA WEATHERSTRIP	679-05HM BY DOOR/FRAME MANUFACTUR
NS, CLASS 25; USES NT, G, A, AND O; FORMULATED WITH FUNGICIDE. 3. INTERIOR JOINTS AROUND PERIMETERS OF DOORS AND FRAMES: LATEX SEALANT, SINGLE COMPONENT,	Hardware Group No. 04 For use on Door #(s): SF2A	
NONSAG, MILDEW-RESISTANT, PAINTABLE, ACRYLIC EMULSION SEALANT COMPLYING WITH ASTM C 834. 4. ACOUSTICAL SEALANT FOR EXPOSED INTERIOR JOINTS: NONSAG, PAINTABLE, NONSTAINING, LATEX SEALANT COMPLYING WITH ASTM C 834.	Provide each PR door(s) with the following: QTY DESCRIPTION	CATALOG NUMBER
 ACOUSTICAL SEALANT FOR CONCEALED JOINTS: NONDRYING, NONHARDENING, NONSKINNING, NONSTAINING, GUNNABLE, SYNTHETIC-RUBBER SEALANT RECOMMENDED FOR SEALING INTERIOR CONCEALED JOINTS TO REDUCE TRANSMISSION OF AIRBORNE SOUND. 	2 EA CONT. HINGE 2 EA PANIC HARDWARE 2 EA 90 DEG OFFSET PULL	112XY 9947-EO-LBR 8190HD 10"
6. EXTERIOR CONCRETE PANELS, NATURAL STONES, MASONRY, ALUMINUM CURTAINWALLS, METAL PANELS AND WINDOW PERIMETERS. BASIS OF DESIGN PRODUCTS:	2 EA SURFACE CLOSER 2 EA PA MOUNTING PLATE 2 EA CUSH SHOE SUPPORT	4040XP SCUSH 4040XP-18PA SRT 4040XP-30 SRT
A. TREMCO INCORPORATED; SPECTREM 1. B. DOW CORNING CORPORATION; 790. C. PECORA CORPORATION; 890NST.	2 EA BLADE STOP SPACER	4040XP-61 SRT
7. EXTERIOR JOINTS IN HORIZONTAL TRAFFIC SURFACES. ISOLATION AND CONTRACTION JOINTS IN CAST-IN-PLACE CONCRETE SLABS. URETHANE JOINT SEALANT: MULTICOMPONENT, NONSAG, TRAFFIC GRADE, CLASS 25.	Hardware Group No. 05 For use on Door #(s): SF2B	
8. FIRESTOP SEALANTS: INSTALL AT FIRE RATED ASSEMBLIES AND AS DIRECTED WITHIN UL REFERENCES BASIS OF DESIGN PRODUCTS:	Provide each PR door(s) with the following: QTY DESCRIPTION 2 EA CONT. HINGE	CATALOG NUMBER 112XY
A. HILTI B. 3M	1 EA PANIC HARDWARE 1 EA PANIC HARDWARE 1 EA RIM CYLINDER	9947-EO-LBR 9947-NL-OP-LBR-110MD 20-057
 E. <u>JOINT SEALANT BACKING</u>: 1. GENERAL: PROVIDE SEALANT BACKINGS OF MATERIAL THAT ARE NONSTAINING; ARE COMPATIBLE WITH JOINT SUBSTRATES, SEALANTS, PRIMERS, AND OTHER JOINT FILLERS; AND ARE APPROVED FOR APPLICATIONS 	2 EA 90 DEG OFFSET PULL 1 EA OH STOP	8190HD 10" 100SE
INDICATED BY SEALANT MANUFACTURER BASED ON FIELD EXPERIENCE AND LABORATORY TESTING. 2. CYLINDRICAL SEALANT BACKINGS: ASTM C 1330, TYPE C (CLOSED-CELL MATERIAL WITH A SURFACE SKIN), AND OF SIZE AND DENSITY TO CONTROL SEALANT DEPTH AND OTHERWISE CONTRIBUTE TO PRODUCING	1 EA SURFACE CLOSER 1 EA SURF. AUTO OPERATOR	(@LEAF WITH AUTO OPERATOF 4040XP SCUSH 4642 WMS 120 VAC
OPTIMUM SEALANT PERFORMANCE. 3. BOND-BREAKER TAPE: POLYETHYLENE TAPE OR OTHER PLASTIC TAPE RECOMMENDED BY SEALANT	1 EA PA MOUNTING PLATE 1 EA CUSH SHOE SUPPORT 1 EA BLADE STOP SPACER	4040XP-18PA SRT 4040XP-30 SRT 4040XP-61 SRT
MANUFACTURER FOR PREVENTING SEALANT FROM ADHERING TO RIGID, INFLEXIBLE JOINT-FILLER MATERIALS OR JOINT SURFACES AT BACK OF JOINT. PROVIDE SELF-ADHESIVE TAPE WHERE APPLICABLE.	1 EA BLADE STOP SPACER 1 EA ACTUATOR, TOUCH NOTE: VESTIBULE ACTUATOR PROVIDED IN S	8310-853T
F. <u>MISCELLANEOUS MATERIALS</u> 1. PRIMER: MATERIAL RECOMMENDED BY JOINT-SEALANT MANUFACTURER WHERE REQUIRED FOR ADHESION OF SEALANT TO JOINT SUBSTRATES INDICATED, AS DETERMINED FROM PRECONSTRUCTION JOINT-SEALANT-	Hardware Group No. 06 For use on Door #(s): 112B	
SUBSTRATE TESTS AND FIELD TESTS. 2. CLEANERS FOR NONPOROUS SURFACES: CHEMICAL CLEANERS ACCEPTABLE TO MANUFACTURERS OF SEALANTS AND SEALANT BACKING MATERIALS, FREE OF OILY RESIDUES OR OTHER SUBSTANCES CAPABLE OF	Provide each PR door(s) with the following: QTY DESCRIPTION	
STAINING OR HARMING JOINT SUBSTRATES AND ADJACENT NONPOROUS SURFACES IN ANY WAY, AND FORMULATED TO PROMOTE OPTIMUM ADHESION OF SEALANTS TO JOINT SUBSTRATES. 3. BOND-BREAKER TAPE: POLYETHYLENE TAPE OR OTHER PLASTIC TAPE RECOMMENDED BY SEALANT MFR. FOR	1 EA PANIC HARDWARE 1 EA PANIC HARDWARE	5BB1HW NRP 9947-EO 9947-L-06
PREVENTING SEALANT FROM ADHERING TO RIGID, INFLEXIBLE JOINT-FILLER MATERIALS OR JOINT SURFACES AT BACK OF JOINT.	1EARIM CYLINDER2EASURFACE CLOSER2EAARMOR PLATE	20-057 4040XP HEDA 8400 34" X 1" LDW B-CS
4. MASKING TAPE: NONSTAINING, NONABSORBENT MATERIAL COMPATIBLE WITH JOINT SEALANTS AND SURFACES ADJACENT TO JOINTS.	2 EA FLOOR STOP	FS18L (MOUNTED NEAR WALL TO AVC TRIPPING HAZARD)
. <u>INSTALLATION</u> : COMPLY WITH ASTM C 1193; ASTM C 919 FOR ACOUSTICAL JOINTS; AND AS FOLLOWS: 1. REMOVE ALL LOOSE MATERIAL, CLEAN AND PRIME JOINTS IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS, AND PROTECT ADJACENT SURFACES.	1 SET GASKETING 1 EA MEETING STILE 2 EA DOOR SWEEP	429AA-S 8193AA 8197AA
 INSTALL BOND-BREAKER TAPE WHERE JOINT BACKINGS ARE NOT USED. INSTALL SEALANT TOOLED CONCAVE, FREE OF AIR POCKETS, FOREIGN EMBEDDED MATTER, RIDGES, AND SAGS, AND PROTECT UNTIL FULLY CURED. SEALANT WITH DUST AND DEBRIS EMBEDDED IN SURFACE SHALL BE CAUSE 	1 EA THRESHOLD 2 EA DOOR CONTACT	65A-223 679-05HM
FOR REJECTION.	Hardware Group No. 07 For use on Door #(s):	
SION 8 - OPENINGS	117E Provide each PR door(s) with the following: QTY DESCRIPTION	CATALOG NUMBER
8 0671 - DOOR HARDWARE A. <u>SUBMITTALS</u> : PRODUCT DATA AND HARDWARE SCHEDULE INDICATING HARDWARE ITEM, FINISH, AND QUANTITY LOCATED ON EACH DOOR WITH DOOR AND HARDWARE SET NUMBERING CORRESPONDING TO THOSE USED IN	6 EA HINGE 2 EA PANIC HARDWARE 2 EA SURFACE CLOSER	5BB1HW NRP 9947-EO 4040XP SCUSH
CONSTRUCTION DOCUMENTS. REFER TO ARCHITECTURAL PLANS AND HARDWARE SCHEDULES PROVIDED. 1. HARDWARE SUPPLIER SHALL SUBMIT FOUR COPIES OF FINAL HARDWARE SCHEDULE AT EARLIEST POSSIBLE	2 EA KICK PLATE 1 EA RAIN DRIP 1 SET GASKETING	8400 10" X 1" LDW B-CS 142AA 429AA-S
DATE PARTICULARLY WHERE ACCEPTANCE OF HARDWARE SCHEDULE MUST PRECEDE FABRICATION OF OTHER WORK WHICH IS CRITICAL IN THE PROJECT CONSTRUCTION SCHEDULE. INCLUDE WITH SCHEDULE SHOP DRAWINGS OF OTHER WORK AFFECTED BY BUILDERS HARDWARE, AND OTHER INFORMATION ESSENTIAL TO THE	2 EA MEETING STILE 2 EA DOOR SWEEP	8193AA 8197AA
COORDINATE REVIEW OF HARDWARE SCHEDULE. 2. KEYING SCHEDULE. SUBMIT SEPARATE DETAILED SCHEDULE INDICATING CLEARLY HOW THE OWNER'S FINAL INSTRUCTIONS ON KEYING OF LOCKS HAS BEEN FULFILLED. ALL KEYING SHALL BE COORDINATED WITH THE	1 EA THRESHOLD 2 EA DOOR CONTACT	65A-223 679-05HM
OWNER. B. <u>PRODUCTS:</u> REFER TO HARDWARE SCHEDULE AND ARCHITECTURAL DRAWINGS.	Hardware Group No. 08 For use on Door #(s): SF4	
1. STRIKES. PROVIDE MANUFACTURER'S STANDARD WROUGHT BOX STRIKE FOR EACH LATCH OR LOCK BOLT, WITH CURVED LIP EXTENDED TO PROTECT FRAME. FINISH TO MATCH HARDWARE SET. PROVIDE STANDARD (OPEN) STRIKE PLATES FOR INTERIOR DOORS WHERE WOOD DOOR FRAMES ARE USED.	Provide each SGL door(s) with the following: QTY DESCRIPTION 1 EA CONT. HINGE	CATALOG NUMBER 112XY
 IN GENERAL, HARDWARE FINISH SHALL BE US15 (SATIN NICKEL) UNLESS SPECIFIED DIFFERENTLY ON HARDWARE SCHEDULE. 	1 EA PANIC HARDWARE 1 EA RIM CYLINDER 1 EA 90 DEG OFFSET PULL	99-NL-OP-110MD 20-057 8190HD 10"
 SUPPLY CAL ROYAL HDFS3 FLEXIBLE DOOR STOPS IN THE APARTMENT DWELLING UNITS. USE 2 IVHP-23 HINGE STOPS WHERE FLEXIBLE STOPS CANNOT BE USED. SUPPLY OUT SWINGING EXTERIOR DOORS WITH NON REMOVABLE PINS. 	1 EA SURFACE CLOSER 1 EA PA MOUNTING PLATE	4040XP SCUSH 4040XP-18PA SRT
C. I <u>NSTALLATION:</u> 1. MOUNT HARDWARE UNITS AT HEIGHTS INDICATED IN "RECOMMENDED LOCATIONS FOR BUILDERS HARDWARE	1 EA CUSH SHOE SUPPORT 1 EA BLADE STOP SPACER 1 EA RAIN DRIP	4040XP-30 SRT 4040XP-61 SRT 142AA
FOR STANDARD STEEL DOORS AND FRAMES" BY THE DOOR AND HARDWARE INSTITUTE, EXCEPT AS SPECIFICALLY INDICATED OR REQUIRED TO COMPLY WITH GOVERNING REGULATIONS, AND EXCEPT AS MAY BE OTHERWISE DIRECTED BY ARCHITECT. MOUNT HARDWARE IN UNITS DESIGNATED FOR USE BY THE	1 EA DOOR SWEEP 1 EA THRESHOLD 1 EA DOOR CONTACT	8197AA 65A-223 679-05HM
HANDICAPPED AT HEIGHTS RECOMMENDED FOR USE BY THE HANDICAPPED. 2. INSTALL EACH HARDWARE ITEM IN COMPLIANCE WITH THE MANUFACTURER'S INSTRUCTIONS AND	EA WEATHERSTRIP Hardware Group No. 09	BY DOOR/FRAME MANUFACTUR
RECOMMENDATIONS. WHEREVER CUTTING AND FITTING IS REQUIRED TO INSTALL HARDWARE ONTO OR INTO SURFACES WHICH ARE LATER TO BE PAINTED OR FINISHED IN ANOTHER WAY, COORDINATE REMOVAL, STORAGE AND REINSTALLATION OR ADDITION OF SUBFACE PROTECTIONS WITH EINISHING WORK SPECIFIED IN THE DIVISION	For use on Door #(s): 108A Provide each SGL door(s) with the following:	
REINSTALLATION OR APPLICATION OF SURFACE PROTECTIONS WITH FINISHING WORK SPECIFIED IN THE DIVISION 9 SECTIONS. DO NOT INSTALL SURFACE MOUNTED ITEMS UNTIL FINISHES HAVE BEEN COMPLETED ON THE SUBSTRATE.	QTY DESCRIPTION 1 EA CONT. HINGE	CATALOG NUMBER 112XY EPT ERT10 CON
3. SET UNITS LEVEL, PLUMB AND TRUE TO LINE AND LOCATION. ADJUST AND REINFORCE THE ATTACHMENT SUBSTRATE AS NECESSARY FOR PROPER INSTALLATION AND OPERATION. 4.DRILL AND COUNTERSINK UNITS WHICH ARE NOT FACTORY PREPARED FOR ANCHORAGE FASTENERS. SPACE	1 EA POWER TRANSFER 1 EA ELEC PANIC HARDWARE	EPT10 CON RX-QEL-99-NL-OP-110MD-CON 2 VDC
FASTENERS AND ANCHORS IN ACCORDANCE WITH INDUSTRY STANDARDS. 5.METAL THRESHOLDS SHALL BE SET IN A SOLID BED OF NON STAINING THIOKOL BASE CAULKING. 6. ADJUST AND CHECK EACH OPERATING ITEM OF HARDWARE AND EACH DOOR, TO ENSURE PROPER OPERATION	1 EA RIM CYLINDER 1 EA 90 DEG OFFSET PULL 1 EA SURFACE CLOSER	20-057 8190HD 10" 4040XP SCUSH
OR FUNCTION OF EVERY UNIT. REPLACE UNITS WHICH CANNOT BE ADJUSTED TO OPERATE FREELY AND SMOOTHLY AS INTENDED FOR THE APPLICATION MADE.	1 EA RAIN DRIP 1 SET GASKETING 1 EA DOOR SWEEP	142AA 429AA-S 8197AA
7.FINAL ADJUSTMENT: WHEREVER HARDWARE INSTALLATION IS MADE MORE THAN ONE MONTH PRIOR TO ACCEPTANCE OR OCCUPANCY OF A SPACE OR AREA, RETURN TO THE WORK DURING THE WEEK PRIOR TO ACCEPTANCE OR OCCUPANCY, AND MAKE FINAL CHECK AND ADJUSTMENT OF ALL HARDWARE ITEMS IN SUCH	1 EA THRESHOLD 1 EA WIRE HARNESS	65A-223 CON-XXP (LENGTH AS REQ'D)
SPACE OR AREA. CLEAN OPERATING ITEMS AS NECESSARY TO RESTORE PROPER FUNCTION AND FINISH OF HARDWARE AND DOORS. ADJUST DOOR CONTROL DEVICES TO COMPENSATE FOR FINAL OPERATION OF HEATING AND VENTILATING EQUIPMENT.	1EAWIRE HARNESS1EAMULTITECH READER1EADOOR CONTACT	CON-XXW (LENGTH AS REQ'D) MT11 12 VDC 679-05HM
Hardware Group No. 01	1 EA POWER SUPPLY Hardware Group No. 11	PS902 900-2RS 120/240 VAC
For use on Door #(s): SF1A Provide each PR door(s) with the following:	For use on Door #(s): 108B Provide each SGL door(s) with the following:	
QTYDESCRIPTIONCATALOG NUMBERFINISHMFR2EACONT. HINGE112XY628IVE	QTY DESCRIPTION 3 EA HINGE	CATALOG NUMBER 5BB1HW 99J -06
2 EA PANIC HARDWARE 9947-EO Image: Constraint of the state of the stat	1 EA PANIC HARDWARE 1 EA RIM CYLINDER 1 EA SURFACE CLOSER	99-L-06 20-057 4040XP RW/PA
2EAPA MOUNTING PLATE4040XP-18PA SRTImage: State St	1 EA KICK PLATE 1 EA WALL STOP 1 EA GASKETING	8400 10" X 2" LDW B-CS WS406/407CCV 488SBK PSA
2 EA DOOR SWEEP 8197AA Image: AA ZER 1 EA THRESHOLD 65A-223 Image: AA ZER	Hardware Group No. 11A For use on Door #(s):	
2 EA DOOR CONTACT 679-05HM Image: Contact of the second se	132A Provide each SGL door(s) with the following:	
Hardware Group No. 02 For use on Door #(s): SF1B	QTY DESCRIPTION 3 EA HINGE 1 EA PANIC HARDWARE	CATALOG NUMBER 5BB1HW 99-L-F-06
Provide each PR door(s) with the following:QTYDESCRIPTIONCATALOG NUMBERFINISHMFR2EACONT. HINGE112XY628IVE	1 EA RIM CYLINDER 1 EA SURFACE CLOSER 1 EA KICK PLATE	20-057 4040XP SCUSH 8400 10" X 2" LDW B-CS
1EAPANIC HARDWARE9947-EOE626VON1EAPANIC HARDWARE9947-NL-OP-110MDE626VON	1 SET GASKETING 1 EA DOOR SWEEP 1 EA THRESHOLD	429AA-S 8197AA 655A-223
1 EA RIM CYLINDER 20-057 🗏 626 SCH	Hardware Group No. 12 For use on Door #(s):	0007-220
2 EA 90 DEG OFFSET PULL 8190HD 10" 630 IVE 1 EA OH STOP 100SE 630 GLY	114B Provide each PR door(s) with the following: QTY DESCRIPTION	CATALOG NUMBER
2EA90 DEG OFFSET PULL8190HD 10"E630IVE1EAOH STOP100SEE630GLY1EASURFACE CLOSER4040XP SCUSHE689LCN1EASURF. AUTO OPERATOR4642 WMS 120 VACE689LCN	6 EA HINGE 2 EA PANIC HARDWARE	5BB1HW 9947-L-LBR-06
2 EA 90 DEG OFFSET PULL 8190HD 10" ■ 630 IVE 1 EA OH STOP 100SE ■ 630 GLY (@LEAF WITH AUTO OPERATOR) 1 EA SURFACE CLOSER 4040XP SCUSH ■ 689 LCN		20-057
2EA90 DEG OFFSET PULL8190HD 10"E630IVE1EAOH STOP100SE (@LEAF WITH AUTO OPERATOR)E630GLY1EASURFACE CLOSER4040XP SCUSHE689LCN1EASURF. AUTO OPERATOR4642 WMS 120 VACE689LCN1EAPA MOUNTING PLATE4040XP-18PA SRTE689LCN1EACUSH SHOE SUPPORT4040XP-30 SRTE689LCN	 EA RIM CYLINDER EA SURFACE CLOSER EA KICK PLATE 	20-057 4040XP SCUSH 8400 10" X 1" LDW B-CS
2EA90 DEG OFFSET PULL OH STOP8190HD 10"630IVE1EAOH STOP100SE (@LEAF WITH AUTO OPERATOR)630GLY1EASURFACE CLOSER4040XP SCUSH689LCN1EASURF. AUTO OPERATOR4642 WMS 120 VAC4689LCN1EAPA MOUNTING PLATE4040XP-18PA SRT689LCN1EACUSH SHOE SUPPORT4040XP-30 SRT689LCN1EABLADE STOP SPACER4040XP-61 SRT689LCN1EAACTUATOR, TOUCH8310-853T630LCN1EAACTUATOR, TOUCH8310-8554 630LCN1EADOOR SWEEP8197AAAAZER	2 EA RIM CYLINDER 2 EA SURFACE CLOSER 2 EA KICK PLATE 1 EA GASKETING Hardware Group No. 13	4040XP SCUSH
2EA90 DEG OFFSET PULL OH STOP8190HD 10"630IVE1EAOH STOP100SE (@LEAF WITH AUTO OPERATOR)630GLY1EASURFACE CLOSER4040XP SCUSH689LCN1EASURF. AUTO OPERATOR4642 WMS 120 VAC4689LCN1EAPA MOUNTING PLATE4040XP-30 SRT689LCN1EACUSH SHOE SUPPORT4040XP-61 SRT689LCN1EABLADE STOP SPACER4040XP-61 SRT689LCN1EAACTUATOR, TOUCH8310-853T4030LCN1EAACTUATOR, TOUCH8310-8554030LCN1EAACTUATOR, TOUCH8310-8554030LCN1EAACTUATOR, TOUCH8310-8554030LCN1EAACTUATOR, TOUCH8310-8554030LCN1EAACTUATOR, TOUCH8310-8554030LCN1EAACTUATOR, TOUCH8310-8554030LCN1EAACTUATOR, TOUCH8310-8554030LCN1EAACTUATOR, TOUCH8310-8554030CN1EAACTUATOR, TOUCH8310-8554030CN1EAACTUATOR, TOUCH8310-8554030CN1EAACTUATOR, TOUCH8310-8554030CN1EAACTUATOR, TOUCH8310-8554030CN1EAACTUATOR, TOUCH83	2 EA RIM CYLINDER 2 EA SURFACE CLOSER 2 EA KICK PLATE 1 EA GASKETING Hardware Group No. 13 For use on Door #(s): 118 Provide each PR door(s) with the following:	4040XP SCUSH 8400 10" X 1" LDW B-CS 488SBK PSA
2EA90 DEG OFFSET PULL8190HD 10"E630IVE1EAOH STOP100SE630GLY1EASURFACE CLOSER4040XP SCUSHE689LCN1EASURF. AUTO OPERATOR4642 WMS 120 VACE*689LCN1EAPA MOUNTING PLATE4040XP-18PA SRTE689LCN1EACUSH SHOE SUPPORT4040XP-30 SRTE689LCN1EABLADE STOP SPACER4040XP-61 SRTE689LCN1EAACTUATOR, TOUCH8310-853TE*630LCN1EAACTUATOR, TOUCH8310-855**630LCN1EADOOR SWEEP8197AAEAAZER2EADOOR CONTACT65A-223EAZER2EADOOR CONTACT679-05HME*BLKSCE	2 EA RIM CYLINDER 2 EA SURFACE CLOSER 2 EA KICK PLATE 1 EA GASKETING Hardware Group No. 13 For use on Door #(s): 118	4040XP SCUSH 8400 10" X 1" LDW B-CS

2

EA GASKETING

IL-OP-LBR-110MD 8190HD 10" 4040XP SCUSH 488SBK PSA

ZER

BK

		628 626 626	MFR IVE VON VON	Hardware Group No. 14 For use on Door #(s): 117F 132B Provide each PR door(s) with the following:					
OR)		626 630 630	SCH IVE GLY	QTY DESCRIPTION 6 EA HINGE 1 EA PANIC HARDWARE 1 EA PANIC HARDWARE	CATALOG NUMBER 5BB1HW NRP 9947-EO-LBR 9947-NL-OP-LBR-110MD		FINISH 630 626 626	I MFR IVE VON VON	Hardware Group No. 28 For use on Door #(s): 118.A Provide each SGL door(s) with the following:
		689 689 689	LCN LCN LCN	1 EA RIM CYLINDER 2 EA 90 DEG OFFSET PULL 2 EA SURFACE CLOSER	20-057 8190HD 10" 4040XP SCUSH		626 630 689	SCH IVE LCN	QTYDESCRIPTIONCATALOG NUMBERFINISHMFR3EAHINGE5BB1HW NRPE630IVE1EASTOREROOM LOCKND80RD RHOE626SCH
		689 689 4 630	LCN LCN LCN	1 EA RAIN DRIP 1 SET GASKETING 2 EA MEETING STILE	142AA 429AA-S 8193AA		AA AA AA	ZER ZER ZER	1EASURFACE CLOSER4040XP SCUSHE689LCN1EAKICK PLATE8400 10" X 2" LDW B-CSE630IVE1EARAIN DRIP142AAEAAZER
		630 AA	LCN	2 EA DOOR SWEEP 1 EA THRESHOLD 2 EA DOOR CONTACT	8197AA 65A-223 679-05HM		AA A ∦ BLK	ZER ZER SCE	(AT C109 ONLY) 1 SET GASKETING 429AA-S E AA ZER 1 EA DOOR SWEEP 8197AA A ZER 1 FA TURESHOLD F 255A 202
		AA A Ý BLK	ZER ZER SCE	Hardware Group No. 15 For use on Door #(s):					1 EA THRESHOLD 655A-223 Image: A ZER 1 EA DOOR CONTACT 679-05HM Image: A ZER Hardware Group No. 29
URER			B/O	132C Provide each SGL door(s) with the following QTY DESCRIPTION	CATALOG NUMBER		FINISH		For use on Door #(s): 102A 102B 102C 103B 103C 117G Provide each RU door(s) with the following:
		FINISH	MFR	3 EA HINGE 1 EA FIRE EXIT HARDWARE 1 EA SURFACE CLOSER	5BB1HW 99-L-BE-F-06 4040XP EDA		652 626 689	IVE VON LCN	QTY DESCRIPTION CATALOG NUMBER FINISH MFR EA NOTE ALL HARDWARE BY OVERHEAD DOOR MFG
		628 626 630	IVE VON IVE	1 EA KICK PLATE 1 EA WALL STOP 1 EA GASKETING	8400 10" X 2" LDW B-CS WS406/407CCV 488FSBK PSA	AN AN AN	630 630 BK	IVE IVE ZER	Hardware Group No. 30 For use on Door #(s):
		689 689 689	LCN LCN LCN						104 117A 117B 117C 117D 120 122 129 129 120 120 120 120 120 120 120 120 120 120 120 120 120 120 120 120 120 120 120 120 120 120 120 120 120 120 120 120 120 120 120 120 120 120 120 120 120 120 120 120 120 120 120 120 120 120 120 120 120 120 120 120 120 120 120 120 120 120 120 120 120 120 120 120 120 120 120 120 120 120 120 120 120 120 120 120 120 120 120 120 120 120 120 120 120 120 120 </td
		689	LCN	Hardware Group No. 16 For use on Door #(s): 130A 131A					QTY DESCRIPTION CATALOG NUMBER FINISH MFR 1 EA NOTE NO HARDWARE REQUIRED FINISH MFR CASED OPEN CASED OPEN CASED OPEN CASED OPEN CASED OPEN
				Provide each SGL door(s) with the following QTY DESCRIPTION 3 EA HINGE	CATALOG NUMBER 5BB1HW		FINISH 652	IVE	Hardware Group No. 31 For use on Door #(s): 112A
	111 111	FINISH 628 626	MFR IVE VON	1 EA STOREROOM LOCK 1 EA SURFACE CLOSER 1 EA KICK PLATE	ND80RD RHO 4040XP 8400 10" X 2" LDW B-CS		626 689 630	SCH LCN IVE	Provide each PR door(s) with the following: QTY DESCRIPTION CATALOG NUMBER FINISH MFR EA NOTE HARDWARE BY GATE SUPPLIER FINISH MFR
		626 626 630	VON SCH IVE	1 EA WALL STOP 3 EA SILENCER	WS406/407CCV SR64		630 GRY	IVE IVE	Hardware Group No. 31 For use on Door #(s):
TOR)		630 689	GLY LCN	Hardware Group No. 17 For use on Door #(s): 130B Provide each SGL door(s) with the followin	a:				112A Provide each PR door(s) with the following: QTY DESCRIPTION CATALOG NUMBER FINISH MFR
		 ✓ 689 689 689 689 	LCN LCN LCN	QTY DESCRIPTION 3 EA HINGE 1 EA STOREROOM LOCK	CATALOG NUMBER 5BB1HW ND80RD RHO	111 A.I	FINISH 652 626	I MFR IVE SCH	EA NOTE HARDWARE BY GATE SUPPLIER
OR SF1B		689 🖌 630	LCN LCN	1 EA SURFACE CLOSER 1 EA KICK PLATE 1 EA WALL STOP	4040XP 8400 10" X 2" LDW B-CS WS406/407CCV		689 630 630	LCN IVE IVE	
				1 EA GASKETING Hardware Group No. 18	488FSBK PSA		ВК	ZER	08 1113 - HOLLOW METAL DOORS AND FRAMES A. <u>SUBMITTALS</u> : PRODUCT DATA AND SHOP DRAWINGS WITH DETAILS OF EACH OPENING, SHOWING ELEVATIONS, GLAZING, FRAME PROFILES, AND ANY INDICATED FINISH REQUIREMENTS.
		FINISH 630	MFR IVE	For use on Door #(s): 131B Provide each PR door(s) with the following: QTY DESCRIPTION	CATALOG NUMBER		FINISH	I MFR	B. <u>HOLLOW METAL DOOR AND FRAME MANUFACTURERS:</u> 1. CECO DOOR, AN ASSA ABLOY GROUP COMPANY: WWW.ASSAABLOYDSS.COM. 2. DE LA FONTAINE INC: WWWW DELAFONTAINE COM
		626 626 626	VON VON SCH	6 EA HINGE 1 EA CONST LATCHING BOLT 1 EA STOREROOM LOCK	5BB1HW FB51P ND80RD RHO		652 630 626	IVE IVE SCH	2. DE LA FONTAINE INC: WWW.DELAFONTAINE.COM 3. REPUBLIC DOORS, AN ALLEGION BRAND: WWW.REPUBLICDOOR.COM 4. STEELCRAFT, AN ALLEGION BRAND: WWW.ALLEGION.COM
		689 630 BLK	LCN IVE IVE	1 EA SURFACE CLOSER 2 EA KICK PLATE 2 EA WALL STOP	4040XP 8400 10" X 1" LDW B-CS WS406/407CCV		689 630 630	LCN IVE IVE	C. <u>SOUND-RATED HOLLOW METAL DOORS AND FRAMES:</u> 1. OVERLY DOOR COMPANY: WWW.OVERLY.COM
avoid		AA AA	ZER ZER	1 EA GASKETING Hardware Group No. 19	488FSBK PSA		BK	ZER	 D. <u>DESIGN CRITERIA:</u> 1. STEEL USED FOR FABRICATION OF DOORS AND FRAMES SHALL COMPLY WITH ONE OR MORE OF THE FOLLOWING REQUIREMENTS; GALVANNEALED STEEL CONFORMING TO ASTM A653/A653M, COLD-ROLLED STEEL
		AA A ØBLK	ZER ZER SCE	For use on Door #(s): 107 Provide each PR door(s) with the following:			EINIIO		CONFORMING TO ASTM A1008/A1008M, OR HOT-ROLLED PICKLED AND OILED (HRPO) STEEL CONFORMING TO ASTM A1011/A1011M, COMMERCIAL STEEL (CS) TYPE B FOR EACH. 2. TYPICAL DOOR FACE SHEETS: FLUSH.
				QTY DESCRIPTION 6 EA HINGE 2 EA MANUAL FLUSH BOLT	CATALOG NUMBER 5BB1HW FB458		FINISH 652 626	IVE IVE	 GLAZED LIGHTS: NON-REMOVABLE STOPS ON NON-SECURE SIDE; SIZES AND CONFIGURATIONS AS INDICATED ON DRAWINGS. STYLE: MANUFACTURERS STANDARD. HARDWARE PREPARATIONS, SELECTIONS AND LOCATIONS: COMPLY WITH NAAMM HMMA 830 AND NAAMM HMMA
				1 EA DUST PROOF STRIKE 1 EA STOREROOM LOCK 2 EA KICK PLATE	DP1/DP2 AS REQ'D ND80RD RHO 8400 10" X 1" LDW B-CS WS406/407CCV		626 626 630 630	IVE SCH IVE IVE	831 OR BHMA A156.115 AND ANSI/SDI A250.8 (SDI-100) IN ACCORDANCE WITH SPECIFIED REQUIREMENTS. 5. ZINC COATING FOR TYPICAL INTERIOR AND/OR EXTERIOR LOCATIONS: PROVIDE METAL COMPONENTS ZINC- COATED (GALVANIZED) AND/OR ZINC-IRON ALLOY-COATED (GALVANNEALED) BY THE HOT-DIP PROCESS IN ACCORDANCE WITH ASTM A653/A653M, WITH MANUFACTURER'S STANDARD COATING THICKNESS, UNLESS NOTED
	A 100 10	630 626 689		2 EA WALL STOP 2 EA SILENCER Hardware Group No. 20	SR64		GRY	IVE	OTHERWISE FOR SPECIFIC HOLLOW METAL DOORS AND FRAMES. 6. HOLLOW METAL PANELS: SAME CONSTRUCTION, PERFORMANCE, AND FINISH AS DOORS. 7. COMBINED REQUIREMENTS: IF A PARTICULAR DOOR AND FRAME UNIT IS INDICATED TO COMPLY WITH MORE
		630 AA AA AA	IVE ZER ZER ZER	For use on Door #(s): 109 Provide each PR door(s) with the following:					THAN ONE TYPE OF REQUIREMENT, COMPLY WITH 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
		AA AA A ★ BLK	ZER ZER ZER SCE	QTY DESCRIPTION 6 EA HINGE 2 EA MANUAL FLUSH BOLT	CATALOG NUMBER 5BB1HW FB358		FINISH 652 626	MFR IVE IVE	REQUIREMENTS CONFLICT, COMPLY WITH THE MOST STRINGENT. E. HOLLOW METAL DOOR:
		/ DER	362	1 EA DUST PROOF STRIKE 1 EA STOREROOM LOCK 2 EA OH STOP 2 EA KICK PLATE	DP1/DP2 AS REQ'D ND80RD RHO 90S 8400 10" X 1" LDW B-CS	a da na a	626 626 630 630	IVE SCH GLY IVE	1. EXTERIOR DOORS: THERMALLY INSULATED. A. ASED ON SDI STANDARDS: ANSI/SDI A250.8 (SDI-100). B. LEVEL 1 - STANDARD-DUTY.
			MFR	2 EA SILENCER Hardware Group No. 21	SR64		GRY	IVE	C. PHYSICAL PERFORMANCE LEVEL C, 250,000 CYCLES; IN ACCORDANCE WITH ANSI/SDI A250.4. D. MODEL 1 - FULL FLUSH. E. DOOR FACE METAL THICKNESS: 20 GAGE, 0.032 INCH, MINIMUM.
		628 626 626	IVE VON SCH	For use on Door #(s): 106 Provide each SGL door(s) with the following	:				F. DOOR CORE MATERIAL: MANUFACTURERS STANDARD CORE MATERIAL/CONSTRUCTION AND IN COMPLIANCE WITH REQUIREMENTS. G. DOOR THICKNESS: 1-3/4 INCH, NOMINAL. H. TOP CLOSURES FOR OUTSWINGING DOORS: FLUSH WITH TOP OF FACES AND EDGES.
		630 689 689	IVE LCN LCN	QTY DESCRIPTION 3 EA HINGE 1 EA CLASSROOM LOCK	CATALOG NUMBER 5BB1HW ND70RD RHO		FINISH 652 626	MFR IVE SCH	I. WEATHERSTRIPPING: REFER TO SECTION 08 7100. J. DOOR FINISH: FACTORY PRIMED AND FIELD FINISHED.
		689 689 AA AA	LCN LCN ZER ZER	1 EA OH STOP 3 EA SILENCER Hardware Group No. 22	90S SR64		630 GRY	GLY IVE	2. INTERIOR DOORS, NON-FIRE RATED: A. BASED ON SDI STANDARDS: ANSI/SDI A250.8 (SDI-100). B. LEVEL 1 - STANDARD-DUTY.
TURER		A A BLK	ZER SCE B/O	For use on Door #(s): 114A Provide each SGL door(s) with the following	r				C. PHYSICAL PERFORMANCE LEVEL C, 250,000 CYCLES; IN ACCORDANCE WITH ANSI/SDI A250.4. D. MODEL 1 - FULL FLUSH. E. DOOR FACE METAL THICKNESS: 20 GAGE, 0.032 INCH, MINIMUM.
TONEN			5,0	QTY DESCRIPTION 3 EA HINGE 1 EA CLASSROOM LOCK	CATALOG NUMBER 5BB1HW ND70RD RHO		FINISH 652 626	MFR IVE SCH	F. DOOR THICKNESS: 1-3/4 INCH, NOMINAL. G. DOOR FINISH: FACTORY PRIMED AND FIELD FINISHED.
		FINISH	MFR	1 EA SURFACE CLOSER 1 EA KICK PLATE 1 EA WALL STOP	4040XP 8400 10" X 2" LDW B-CS WS406/407CCV		689 630 630	LCN IVE IVE	 FIRE-RATED DOORS: A. BASED ON SDI STANDARDS: ANSI/SDI A250.8 (SDI-100). B. LEVEL 1 - STANDARD-DUTY. C. PHYSICAL PERFORMANCE LEVEL C, 250,000 CYCLES; IN ACCORDANCE WITH ANSI/SDI A250.4.
)N 24		628 ★ 689 ★ 626	IVE VON VON	3 EA SILENCER Hardware Group No. 23	SR64		GRY	IVE	D. MODEL 1 - FULL FLUSH. E. DOOR FACE METAL THICKNESS: 20 GAGE, 0.032 INCH, MINIMUM. F. FIRE RATING: AS INDICATED ON DOOR SCHEDULE, TESTED IN ACCORDANCE WITH UL 10C AND NFPA 252
	MI MI M	626 630 689	SCH IVE LCN	For use on Door #(s): 103A Provide each SGL door(s) with the following QTY DESCRIPTION	: CATALOG NUMBER		FINISH	MFR	("POSITIVE PRESSURE FIRE TESTS"). G. TEMPERATURE-RISE RATING (TRR) ACROSS DOOR THICKNESS: IN ACCORDANCE WITH LOCAL BUILDING CODE AND AUTHORITIES HAVING JURISDICTION.
		AA AA AA	ZER ZER ZER	3 EA HINGE 1 EA ENTRANCE LOCK 1 EA SURFACE CLOSER	5BB1HW ND53RD RHO 4040XP	an an	652 626 689	IVE SCH LCN	 H. PROVIDE UNITS LISTED AND LABELED BY UL (DIR) OR ITS (DIR). ATTACH FIRE RATING LABEL TO EACH FIRE RATED UNIT. I. SMOKE AND DRAFT CONTROL DOORS (INDICATED WITH LETTER "S" ON DRAWINGS AND/OR DOOR SCHEDULE):
D)		* ^A	ZER SCH SCH	1 EA ARMOR PLATE 1 EA WALL STOP 3 EA SILENCER	8400 34" X 2" LDW B-CS WS406/407CCV SR64		630 630 GRY	IVE IVE IVE	SELF-CLOSING OR AUTOMATIC CLOSING DOORS IN ACCORDANCE WITH NFPA 80 AND NFPA 105, WITH FIRE- RESISTANCE-RATED WALL CONSTRUCTION RATED THE SAME OR GREATER THAN THE FIRE-RATED DOORS, AND THE FOLLOWING;
		✓ BLK ✓ BLK ✓ LGR	SCE SCE SCE	Hardware Group No. 24					 MAXIMUM AIR LEAKAGE: 3.0 CFM/SQ FT OF DOOR OPENING AT 0.10 INCH W.G. PRESSURE, WHEN TESTED IN ACCORDANCE WITH UL 1784 AT BOTH AMBIENT AND ELEVATED TEMPERATURES. GASKETING: PROVIDE GASKETING OR EDGE SEALING AS NECESSARY TO ACHIEVE LEAKAGE LIMIT. LABEL: INCLUDE THE "S" LABEL ON FIRE-RATING LABEL OF DOOR.
				For use on Door #(s): 105 110 113 Provide each SGL door(s) with the following:	119				J. DOOR CORE MATERIAL: MANUFACTURERS STANDARD CORE MATERIAL/CONSTRUCTION IN COMPLIANCE WITH REQUIREMENTS. K. DOOR THICKNESS: 1-3/4 INCH, NOMINAL.
		FINISH 652	MFR IVE	QTY DESCRIPTION 3 EA HINGE 1 EA ENTRANCE LOCK	CATALOG NUMBER 5BB1HW ND53RD RHO		FINISH 652 626	MFR IVE SCH	L. DOOR FINISH: FACTORY PRIMED AND FIELD FINISHED. F. HOLLOW METAL FRAMES:
		626 626 689	VON SCH LCN	1 EA WALL STOP 3 EA SILENCER NOTE: PROVIDE FLOOR STOP IN LIEU OF WA	WS406/407CCV SR64 ALL STOP WHERE REQUIRED.		630 GRY	IVE IVE	 COMPLY WITH STANDARDS AND/OR CUSTOM GUIDELINES AS INDICATED FOR CORRESPONDING DOOR IN ACCORDANCE WITH APPLICABLE DOOR FRAME REQUIREMENTS. INTERIOR DOOR FRAMES, NON-FIRE RATED: FACE WELDED TYPE. FRAME FINISH: FACTORY FINISHED.
		630 630 BK	IVE IVE ZER	Hardware Group No. 25 For use on Door #(s): 115 116 127	128				A. FULL LENGTH STOPS B. FRAME METAL THICKNESS: 18 GAGE, 0.042 INCH, MINIMUM. 3. DOOR FRAMES, FIRE-RATED: FACE WELDED TYPE. FIRE RATING: SAME AS DOOR, LABELED.
				Provide each SGL door(s) with the following: QTY DESCRIPTION 3 EA HINGE	CATALOG NUMBER 5BB1HW		FINISH 652	MFR IVE	 A. FULL LENGTH STOPS B. FRAME METAL THICKNESS: 18 GAGE, 0.042 INCH, MINIMUM. 4. SOUND-RATED DOOR FRAMES: FULL PROFILE/CONTINUOUSLY WELDED TYPE. A. FRAME METAL THICKNESS: 18 GAGE, 0.042 INCH, MINIMUM.
	e	FINISH 652	MFR IVE	1 EA PRIVACY LOCK 1 EA SURFACE CLOSER 1 EA KICK PLATE	L9040 06A 09-544 L283-722 4040XP 8400 10" X 2" LDW B-CS		626 689 630	SCH LCN IVE	 FRAMES FOR WOOD DOORS: COMPLY WITH FRAME REQUIREMENTS IN ACCORDANCE WITH CORRESPONDING DOOR. BORROWED LITES GLAZING FRAMES: CONSTRUCTION AND FACE DIMENSIONS TO MATCH DOOR FRAMES, AND AS
		626 626 689	VON SCH LCN	1 EA WALL STOP 1 EA GASKETING	WS406/407CCV 488SBK PSA		630 BK	IVE ZER	INDICATED ON DRAWINGS. 7. FRAMES IN MASONRY WALLS: SIZE TO SUIT MASONRY COURSING WITH HEAD MEMBER 4 INCH HIGH TO FILL OPENING WITHOUT CUTTING MASONRY UNITS.
		630 AA AA	IVE ZER ZER	Hardware Group No. 26 For use on Door #(s): 111 124 125 Provide each SGL door(s) with the following:					8. FRAMES WIDER THAN 48 INCHES: REINFORCE WITH STEEL CHANNEL FITTED TIGHTLY INTO FRAME HEAD, FLUSH WITH TOP.
	E	A	ZER	QTY DESCRIPTION 3 EA HINGE 1 EA PRIVACY LOCK	CATALOG NUMBER 5BB1HW L9040 06A 09-544 L283-722		FINISH 652 626	MFR IVE SCH	G. <u>FINISHES:</u> 1.PRIMER: RUST-INHIBITING, COMPLYING WITH ANSI/SDI A250.10, DOOR MANUFACTURER'S STANDARD.
		FINISH	MFR	1 EA PRIVACY LOCK 1 EA WALL STOP 1 EA GASKETING	L9040 06A 09-544 L283-722 WS406/407CCV 488SBK PSA		630 BK	IVE ZER	H. <u>ACCESSORIES:</u> 1. GLAZING: AS INDICATED IN DRAWINGS OR AS SPECIFIED. 2. REMOVABLE STOPS: FORMED SHEET STEEL, SHAPE AS INDICATED ON DRAWINGS, MITERED OR BUTTED CORNERS: PREPARED FOR COUNTERSINK STYLE TAMPER PROOF SCREWS
		652 626 626	IVE VON SCH	Hardware Group No. 27 For use on Door #(s): 123 126					CORNERS; PREPARED FOR COUNTERSINK STYLE TAMPER PROOF SCREWS. 3. SILENCERS: RESILIENT RUBBER, FITTED INTO DRILLED HOLE; PROVIDE THREE ON STRIKE SIDE OF SINGLE DOOR, THREE ON CENTER MULLION OF PAIRS, AND TWO ON HEAD OF PAIRS WITHOUT CENTER MULLIONS. 4. TEMPORARY FRAME SPREADERS: PROVIDE FOR FACTORY- OR SHOP-ASSEMBLED FRAMES.
		689 630 BK	LCN IVE ZER	Provide each SGL door(s) with the following: QTY DESCRIPTION 3 EA HINGE	CATALOG NUMBER 5BB1HW		FINISH 652	MFR IVE	4. TEMPORARY FRAME SPREADERS: PROVIDE FOR FACTORY- OR SHOP-ASSEMBLED FRAMES. E. INSTALLATION: 1.INSTALL DOORS AND FRAMES IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS AND RELATED
				1 EA PUSH PLATE 1 EA PULL PLATE 1 EA SURFACE CLOSER	8200 4" X 16" 8303 10" 4" X 16" 4040XP 8400 10" X 2" LDW B.CS		630 630 689		REQUIREMENTS OF SPECIFIED DOOR AND FRAME STANDARDS OR CUSTOM GUIDELINES INDICATED. 2. INSTALL PREFINISHED FRAMES AFTER PAINTING AND WALL FINISHES ARE COMPLETE. 3. INSTALL FIRE RATED UNITS IN ACCORDANCE WITH NFPA 80.
	B	FINISH	MFR	1 EA KICK PLATE 1 EA WALL STOP 3 EA SILENCER	8400 10" X 2" LDW B-CS WS406/407CCV SR64		630 630 GRY	IVE IVE IVE	4. COORDINATE FRAME ANCHOR PLACEMENT WITH WALL CONSTRUCTION.
		652 626 626 626	IVE VON VON SCH						
	T AN AN	626 630 689 BK	IVE LCN ZER						

G NUMBER NRP RHO SCUSH X 2" LDW B-CS		AND GAN AND GAN AND	FINISH 630 626 689 630 AA	MFR IVE SCH LCN IVE ZER
3 M		AN AN AN AN	AA AA A BLK	ZER ZER ZER SCE
103B G NUMBER DWARE BY OVE FG	103C RHEAD		117G FINISH	MFR
117C G NUMBER DWARE REQUIR	117D ED		120 FINISH	MFR
G NUMBER ARE BY GATE SU	JPPLIER		FINISH	MFR
G NUMBER ARE BY GATE SI	JPPLIER		FINISH	MFF

JOUSLY WELDED TYPE.

08 3100 - ACCESS DOORS AND PANELS A. <u>SUBMITTALS</u>: PRODUCT DATA.

B. PRODUCTS: PRIME-PAINTED FLUSH, UNINSULATED ACCESS DOORS FOR WALLS AND CEILINGS WITH TRIMLESS FRAME AND SCREWDRIVER OPERATED LOCK FLUSH WITH FINISHED SURFACE. FIRE-RATED, SELF-LATCHING. AUTOMATIC CLOSING AT FIRE-RATED WALLS OR CEILINGS.

C. INSTALLATION: INSTALL FLUSH TO FINISHED DRYWALL SURFACE WITH FRAME TAPED AND SANDED FLUSH WITH WALL OR CEILING SURFACE AND FINISH TO MATCH ADJACENT SURFACE.

08 3613 - SECTIONAL DOORS

A. SUBMITTALS: PRODUCT DATA, AND COLOR SAMPLES. DOOR SCHEDULE INDICATING DOOR AND FRAME SIZES. TYPES, ELEVATIONS, DETAILS, AND HARDWARE WITH DOOR AND HARDWARE NUMBERING CORRESPONDING TO THOSE USED IN CONSTRUCTION DOCUMENTS.

B. BASIS OF DESIGN: 1. CLOPAY COMMERICAL - MODEL 904 2. CLOPAY COMMERICAL, ENERGY SERIES - MODEL 3200 3. CORNELL, MODEL ESC20

4. CORNELL, MODEL ESC30 C. ELECTRIC OPERATOR

1. DOORS SHALL BE COMPLETE WITH ALL HARDWARE AND LIFTMASTER 3265, 1/2 HP CHAIN DRIVE GARAGE DOOR OPENER OR APPROVED EQUAL. OPERATOR SHALL HAVE A WALL MOUNTED MULTI-FUNCTION CONTROL PANEL AND TWO HAND HELD ROLLING CODE TRANSMITTERS. SUPPLY AND INSTALL DOOR JAMB KEYPAD. GARAGE DOOR JAMBS SHALL HAVE PHOTOCELLS AT EACH SIDE OF EACH GARAGE DOOR. PROVIDE TIMERS FOR DOORS TO AUTOMATICALLY CLOSE IF LEFT OPEN FOR AN EXTENDED PERIOD OF TIME.

D. INSTALLATION: 1. INSTALL DOOR ASSEMBLY IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. 2. ANCHOR TO ADJACENT CONSTRUCTION WITHOUT DISTORTION OR STRESS.

3. SECURELY BRACE DOOR TRACKS SUSPENDED FROM STRUCTURE. SECURE TRACKS TO STRUCTURAL MEMBERS ONI Y 4. FIT AND ALIGN DOOR ASSEMBLY INCLUDING HARDWARE, LEVEL AND PLUMB, TO PROVIDE SMOOTH OPERATION.

5. POSITION HEAD AND JAMB WEATHERSTRIPPING TO CONTACT DOOR SECTIONS WHEN CLOSED; SECURE IN POSITION

6. MAKE WIRING CONNECTIONS BETWEEN POWER SUPPLY AND OPERATOR AND BETWEEN OPERATOR AND CONTROLS. 7. INSTALL ELECTRIC GARAGE DOOR OPENERS IN ACCORDANCE WITH THE MANUFACTURER'S DIRECTIONS. INSTALLATION SHALL INCLUDE GARAGE DOOR SILENCER ISOLATION PADS.

08 4313 - ALUMINUM FRAMED STOREFRONTS

A. SUBMITTALS: PRODUCT DATA: PROVIDE COMPONENT DIMENSIONS, DESCRIBE COMPONENTS WITHIN ASSEMBLY, ANCHORAGE AND FASTENERS, GLASS AND INFILL, DOOR HARDWARE, INTERNAL DRAINAGE DETAILS. 1. HARDWARE SCHEDULE: COMPLETE ITEMIZATION OF EACH ITEM OF HARDWARE TO BE PROVIDED FOR EACH DOOR, CROSS-REFERENCED TO DOOR IDENTIFICATION NUMBERS IN CONTRACT DOCUMENTS. 2. SHOP DRAWINGS: INDICATE SYSTEM DIMENSIONS, FRAMED OPENING REQUIREMENTS AND TOLERANCES, AFFECTED RELATED WORK, EXPANSION AND CONTRACTION JOINT LOCATION AND DETAILS, AND FIELD WELDING

REQUIRED. B. WARRANTY: WARRANTY: SUBMIT MANUFACTURER WARRANTY AND ENSURE FORMS HAVE BEEN COMPLETED IN OWNER'S NAME AND REGISTERED WITH MANUFACTURER. 1. CORRECT DEFECTIVE WORK WITHIN A FIVE YEAR PERIOD AFTER DATE OF SUBSTANTIAL COMPLETION. 2. PROVIDE FIVE YEAR MANUFACTURER WARRANTY AGAINST FAILURE OF GLASS SEAL ON INSULATING GLASS UNITS, INCLUDING INTERPANE DUSTING OR MISTING. INCLUDE PROVISION FOR REPLACEMENT OF FAILED UNITS.

3. PROVIDE FIVE YEAR MANUFACTURER WARRANTY AGAINST EXCESSIVE DEGRADATION OF EXTERIOR FINISH. INCLUDE PROVISION FOR REPLACEMENT OF UNITS WITH EXCESSIVE FADING, CHALKING, OR FLAKING. C. BASIS OF DESIGN: KAWNEER TRIFAB VERSAGLAZE 451/451T , ANODIZED. VERIFY FINISH WITH OWNER.

1. OTHER MANUFACTURERS: PROVIDE EITHER THE PRODUCT IDENTIFIED AS "BASIS OF DESIGN" OR AN EQUIVALENT PRODUCT D. MATERIALS:

1. ALUMINUM-FRAMED STOREFRONT: FACTORY FABRICATED, FACTORY FINISHED ALUMINUM FRAMING MEMBERS WITH INFILL, AND RELATED FLASHINGS, ANCHORAGE AND ATTACHMENT DEVICES. 2. ALUMINUM FRAMING MEMBERS: TUBULAR ALUMINUM SECTIONS[<>], DRAINAGE HOLES AND INTERNAL WEEP DRAINAGE SYSTEM.

3. EXTRUDED ALUMINUM: ASTM B221 (ASTM B221M). 4. STRUCTURAL STEEL SECTIONS: ASTM A36/A36M; SHOP PRIMED.

5. FASTENERS: STAINLESS STEEL 6. CONCEALED FLASHINGS: STAINLESS STEEL, 26 GAGE, 0.0187 INCH MINIMUM THICKNESS. 7. SEALANT FOR SETTING THRESHOLDS: NON-CURING BUTYL TYPE.

HANDLE LATCH, AND CLOSER. COORDINATE ADA PUSH BUTTON LOCATION.

8. GLAZING GASKETS: TYPE TO SUIT APPLICATION TO ACHIEVE WEATHER, MOISTURE, AND AIR INFILTRATION REQUIREMENTS.

1. CLASS I COLOR ANODIZED FINISH: AAMA 611 AA-M12C22A44 ELECTROLYTICALLY DEPOSITED COLORED ANODIC COATING NOT LESS THAN 0.7 MILS THICK. COLOR AS SELECTED BY OWNER & ARCHITECT.

1. FOR EACH DOOR, INCLUDE WEATHERSTRIPPING, SILL SWEEP STRIP, AND THRESHOLD. 2. OTHER DOOR HARDWARE: STOREFRONT MANUFACTURER'S STANDARD TYPE TO SUIT APPLICATION. A. FINISH ON HAND-CONTACTED ITEMS: POLISHED CHROME. B. FOR EACH DOOR, INCLUDE BUTT HINGES, PIVOTS, PUSH HANDLE, PULL HANDLE, EXIT DEVICE, NARROW STILE

G. <u>INSTALLATION:</u>

1. VERIFY DIMENSIONS, TOLERANCES, AND METHOD OF ATTACHMENT WITH OTHER WORK. 2. VERIFY THAT WALL OPENINGS AND ADJOINING AIR AND VAPOR SEAL MATERIALS ARE READY TO RECEIVE WORK OF THIS SECTION.

3. INSTALL WALL SYSTEM IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. 4. ATTACH TO STRUCTURE TO PERMIT SUFFICIENT ADJUSTMENT TO ACCOMMODATE CONSTRUCTION TOLERANCES AND OTHER IRREGULARITIES. 5. ALIGN ASSEMBLY PLUMB AND LEVEL, FREE OF WARP OR TWIST. MAINTAIN ASSEMBLY DIMENSIONAL

TOLERANCES, ALIGNING WITH ADJACENT WORK. 6. PROVIDE THERMAL ISOLATION WHERE COMPONENTS PENETRATE OR DISRUPT BUILDING INSULATION. 7. INSTALL SILL FLASHINGS. TURN UP ENDS AND EDGES; SEAL TO ADJACENT WORK TO FORM WATER TIGHT DAM.

8. WHERE FASTENERS PENETRATE SILL FLASHINGS, MAKE WATERTIGHT BY SEATING AND SEALING FASTENER HEADS TO SILL FLASHING. 9. PACK FIBROUS INSULATION IN SHIM SPACES AT PERIMETER OF ASSEMBLY TO MAINTAIN CONTINUITY OF THERMAL

BARRIER. 10. SET THRESHOLDS IN BED OF SEALANT AND SECURE. 11. INSTALL HARDWARE USING TEMPLATES PROVIDED. ADJUST OPERATING HARDWARE AND SASH FOR SMOOTH

OPERATION. 12. WASH DOWN SURFACES WITH A SOLUTION OF MILD DETERGENT IN WARM WATER, APPLIED WITH SOFT, CLEAN WIPING CLOTHS, AND TAKE CARE TO REMOVE DIRT FROM CORNERS AND TO WIPE SURFACES CLEAN. 13. PROTECT INSTALLED PRODUCTS FROM DAMAGE UNTIL DATE OF SUBSTANTIAL COMPLETION.

08 5313 - VINYL WINDOWS

A. SUBMITTALS: THE CONTRACTOR SHALL PREPARE, AND SUBMIT TO THE ARCHITECT FOR APPROVAL, COMPLETE SHOP DRAWINGS FOR ALL WORK INCLUDED IN THIS SECTION, AND SHALL NOT PROCEED WITH FABRICATION AND DELIVERY PRIOR TO RECEIVING SUCH APPROVAL.

B. BASIS OF DESIGN: VINYL CASEMENT WINDOWS- BASIS OF DESIGN: MI 3500 VINYL SINGLE- HUNG WINDOWS. C. INSTALLATION: ALL WINDOWS SHALL BE SET TRUE, PLUMB, LEVEL AND IN STRICT ACCORDANCE WITH THE MANUFACTURER'S DIRECTIONS.

08 8000 - GLAZING

A. <u>SUBMITTALS</u>: PRODUCT DATA ON INSULATING GLASS UNIT, GLAZING UNIT, AND [SPANDREL] GLAZING TYPES: PROVIDE STRUCTURAL, PHYSICAL AND ENVIRONMENTAL CHARACTERISTICS, SIZE LIMITATIONS, SPECIAL HANDLING AND INSTALLATION REQUIREMENTS. 1. PRODUCT DATA ON GLAZING COMPOUNDS AND ACCESSORIES: PROVIDE CHEMICAL, FUNCTIONAL, AND ENVIRONMENTAL CHARACTERISTICS, LIMITATIONS, SPECIAL APPLICATION REQUIREMENTS, AND IDENTIFY AVAILABLE COLORS. 2. SAMPLES: SUBMIT TWO SAMPLES [12] BY [12] INCH IN SIZE OF GLASS UNITS.

B. WARRANTY: WARRANTY DOCUMENTATION: SUBMIT MANUFACTURER WARRANTY AND ENSURE THAT FORMS HAVE BEEN COMPLETED IN OWNER'S NAME AND REGISTERED WITH MANUFACTURER. 1. INSULATING GLASS UNITS: PROVIDE A FIVE (5) YEAR MANUFACTURER WARRANTY TO INCLUDE COVERAGE FOR SEAL FAILURE, INTERPANE DUSTING OR MISTING, INCLUDING PROVIDING PRODUCTS TO REPLACE FAILED UNITS

C. <u>STOREFRONT GLAZING BASIS OF DESIGN:</u> GUARDIAN -SUNGUARD _ SNX 62/27 _COATED GLASS, CLEAR. WITH .24 U-VALUE ARGON FILLED.

D. QUALITY STANDARDS 1. SAFETY GLASS: CATEGORY II MATERIALS COMPLYING WITH TESTING REQUIREMENTS IN 16 CFR

1201 AND ANSI Z97.1. 2. GLAZING PUBLICATIONS: WHERE APPLICABLE, COMPLY WITH WITH THE PUBLISHED

RECOMMENDATIONS OF THE FOLLOWING: A. GANA PUBLICATIONS: "GLAZING MANUAL" AND "LAMINATED GLASS DESIGN GUIDE". B. SIGMA PUBLICATIONS: SIGMA TM-3000, "VERTICAL GLAZING GUIDELINES".

E. <u>GLASS:</u> 1. FLOAT GLASS: ASTM C 1036, TYPE I, QUALITY q3

2. HEAT-TREATED FLOAT GLASS: ASTM C 1048. TYPE I. QUALITY a3. HEAT STRENGTHENED OR FULLY TEMPERED WHERE INDICATED AND WHERE REQUIRED BY CODE OR INSTALLATION CONDITIONS. 3. MIRROR GLASS: ASTM C 1036, TYPE I, CLASS 1, QUALITY q1, SILVER COATED PER FS DDM411C,

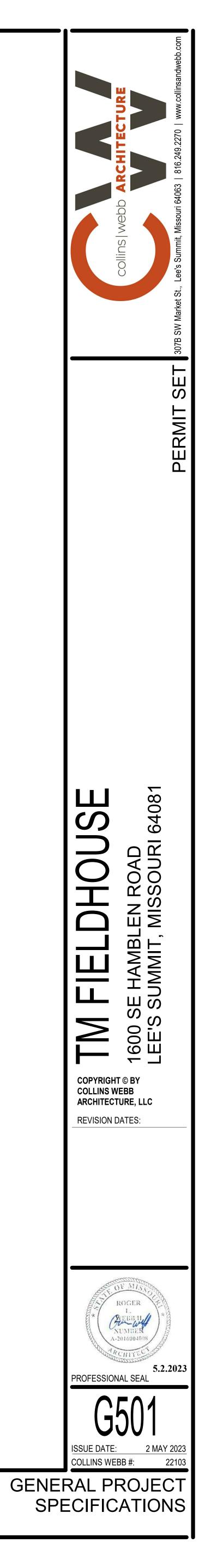
6.0mm THICK, WITH EDGES FLAT POLISHED.

F. <u>FABRICATED GLASS PRODUCTS:</u> 1. SEALED INSULATING-GLASS UNITS: PREASSEMBLED UNITS COMPLYING WITH ASTM E 774 FOR CLASS CBA UNITS WITH TWO SHEETS OF GLASS SEPARATED BY A 1/2-INCH DEHYDRATED SPACE FILLED WITH AIR. EXTERIOR GLASS COLOR TO MATCH EXISTING. INTERIOR GLASS SHALL BE CLEAR.

G. INSTALLATION: 1. COMPLY WITH COMBINED RECOMMENDATIONS OF MANUFACTURERS OF GLASS, SEALANTS, GASKETS, AND OTHER GLAZING MATERIALS, UNLESS MORE STRINGENT REQUIREMENTS ARE CONTAINED IN GANA'S "GLAZING MANUAL".

2. SET GLASS LITES IN EACH SERIES WITH UNIFORM PATTERN, DRAW, BOW, AND SIMILAR CHARACTERISTICS. 3. AFTER GLASS INSTALLATION IS COMPLETE, REMOVE GLAZING MATERIALS AND LABELS FROM

FINISHED SURFACES, AND THOROUGHLY CLEAN GLASS AND ADJACENT FRAMING AND SURFACES. REPEAT AS NECESSARY PRIOR TO FINAL WALK-THROUGH.



SPECIFICATIONS - PRODUCT & INSTALLATION GENERAL REQUIREMENTS

- A. SUBMITTALS: FOR EACH TYPE OF PRODUCT INDICATED. THE CONTRACTOR SHALL PREPARE, AND SUBMIT TO THE ARCHITECT FOR APPROVAL, COMPLETE SHOP DRAWINGS: INCLUDE MIRROR ELEVATIONS, EDGE DETAILS, MIRROR HARDWARE, AND ATTACHMENTS TO OTHER WORK. WARRANTY: SAMPLE OF SPECIAL WARRANTY.
- B. QUALITY ASSURANCE: VINYL CASEMENT WINDOWS- BASIS OF DESIGN: MI 3500 VINYL SINGLE- HUNG WINDOWS. 1. GLAZING PUBLICATIONS: COMPLY WITH GANA'S "GLAZING MANUAL" AND "MIRRORS, HANDLE WITH EXTREME
- CARE: TIPS FOR THE PROFESSIONAL ON THE CARE AND HANDLING OF MIRRORS." 2.SAFETY GLAZING PRODUCTS: FOR MIRRORS, PROVIDE PRODUCTS COMPLYING WITH TESTING REQUIREMENTS IN 16 CFR 1201 FOR CATEGORY II MATERIALS.
- 3. PRECONSTRUCTION MIRROR MASTIC COMPATIBILITY TEST: SUBMIT MIRROR MASTIC PRODUCTS TO MIRROR MANUFACTURER FOR TESTING TO DETERMINE COMPATIBILITY OF MASTIC WITH MIRROR BACKING AND SUBSTRATES ON WHICH MIRRORS ARE INSTALLED.

C. WARRANTY: SPECIAL WARRANTY: MANUFACTURER'S STANDARD FORM IN WHICH MIRROR MANUFACTURER AGREES TO REPLACE MIRRORS THAT DETERIORATE WITHIN SPECIFIED WARRANTY PERIOD. DETERIORATION OF MIRRORS IS DEFINED AS DEFECTS DEVELOPED FROM NORMAL USE THAT ARE NOT ATTRIBUTED TO MIRROR BREAKAGE OR TO MAINTAINING AND CLEANING MIRRORS CONTRARY TO MANUFACTURER'S WRITTEN INSTRUCTIONS. DEFECTS INCLUDE DISCOLORATION, BLACK SPOTS, AND CLOUDING OF THE SILVER FILM. 1. WARRANTY PERIOD: FIVE YEARS FROM DATE OF SUBSTANTIAL COMPLETION.

D. BASIS OF DESIGN: SILVERED FLAT GLASS MIRRORS GLASS MIRRORS, GENERAL: ASTM C 1503; MANUFACTURED USING COPPER FREE, LOW LEAD MIRROR COATING

- PROCESS 2. CLEAR GLASS: MIRROR GLAZING QUALITY: ULTRACLEAR (LOW IRON) FLOAT GLASS WITH A MINIMUM 91 PERCENT VISIBLE LIGHT TRANSMISSION. NOMINAL THICKNESS: 1/4 INCH.
- 3. TEMPERED CLEAR GLASS: MIRROR GLAZING QUALITY, FOR BLEMISH REQUIREMENTS; AND COMPLY WITH ASTM C 1048 FOR KIND FT, CONDITION A, TEMPERED FLOAT GLASS BEFORE SILVER COATING IS APPLIED. NOMINAL THICKNESS: 1/4 INCH.
- E. <u>MIRROR HARDWARE:</u> TOP AND BOTTOM ALUMINUM J CHANNELS: ALUMINUM EXTRUSIONS WITH A RETURN DEEP ENOUGH TO PRODUCE A GLAZING CHANNEL TO ACCOMMODATE MIRRORS OF THICKNESS INDICATED AND IN LENGTHS REQUIRED TO COVER BOTTOM AND TOP EDGES OF EACH MIRROR IN A SINGLE PIECE. FINISH: CLEAR BRIGHT ANODIZED.
- 1. TOP AND BOTTOM MIRROR MOUNTING CLIPS: #277 MIRROR CLIPS AS MANUFACTURED BY KNAPE & VOGT OR APPROVED EQUAL 2. FASTENERS: FABRICATED OF SAME BASIC METAL AND ALLOY AS FASTENED METAL AND MATCHING IT IN FINISHED COLOR AND TEXTURE WHERE FASTENERS ARE EXPOSED.
- F. INSTALLATION: GENERAL: EXAMINE SUBSTRATES, OVER WHICH MIRRORS ARE TO BE MOUNTED, WITH INSTALLER PRESENT, FOR COMPLIANCE WITH INSTALLATION TOLERANCES, SUBSTRATE PREPARATION, AND OTHER CONDITIONS AFFECTING PERFORMANCE OF THE WORK.
- A. VERIFY COMPATIBILITY WITH AND SUITABILITY OF SUBSTRATES, INCLUDING COMPATIBILITY OF MIRROR MASTIC WITH EXISTING FINISHES OR PRIMERS. B. PROCEED WITH INSTALLATION ONLY AFTER UNSATISFACTORY CONDITIONS HAVE BEEN CORRECTED AND SURFACES ARE DRY.
- 1.INSTALL MIRRORS TO COMPLY WITH MIRROR MANUFACTURER'S WRITTEN INSTRUCTIONS AND WITH REFERENCED GANA PUBLICATIONS. MOUNT MIRRORS ACCURATELY IN PLACE IN A MANNER THAT AVOIDS DISTORTING
- REFLECTED IMAGES. 2. INSTALL WALL MOUNTED ANNEALED GLASS MIRRORS IN THE APARTMENT UNITS WITH MIRROR CLIPS. ATTACH MIRROR HARDWARE SECURELY TO MOUNTING SURFACES WITH MECHANICAL FASTENERS INSTALLED WITH
- 3. ANCHORS OR INSERTS AS APPLICABLE. INSTALL FASTENERS SO HEADS DO NOT IMPOSE POINT LOADS ON BACKS OF MIRRORS.
- 4. PROTECT MIRRORS FROM BREAKAGE AND CONTAMINATING SUBSTANCES RESULTING FROM CONSTRUCTION OPERATIONS. 5. MAINTAIN ENVIRONMENTAL CONDITIONS THAT WILL PREVENT MIRRORS FROM BEING EXPOSED TO MOISTURE
- FROM CONDENSATION OR OTHER SOURCES FOR CONTINUOUS PERIODS OF TIME. 6. WASH EXPOSED SURFACE OF MIRRORS NOT MORE THAN FOUR DAYS BEFORE DATE SCHEDULED FOR INSPECTIONS THAT ESTABLISH DATE OF SUBSTANTIAL COMPLETION. WASH MIRRORS AS RECOMMENDED IN WRITING BY MIRROR MANUFACTURER.

DIVISION 9 - FINISHES

- 09 2116 GYPSUM BOARD ASSEMBLIES IPLY WITH ASTM C754 IN DEPTHS AND GAGES AS INDICATED IN THE CONSTRUCTION DRAWINGS AND AS FOLLOWS: 1. STEEL SHEET COMPONENTS: COMPLY WITH ASTM C645 WITH MANUFACTURER'S STANDARD CORROSION-RESISTANT ZINC COATING. 2. TIE WIRE: ASTM A 641/A 641M, CLASS 1 ZINC COATING, SOFT TEMPER. .0625" DIAMETER OR DOUBLE STRAND OF .0475" DIAMETER WIRE. 3. WIRE HANGERS: ASTM A 641/A 641M, CLASS 1 ZINC COATING, SOFT TEMPER. .0162" DIAMETER.
- 3. PANEL PRODUCTS: PROVIDE IN THICKNESS AND TYPE INDICATED IN THE CONSTRUCTION DRAWINGS IN MAXIMUM LENGTHS AVAILABLE TO MINIMIZE END-TO-END BUTT JOINTS AND AS FOLLOWS: 1. GYPSUM WALLBOARD: ASTM C 36, TYPE 'X' WITH TAPERED EDGES, SAG-RESISTANT TYPE FOR CEILING SURFACES. 2. WATER-RESISTANT GYPSUM BACKING BOARD: ASTM C 630. TYPE 'X' ON ALL TOILET ROOM AND
- SHOWER ROOM WALLS, BEHIND ALL PLUMBING FIXTURES, AND AS INDICATED. <u>ACCESSORIES</u> 1. TRIM: ASTM 1047, FORMED FROM GALVANIZED OR ALUMINUM COATED STEEL SHEET, ROLLED
- ZINC, OR PLASTIC a. OUTSIDE CORNERS: PROVIDE CORNER BEAD UNLESS NOTED OTHERWISE b. EXPOSED PANEL EDGES: PROVIDE LC-BEAD (J-BEAD) UNLESS NOTED OTHERWISE; USE TEAR-AWAY BEAD WHERE GYP. BD. MEETS WINDOW FRAMES OR CEILING GRID. c. CONTROL JOINTS: PROVIDE WHERE INDICATED OR APPROXIMATELY 30'-0" MAX. CONTACT ARCHITECT FOR LOCATIONS IF NOT INDICATED.
- 2. SOUND-ATTENUATION BLANKETS: ASTM C 665, TYPE I (UNFACED) 3. ACOUSTICAL SEALANT: COMPLY WITH ASTM C 834, NONSAG, PAINTABLE, NONSTAINING LATEX. D. <u>INSTALLATION:</u>
- . FRAMING: COMPLY WITH ASTM C 754 AND ASTM C 840 AND WITH U.S. GYPSUM'S "GYPSUM CONSTRUCTION HANDBOOK" ISOLATE FRAMING FROM BUILDING STRUCTURE TO PREVENT TRANSFER OF LOADING IMPOSED BY STRUCTURAL MOVEMENT AND PROVIDE BRACING AS NECESSARY FOR PROPER SUPPORT WHETHER INDICATED OR NOT.
- 2. GYPSUM PANELS AND FINISH: COMPLY WITH ASTM C 840 AND GA-216. ISOLATE GYPSUM BOARD ASSEMBLIES FROM ABUTTING STRUCTURAL AND MASONRY WORK AND FINISH AS FOLLOWS: A. LEVEL 1 (EMBED TAPE AT JOINTS): AT CONCEALED AREAS UNLESS A HIGHER LEVEL IS INDICATED OR REQUIRED FOR FIRE-RESISTANCE-RATED ASSEMBLY B. LEVEL 2 (EMBED TAPE AND APPLY SEPARATE FIRST COAT OF JOINT COMPOUND TO TAPE.
- FASTENERS, AND TRIM FLANGES AND SAND SMOOTH AFTER EACH COAT): AT SUBSTRATES BEHIND TILE. C. LEVEL 4 (EMBED TAPE AND APPLY SEPARATE FIRST, FILL, AND FINISH COATS OF JOINT COMPOUND TO TAPE, FASTENERS, AND TRIM FLANGES AND SAND SMOOTH AFTER EACH COAT): AT ALL WALLS RECEIVING FLAT, EGGSHELL, OR SATIN SHEEN PAINT OR
- WALL COVERING D. LEVEL 5 (EMBED TAPE, APPLY SEPARATE FIRST, FILL, AND FINISH COATS OF JOINT COMPOUND TO TAPE, FASTENERS, AND TRIM FLANGES, AND APPLY THIN SKIM COAT OF JOINT COMPOUND OVER ENTIRE SURFACE AND SAND SMOOTH AFTER EACH COAT): AT ALL WALLS RECEIVING SEMI-GLOSS OR GLOSS SHEEN PAINT, AND ALL GYPSUM BOARD CEILINGS)

09 2216 - NON-STRUCTURAL METAL FRAMING A. SUBMITTALS: SHOP DRAWINGS: INDICATE PREFABRICATED WORK, COMPONENT DETAILS, STUD LAYOUT, FRAMED OPENINGS, ANCHORAGE TO STRUCTURE, ACOUSTIC DETAILS, TYPE AND LOCATION OF FASTENERS, ACCESSORIES. AND ITEMS OF OTHER RELATED WORK. DESCRIBE METHOD FOR SECURING STUDS TO TRACKS,

- SPLICING, AND FOR BLOCKING AND REINFORCEMENT OF FRAMING CONNECTIONS. 1. PRODUCT DATA: PROVIDE MANUFACTURER'S DATA ON PARTITION HEAD TO STRUCTURE CONNECTORS. SHOWING COMPLIANCE WITH REQUIREMENTS. 2. MANUFACTURER'S INSTALLATION INSTRUCTIONS: INDICATE SPECIAL PROCEDURES AND PERIMETER CONDITIONS REQUIRING SPECIAL ATTENTION.
- B. MANUFACTURER
- 1. CLARKDIETRICH BUILDING SYSTEMS: WWW.CLARKDIETRICH.COM. 2. CEMCO: WWW.CEMCOSTEEL.COM. 3. JAIMES INDUSTRIES: WWW.JAIMESIND.COM 4. STEEL CONSTRUCTION SYSTEMS: WWW.STEELCONSYSTEMS.COM

. <u>FRAMING MATERIALS:</u>

- 1. FIRE RATED ASSEMBLIES: COMPLY WITH APPLICABLE CODE AND AS FOLLOWS: A. TOP OF FIRE RATED PARTITIONS: LISTED ASSEMBLY BY UL, NO. [ON DRAWINGS]; [1 AND 2] HOUR RATING. B. FIRE RATED SHAFT WALL REQUIREMENTS: LISTED ASSEMBLY BY UL, NO. [ON DRAWINGS]; [1] HOUR RATING.
- 2. NON-LOADBEARING FRAMING SYSTEM COMPONENTS: ASTM C645; GALVANIZED SHEET STEEL, OF SIZE AND PROPERTIES NECESSARY TO COMPLY WITH ASTM C754 FOR THE SPACING INDICATED, WITH MAXIMUM
- DEFLECTION OF WALL FRAMING OF L/240 AT 5 PSF. A. TRACKS AND RUNNERS: SAME MATERIAL AND THICKNESS AS STUDS, BENT LEG RETAINER NOTCHED TO RECEIVE STUDS WITH PROVISION FOR CRIMP LOCKING TO STUD. STUDS: C SHAPED WITH FLAT OR FORMED WEBS WITH KNURLED FACES. B. CEILING CHANNELS: C SHAPED.
- C. FURRING: HAT-SHAPED SECTIONS, MINIMUM DEPTH OF 7/8 INCH. D. CONTRACTOR TO PROVIDE BRACING AS REQUIRED TO COMPLETE SYSTEM. F. WHERE INDICATED IN DRAWINGS, SHAFT WALL STUDS AND ACCESSORIES: ASTM C645; GALVANIZED SHEET STEEL, OF SIZE AND PROPERTIES NECESSARY TO COMPLY WITH ASTM C754 AND SPECIFIED PERFORMANCE
- REQUIREMENTS. G. CEILING HANGERS: TYPE AND SIZE AS SPECIFIED IN ASTM C754 FOR SPACING REQUIRED. H. PARTITION HEAD TO STRUCTURE CONNECTIONS: PROVIDE MECHANICAL ANCHORAGE DEVICES THAT ACCOMMODATE DEFLECTION USING SLOTTED HOLES, SCREWS AND ANTI-FRICTION BUSHINGS, PREVENTING ROTATION OF STUDS WHILE MAINTAINING STRUCTURAL PERFORMANCE OF PARTITION. I. FIT, REINFORCE, AND BRACE FRAMING MEMBERS TO SUIT DESIGN REQUIREMENTS.

D. INSTALLATION: 1.COMPLY WITH REQUIREMENTS OF ASTM C754. 2. VERIFY EXISTING CONDITIONS BEFORE STARTING WORK.

- 3. VERIFY THAT ROUGH-IN UTILITIES ARE IN PROPER LOCATION. 4.EXTEND PARTITION FRAMING TO STRUCTURE WHERE INDICATED AND TO CEILING IN OTHER LOCATIONS. 5. PARTITIONS TERMINATING AT CEILING: ATTACH CEILING RUNNER SECURELY TO CEILING TRACK IN ACCORDANCE
- WITH MANUFACTURER'S INSTRUCTIONS. 6.PARTITIONS TERMINATING AT STRUCTURE: ATTACH TOP RUNNER TO STRUCTURE, MAINTAIN CLEARANCE BETWEEN TOP OF STUDS AND STRUCTURE, AND CONNECT STUDS TO TRACK USING SPECIFIED MECHANICAL
- DEVICES IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS; VERIFY FREE MOVEMENT OF TOP OF STUD CONNECTIONS; DO NOT LEAVE STUDS UNATTACHED TO TRACK. 7.FIT RUNNERS UNDER AND ABOVE OPENINGS; SECURE INTERMEDIATE STUDS TO SAME SPACING AS WALL STUDS.
- 8. ALIGN STUD WEB OPENINGS HORIZONTALLY. 9. SECURE STUDS TO TRACKS USING CRIMPING METHOD. DO NOT WELD. 10. STUD SPLICING IS NOT PERMISSIBLE.
- 11. FABRICATE CORNERS USING A MINIMUM OF THREE STUDS. 12. DOUBLE STUD AT WALL OPENINGS, DOOR AND WINDOW JAMBS, NOT MORE THAN 2 INCHES FROM EACH SIDE OF
- 13. BRACE STUD FRAMING SYSTEM RIGID. 14. COORDINATE ERECTION OF STUDS WITH REQUIREMENTS OF DOOR FRAMES; INSTALL SUPPORTS AND
- ATTACHMENTS. 15. COORDINATE INSTALLATION OF BUCKS, ANCHORS, AND BLOCKING WITH ELECTRICAL, MECHANICAL, AND OTHER WORK TO BE PLACED WITHIN OR BEHIND STUD FRAMING 16. BLOCKING: USE WOOD BLOCKING SECURED TO STUDS. PROVIDE BLOCKING FOR SUPPORT OF PLUMBING
- FIXTURES, WALL CABINETS, TOILET ACCESSORIES, HARDWARE, AND OPENING FRAMES.

09 6500 - RESILIENT FLOORING AND WALL BASE A. <u>SUBMITTALS</u>: PRODUCT DATA AND (1) SAMPLES OF EACH TILE AND BASE SPECIFIED FOR VERIFICATION PURPOSES.

- B. BASIS OF DESIGN: 1. LUXURY VINYL TILE: KARNDEAN 56"X9", GLUE DOWN, ART SELECT - CLASSIC HICKORY EW13 2. RUBBER WALL BASE: ROPPE STANDARD 4", 700 SERIES - BLACK
- C. ATTIC STOCK: FURNISH ONE (1) BOX FOR EACH 50 BOXES OR FRACTION THEREOF OF EACH TYPE OF OOR TILE AND 20' OF EACH COLOR AND TYPE OF WALL BASE PACKAGED WITH PROTECTIVE COVERING AND LABELED FOR STORAGE.
- D. <u>RESILIENT TILE PRODUCTS:</u> PROVIDE FLOOR TILE IN TYPE AND SIZES INDICATED IN THE CONSTRUCTION DOCUMENTS COMPLYING WITH THE FOLLOWING:
- E. RESILIENT WALL BASE: ASTM TYPE TS (RUBBER, VULCANIZED THERMOSET) 1/8" THICK, FURNISHED IN COILS IN STYLES AND SIZES INDICATED IN THE CONSTRUCTION DOCUMENTS WITH JOB-FORMED INSIDE AND OUTSIDE CORNERS.
- F. INSTALLATION ACCESSORIES LEVELING AND PATCHING COMPOUNDS: LATEX-MODIFIED. PORTLAND CEMENT, OR BLENDED HYDRAULIC CEMENT-BASED FORMULATION PROVIDED OR APPROVED BY FLOORING MANUFACTURER TO SUIT RESILIENT PRODUCTS AND SUBSTRATE CONDITIONS. 2. ADHESIVES: WATER-RESISTANT TYPE RECOMMENDED BY MANUFACTURER TO SUIT RESILIENT PRODUCTS AND SUBSTRATE CONDITIONS. SPREAD ONLY ENOUGH ADHESIVE TO PERMIT INSTALLATION OF MATERIALS BEFORE INITIAL SET. 3. MOLDINGS, TRANSITION AND EDGE STRIPS: SAME MATERIAL AS FLOORING.
- G. INSTALLATION: 1. PREPARE CONCRETE SUBSTRATES PER ASTM F 710. VERIFY THAT SUBSTRATES ARE DRY AND FREE OF CURING COMPOUNDS, SEALERS AND HARDENERS.
- 2. LAY OUT TILES SO WIDTHS AT OPPOSITE EDGES OF ROOM ARE EQUAL AND NOT LESS THAN HAI F-WIDTH 3. LAY TILES IN PATTERNS INDICATED WITH GRAIN DIRECTION ALTERNATING IN ADJACENT TILES,
- UNLESS NOTED OTHERWISE. 4. CLEAN, SEAL, AND WAX RESILIENT FLOORING IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
- H. WALL BASE AND ACCESSORY INSTALLATION: 1. CONFIRM THAT SOLID BACKING IS PROVIDED BEHIND ALL WALL BASE. AREAS WHERE GYPSUM BOARD IS HELD MORE THAN 1/2" ABOVE SLAB SHALL BE FILLED IN PRIOR TO BASE INSTALLATION.
- 2. INSTALL WALL BASE WITH MANUFACTURER'S RECOMMENDED ADHESIVE IN MAXIMUM LENGTHS POSSIBLE. APPLY TO WALLS, COLUMNS, PILASTERS, CASEWORK, AND OTHER PERMANENT FIXTURES
- 3. INSTALL TRANSITION STRIPS WHERE FLOORING MATERIALS MEET OR WHERE EDGE OF TILE IS EXPOSED AS INDICATED IN THE FINISH SCHEDULE.

09 6813 - TILE CARPETING A. <u>SUBMITTALS:</u> PRODUCT DATA AND SAMPLES OF EACH CARPET PRODUCT INDICATED. SUBMIT ACTUAL TILE SAMPLES OF EACH CARPET REQUIRED

- B. WARRANTY: PROVIDE SPECIAL PROJECT WARRANTY, SIGNED BY CONTRACTOR, INSTALLER AND MANUFACTURER (CARPET MILL), AGREEING TO REPAIR OR REPLACE DEFECTIVE MATERIALS AND WORKMANSHIP OF CARPETING WORK DURING 1-YEAR WARRANTY PERIOD FOLLOWING SUBSTANTIAL COMPLETION. ATTACH COPIES OF PRODUCT WARRANTIES.
- C. ATTIC STOCK: FURNISH FULL-WIDTH CARPET EQUAL TO 5% OF EACH TYPE AND COLOR CARPET NSTALLED, PACKAGED WITH PROTECTIVE COVERING AND LABELED FOR STORAGE.
- D. PRODUCTS: PROVIDE CARPET IN PATTERNS AND COLORS AND WITH BACKINGS AS INDICATED N THE CONSTRUCTION DOCUMENTS WITH CRITICAL RADIANT FLUX CLASSIFICATION CLASS I, NOT LESS THAN 0.45 W/SQ. CM PER ASTM E 648. ORDER ALL MATERIALS FROM THE SAME FACTORY DYE LOT.
- E. INSTALLATION ACCESSORIES I.TROWELABLE LEVELING AND PATCHING COMPOUNDS: LATEX-MODIFIED, HYDRAULIC-CEMENT-BASED FORMULATION PROVIDED OR RECOMMENDED BY CARPET MANUFACTURER. 2. ADHESIVES: WATER-RESISTANT, MILDEW-RESISTANT, NONSTAINING TYPE TO SUIT PRODUCTS AND SUBFLOOR CONDITIONS INDICATED, THAT COMPLIES WITH FLAMMABILITY REQUIREMENTS FOR INSTALLED CARPET AND IS
- RECOMMENDED OR PROVIDED BY CARPET MANUFACTURER. F. INSTALLATION: FOR CARPET TILE COMPLY CRI 104, SECTION 13 "CARPET MODULES (TILES)". GENERAL: COMPLY WITH CRI'S "CRI CARPET INSTALLATION STANDARD" AND WITH CARPET MANUFACTURER'S WRITTEN INSTALLATION INSTRUCTIONS FOR PREPARING SUBSTRATES. 2. USE TROWELABLE LEVELING AND PATCHING COMPOUNDS, ACCORDING TO MANUFACTURER'S WRITTEN INSTRUCTIONS, TO FILL CRACKS, HOLES, DEPRESSIONS, AND PROTRUSIONS IN SUBSTRATES. FILL OR LEVEL
- CRACKS, HOLES AND DEPRESSIONS 1/8 INCH WIDE OR WIDER, AND PROTRUSIONS MORE THAN 1/32 INCH, UNLESS MORE STRINGENT REQUIREMENTS ARE REQUIRED BY MANUFACTURER'S WRITTEN INSTRUCTIONS 3. BROOM AND VACUUM CLEAN SUBSTRATES TO BE COVERED IMMEDIATELY BEFORE INSTALLING CARPET. 4. LAY CARPET TILE IN PATTERN AS INDICATED ON CONSTRUCTION DOCUMENTS AND SO WIDTHS
- AT OPPOSITE EDGES OF ROOM ARE EQUAL AND NOT LESS THAN HALF-WIDTH. 5.TRIM CARPET NEATLY AND TIGHT TO WALLS AND AROUND INTERRUPTIONS. 6.INSTALL PATTERN PARALLEL TO WALLS AND BORDERS UNLESS OTHERWISE INDICATED.
- 7.DO NOT BRIDGE BUILDING EXPANSION JOINTS WITH CARPET. 8. CUT AND FIT CARPET TO BUTT TIGHTLY TO VERTICAL SURFACES, PERMANENT FIXTURES, AND BUILT-IN FURNITURE INCLUDING CABINETS, PIPES, OUTLETS, EDGINGS, THRESHOLDS, AND NOSINGS. BIND OR SEAL CUT EDGES AS RECOMMENDED BY CARPET MANUFACTURER.
- 9. EXTEND CARPET INTO TOE SPACES, DOOR REVEALS, CLOSETS, OPEN-BOTTOMED OBSTRUCTIONS, REMOVABLE FLANGES, ALCOVES, AND SIMILAR OPENINGS. 10. MAINTAIN REFERENCE MARKERS, HOLES, AND OPENINGS THAT ARE IN PLACE OR MARKED FOR FUTURE CUTTING BY REPEATING ON CARPET AS MARKED ON SUBFLOOR. USE NONPERMANENT, NONSTAINING
- MARKING DEVICE. 11. PROTECT CARPET AGAINST DAMAGE FROM CONSTRUCTION OPERATIONS AND PLACEMENT OF EQUIPMENT AND FIXTURES DURING THE REMAINDER OF CONSTRUCTION PERIOD. USE PROTECTION METHODS RECOMMENDED IN WRITING BY CARPET MANUFACTURER. 12. INSTALL TRANSITION STRIPS AT CARPET TERMINATIONS AS SPECIFIED ON THE CONSTRUCTION

DOCUMENTS.

09 9000 - PAINTING AND COATING A. <u>SUBMITTALS:</u> PRODUCT DATA AND THREE (3) DRAW-DOWN SAMPLES OF EACH COLOR AND SHEEN

B. ATTIC STOCK: FURNISH ONE (1) GALLON OF EACH PAINT COLOR AND SHEEN, IN CONTAINERS, PROPERLY LABELED AND SEALED.

C. PRODUCTS: PROVIDE MANUFACTURER'S BEST QUALITY PAINTS OF COLOR AND SHEEN AS INDICATED N THE CONSTRUCTION DOCUMENTS THAT ARE FORMULATED AND RECOMMENDED BY MANUFACTURER FOR APPLICATION INDICATED. PROVIDE MATERIALS THAT ARE COMPATIBLE WITH ONE ANOTHER AND WITH SUBSTRATES.

- , ALL PAINT, STAIN, AND VARNISH SHALL BE PRODUCTS OF DEVOE, KWAL, SHERWIN WILLIAMS, PPG INDUSTRIES, PRATT & LAMBERT OR APPROVED EQUAL. 2. ALL MATERIAL SHALL BE OF THE STANDARD RESIDENTIAL GRADE OF THE TYPES DESIGNATED. 3. ALL MATERIAL SHALL BE DELIVERED TO THE JOB SITE IN THE ORIGINAL, UNOPENED, LABELED CONTAINERS. COLORS NOT SPECIFICALLY CALLED FOR IN THE PAINT SCHEDULE WILL BE SELECTED BY THE ARCHITECT.
- E. APPLICATION / INSTALLATION 1. EQUIPMENT: APPLY COATINGS BY BRUSH, ROLLER, SPRAY, OR OTHER APPLICATORS ACCORDING TO COATING MANUFACTURER'S WRITTEN INSTRUCTIONS. WHEN SPRAYED, EXTERIOR COATINGS SHALL BE BACK-ROLLED FOLLOWING SPRAY APPLICATION. USE ROLLERS FOR FINISH COAT ON INTERIOR WALLS AND CEILINGS.
- 2. PREPARE CONCRETE MASONRY BLOCK TO BE COATED. REMOVE EFFLORESCENCE, CHALK, DUST, DIRT, GREASE, OILS, AND RELEASE AGENTS. ROUGHEN AS REQUIRED TO REMOVE GLAZE. IF HARDENERS OR SEALERS HAVE BEEN USED TO IMPROVE CURING, USE MECHANICAL METHODS TO PREPARE SURFACES. 3. PIGMENTED (OPAQUE) FINISHES: COMPLETELY COVER SURFACES TO PROVIDE A SMOOTH, OPAQUE SURFACE OF UNIFORM APPEARANCE. PROVIDE A FINISH FREE OF CLOUDINESS. SPOTTING, HOLIDAYS, LAPS, BRUSH MARKS, RUNS, SAGS, ROPINESS, OR OTHER SURFACE
- IMPERFECTIONS. 4. APPLY PRODUCTS PER MANUFACTURER RECOMMENDED GUIDELINES. PRODUCT COVERAGE MINIMUM ONE COAT OF PRIMER AND TWO FINAL COATS ON MATERIALS.APPLY PRODUCTS TO MATERIALS APPROVED BY MANUFCTURER PRODUCT DATA SHEETS.

ONE COAT COMMERCIAL METAL ETCH.

ONE COAT EXTERIOR METAL PRIMER.

TWO COATS SEMI-GLOSS METAL PAINT.

SURFACES THAT ARE NOT PRIMED.)

TWO COATS SEMI-GLOSS METAL PAINT.

PRIME AND BACK LATEX PRIMER.

TOUCH-UP PRIME. TWO COATS OF

ACRYLIC LATEX PAINT.

HEAVY BODIED STAIN.

INSIDE AND OUTSIDE.

SURFACES.

ACCENT COLORS.

COVERAGE.)

THAN 7.0 MILS.

EXTERIOR 100% SATIN OR SEMI-GLOSS

ONE COAT PRIMER. TWO COATS EXTERIOR

PATCH DENTS, TOUCH UP PRIMER. TWO

ONE COAT OF PRIME LATEX PAINT AND

ACHIEVE FULL COVERAGE.) ONE WALL IN

EACH APARTMENT UNIT LIVING SPACE AND

ONE COAT OF EPOXY COMPATABLE PRIMER PAINT AND

ONE FINISH COAT OF EPOXY EGGSHELL WALL

PAINT. (TWO COATS IF REQUIRED TO ACHIEVE FULL

PAINT. (TWO COATS IF REQUIRED TO

EACH BEDROOM SHALL BE PAINTED

ONE COAT OF PRIME LATEX PAINT AND

ONE FINISH COAT OF SCRUBABLE LATEX

TO ACHIEVE FULL COVERAGE.)

TWO COATS OF LATEX FLAT PAINT.

OF LATEX SEMI-GLOSS PAINT.

PREFINISHED WHITE

COAT OF LATEX SEMI-GLOSS PAINT.

TWO COATS METAL PAINT TO MATCH

FINISH TO MATCH SIMILAR CONDITIONS.

ADJACENT SURFACES UNLESS FACTORY

FLAT WALL PAINT. (TWO COATS IF REQUIRED

BLOCK FILLER: PPG PAINTS; 6-15XI SPEEDHIDE

TWO COATS OF CLASS II VAPOR RETARDER

PAINT AT CEILINGS ADJACENT TO ATTICS.

ONE PRIME COAT OF LATEX PAINT, ONE

COAT LATEX PAINT AND ONE FINISH COAT

ONE COAT OF LATEX PAINT AND ONE FINISH

INTERIOR/EXTERIOR HI FILL ACRYLIC MASONRY BLOCK FILLER/

TWO FINISH COATS ACRYLIC EGGSHELL FINISH OVER PRIMER.

PRIMER. APPLIED AT A DRY FILM THICKNESS OF NOT LESS

ONE FINISH COAT OF LATEX EGGSHELL WALL

COATS OF OIL BASE SEMI-GLOSS PAINT

TWO COATS TO MATCH ADJACENT

TWO COATS EXTERIOR SEMI-GLOSS METAL PAINT.

(PRIME COAT SURFACES THAT ARE NOT PRIMED.)

TWO COATS OF EXTERIOR LATEX SATIN OR

(PRIME COAT CHANNELS, POSTS, RAILINGS, BEAMS, ETC.

- A. Exterior Work: 1. ALL EXTERIOR GALVANIZED METAL FLASHINGS, CONNECTORS, ETC.
- 2. ALL EXPOSED STEEL FRAMES, ANGLES, ETC.
- 3. ALL EXPOSED MISC. FERROUS METAL ITEMS INCLUDING RAILS, PLATES, ANGLES, BOLTS, GRATES, CONDUITS, POSTS, PIPING, ETC. 4. ALL UNPRIMED EXTERIOR MILLWORK, TRIM, SMOOTH WOOD MATERIALS, ETC.
- 5. PRIMED MILLWORK AND TRIM.

SEMI-GLOSS PAINT.

- 6. ROUGH SAWN TRIM, BEAMS, COLUMNS,
- 7. PRIMED METAL ENTRY DOORS, FRENCH DOORS AND METAL FRAMES, GARAGE DOORS.
- 8. ANY OTHER PAINTING REQUIRED BY THE DRAWINGS.
- **B. INTERIOR WORK**
- 1. GYPSUM BOARD WALLS EXCEPT IN KITCHENS. BATHROOMS. LAUNDRIES AND COMMON AREA CORRIDORS, UNLESS SCHEDULED FOR WALLCOVERING
- 2. GYPSUM BOARD WALLS IN KITCHENS, BATHROOMS AND LAUNDRIES UNLESS SCHEDULED FOR WALLCOVERING OR TILE.
- 3. GYPSUM BOARD WALLS IN COMMON AREA CORRIDORS
- 4. (CMU) CONCRETE MASONRY UNIT WALLS.
- 5. GYPSUM BOARD CEILINGS.
- 6. DOOR CASINGS, BASE, WOOD, MILL-WORK, ETC. (PRE-PRIMED.)
- 7. PRIMED HARDWOOD DOORS.
- 8. ALL MISCELLANEOUS FERROUS METAL, INCLUDING GRILLES, REGISTERS, ETC.
 - 9. ANY OTHER PAINTING WORK REQUIRED BY THE DRAWINGS.
 - 09 3000 TILING A. <u>SUBMITTALS</u>: PRODUCT DATA FOR SETTING AND GROUTING MATERIALS AND THREE (3) SAMPLES OF EACH TILE SPECIFIED FOR VERIFICATION PURPOSES.
 - 3. <u>ATTIC STOCK:</u> FURNISH 2% OF EACH TYPE OF CERAMIC TILE PACKAGED WITH PROTECTIVE COVERING AND LABELED FOR STORAGE.
 - C. BASIS OF DESIGN: SEE DRAWING SCHEDULES. TILE: COMPLY WITH STANDARD GRADE REQUIREMENTS IN ANSI A137.1 "SPECIFICATIONS FOR CERAMIC
 - TILE" FOR PRODUCTS AND SIZES INDICATED IN THE CONSTRUCTION DOCUMENTS. E. INSTALLATION MATERIALS
 - 1. THIN-SET MORTAR: A. TYPICAL INTERIOR INSTALLATIONS: LATEX/POLYMER MODIFIED PORTLAND CEMENT COMPLYING WITH ANSI A108.5 AND ANSI 118.4. 2. GROUT: UNSANDED FOR JOINTS 1/16" WIDTH OR LESS, SANDED FOR JOINTS GREATER THAN 1/16" IN COLOR INDICATED IN SCHEDULE OR TO BE SELECTED BY ARCHITECT AND OWNER.
 - A. TYPICAL INTERIOR INSTALLATIONS: STANDARD CEMENT GROUT WITH INTEGRAL STAIN INHIBITORS (TEC ACCUCOLOR XT, OR EQUAL) 3. SETTING BED ACCESSORIES: ANSI A 108.1A
 - . INSTALLATION METHODS: COMPLY WITH TILE INSTALLATION STANDARDS IN ANSI'S "SPECIFICATIONS FOR THE INSTALLATIONS OF CERAMIC TILE" AND TCA'S "HANDBOOK FOR CERAMIC TILE INSTALLATION" THAT APPLY TO THE MATERIALS AND METHODS INDICATED BELOW:
 - 1. WHERE CUT TILE IS SPECIFIED AS THE TOP COURSE ON WALL WAINSCOTING OR WALL BASE WITH AN EXPOSED TOP EDGE, THE FACTORY EDGE SHALL BE USED AS THE EXPOSED EDGE.
 - H. CONFLICTS: IF NOT ADDRESSED ON DRAWINGS, WHERE ELECTRICAL DEVICES OR TOILET ACCESSORIES STRADDLE THE TRANSITION FROM THE TOP EDGE OF WAINSCOT WALL TILE TO GYPSUM BOARD SUBSTRATE, CONTACT ARCHITECT FOR RESOLUTION.
 - 1. JOINT SIZE: SET TILE WITH THE SMALLEST GROUT JOINT ACHIEVABLE AND AS RECOMMENDED BY THE MFR. BASED ON THE TILE PRODUCT AND SUBSTRATE CONDITIONS, UNLESS NOTED
 - 2. TILE PATTERN: LAY TILE IN PATTERNS AS INDICATED IN THE CONSTRUCTION DOCUMENTS. ALIGN JOINTS WHERE ADJOINING TILES ON FLOOR, BASE, WALLS, AND TRIM ARE THE SAME SIZE, UNLESS INDICATED OTHERWISE.
 - 3. INSTALLATION: INSTALL GROUT PER MANUFACTURER'S INSTRUCTIONS, EXERCISING CARE TO AVOID REMOVAL OF GROUT COLOR BY USE OF EXCESS WATER DURING INSTALLATION. FADED OR CHALKY GROUT SHALL BE CAUSE FOR REJECTION. 4. SEALER: AFTER FULLY CURED, GROUT SHALL BE SEALED WITH TWO (2) COATS OF COMMERCIAL QUALITY PENETRATING SILICONE SEALER.

09 5100 - ACOUSTICAL CEILINGS A. SUBMITTALS: PRODUCT DATA ONLY

B. ATTIC STOCK: FURNISH 2% OF EACH TYPE OF CEILING TILE PACKAGED WITH PROTECTIVE COVERING AND LABELED FOR STORAGE. C. ACOUSTICAL TILE PRODUCTS: PROVIDE CEILING TILE IN TYPE AND SIZES INDICATED IN THE

- THE CONSTRUCTION DOCUMENTS COMPLYING WITH ASTM C 635. FURNISH ALUMINUM GRID IN
- SHOWERS, KITCHENS, AND OTHER HIGH-HUMIDITY AREAS. 1. ATTACHMENT DEVICES: SIZE FOR FIVE (5) TIMES THE DESIGN LOAD INDICATED IN ASTM C 635, TABLE 1, DIRECT HUNG UNLESS OTHERWISE INDICATED. 2. WIRE HANGERS, BRACES, AND TIES: ZINC-COATED CARBON-STEEL WIRE; ASTM A 641/ (A 641 M), CLASS 1 ZINC COATING, SOFT TEMPER WITH A YIELD STRENGTH AT LEAST THREE (3) TIMES THE
- HANGER DESIGN LOAD (ASTM C 635, TABLE 1, DIRECT HUNG), BUT NOT LESS THAN 0.135" DIAMETER WIRE. 3. SEISMIC STRUTS: MANUFACTURER'S STANDARD PRODUCT DESIGNED TO ACCOMMODATE SEISMIC FORCES.
- 4. HOLD-DOWN CLIPS: PROVIDE HOLD-DOWN CLIPS ON CEILING TILE IN ENTRANCE VESTIBULES, COMPUTER ROOMS EMPLOYING DRY CHEMICAL FIRE-SUPPRESSION SYSTEMS, AND OTHER AREAS AS INDICATED.
- F. INSTALLATION: COMPLY WITH ASTM C 636 AND CISCA'S "CEILING SYSTEMS HANDBOOK". 1. SEQUENCE WORK TO ENSURE ACOUSTICAL CEILINGS ARE NOT INSTALLED UNTIL BUILDING IS ENCLOSED, SUFFICIENT HEAT IS PROVIDED, DUST GENERATION ACTIVITIES HAVE TERMINATED, AND OVERHEAD WORK IS COMPLETED, TESTED, AND APPROVED. 2. INSTALL CEILING GRID AS INDICATED TO BE SYMMETRICAL ABOUT BOTH AXES OF EACH ROOM USING NOT LESS THAN HALF-SIZE TILE UNLESS INDICATED OTHERWISE ON THE REFLECTED
- CEILING PLAN 3. SUPPORT SUSPENSION SYSTEM INDEPENDENTLY OF DUCTS, PIPES, AND CONDUITS, 4. SUPPORT FIXTURE LOADS USING SUPPLEMENTARY HANGERS LOCATED WITHIN 6" OF EACH CORNER OR SUPPORT FIXTURES INDEPENDENTLY.
- 5. PROVIDE MATCHING PERIMETER MOLDING INSTALLED IN BEAD OF ACOUSTICAL SEALANT AT ALL LOCATIONS WHERE CEILING INTERSECTS VERTICAL SURFACES. USE MATCHING PRE-FORMED CLOSURES AT ROUND OR CURVED OBSTRUCTIONS.

DIVISION 10 - SPECIALTIES

10 2800 TOILET AND BATH ACCESSORIES A. REFERENCE CONSTRUCTION DRAWINGS & SCHEDULES FOR TYPE, QUANTITY, AND LOCATIONS OF TOILET AND BATH ACCESSORIES.

- 1. PRODUCT DATA: MANUFACTURER'S DATA SHEETS ON EACH PRODUCT TO BE USED, INCLUDING: 2. PREPARATION INSTRUCTIONS AND RECOMMENDATIONS. STORAGE AND HANDLING REQUIREMENTS AND RECOMMENDATIONS. 4. INSTALLATION METHODS.
- **B. INSTALLATION:** 1. INSTALLER MUST EXAMINE SUBSTRATES. PREVIOUSLY INSTALLED INSERTS AND ANCHORAGES NECESSARY FOR MOUNTING OF TOILET ACCESSORIES, AND OTHER CONDITIONS UNDER WHICH INSTALLATION IS TO OCCUR, AND MUST NOTIFY CONTRACTOR IN WRITING OF CONDITIONS DETRIMENTAL TO PROPER AND TIMELY COMPLETION OF WORK. DO NOT PROCEED WITH WORK UNTIL UNSATISFACTORY CONDITIONS HAVE BEEN CORRECTED IN MANNER ACCEPTABLE TO INSTALLER. 2. INSTALL ACCESSORIES ACCORDING TO RESPECTIVE MANUFACTURERS' WRITTEN INSTRUCTIONS, USING
- NSTALL UNITS LEVEL, PLUMB, AND FIRMLY ANCHORED IN LOCATIONS AND AT HEIGHTS INDICATED. ADHESIVE INSTALLATIONS ARE NOT PERMITTED. 3. MOUNTING HEIGHTS SHALL BE AS RECOMMENDED BY THE ACCESSORY MANUFACTURER AND AT HEIGHTS
- RECOMMENDED BY USE FOR PHYSICALLY HANDICAPPED TO COMPLY WITH THE AMERICANS WITH DISABILITIES ACT. 4. GRAB BARS: INSTALL TO WITHSTAND A DOWNWARD LOAD OF AT LEAST 250 LBF, WHEN TESTED ACCORDING TO ASTM F 446.
- 5. ADJUST ACCESSORIES FOR PROPER OPERATION AND VERIFY THAT MECHANISMS FUNCTION SMOOTHLY. 6. CLEAN AND POLISH ALL EXPOSED SURFACES AFTER REMOVING PROTECTIVE COATINGS

10 3000 SOLID PLASTIC TOILET COMPARTMENTS A. REFERENCE CONSTRUCTION DRAWINGS & SCHEDULES FOR TYPE, QUANTITY, AND LOCATIONS OF TOILET AND BATH ACCESSORIES.

- B. PRODUCTS BASIS OF DESIGN: ECLIPSE TOILET PARTITIONS AS MANUFACTURED BY AND SUPPLIED BY SCRANTON 1. STYLE: FLOOR MOUNTED OVERHEAD-BRACED TOILET COMPARTMENTS. 2. DOORS AND PANELS: HIGH DENSITY POLYETHYLENE (HDPE), FABRICATED FROM SEQ CHAPTER 1 EXTRUDED POLYMER RESINS, FORMING SINGLE THICKNESS PANEL A. WATERPROOF AND NONABSORBENT, WITH SELF-LUBRICATING SURFACE, RESISTANT TO MARKS BY PENS, PENCILS, MARKERS, AND OTHER WRITING INSTRUMENTS. B. THICKNESS: 1 INCH (25 MM).
- C. EDGES: SHIPLAP. 3. PANEL COLOR: TRADITIONAL SERIES:1. SHALE - ORANGE PEEL. 4. DOORS AND PANELS: HIGH PRIVACY: HEIGHT: 62 INCHES (1575 MM) HIGH AND MOUNTED AT 8 TO 14 INCHES (203 TO 356 MM) ABOVE THE FINISHED FLOOR.
- . PRODUCT DATA: MANUFACTURER'S DATA SHEETS ON EACH PRODUCT TO BE USED, INCLUDING: 2. PREPARATION INSTRUCTIONS AND RECOMMENDATIONS. 3. STORAGE AND HANDLING REQUIREMENTS AND RECOMMENDATIONS. 4. INSTALLATION METHODS.
- 5. SHOP DRAWINGS: PROVIDE LAYOUT DRAWINGS AND INSTALLATION DETAILS WITH LOCATION AND TYPE OF HARDWARE REQUIRED 6. SELECTION SAMPLES: FOR EACH FINISH PRODUCT SPECIFIED, TWO COMPLETE SETS OF COLOR CHIPS
- 1. METAL POSTS: 82.75 INCHES (2102 MM) HIGH, HEAVY DUTY EXTRUDED ALUMINUM, CLEAR ANODIZED FINISH, FASTENED TO FOOT WITH STAINLESS STEEL TAMPER RESISTANT SCREW. 2. HIDDEN SHOE (FOOT): ONE-PIECE MOLDED POLYETHYLENE INVISIBLE SHOE INSERTED INTO METAL POST
- AND SECURED TO METAL POST WITH STAINLESS STEEL TAMPER RESISTANT SCREW. 3. HEADRAIL CAP AND CORNER CAP: ONE-PIECE MOLDED POLYETHYLENE SECURED TO METAL POST WITH STAINLESS STEEL TAMPER RESISTANT SCREW; ADJUSTABLE TO LEVEL HEADRAIL TO FINISHED FLOOR.
- 4. WALL BRACKETS: CONTINUOUS HEAVY DUTY EXTRUDED ALUMINUM, CLEAR ANODIZED FINISH, INSERTED INTO SLOTTED PANEL AND FASTENED TO PANELS WITH STAINLESS STEEL TAMPER RESISTANT SCREWS. 5. HEADRAIL: HEAVY DUTY EXTRUDED ALUMINUM, CLEAR ANODIZED FINISH, SECURED TO WALL WITH
- STAINLESS STEEL TAMPER SCREWS. 6. DOOR HARDWARE: A. HINGES: EDGE-MOUNTED HELIX STYLE STAINLESS STEEL CONTINUOUS HINGE. CLOSING DEGREE: 5 DEGREES. COMES TO A FULL CLOSE ON ITS OWN WEIGHT. B.OCCUPANCY INDICATOR LATCH AND HOUSING: MATERIAL: SATIN STAINLESS STEEL. OCCUPANCY INDICATORS: GREEN FOR OCCUPIED AND RED NOT OCCUPIED. SLIDE BOLT AND BUTTON.
- EQUIP WITH SECOND DOOR PULL AND DOOR STOP. D. DOOR PULLS: CHROME PLATED ZAMAK:
- 1. CLEAN SURFACES THOROUGHLY PRIOR TO INSTALLATION. 2. INSTALL IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS AND APPROVED SHOP DRAWINGS. 3. INSTALL PARTITIONS RIGID, STRAIGHT, PLUMB, AND LEVEL. 4. LOCATE BOTTOM EDGE OF DOORS AND PANELS ___ INCHES ABOVE FINISHED FLOOR.
- 5. CLEARANCE AT VERTICAL EDGES OF DOORS SHALL BE UNIFORM TOP TO BOTTOM AND SHALL NOT EXCEED 3/8 INCH (9.5 MM) 6. NO EVIDENCE OF CUTTING, DRILLING, AND/OR PATCHING SHALL BE VISIBLE ON THE FINISHED WORK. 7. FINISHED SURFACES SHALL BE CLEANED AFTER INSTALLATION AND BE LEFT FREE OF IMPERFECTIONS.
- 8. ADJUST DOORS AND LATCHES TO OPERATE CORRECTLY. 9. PROTECT INSTALLED PRODUCTS UNTIL COMPLETION OF PROJECT. 10. TOUCH-UP, REPAIR OR REPLACE DAMAGED PRODUCTS BEFORE SUBSTANTIAL COMPLETION.

10 4400 - FIRE PROTECTION SPECIALTIES A. REFERENCE CONSTRUCTION DRAWINGS FOR TYPE, SIZE AND LOCATIONS OF FIRE EXTINGUISHERS AND CABINETS.

DIVISION 11 - EQUIPMENT

11 3000 - APPLIANCES A. REFERENCE CONSTRUCTION DRAWINGS FOR QUANTITY, AND LOCATION OF APPLIANCES TO BE FURNISHED BY OWNER.

CONSTRUCTION DOCUMENTS COMPLYING WITH ASTM E 1264, CLASS A MATERIALS, TESTED PER ASTM

D. <u>SUSPENSION SYSTEM</u>: PROVIDE HEAVY DUTY, DIRECT-HUNG, SUSPENSION SYSTEMS AS INDICATED IN

6. FIELD-CUT EDGES SHALL MATCH PROFILE OF FACTORY EDGES.

FASTENERS APPROPRIATE TO SUBSTRATE INDICATED AND RECOMMENDED BY UNIT MANUFACTURER. I

REPRESENTING MANUFACTURER'S FULL RANGE OF AVAILABLE COLORS AND PATTERNS.

C.COAT HOOK AND DOOR BUMPER COMBINATION: MATERIAL: CHROME PLATED ZAMAK. HANDICAP DOOR:

12 3661 COUNTERTOPS A. REFERENCE CONSTRUCTION DRAWINGS & SCHEDULES FOR TYPE, QUANTITY, AND LOCATIONS OF TOILET AND BATH ACCESSORIES B. <u>SUBMITTALS</u>: INCLUDE PLANS, SECTIONS, DETAILS, AND ATTACHMENTS TO OTHER WORK: 1. PRODUCT DATA :FOR EACH STONE, STONE ACCESSORY, AND MANUFACTURED PRODUCT. 2. STORAGE AND HANDLING REQUIREMENTS AND RECOMMENDATIONS. 3. SAMPLES: FOR EACH STONE TYPE INDICATED. . FIELD CONDITIONS: . FIELD MEASUREMENTS: VERIFY DIMENSIONS OF CONSTRUCTION TO RECEIVE STONE COUNTERTOPS BY FIELD MEASUREMENTS BEFORE FABRICATION. 1. SOURCE LIMITATIONS FOR STONE: OBTAIN FROM A SINGLE SOURCE TO PROVIDE MATERIALS OF CONSISTENT QUALITY IN APPEARANCE AND PHYSICAL PROPERTIES. 1. QUALITY STANDARD: PREMIUM GRADE, IN ACCORDANCE WITH AWI/AWMAC/WI (AWS) OR AWMAC/WI (NAAWS), UNLESS NOTED OTHERWISE. 2. QUALITY STANDARD: SEFA 3 FOR LABORATORY WORKSURFACES. 3. PLASTIC LAMINATE COUNTERTOPS: HIGH-PRESSURE DECORATIVE LAMINATE (HPDL) SHEET BONDED TO SUBSTRATE. A. LAMINATE SHEET: NEMA LD 3, GRADE HGS, 0.048 INCH NOMINAL THICKNESS. B. EXPOSED EDGE TREATMENT: AS NOTED, SUBSTRATE BUILT UP TO MINIMUM 1-1/4 INCH THICK; COVERED WITH MATCHING LAMINATE C. BACK AND END SPLASHES: SAME MATERIAL, SAME CONSTRUCTION. D. FABRICATE IN ACCORDANCE WITH AWI/AWMAC/WI (AWS) OR AWMAC/WI (NAAWS), SECTION 11 - COUNTERTOPS, CUSTOM GRADE. MANUFACTURERS: 1. REFER TO FINISH LEGEND. 4. NATURAL QUARTZ AND RESIN COMPOSITE COUNTERTOPS: SHEET OR SLAB OF NATURAL QUARTZ AND PLASTIC RESIN OVER CONTINUOUS SUBSTRATE. A. FLAT SHEET THICKNESS: 1-1/4 INCH, MINIMUM. B. NATURAL QUARTZ AND RESIN COMPOSITE SHEETS, SLABS AND CASTINGS: COMPLYING WITH ISFA 3-01 AND NEMA LD 3; ORTHOPHTHALIC POLYESTER RESIN, MINERAL FILLER, AND PIGMENTS; HOMOGENOUS, NON-POROUS AND CAPABLE OF BEING WORKED AND REPAIRED USING STANDARD WOODWORKING TOOLS; NO SURFACE COATING; COLOR AND PATTERN CONSISTENT THROUGHOUT THICKNESS. MANUFACTURERS: 1. REFER TO FINISH LEGEND FOR SOLID SURFACE AND CORIAN QUARTZ DESCRIPTIONS, MANUFACTURERS, PRODUCT NUMBERS, COLORS, SIZES AND CONTACT INFORMATION. C. FACTORY FABRICATE COMPONENTS TO THE GREATEST EXTENT PRACTICAL IN SIZES AND SHAPES INDICATED; COMPLY WITH THE MIA DIMENSION STONE DESIGN MANUAL. D. FINISH ON EXPOSED SURFACES: POLISHED. E. COLOR AND PATTERN: AS INDICATED ON DRAWINGS. INSTALLATION 1. SECURELY ATTACH COUNTERTOPS TO CABINETS OR SUPPORTS USING CONCEALED FASTENERS. MAKE FLAT SURFACES LEVEL; SHIM WHERE REQUIRED. 2. ATTACH PLASTIC LAMINATE COUNTERTOPS USING SCREWS WITH MINIMUM PENETRATION INTO SUBSTRATE BOARD OF 5/8 INCH. 3. SEAL JOINT BETWEEN BACK/END SPLASHES AND VERTICAL SURFACES. 4. GENERAL: INSTALL COUNTERTOPS OVER PLYWOOD SUBTOPS WITH FULL SPREAD OF WATER CLEANABLE EPOXY ADHESIVE 5. GENERAL: INSTALL COUNTERTOPS BY ADHERING TO SUPPORTS WITH WATER CLEANABLE EPOXY ADHESIVE 6. SET STONE TO COMPLY WITH REQUIREMENTS INDICATED. SHIM AND ADJUST STONE TO LOCATIONS INDICATED, WITH UNIFORM JOINTS OF WIDTHS INDICATED AND WITH EDGES AND FACES ALIGNED ACCORDING TO ESTABLISHED RELATIONSHIPS. 7. SPACE JOINTS WITH 1/16 INCH GAP FOR FILLING WITH SEALANT. USE TEMPORARY SHIMS TO ENSURE UNIFORM SPACING. CLAMP UNITS TO TEMPORARY BRACING, SUPPORTS, OR EACH OTHER TO ENSURE THAT COUNTERTOPS ARE PROPERLY ALIGNED AND JOINTS ARE OF SPECIFIED WIDTH. 8. COMPLETE CUTOUTS NOT FINISHED IN SHOP. MASK AREAS OF COUNTERTOPS ADJACENT TO CUTOUTS TO PREVENT DAMAGE WHILE CUTTING. USE POWER SAWS WITH DIAMOND BLADES TO CUT STONE. MAKE CUTOUTS TO ACCURATELY FIT ITEMS TO BE INSTALLED, AND AT RIGHT ANGLES TO FINISHED SURFACES UNLESS

BEVELING IS REQUIRED FOR CLEARANCE. EASE EDGES SLIGHTLY TO PREVENT SNIPPING. 9. INSTALL BACKSPLASHES AND END SPLASHES BY ADHERING TO WALL WITH WATER CLEANABLE EPOXY ADHESIVE. LEAVE 1/16. INCH GAP BETWEEN COUNTERTOP AND SPLASHES FOR FILLING WITH SEALANT. USE TEMPORARY SHIMS TO ENSURE UNIFORM SPACING. 10. GROUT JOINTS TO COMPLY WITH ANSI A108.10. REMOVE TEMPORARY SHIMS BEFORE GROUTING.

TOOL GROUT UNIFORMLY AND SMOOTHLY WITH PLASTIC TOOL. 11. APPLY SEALANT TO JOINTS AND GAPS SPECIFIED FOR FILLING WITH SEALANT; COMPLY WITH SECTION 079200 "JOINT SEALANTS." REMOVE TEMPORARY SHIMS BEFORE APPLYING SEALANT. 12. ASSURE THAT SEAMS ARE SMOOTH, LEVEL AND TIGHT. SEAMS SHALL BE FILLED ENTIRELY SO FLUSH WITH

COUNTERTOP. POLISH SURFACE AT SEAM. ASSURE THAT FILLER IS "NON • YELLOWING." 13. CLEANING: CLEAN COUNTERTOPS AS WORK PROGRESSES. REMOVE ADHESIVE, GROUT, MORTAR, AND SEALANT SMEARS IMMEDIATELY. CLEAN STONE COUNTERTOPS NO FEWER THAN SIX DAYS AFTER COMPLETION OF INSTALLATION, USING CLEAN WATER AND SOFT RAGS. DO NOT USE WIRE BRUSHES, ACID TYPE

CLEANING AGENTS, CLEANING COMPOUNDS WITH CAUSTIC OR HARSH FILLERS, OR OTHER MATERIALS OR METHODS THAT COULD DAMAGE STONE. 14. SEALER APPLICATION: APPLY STONE SEALER TO COMPLY WITH STONE PRODUCER'S AND SEALER MANUFACTURER'S WRITTEN INSTRUCTIONS

DIVISION 32 - EXTERIOR IMPROVEMENTS 32 3113 - FENCES, GATES & HARDWARE

A. REFERENCE CONSTRUCTION DRAWINGS FOR QUANTITY, AND LOCATIONS B.SUBMITTALS: THE CONTRACTOR SHALL PREPARE, AND SUBMIT TO THE ARCHITECT FOR APPROVAL, COMPLETE SHOP DRAWINGS FOR ALL WORK INCLUDED. PROVIDE PRODUCT DATA IN THE FORM OF MANUFACTURER'S TECHNICAL DATA, SPECIFICATIONS, AND INSTALLATIONS FOR FENCE, POSTS, GATE UPRIGHTS, POST CAPS, GATES, GATE HARDWARE AND ACCESSORIES. VERIFY LAYOUT INFORMATION FOR FENCES AND GATES SHOWN ON THE DRAWINGS IN RELATION TO THE PROPERTY SURVEY AND EXISTING STRUCTURES. VERIFY DIMENSIONS BY FIELD MEASUREMENTS. PROVIDE SAMPLES IN THE FORM OF 3" LENGTHS OF ACTUAL PRODUCT USED.

C. WARRANTY: LIFETIME NON-PRORATED LIMITED TRANSFERABLE WARRANTY APPLIES TO ORIGINAL HOMEOWNER/CONSUMER, OR 30 YEAR NON-PRORATED LIMITED WARRANTY APPLIES TO COMMERCIAL

PROVIDE CROSS SECTION, WALL THICKNESS AND CORNER RADIUS MINIMUM TOLERANCES.

APPLICATIONS. D. BASIS OF DESIGN: CITY SCAPES CORVIT/TOUGHGATE

9. PVC CEMENT: AS RECOMMENDED BY FENCE MANUFACTURER.

1. POSTS, RAILS, PICKETS, GATE UPRIGHTS, POST CAPS, AND ACCESSORIES SHALL BE OF HIGH IMPACT, ULTRA VIOLET (U.V.) RESISTANT, RIGID PVC, AND SHALL COMPLY WITH ASTM D 1784, CLASS 14344B. 2.FENCE POSTS: ONE PIECE EXTRUDED, OF LENGTHS INDICATED AND PRE-ROUTED TO RECEIVE RAILS AT SPACING INDICATED. PROVIDE CROSS SECTION, WALL THICKNESS AND CORNER RADIUS MINIMUM TOLERANCES. 3.RAILS: ONE PIECE EXTRUDED, OF LENGTHS INDICATED PRE-ROUTED TO RECEIVE PICKETS AT SPACING INDICATED

4. PICKETS: ONE PIECE EXTRUDED, OF LENGTHS INDICATED. PROVIDE CROSS SECTION, WALL THICKNESS AND CORNER RADIUS MINIMUM TOLERANCES. PICKET SPACING FULL PRIVACY. 5.GATE UPRIGHTS: ONE PIECE EXTRUDED, OF LENGTHS INDICATED WITH ALUMINUM U CHANNEL INSERT. PROVIDE CROSS SECTION, WALL THICKNESS AND CORNER RADIUS MINIMUM TOLERANCES. 6. POST CAPS: MOLDED, ONE PIECE. CROSS SECTION TO MATCH POST OR GATE SECTION. PROVIDE MINIMUM THICKNESS REQUIREMENTS. CONFIGURATION: FLAT OR FOUR-SIDED AS REQUIRED FOR INSTALLATION TO TOP OF POSTS AND GATE. ACCESSORIES: MANUFACTURERS' STANDARD GATE BRACE, SCREW CAPS, RAIL END

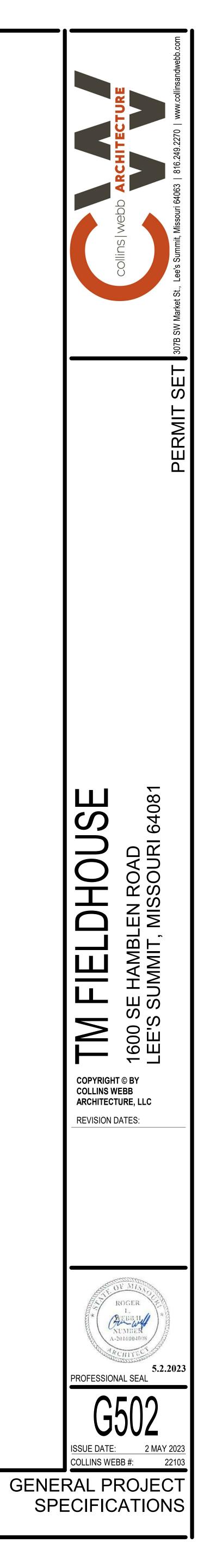
REINFORCERS, AND OTHER ACCESSORIES AS REQUIRED. 7. STIFFENER CHANNELS, GALVANIZED STEEL STRUCTURAL CHANNEL. CONFIGURE CHANNELS FOR CONCEALED INSTALLATION WITHIN PVC RAILS WITH PRE-DRILLED HOLES FOR DRAINAGE. ALUMINUM EXTRUDED CHANNEL AVAILABLE UPON REQUEST. CROSS SECTION: 1.775 X 1.700 GALVANIZED STEEL CHANNEL THICKNESS: 0.040 GAUGE (MINIMUM). 8. FASTENERS AND ANCHORAGE: STAINLESS STEEL. ALL FASTENERS TO BE CONCEALED OR COLORED HEADS TO MATCH. PROVIDE SIZES AS RECOMMENDED BY FENCE MANUFACTURER.

1. GENERAL: PROVIDE HARDWARE AND ACCESSORIES FOR EACH GATE ACCORDING TO THE FOLLOWING REQUIREMENTS 2. HINGES: COLOR- BLACK, SIZE AND MATERIAL TO SUIT GATE SIZE, NON LIFT-OFF TYPE, SELF CLOSING, GLASS FILLED NYLON WITH ADJUSTER PLATE. OFFSET TO PERMIT 120 DEGREE GATE OPENING. PROVIDE ONE PAIR OF HINGES FOR EACH GATE. 3. LATCH: FINISH TO MATCH HINGE. MANUFACTURERS' STANDARD SELF LATCHING, GLASS FILLED NYLON AND STAINLESS STEEL COMPOSITION SINGLE OR DUAL ACCESS GRAVITY LATCH. PROVIDE ONE LATCH PER GATE. 4. HARDWARE: FINISH TO MATCH HINGE.STAINLESS STEEL. PROVIDE SIZES AS RECOMMENDED BY FENCE MANUFACTURER.

1. CONCRETE: PROVIDE CONCRETE CONSISTING OF PORTLAND CEMENT PER ASTM C 150, AGGREGATES PER ASTM C 33, AND POTABLE WATER. MIX MATERIALS TO OBTAIN CONCRETE WITH A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 2000 PSI. USE AT LEASE FOUR SACKS OF CEMENT PER CUBIC YARD, 1-INCH MAXIMUM SIZE AGGREGATE, 3-INCH MAXIMUM SLUMP. USE 1/2 INCH MAXIMUM SIZE AGGREGATE IN POST WHERE REQUIRED. 2. PACKAGES CONCRETE MIX: MIX DRY-PACKAGED NORMAL-WEIGHT CONCRETE CONFORMING TO ASTM C 387 WITH CLEAN WATER TO OBTAIN A 2 TO 3 INCH SLUMP.

1. INSTALL FENCE IN COMPLIANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS. DURING INSTALLATION, PVC COMPONENTS SHALL BE CAREFULLY HANDLED AND STORED TO AVOID CONTACT WITH ABRASIVE SURFACES. INSTALL COMPONENTS IN SEQUENCE AS RECOMMENDED BY FENCE MANUFACTURER. A. INSTALL FENCING AS INDICATED ON THE DRAWINGS PROVIDED. B. VARIATIONS FROM THE INSTALLATION INDICATED MUST BE APPROVED

C. VARIATIONS FROM THE FENCE AND GATE INSTALLATION INDICATED AND ALL COSTS FOR REMOVAL AND REPLACEMENT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR. D. ALLOW MINIMUM 72 HOURS TO LET CONCRETE SET-UP BEFORE OPENING GATES. E. CLEANING, REMOVE ALL TRACES OF DIRT AND SOILED AREAS.



Abbreviation	
Abbroviation	03_Abbreviation Schedule
	Abbreviation Name
+/- ADDNL	PLUS OR MINUS ADDITIONAL
ADJ	ADJACENT
AESS	ARCHITECTURALLY EXPOSED STRUCTURAL STEEL
AFF	ABOVE FINISHED FLOOR
ALT	ALTERNATE
AR ARCH	ANCHOR ROD ARCHITECT OR ARCHITECTURAL
B/	BOTTOM OF
B/W	BETWEEN
BLDG BLKG	BUILDING BLOCKING
BM	BEAM
BOT	BOTTOM
BRG	BEARING BRACED WALL PANEL
CFS	COLD FORMED STEEL
CHKD	CHECKED
CIP CJ	CAST IN PLACE CONTROL JOINT
CJP	COMPLETE JOINT PENETRATION
CL CLR	CENTERLINE
COL	COLUMN
CONC	CONCRETE
CONN	CONNECTION
CONT CTR	CONTINUOUS CENTER
db	DIA OF REINF BAR, DIA OF BOLT
DBA DIA or Ø	DEFORMED BAR ANCHOR DIAMETER
DIA or Ø	DIAGONAL
DIR	DIRECTION
DWL EA	DOWEL EACH
EE	EXTENDED END
EJ	EXPANSION JOINT
ELEV EN	ELEVATION EDGE NAILING
ENGR	ENGINEER
EOD EOS	EDGE OF DECK EDGE OF SLAB
EOS	EQUAL
EW	EACH WAY
EXIST EXT	EXISTING EXTERIOR
FDN	FOUNDATION
FLG	FLANGE
FLR FS	FLOOR FAR SIDE
FTG	FOOTING
FV	FIELD VERIFY
GA GALV	GAUGE GALVANIZED
GB	GRADE BEAM
GC HORIZ	GENERAL CONTRACTOR HORIZONTAL
HSA	HEADED STUD ANCHOR
HSS	HOLLOW STRUCTURAL SECTION
IF INT	INTERIOR
JST	JOIST
LCE	KIPS (1000 LBS) COMPRESSION EMBEDMENT LENGTH
LCS	COMPRESSION LAP SPLICE LENGTH
LLH	LONG LEG HORIZONTAL
LLV LSH	LONG LEG VERTICAL
LTE	TENSION EMBEDMENT LENGTH
LTS LW	TENSION LAP SLICE LENGTH
MFCR	LIGHTWEIGHT
	METAL
MTL	
NIC	NOT IN CONTRACT
NIC NS NTS	NOT IN CONTRACT NEAR SIDE NOT TO SCALE
NIC NS NTS OC	NEAR SIDE NOT TO SCALE ON CENTER
NIC NS NTS	NEAR SIDE NOT TO SCALE
NIC NS NTS OC OF OPP OVS	NEAR SIDENOT TO SCALEON CENTEROUTSIDE FACEOPPOSITEOVERSIZED
NIC NS NTS OC OF OPP OVS P/C	NEAR SIDENOT TO SCALEON CENTEROUTSIDE FACEOPPOSITEOVERSIZEDPRECAST
NIC NS NTS OC OF OPP OVS	NEAR SIDENOT TO SCALEON CENTEROUTSIDE FACEOPPOSITEOVERSIZED
NIC NS NTS OC OF OPP OVS P/C PAF PAR PEMB	NEAR SIDENOT TO SCALEON CENTEROUTSIDE FACEOPPOSITEOVERSIZEDPRECASTPOWDER ACTUATED FASTENERPARALLELPRE-ENGINEERED METAL BUILDING
NIC NS NTS OC OF OPP OVS P/C PAF PAR PEMB PEN	NEAR SIDENOT TO SCALEON CENTEROUTSIDE FACEOPPOSITEOVERSIZEDPRECASTPOWDER ACTUATED FASTENERPARALLELPRE-ENGINEERED METAL BUILDINGPENETRATION
NIC NS NTS OC OF OPP OVS P/C PAF PAR PEMB	NEAR SIDENOT TO SCALEON CENTEROUTSIDE FACEOPPOSITEOVERSIZEDPRECASTPOWDER ACTUATED FASTENERPARALLELPRE-ENGINEERED METAL BUILDING
NIC NS NTS OC OF OPP OVS P/C PAF PAR PEMB PEN PEN PERP PL PLF	NEAR SIDENOT TO SCALEON CENTEROUTSIDE FACEOPPOSITEOVERSIZEDPRECASTPOWDER ACTUATED FASTENERPARALLELPRE-ENGINEERED METAL BUILDINGPERPENDICULARPLATEPOUNDS PER LINEAR FOOT
NIC NS NTS OC OF OPP OVS P/C PAF PAR PAR PEMB PEN PEN PERP PL	NEAR SIDENOT TO SCALEON CENTEROUTSIDE FACEOPPOSITEOVERSIZEDPRECASTPOWDER ACTUATED FASTENERPARALLELPRE-ENGINEERED METAL BUILDINGPENETRATIONPERPENDICULARPLATE
NIC NS NTS OC OF OPP OVS P/C PAF PAR PEMB PEN PEN PERP PERP PLF PLF PREFAB	NEAR SIDENOT TO SCALEON CENTEROUTSIDE FACEOPPOSITEOVERSIZEDPRECASTPOWDER ACTUATED FASTENERPARALLELPRE-ENGINEERED METAL BUILDINGPERPENDICULARPLATEPOUNDS PER LINEAR FOOTPREFABRICATEDPRELIMINARYPOUNDS PER SQUARE FOOT
NIC NS NTS OC OF OPP OVS P/C PAF PAR PEMB PEN PEN PERP PEN PERP PLF PLF PLF PLF PLF PREFAB PRELIM PSF PSI	NEAR SIDENOT TO SCALEON CENTEROUTSIDE FACEOPPOSITEOVERSIZEDPRECASTPOWDER ACTUATED FASTENERPARALLELPRE-ENGINEERED METAL BUILDINGPERPENDICULARPLATEPOUNDS PER LINEAR FOOTPRELIMINARYPOUNDS PER SQUARE INCH
NIC NS NTS OC OF OPP OVS P/C PAF PAR PEMB PEN PERP PL PLF PLF PLF PREFAB PRELIM PSF	NEAR SIDENOT TO SCALEON CENTEROUTSIDE FACEOPPOSITEOVERSIZEDPRECASTPOWDER ACTUATED FASTENERPARALLELPRE-ENGINEERED METAL BUILDINGPERPENDICULARPLATEPOUNDS PER LINEAR FOOTPREFABRICATEDPRELIMINARYPOUNDS PER SQUARE FOOT
NIC NS NTS OC OF OPP OVS P/C PAF PAR PEMB PEN PERP PL PLF PLF PLF PLF PLF PLF SF PREFAB PRELIM PSF PSI RC RE: REINF	NEAR SIDENOT TO SCALEON CENTEROUTSIDE FACEOPPOSITEOVERSIZEDPRECASTPOWDER ACTUATED FASTENERPARALLELPRE-ENGINEERED METAL BUILDINGPERPENDICULARPLATEPOUNDS PER LINEAR FOOTPREFABRICATEDPRELIMINARYPOUNDS PER SQUARE FOOTPOUNDS PER SQUARE INCHREINFORCED CONCRETEREFER TOREINFORCING
NIC NS NTS OC OF OPP OVS P/C PAF PAR PEMB PEN PEN PERP PER PER PER PES PESI RC REINF REINF REQD	NEAR SIDENOT TO SCALEON CENTEROUTSIDE FACEOPPOSITEOVERSIZEDPRECASTPOWDER ACTUATED FASTENERPARALLELPRE-ENGINEERED METAL BUILDINGPENETRATIONPERPENDICULARPLATEPOUNDS PER LINEAR FOOTPRELIMINARYPOUNDS PER SQUARE INCHREFER TOREINFORCED CONCRETEREINFORCINGREQUIRED
NIC NS NTS OC OF OPP OVS P/C PAF PAR PEMB PEN PERP PL PLF PLF PLF PLF PLF PLF PLF PLF PLF	NEAR SIDENOT TO SCALEON CENTEROUTSIDE FACEOPPOSITEOVERSIZEDPRECASTPOWDER ACTUATED FASTENERPARALLELPRE-ENGINEERED METAL BUILDINGPENETRATIONPERPENDICULARPLATEPOUNDS PER LINEAR FOOTPREFABRICATEDPRELIMINARYPOUNDS PER SQUARE FOOTPOUNDS PER SQUARE INCHREINFORCED CONCRETEREFER TOREINFORCINGREQUIREDRIGID FRAMESLIP CRITICAL
NIC NS NTS OC OF OPP OVS P/C PAF PAR PEMB PEN PERP PL PLF PLF PLF PLF PLF PLF SF PREFAB PRELIM PSF PSI RC RE: REINF REUNF REQD RF SC SDS	NEAR SIDENOT TO SCALEON CENTEROUTSIDE FACEOPPOSITEOVERSIZEDPRECASTPOWDER ACTUATED FASTENERPARALLELPRE-ENGINEERED METAL BUILDINGPERPENDICULARPLATEPOUNDS PER LINEAR FOOTPREFABRICATEDPRELIMINARYPOUNDS PER SQUARE FOOTPOUNDS PER SQUARE INCHREFER TOREFRET OREINFORCED CONCRETEREFER TOREJIF DRILLING SCREW
NIC NS NTS OC OF OPP OVS P/C PAF PAR PEMB PEN PERP PL PLF PLF PLF PLF PLF PLF PLF PLF PLF	NEAR SIDENOT TO SCALEON CENTEROUTSIDE FACEOPPOSITEOVERSIZEDPRECASTPOWDER ACTUATED FASTENERPARALLELPRE-ENGINEERED METAL BUILDINGPENETRATIONPERPENDICULARPLATEPOUNDS PER LINEAR FOOTPREFABRICATEDPRELIMINARYPOUNDS PER SQUARE FOOTPOUNDS PER SQUARE INCHREINFORCED CONCRETEREFER TOREINFORCINGREQUIREDRIGID FRAMESLIP CRITICAL
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NIC NS NTS OC OF OPP OVS P/C PAF PAR PEMB PEN PERP PL PLF PLF PLF PREFAB PRELIM PSF PSI RC RE: REINF REINF REQD RF SC SDS SIM SLV SOG	NEAR SIDENOT TO SCALEON CENTEROUTSIDE FACEOPPOSITEOVERSIZEDPRECASTPOWDER ACTUATED FASTENERPARALLELPRE-ENGINEERED METAL BUILDINGPERPENDICULARPLATEPOUNDS PER LINEAR FOOTPREFABRICATEDPRELIMINARYPOUNDS PER SQUARE FOOTPOUNDS PER SQUARE INCHREINFORCED CONCRETEREFER TOREINFORCINGREQUIREDRIGID FRAMESLIP CRITICALSLAB ON GRADE
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NIC NS NTS OC OF OPP OVS P/C PAF PAR PAR PEMB PEN PEN PER PL PLF PLF PLF PEFAB PREFAB PRELIM PSF SC RE: REINF REQD RF SC SDS SIM SLV SOG SQ SS STD	NEAR SIDENOT TO SCALEON CENTEROUTSIDE FACEOPPOSITEOVERSIZEDPRECASTPOWDER ACTUATED FASTENERPARALLELPRE-ENGINEERED METAL BUILDINGPENETRATIONPERPENDICULARPLATEPOUNDS PER LINEAR FOOTPRELIMINARYPOUNDS PER SQUARE FOOTPOUNDS PER SQUARE INCHREFER TOREFER TOREFER TOREINFORCED CONCRETEREFER TOSLIP CRITICALSELF DRILLING SCREWSIMILARSHORT LEG VERTICALSLAB ON GRADESQUARESTAINLESS STEELSTANDARDSTIRRUPSSTEEL
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STRUCTURAL DESIGN CRITERIA (2018 IBC AND ASCE 7-16):
1. BUILDING OCCUPANCY RISK CATEGORY III.
2. LIVE LOADS [UNIFORM (PSF) / POINT LOADS (KIPS)]: ROOF:
 3. ROOF SNOW LOAD: GROUND SNOW LOAD (Pg):
 4. WIND DESIGN DATA: BASIC WIND SPEED (3 SEC GUST):
5. EARTHQUAKE DESIGN DATA: SEISMIC IMPORTANCE FACTOR (Ie):1.25 MAPPED SPECTRAL RESP ACCEL (Ss / S1):0.100 / 0.068 SITE CLASS:D SPECTRAL RESPONSE COEFF (Sds / Sd1):0.107 / 0.110 SEISMIC DESIGN CATEGORY:B SEISMIC FORCE RESISTING SYSTEM:R=3, STEEL DESIGN BASE SHEAR:DETERMINED BY MB MFCR SEISMIC RESPONSE COEFF (Cs):0.044 ANALYSIS PROCEDURE:ELF
6. RAIN LOAD DATA: – 15-MIN RAIN INTENSITY
7. GUARD RAILS:
 8. ADDITIONAL DELEGATED DESIGN CRITERIA: A. LOADS PEMB COLLATERAL ROOF LOAD:

--METAL WALL PANELS:

PRE-ENGINEERED METAL BUILDING:

--BRITTLE EXTERIOR FINISH:...

SOIL PRESSURE

1. THE PRE-ENGINEERED METAL BUILDING SUPPLIER SHALL BE RESPONSIBLE FOR THE PEMB DESIGN. THE PEMB DESIGN AND CALCULATIONS SHALL BE SEALED BY

-ROOF, SUPPORTING PLASTER CEILING:.....L/360

--ROOF, SUPPORTING OTHER CEILING:.....L/240

--WALL GIRT, BACKING NON-BRITTLE FINISH......L/180

--WALL GIRT, BACKING BRITTLE FINISH......L/360

BUILDING DRIFT LIMITS (UNDER 10 YR WIND, SEISMIC, OR SOIL PRESSURE):

....H/240

H/100

AN ENGINEER LICENSED TO PRACTICE IN THE JURISDICTION OF THE PROJECT AND SUBMITTED TO THE ARCHITECT/ENGINEER FOR APPROVAL BEFORE FABRICATION, ALONG WITH A LETTER SEALED BY AN ENGINEER REGISTERED IN THE STATE OF THE PROJECT STATING THAT THEY HAVE REVIEWED THE METAL BUILDING DRAWINGS FOR CONFORMANCE TO THE DESIGN REQUIREMENTS.

2. PEMB DRAWINGS SHALL BE APPROVED BY THE ARCHITECT/ENGINEER BEFORE INSTALLATION OF ANY FOUNDATION ELEMENTS SUPPORTING THE PEMB COMPONENTS.

3. ROOF LIVE LOADS, INCLUDING SNOW LOADS, SHALL NOT BE REDUCED. DESIGN ROOF AND ROOF MEMBERS FOR ALL REQUIRED UNBALANCED LOADS AND SNOW

4. CONTRACTOR TO VERIFY AND COORDINATE ALL BASE PLATE ELEVATIONS AND GROUTING REQUIREMENTS WITH PEMB SUPPLIER. STRUCTURAL GENERAL NOTES:

1. DESIGN AND CONSTRUCTION SHALL CONFORM TO THE "INTERNATIONAL BUILDING CODE, 2018 EDITION" AS AMENDED BY THE CITY OF LEE'S SUMMIT, MO. REFER TO THE SPECIAL STRUCTURAL INSPECTION NOTES FOR ADDITIONAL REQUIREMENTS.

2. CONTRACTOR TO VERIFY ALL DIMENSIONS, ELEVATIONS AND EXISTING CONDITIONS AND REPORT ANY DISCREPANCIES TO THE ARCHITECT PRIOR TO COMMENCING WORK.

3. IF DISCREPANCIES EXIST BETWEEN STRUCTURAL PLANS, ARCHITECTURAL PLANS. OTHER PLANS. OR SPECIFICATIONS. THE CONTRACTOR OR SUBCONTRACTOR SHALL PROVIDE A WRITTEN REQUEST FOR CLARIFICATION FROM THE ARCHITECT AND/OR ENGINEER PRIOR TO PROCEEDING WITH THE WORK.

4. THE STRUCTURE IS DESIGNED TO BE SELF-SUPPORTING AND STABLE AFTER THE BUILDING IS FULLY COMPLETED. IT IS SOLELY THE CONTRACTOR'S RESPONSIBILITY TO EXECUTE AND DETERMINE FINAL ERECTION PROCEDURES, SEQUENCING AND TO ENSURE THE SAFETY OF THE BUILDING AND ITS COMPONENT PARTS DURING ERECTION. THIS INCLUDES WHATEVER SHORING, SHEETING, TEMPORARY BRACING, GUYING OR TIE DOWNS WHICH MIGHT BE NECESSARY 5. THE STRUCTURE AND FOUNDATIONS ARE NOT DESIGNED FOR FUTURE

EXPANSION. 6. FABRICATORS AND SUPPLIERS SHALL CLEARLY NOTE AND HIGHLIGHT CHANGES MADE IN SHOP DRAWINGS, WHICH DO NOT COMPLY WITH THE CONTRACT DOCUMENTS

7. COLUMNS, BEAMS, JOISTS, OR TRUSSES SHALL NOT BE FIELD CUT OR TRIMMED FOR ANY REASON WITHOUT THE WRITTEN APPROVAL OF THE ARCHITECT/ENGINEER.

8. HOLES, PIPES, SLEEVES, ETC. NOT SHOWN ON THE DRAWINGS MUST BE REVIEWED BY THE ARCHITECT/ENGINEER BEFORE PLACEMENT THROUGH STRUCTURAL MEMBERS.

9. IF MECHANICAL AND ELECTRICAL EQUIPMENT SIZES, WEIGHTS, OR LOCATIONS DO NOT COINCIDE WITH EQUIPMENT SHOWN ON THE PLANS, COORDINATE ADJUSTMENTS WITH THE ARCHITECT.

10. NO AREA OF THE STRUCTURE SHALL BE LOADED WITH CONSTRUCTION MATERIALS OR EQUIPMENT THAT EXCEEDS FINAL DESIGN CRITERIA.

11. BEAMS, COLUMNS, WALLS AND FOOTING CENTERS SHALL BE CENTERED UNDER SUPPORTING MEMBERS (TYPICAL UNLESS NOTED OTHERWISE). 12. TYPICAL DETAILS ARE SHOWN ON SHEETS DESIGNATED "S0XX". THE INCLUDED TYPICAL DETAILS MAY OR MAY NOT BE CUT / REFERENCED ON PLANS OR SECTIONS, BUT ARE TO BE USED AS APPLICABLE

SUBMITTALS:

1. GENERAL CONTRACTOR TO PROVIDE A SHOP DRAWING SUBMITTAL LOG ITEMIZING ALL PROPOSED SUBMITTALS FOR APPROVAL BY STRUCTURAL ENGINEER OF RECORD.

2. ALL SHOP DRAWINGS SHALL BE CHECKED BY THE FABRICATOR AND APPROVED BY THE GENERAL CONTRACTOR PRIOR TO SUBMITTAL TO THE STRUCTURAL ENGINEER OF RECORD. SHOP DRAWING REVIEW BY ENGINEER IS LIMITED TO VERIEVING GENERAL CONFORMANCE TO THE CONTRACT DOCUMENTS. CONTRACTOR IS RESPONSIBLE FOR ANY CHANGES FROM THE CONTRACT DOCUMENTS, DIMENSIONAL ERRORS, COORDINATION ERRORS, OR OMISSIONS IN SHOP DRAWINGS.

SHOP DRAWINGS SHALL BE SUBMITTED TO THE ARCHITECT PRIOR TC FABRICATION AND CONSTRUCTION REGARDING ALL STRUCTURAL ITEMS - CONCRETE MIX DESIGNS (5 DAYS BEFORE POUR, MIN.) - CONCRETE REINFORCEMENT - MASONRY REINFORCEMENT – STRUCTURAL STEEL

AND GRADE OF ALL MEMBERS. PLANS AND ANY DETAILING NECESSARY FOR DETERMINING FIT AND PLACEMENT SHALL ALSO BE INCLUDED.

5. IF THE SHOP DRAWINGS DIFFER FROM OR ADD TO THE DESIGN OF THE STRUCTURAL DRAWINGS, THEY SHALL BEAR THE SEAL AND SIGNATURE OF AN ENGINEER REGISTERED IN THE APPROPRIATE STATE. ANY CHANGES TO THE STRUCTURAL DRAWINGS SHALL BE SUBMITTED TO THE ARCHITECT AND ARE

– PRE-MANUFACTURED STEEL SHELTERS - STAIR FRAMING - TEMPORARY EXCAVATION BRACING AND SHORING

SHALL BEAR THE SEAL AND SIGNATURE OF AN ENGINEER REGISTERED IN THE CONNECTIONS TO THE STRUCTURE, CONSIDERING LOCALIZED EFFECTS ON STRUCTURAL ELEMENTS INDUCED BY THE CONNECTION LOADS. 7. ITEMS THAT ARE DESIGNED BY THE CONTRACTOR SHALL BE DESIGNED TO RESIST THE LIVE LOADS INDICATED IN STRUCTURAL NOTES, DEAD LOAD, SELF

DRIFT, AND A NET WIND UPLIFT. 8. ITEMS THAT ARE DESIGNED BY THE CONTRACTOR SHALL INCLUDE ANY RELEVANT TECHNICAL LITERATURE FROM MANUFACTURER. ALSO PROVIDE A CERTIFICATION FROM THE MANUFACTURER SHOWING THE PRODUCT IS IN

COMPLIANCE WITH ALL APPLICABLE CODES AND STANDARDS. 9. THE CONTRACTOR SHALL COORDINATE SEISMIC RESTRAINTS OF MECHANICAL, PLUMBING, AND ELECTRICAL EQUIPMENT, MACHINERY, AND ASSOCIATED PIPING WITH THE STRUCTURE. ANY CONNECTIONS TO STRUCTURE SHALL CONFORM TO ASCE 7, CHAPTER 13 AND SHALL BE DESIGNED BY AN ENGINEER REGISTERED IN THE APPROPRIATE STATE, AND SHALL BE SUBMITTED TO THE ARCHITECT PRIOR TO FABRICATION.

FROM OR ADD TO THE STRUCTURAL DRAWINGS SHALL BEAR THE SEAL AND BE SUBMITTED TO THE ARCHITECT PRIOR TO CONSTRUCTION.

SPECIAL INSPECTIONS: 1. PROVIDE SPECIAL STRUCTURAL INSPECTIONS AND VERIFICATIONS BY A THIRD

PARTY MEETING THE REQUIREMENTS OF CHAPTER 17 OF THE BUILDING CODE AND THE BUILDING OFFICIAL. 2. SPECIAL INSPECTORS SHALL BE QUALIFIED AND FURNISH THEIR REPORTS IN A TIMELY MANNER TO THE CONTRACTOR, BUILDING OFFICIALS, ARCHITECT, AND/OR

ENGINEER 3. SHOULD INSPECTOR IDENTIFY ANY DISCREPANCY. THEY SHALL NOTIFY CONTRACTOR FIRST, AND THEN ARCHT/ ENGINEER IMMEDIATELY THEREAFTER IF

CORRECTIVE ACTION IS NEEDED. 4. SPECIAL INSPECTIONS AS REQUIRED BY CODE: A. STEEL: SECTION 1705.2, AND AISC 360. PERIODIC OBSERVATIONS OF CONNECTION, ALL BRACED-FRAME CONNECTIONS, WELDERS & FIELD WELDING. B. CONCRETE: SECTION 1705.3 AND TABLE 1705.3 CONCRETE MATERIAL SAMPLING AND TESTING, REBAR OBSERVATIONS. TAKE SET OF (3) CYLINDERS FOR EVERY 50 C.Y., BUT NOT LESS THAN ONE SET OF SAMPLES PER DAY'S WORK AND PER MIX. C. EARTHWORK: SECTION 1705.6. FOUNDATION BEARING, EXCAVATION,

FILL PLACEMENT 3.1.3 FOR LEVEL C)

EARTHWORK AND FOUNDATIONS:

1. NO GEOTECHNICAL REPORT IS AVAILABLE FOR THIS PROJECT. 2. PERIMETER AND EXTERIOR FOOTINGS SHALL BEAR AT A MINIMUM OF 3'-0" BELOW ADJACENT GRADE.

3. ALL FOOTINGS SHALL BEAR ON FIRM NATIVE MATERIALS, COMPACTED OR

4. UNDERCUT THE PAD TO A DEPTH OF 24 INCHES BELOW BOTTOM OF FLOOR SLAB ELEVATION AND REPLACE WITH LOW-VOLUME-CHANGE MATERIALS.

5. FILL PLACEMENT, COMPACTION, AND SOIL BEARING TESTS SHALL BE PERFORMED BY A GEOTECHNICAL ENGINEER PRIOR TO INSTALLING FOOTINGS TO ENSURE DESIGN ALLOWABLE BEARING VALUES AND SLAB SUBGRADE REQUIREMENTS ARE SATISFIED. IF ACTUAL SITE CONDITIONS DO NOT SATISFY THESE REQUIREMENTS, COORDINATE ADJUSTMENTS WITH ARCHITECT/ENGINEER/ GEOTECHNICAL ENGINEER

6. SURFACE WATER SHALL NOT BE ALLOWED TO STAND ADJACENT TO OR DRAIN TOWARDS THE FOUNDATION AND SLAB SUBGRADES UNDER ANY CIRCUMSTANCES. PAVEMENTS OR GRADED SOILS AT THE PERIMETER OF THE BUILDING. EXCEPT AS REQUIRED AT EXITS OR AS NOTED, SHALL BE SLOPED AWAY AT 5% OR 6" MIN FOR THE FIRST TEN FEET AND AS REQUIRED TO PROVIDE POSITIVE DRAINAGE. 7. FOOTINGS MAY BE POURED TO NEAT LINES OF EXCAVATIONS PROVIDING

VERTICAL LINES OF EXCAVATIONS CAN BE MAINTAINED DURING CONCRETE PI ACEMENT

3. FOUNDATION WALL BACKFILL SHALL NOT BE UNBALANCED BY MORE THAN TWO FEET ON EITHER SIDE AT ANY TIME. BASEMENT WALL AND RESTRAINED RETAINING WALL BACKFILL SHALL NOT BE PLACED, UNLESS THE WALL IS ADEQUATELY BRACED. RETAINING WALL AND BASEMENT WALL BACKFILL SHALL BE FREE DRAINING GRANULAR BACKFILL ACCEPTABLE TO THE GEOTECHNICAL ENGINEER.

CONCRETE AND MASONRY REINFORCING STEEL: 1. SUBMIT SHOP DRAWINGS FOR REBAR. ALL REINFORCING BARS SHALL MEET ASTM A615 GRADE 60.

2. ALL MESH SHALL MEET ASTM A-185: LAP A MINIMUM OF 8" OR ONE FULL MESH, WHICHEVER IS GREATER. 3. REINFORCING BAR QUANTITIES SHOWN ARE FOR ESTIMATING PURPOSES ONLY

NOTED).

5. CONTRACTOR SHALL VERIFY THAT ALL REINFORCEMENT. SLAB DOWELS. INSERTS, SLEEVES AND EMBEDDED ITEMS ARE PROPERLY LOCATED AND RIGIDLY SECURED PRIOR TO CONCRETE PLACEMENT, "WET STICKING" DOWELS WILL NOT BE ALLOWED.

6. REINFORCEMENT SHALL BE DETAILED IN ACCORDANCE WITH THE LATEST A.C.I. DETAILING MANUAL BY A QUALIFIED AND EXPERIENCED FIRM AND PERSON. PLACE AND SUPPORT REINFORCEMENT WITH ACCESSORIES: MAXIMUM SPACING - 48" CENTERS (PLASTIC-TIPPED LEGS FOR EXPOSED SURFACES). USE 3" SBP SUPPORTS AT ALL FOOTINGS.

7. ALL STRUCTURAL ADHESIVE SHALL BE SIMPSON SET 3G OR HILTI HY-200 R OR EQUIVALENT. ALL STRUCTURAL ADHESIVE SHALL BE INSTALLED PER THE MANUFACTURER'S REQUIREMENTS. SUBSTITUTIONS SHALL BE SUBMITTED FOR REVIEW AND APPROVAL WITH APPROPRIATE ICBO EVALUATION REPORTS.

CAST IN PLACE CONCRETE:

REQUIRED MINIMUM CONCRETE COMPRESSIVE STRENGTHS AT 28 DAYS:

c. SLAB ON GRADE AND STRUC SLAB ABOVE GRADE 4000 PSI

2. ALL CONCRETE MIX DESIGNS SHALL HAVE WATER TO CEMENT RATIOS LESS THAN 0.52 (0.45 FOR MOISTURE SENSITIVE FLOORING), WITH A MAXIMUM 60/40 FINE TO COARSE AGGREGATE RATIO. CONCRETE MIX DESIGNS THAT DO NOT CONFORM TO THE ABOVE STANDARD AND/OR CONTAIN WATER REDUCING ADMIXTURES SHALL BE SUBMITTED WITH APPROPRIATE TEST DATA PER A.C.I.. ALL CONCRETE SHALL BE IN CONFORMANCE WITH THE A.C.I. 301 STANDARD THAT IS REFERENCED IN THE BUILDING CODE AT THE TIME OF PERMITTING THE PROJECT ... 3. EXTERIOR CONCRETE (FLOOR SLABS, WALLS, ETC) SHALL HAVE 6.5%

(PLUS/MINUS 1.5%) ENTRAINED AIR.

4. CHAMFER ALL EXPOSED CONCRETE EDGES 3/4" (VERIFY WITH ARCHITECT). 5. NO ALUMINUM SHALL BE EMBEDDED IN ANY CONCRETE

6. NO CALCIUM CHLORIDE SHALL BE USED IN CONCRETE

7. THE DESIGN, CONSTRUCTION, AND SAFETY OF ALL FORMWORK IS THE RESPONSIBILITY OF THE CONTRACTOR

INCLUDING THE FOLLOWING IN ADDITION TO THE DELEGATED DESIGN SUBMITTALS:

4. SHOP DRAWINGS SHALL INCLUDE CONNECTIONS AS WELL AS SIZE, SPACING,

SUBJECT TO REVIEW AND APPROVAL OF THE STRUCTURAL ENGINEER OF RECORD. 6. DESIGN DRAWINGS, SHOP DRAWINGS, AND CALCULATIONS FOR THE DESIGN AND

FABRICATION OF ITEMS THAT ARE DESIGNED BY THE CONTRACTOR, INCLUDING:

APPROPRIATE STATE AND SHALL BE SUBMITTED TO THE ARCHITECT PRIOR TO FABRICATION AND CONSTRUCTION. CALCULATIONS SHALL BE INCLUDED FOR ALL

WEIGHT, ANY ADDITIONAL LOADING INDICATED ON PLANS AND DETAILS, SNOW

10. FIELD ENGINEERED DETAILS DEVELOPED BY THE CONTRACTOR THAT DIFFER

SIGNATURE OF AN ENGINEER REGISTERED IN THE APPROPRIATE STATE AND SHALI

D. MASONRY: SECTION 1705.4 AND TMS 402 TABLE 3.1.2, LEVEL B (TABLE

ENGINEERED FILL CAPABLE OF SUPPORTING AN ALLOWABLE BEARING PRESSURE OF 1,500 PSF PRESUMPTIVE BEARING PRESSURE PER THE IBC. DEEPEN FOOTINGS. AND REMOVE AND REPLACE UNACCEPTABLE SOILS WITH ENGINEERED FILL AS REQUIRED TO PROVIDE THIS MINIMUM DEPTH AND SUITABLE BEARING.

4. CONCRETE PROTECTION FOR REINFORCEMENT SHALL BE ³/₄" CLEAR FOR SLABS, 2" CLEAR FOR FORMED SURFACES AND 3" CLEAR FOR FOOTINGS (TYPICAL UNLESS

1. SUBMIT PROPOSED MIXED DESIGNS OF EACH TYPE FOR REVIEW.

8. ALL CONCRETE IS REINFORCED UNLESS SPECIFICALLY NOTED AS UNREINFORCED. REINFORCE ALL CONCRETE NOT OTHERWISE SHOWN WITH THE SAME REINFORCING AS SIMILAR SECTIONS OR AREAS.

9. CONSTRUCTION JOINTS IN GRADE BEAMS, CONTINUOUS FOOTINGS, AND WALLS THAT DO NOT CHANGE DIRECTION SHALL BE SPACED NO GREATER THAN 60'-0". INTERMEDIATE CONTROL JOINTS SHALL BE SPACED AT 25'-0" MAX FOR WALLS. CONTROL JOINTS IN WALLS SHALL ALSO BE LOCATED 15'-0" FROM CORNERS AND AT CHANGES IN WALL THICKNESS

10. WHERE FRESH CONCRETE IS DEPOSITED AGAINST HARDENED CONCRETE (GREATER THAN 8 HRS OLD), CLEAN EXISTING SURFACE OF LAITANCE AND FOREIGN MATERIAL AND DAMPEN THE EXISTING SURFACE. IF REQUIRED, ROUGHEN EXISTING CONCRETE TO 1/4" AMPLITUDE.

11. SLABS ON GRADE SHALL BE 4" THICK MINIMUM ON 4" OF GRANULAR FILL. REINF SLAB WITH 6 X 6-W2.1xW2.1 WWR OR #3 BARS @ 18" OC EA WAY. PLACE REINF IN UPPER 1/3 OF SLAB THICKNESS. AT INTERIOR SLABS, A 10 MIL VAPOR BARRIER SHALL BE PLACED BETWEEN THE CONCRETE AND GRANULAR BASE AND CARE SHOULD BE TAKEN DURING CURING TO PREVENT SLAB CURLING. THIS NOTE SHALL BE TYPICAL UNLESS NOTED OTHERWISE

12. SAW CUT JOINTS OR KEYED CONSTRUCTION JOINTS IN SLABS ON GRADE SHALL BE SPACED TO DIVIDE THE SLAB INTO PANELS NOT TO EXCEED 225 SQUARE FEET. THE LONGER DIMENSION OF EACH PANEL SHALL NOT EXCEED THE SHORTER DIMENSIONS BY MORE THAN 40%. JOINTS SHALL BE LOCATED AT COLUMN

CENTERLINES WHERE POSSIBLE. SPACING BETWEEN JOINTS SHALL NOT EXCEED 15 FEET. CONTRACTOR SHALL SUBMIT JOINT LAYOUT TO ARCHITECT FOR APPROVAL. REFER TO TYPICAL DETAILS. 13. REINFORCEMENT SHALL BE CONTINUOUS AND LAPPED 53 BAR DIAMETERS

(2' -6" MIN.) EXCEPT AS NOTED AND PROVIDE CORNER BARS OF SAME SIZE AND

14. MINIMUM CONCRETE WALL REINFORCING (WALL 10" OR GREATER) SHALL BE #5 AT 10" CENTERS EACH WAY, EACH FACE

15. MINIMUM REINFORCING AROUND CONCRETE WALL OPENINGS 2'-0" OR GREATER (TYPICAL UNLESS NOTED): 2 - #5, EXTEND REINF 2'-0" PAST OPENINGS. PROVIDE 2-#5 x 4'-0" DIAGONAL BARS AT CORNERS

16. CONTRACTOR SHALL COORDINATE ALL CURING COMPOUNDS WITH FLOOR FINISH REQUIREMENTS TO ENSURE COMPATIBILITY.

17. FOUNDATION CONTRACTOR TO ENSURE PROPER ANCHOR ROD PROJECTION AND THAT ANCHOR RODS ARE HELD SECURELY IN POSITION PRIOR TO CONCRETE PLACEMENT. INSTALL ANCHOR RODS TO THE STRICT DIMENSIONAL TOLERANCES PER AISC REQUIREMENTS. STRUCTURAL STEEL COLUMN ANCHOR RODS SHALL BE SET WITH A RIGID TEMPLATE.

18. AGGREGATES AND/OR CONCRETE MIXES SHALL BE CERTIFIED TO BE FREE OF

AND ELIMINATE DAMAGE OF CONCRETE DUE TO ALKALI-SILICA REACTION OR

ALKALI-AGGREGATE REACTIONS WHEN EXPOSED TO SOILS AND/OR AN EXTERIOR FNVIRONMENT

19. ALL CONCRETE MIX DESIGNS EXPOSED TO AN EXTERIOR ENVIRONMENT SHALL MEET THE REQUIREMENTS OF THE KANSAS CITY METRO MATERIALS BOARD (KCMMB) OR THE JOHNSON COUNTY CONCRETE BOARD (JCCB).

20. ANY CONCRETE WALLS EXPOSED TO VIEW OR TO BE FORMED WITH A FORM LINER SHALL BE CONSIDERED "ARCHITECTURAL CONCRETE" PER ACI 301 CHAPTER 6. A MOCKUP SHALL BE MADE AND REVIEWED FOR ACCEPTANCE BY THE

ARCHITECT AND OR THE CLIENT FOR CONFORMANCE WITH FINISH INTENT. THE IN-PLACE CONCRETE SHOULD BE REVIEWED AT SEVERAL INTERVALS DURING CONSTRUCTION TO CONFIRM THAT THE FINISH IS MATCHING THE APPROVED MOCKUP STANDARD FOR FINISH. THE INTERVALS SHALL BE DETERMINED BY THE ARCHITECT

CONCRETE MASONRY UNITS:

1. ALL MASONRY SHALL BE IN ACCORDANCE WITH ACI 530 / TMS 402. REFER TO ARCHITECTURAL DRAWINGS AND SPECIFICATIONS FOR NON-STRUCTURAL BRICK REQUIREMENTS. INDIVIDUAL CMU'S SHALL BE PER ASTM C90 (2650 PSI), GROUT SHALL BE PER ASTM C476, MORTAR SHALL BE PER ASTM C270. A. USE OF MASONRY CEMENT IS PROHIBITED.

B. USE OF AIR-ENTRAINING ADMIXTURES IS PROHIBITED. 2. MASONRY MATERIALS SHALL BE AS FOLLOWS:

A. f'm = 2,000 PSI MINIMUM. ALL UNITS SHALL BE NORMAL-WEIGHT BLOCK. B. GROUT STRENGTH NOT LESS THAN 2,000 PSI. C. MORTAR TYPE S. (USE TYPE M OR S, OR BETTER FOR PORTIONS BELOW-GRADE)

4. WHERE NOT OTHERWISE SHOWN, MINIMUM WALL REINFORCEMENT SHALL BE (1) #4 VERT AT 48" OC MAX. PROVIDE NOT LESS THAN 9-GAUGE HORIZONTAL LADDER-TYPE REINFORCEMENT AT NOT MORE THAN 16" OC VERTICALLY, LAPPED 8" MINIMUM. DISCONTINUE HORIZ REINF AT CONTROL JOINT LOCATIONS. REBAR POSITIONERS SHALL BE USED FOR ALL VERTICAL BARS SUCH THAT A MINIMUM 3" OF SPACE IS MAINTAINED CLEAR FOR PLACEMENT OF GROUT.

5. ALL BLOCKS SHALL BE LAID IN RUNNING BOND.

6. GROUT ALL BLOCK CORES CONTAINING VERTICAL BARS, HORIZONTAL BOND BEAMS, AND/OR ANCHOR RODS. IN ADDITION: - GROUT SOLID ALL UNITS LOCATED BELOW GRADE AND/OR LOCATED IN CONTACT WITH SOIL. -- GROUT POUR HEIGHTS SHALL NOT EXCEED 5'-0" UNLESS CLEAN-OUTS ARE PROVIDED AND INSPECTED. THE MAXIMUM GROUT POUR HEIGHT WITH CLEANOUTS SHALL NOT EXCEED 12'-8". STOP GROUT POURS AT 1-1/2" BELOW THE TOP OF THE CMU COURSE. CONSOLIDATE GROUT WITH VIBRATOR.

ALL OPENINGS IN NEW CONCRETE MASONRY WORK REQUIRE A BOND-BEAM LINTEL PER TYPICAL DETAILS AND PLANS. A. GALVANIZED LOOSE-ANGLE STEEL LINTELS SHALL BE UTILIZED TO SUPPORT BRICK VENEER, AND WHERE CUTTING IN NEW OPENINGS IN EXISTING BRICK AND TILE WALLS.

8. PROVIDE CONTROL JOINTS AS SHOWN ON ARCHITECTURAL AND/OR STRUCTURAL DRAWINGS. WHERE NOT SHOWN OR OTHERWISE DENOTED, PROVIDE CONTROL JOINTS AT NOT MORE THAN 25'-0" OC, LOCATED AT OPENINGS, AND NEAR CORNERS, AS SHOWN ON TYPICAL DETAILS. PROVIDE VERTICAL

REINFORCEMENT ON EACH SIDE OF CONTROL JOINTS. 9. PLACEMENT OF REINFORCEMENT SHALL OCCUR PRIOR TO PLACEMENT OF GROUT. ALL REINFORCEMENT IN STRUCTURAL AND SHEAR WALLS SHALL BE INSPECTED PRIOR TO GROUTING, AND ALL MATERIALS AND MATERIAL PLACEMENT INSPECTED AND TESTED.

10. REINFORCEMENT SHALL HAVE A MINIMUM LAP SPLICE OF 18" FOR #3 BARS, 24" FOR #4 BARS, AND 32" FOR #5 BARS, UNO

11. EXTEND HORIZONTAL REINFORCEMENT IN BOND BEAMS, LINTELS AND SILLS NOT LESS THAN 2'-0" PAST ENDS OF ALL OPENINGS. REINFORCEMENT IN BOND BEAMS IN LINTELS SHALL BE CONTINUOUS BARS AND SHALL NOT BE LAP SPLICED

12. PROVIDE LOOSE ANGLE STEEL LINTELS PER THE TYPICAL DETAILS. 13. REINFORCE BOND BEAMS W/ (1) #5 BAR MIN, UNLESS NOTED OTHERWISE.

STRUCTURAL STEEL:

FOUIVALEN

OTHERWISE

1. STRUCTURAL STEEL SHAPES AND PLATE MATERIAL REQUIREMENTS (TYPICAL UNLESS NOTED OTHERWISE):

a. WIDE FLANGE SHAPES - ASTM A992 (FY = 50 KSI MIN.) b. CHANNELS, ANGLES, AND PLATES: - ASTM A36 (FY = 36 KSI MIN) c. ROUND HSS - ASTM A500, GR B (FY = 42 KSI) d. RECTANGULAR HSS - ASTM A500, GR B (FY = 46 KSI) e. PIPE - ASTM A53, GR B (FY = 35 KSI)

f. ANCHOR RODS - ASTM F1554 (FY = 36 KSI MIN.) g. ADHESIVE ANCHORS - SIMPSON SET-3G, HILTI HIT-HY 200, OR

2. STRUCTURAL STEEL SHALL BE NEW AND MEET THE 15TH EDITION A.I.S.C. "SPECIFICATIONS FOR STRUCTURAL STEEL BUILDINGS AND BRIDGES", AND THE "CODE OF STANDARD PRACTICES FOR STEEL BUILDINGS AND BRIDGES", EXCLUDING SECTION 4.4.1.B.

THE STRUCTURAL STEEL FABRICATOR SHALL BE AN AISC QUALITY CERTIFIED COMPANY FOR THE CATEGORY OF WORK IN THIS PROJECT OR PROVIDE A QUALITY ASSURANCE PLAN AND SPECIAL INSPECTIONS AS DEFINED IN THE CODE.

4. USE STANDARD AISC FRAMING CONNECTIONS WITH A325-N BOLTS, F436 WASHERS, AND A563 HEAVY-HEX NUTS AS REQUIRED, UNLESS NOTED OTHERWISE. 5. BOLTS IN MOMENT AND BRACED FRAME CONNECTIONS SHALL BE PRE-TENSIONED. ALL A490 BOLTS SHALL BE PRE-TENSIONED. OTHER BOLTED CONNECTIONS USING A325 BOLTS MAY BE SNUG-TIGHTENED, UNLESS NOTED

6. STEEL BEAMS SHALL BE FABRICATED WITH MILL CAMBER UP.

7. WELDING SHALL CONFORM TO THE CURRENT AND APPLICABLE AWS STANDARDS AND BE COMPLETED BY AN AWS CERTIFIED WELDER. ALL WELDS SHALL UTILIZE E70xx ELECTRODES. SHOP DRAWINGS SHALL SHOW FIELD WELDS, AS APPROPRIATE.

a. AWS D1.1 - STRUCTURAL WELDING CODE - STEEL b. AWS D1.3 - STRUCTURAL WELDING CODE - SHEET STEEL c. AWS D1.6 - STRUCTURAL WELDING CODE - STAINLESS STEEL

8. WELD SIZES SHALL BE INCREASED TO MEET THE REQUIRED EFFECTIVE THROAT WIDTH IF GAPS EXIST AT THE FAYING SURFACE. 9. NO COLUMN OR BEAM SPLICES, UNLESS CLEARLY INDICATED ON THE

STRUCTURAL DRAWINGS, WILL BE ALLOWED WITHOUT WRITTEN APPROVAL OF THE STRUCTURAL ENGINEER.

10. SEE ARCHITECTURAL PLANS FOR FIREPROOFING & FINISHING REQUIREMENTS, AND COORDINATE STEEL PRIMING & COATINGS ACCORDINGLY. 11. GROUT WHERE INDICATED ON PLANS AT BASE PLATES SHALL BE NON-METALLIC NON-SHRINK WITH A MINIMUM COMPRESSIVE STRENGTH OF 6000 PSI AT 28 DAYS

CONFORMING TO ASTM C1107 12. ALL POST-INSTALLED ANCHORS WHERE NOTED SHALL BE MANUFACTURED BY SIMPSON STRONG-TIE OR HILTI, INC. AND INSTALLED PER MANUFACTURER'S

SPECIFICATIONS. SUBSTITUTIONS SHALL BE SUBMITTED FOR REVIEW AND APPROVAL WITH APPROPRIATE IC-ES EVALUATION REPORTS. 13. ALL STEEL AND ASSOCIATED FASTENERS NOT PROTECTED FROM WEATHER OR

WHOLLY WITHIN A CONDITIONED SPACE (INCLUDING ALL MASONRY LINTELS) SHALL BE HOT DIPPED GALVANIZED PER ASTM A123. OPEN WEB STEEL BAR JOISTS:

1. OPEN-WEB STEEL JOISTS SHALL BE ENGINEERED AND MANUFACTURED BY AN SJI-CERTIFIED COMPANY TO CONFORM TO THE CURRENT SJI SPECIFICATIONS AND SJI REQUIREMENTS. 2. SUBMIT SHOP DRAWINGS FOR JOIST. DESIGN, DETAIL AND INSTALL JOIST-

BRIDGING IN ACCORDANCE WITH SJI REQUIREMENTS, PROVIDING X-BRIDGING AT

3. WELD ALL JOISTS TO BEARINGS PER SJI GUIDELINES, INCLUDING BOTTOM CHORD EXTENSIONS AND CONNECTIONS AT COLUMN LINES PER SJI AND PER OSHA

1/8" x 2-1/2" LONG

METAL DECK:

SUPPORTING ROOF TOP EQUIPMENT.

REQUIREMENTS AND SPECIFICATIONS

REQUIRE A STEEL FRAME

CFS DESIGN CRITERIA:

..MIN (½", L/360)

OTHER WALLS.

MEMBERS

MINIMUM.

NOTED OTHERWISE.

PROPERLY FASTENED.

@ 12" OC MAX, UNO.

SUPPORTING STUDS.

POINTS.

STABILIZED.

H/240 FOR ALL OTHER WALLS.

TYPICAL UNLESS NOTED OTHERWISE.

COLD FORMED STEEL FRAMING NOTES:

1. SUBMIT SHOP DRAWINGS FOR ALL METAL DECKING.

MIN FASTENING PATTERN: 36/4 WITH 3 SIDELAPS PER SPAN (UNO)

SIDELAP CONNECTIONS SHALL BE #10 TEK SCREWS MIN (UNO).

CONTRACTOR TO SUBMIT ALTERNATES FOR APPROVAL.

2. STEEL DECK MANUFACTURER SHALL BE A MEMBER OF THE STEEL DECK

INSTITUTE (S.D.I.). ALL METAL DECK TO BE ERECTED PER MANUFACTURER

3. DECK SHALL BE WELDED AT SUPPORTS WITH 5/8" DIA PUDDLE WELDS MIN. AND

4. ALL METAL DECK HAS BEEN DESIGNED TO BE CONTINUOUS OVER 2 SPANS

SPAN CONDITIONS CONTRACTOR SHALL PROVIDE SHORING AS REQUIRED OR

FURNISH THICKER GAUGE DECK TO SUPPORT ALL APPLICABLE LOADS.

MINIMUM AND SHALL BEAR 2" MINIMUM ON STEEL SUPPORTS. FOR ONE OR TWO

5. PROVIDE REINFORCING CHANNELS, STANDARD CLOSURES, CANT STRIPS, SUMP

PANS, AND OTHER ACCESSORIES AS REQUIRED FOR A PROPERLY FINISHED JOB,

EVEN IF NOT SPECIFICALLY SHOWN ON THE STRUCTURAL DRAWINGS. PROVIDE

BEARING ANGLES WELDED TO COLUMNS AS REQUIRED TO SUPPORT METAL DECH

HOLES LARGER THAN 6" IN DIAMETER OR MORE THAN ONE HOLE PER DECK SHEET

REQUIRES REINFORCING PER SDI. HOLES LARGER THAN 12" (ROUND OR SQUARE)

6. ONE OPENING PER DECK SHEET. 6" OR LESS IN DIAMETER. IS PERMISSIBLE.

7. OPENINGS IN FLOOR DECK TO BE FRAMED WITH L4x4x1/4 ANGLE. EXTEND

ANGLES TO STRUCTURAL SUPPORTS, BLOCK VERTICAL LEGS AND FIELD WELD.

1. SUBMIT SHOP DRAWINGS AND CALCULATIONS PER THE DEFERRED SUBMITTAL REQUIREMENTS. SHOP DRAWINGS SHALL INCLUDE PLAN AND SECTION DETAILS TO

SHOW LAYOUT, SPACINGS, SIZES, THICKNESSES, AND TYPES OF COLD-FORMED

STEEL FRAMING. IN ADDITION, SHOP DRAWINGS SHALL INCLUDE ALL FASTENING, ANCHOR DETAILS, SUPPLEMENTAL FRAMING, STRAPPING, BRACING, BRIDGING,

-- TOP OF WALL VERTICAL DEFLECTION TO UNDERSIDE OF PRIMARY STRUCTURE

-- EXTERIOR WALLS: WIND PRESSURE PER BUILDING DESIGN CRITERIA;H/600 FOR

WALLS BRACING MASONRY; H/360 FOR WALLS SUPPORTING TILE OR METAL PANEL;

-- INTERIOR WALLS: 5 PSF HORIZONTAL PRESSURE;H/600 FOR WALLS BRACING MASONRY; H/360 FOR WALLS SUPPORTING TILE OR METAL PANEL; H/240 FOR ALL

MATERIAL PROPERTIES: FY = 33 KSI FOR 18 GA AND LIGHTER MEMBERS, FY = 50 KSI

FOR ALL DIAGONAL STRAP BRACING AND FOR 16 GA AND HEAVIER MEMBERS. ALL

CFS SUPPLIER SHALL INCLUDE AN ALLOWANCE (2% OF CFS BID PACKAGE) FOR

NEEDED DURING THE SHOP DRAWING REVIEW AND CONSTRUCTION PROCESS.

2. ALL DESIGN, FABRICATION, AND ERECTION SHALL BE IN CONFORMANCE WITH

AISI "SPECIFICATIONS FOR THE DESIGN OF COLD FORMED STEEL STRUCTURAL

3. ALL EXTERIOR OR LOAD BEARING INTERIOR STUDS SHALL BE 600S162-43 (6"

DEEP 18 GA) AT 16 INCHES ON CENTER MIN, UNLESS NOTED: REFER TO PLANS.

4. MINIMUM GAUGE OF STRUCTURAL STUDS SHALL BE 43 mils (18 GAUGE), UNLESS

5. TRACKS SHALL BE SECURELY ANCHORED TO THE SUPPORTING STRUCTURE TO

mils (18 GAUGE). DEFLECTION TRACKS AT EXTERIOR WALL SHALL BE 16 GA

6. PROVIDE WALL STUD BRIDGING FOR EACH STUD AS RECOMMENDED BY THE

7. ALL FRAMING COMPONENTS SHALL BE CUT SQUARELY FOR ATTACHMENTS TO

8. NOTCHES OR SPLICES IN ANY STRUCTURAL STUDS WILL NOT BE PERMITTED.

9. DO NOT NOTCH. DRILL OR CUT ANY HOLES IN LOAD BEARING STUDS FOR

ELECTRICAL OR MECHANICAL EQUIPMENT: USE EXISTING FABRICATED HOLES.

10. ALL WELDING SHALL BE PERFORMED BY WELDERS EXPERIENCED IN LIGHT

DISTANCES OF 1/2" AND MINIMUM SPACING BETWEEN SCREWS OF 3/4".

13. FLOOR JOISTS SHALL BE ALIGNED WITH AND STACKED DIRECTLY ON

14. INSTALL WEB STIFFENERS IN ENDS OF ALL FLOOR JOISTS, AT ALL BEARING

APPLIED TO THE WALLS & LEFT IN PLACE UNTIL THE WORK IS PERMANENTLY

15. LATERAL BRACING MUST BE IN PLACE IN EACH DIRECTION BEFORE ANY LOAD IS

GAUGE STEEL FRAMING WORK. TOUCH UP ALL WELDS WITH GALVANIZE COATING.

11. SCREWS IN LIGHT GAUGE FRAMING SHALL BE INSTALLED WITH MINIMUM EDGE

12. WHERE BACK-TO-BACK STUD COLUMNS ARE USED, ATTACH WITH #10 SCREWS

PERPENDICULAR MEMBER. MEMBERS SHALL BE HELD POSITIVELY IN PLACE UNTIL

MANUFACTURER. MAXIMUM SPACING SHALL BE 4'-0" CENTERS.

PROPERLY TRANSFER IMPOSED LOADS. MINIMUM GAUGE OF TRACKS SHALL BE 43

MISC CLIPS, CONNECTORS, AND ANGLES TO ADDRESS ANY ADDITIONAL CFS ITEMS

LIGHT GAUGE FRAMING MEMBERS SHALL HAVE THE FOLLOWING MINIMUM

MATERIALS, CONNECTORS, FASTENERS SHALL BE GALVANIZED

CONNECTION DETAILS, AND ATTACHMENTS TO ADJOINING WORK

REQUIREMENTS. MIN JOIST SEAT WELDS SHALL BE AS FOLLOWS: K-SERIES = (2)

4. REINFORCE WEBS OF JOISTS WITH ADDITIONAL ANGLES FIELD-WELDED PER THE

A. MEZZANINE FLOOR DECK: 1" 26 GA (FY = 50 KSI MIN), G60 GALVANIZED,

TYPICAL DETAILS AT ALL LOCATIONS WHERE POINT LOADS OCCUR BETWEEN

PANEL POINTS, INCLUDING AT EDGES AND CORNERS OF CURBS & FRAMES

LOCATIONS WHERE HORIZONTAL BRIDGING IS DISCONTINUOUS AND INTERRUPTED.

INSTALL ADDITIONAL ROW OF BOTTOM CHORD BRIDGING AT EACH END OF JOISTS AT THE FIRST BOTTOM CHORD PANEL POINTS AS REQUIRED FOR NET WIND UPLIFT.

16. PROVIDE FULL-DEPTH BLOCKING BETWEEN EACH JOIST AT BEARINGS OF CANTILEVERED JOISTS.

17. BRACE THE BOTTOM FLANGES OF JOISTS LONGER THAN 10' SPANS AT MIDSPAN OR SPACES NOT EXCEEDING 11' APART, CONSISTING OF STRAP BRACING CONTINUOUS & INTERMITTENT FULL-DEPTH BLOCKING @ 12' OC & EACH STRAP

18. AT CANTILEVERS, HOLES ARE PROHIBITED FROM WEBS OF JOISTS AT OVERHANGS

NON-LOAD-BEARING COLD FORMED STEEL FRAMING NOTES:

TERMINATION.

1. METAL STUD MANUFACTURERS GENERALLY RECOMMEND HORIZONTAL BRIDGING OR STRAPPING TO BE PROPERLY INSTALLED AT 5 FT TO 6 FT OC, MECHANICALLY ATTACHED TO EACH STUD TO PREVENT DAMAGE DURING CONSTRUCTION, EVEN IF ONE SIDE OR BOTH SIDES ARE TO BE SHEATHED WITH RIGID FACING MATERIALS.

2. WHEN RIGID FACING MATERIALS ARE NOT ATTACHED TO EITHER SIDE, SUCH AS ABOVE CEILINGS, HORIZONTAL BRIDGING OR STRAPPING AT EACH FACE SHALL BE INSTALLED

WHERE THE TOP OF THE STUD WALLS TERMINATE AGAINST PRIMARY STRUCTURAL FRAMING, A "DEFLECTION TRACK" SHOULD BE USED TO ALLOW FOR VERTICAL MOVEMENT. ONE ROW OF THE RECOMMENDED HORIZONTAL BRIDGING SHALL BE PROPERLY INSTALLED BY MECHANICAL ATTACHMENTS TO EACH STUD AS CLOSE TO THE TOP AS POSSIBLE. ANY TEMPORARY SCREWS FROM THE TOP DEFLECTION TRACK TO THE METAL STUDS SHALL BE REMOVED AS SOON AS POSSIBLE TO ALLOW VERTICAL DEFLECTION OF THE PRIMARY FRAMING AND TO PREVENT DAMAGE TO THE STUD WALL. METAL STUDS SHOULD NEVER BE ATTACHED DIRECTLY TO HORIZONTAL STRUCTURAL FRAMING SYSTEMS WITHOUT A DEFLECTION TRACK OR VERTICALLY SLOTTED.

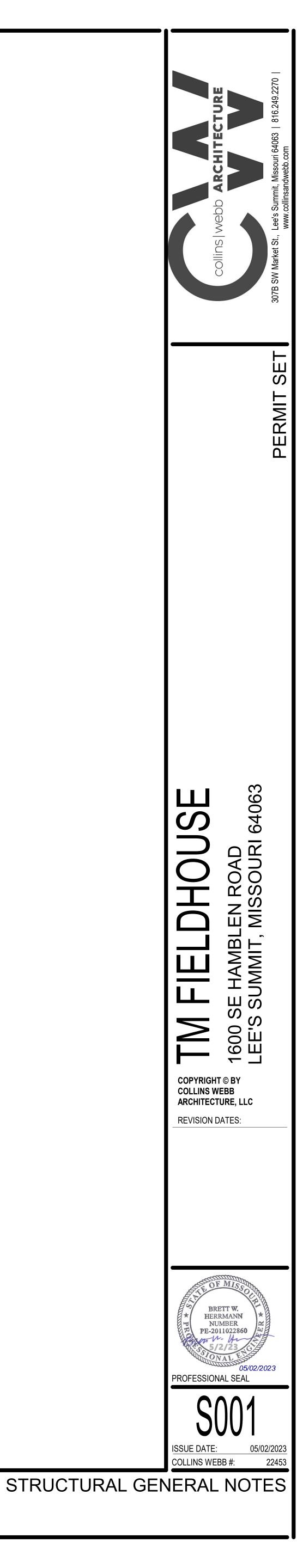
RTU CURBS AND SCREEN WALLS:

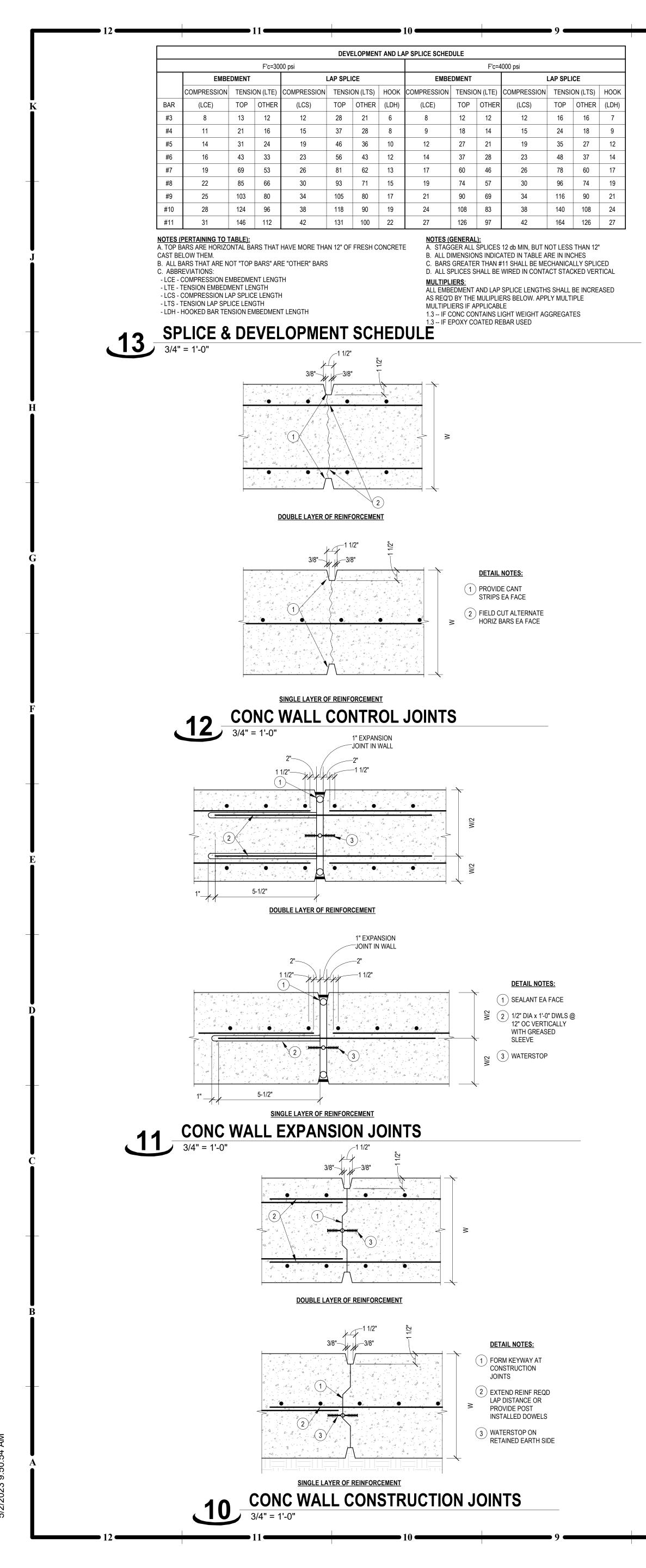
1. MECHANICAL ROOFTOP EQUIPMENT SUPPLIER SHALL SUPPLY A STRUCTURAL SUPPORT CURB (AND/OR ADAPTER) FOR THE PLENUM. OF THE SPECIFIED HEIGHT. AS SHOWN ON THE MECHANICAL DRAWINGS. - DESIGN OF THE CURB AND ADAPTER IS A DELEGATED DESIGN SUBMITTAL. EQUIPMENT SUPPLIER SHALL ENGAGE AN ENGINEER LICENSED IN THE STATE OF THE PROJECT TO DEVELOP A DESIGN FOR THE CURB AND ADAPTER. DESIGN SHALL CONSIDER ALL CODE REQUIRED GRAVITY AND WIND LOADS. THE DESIGN SHALL

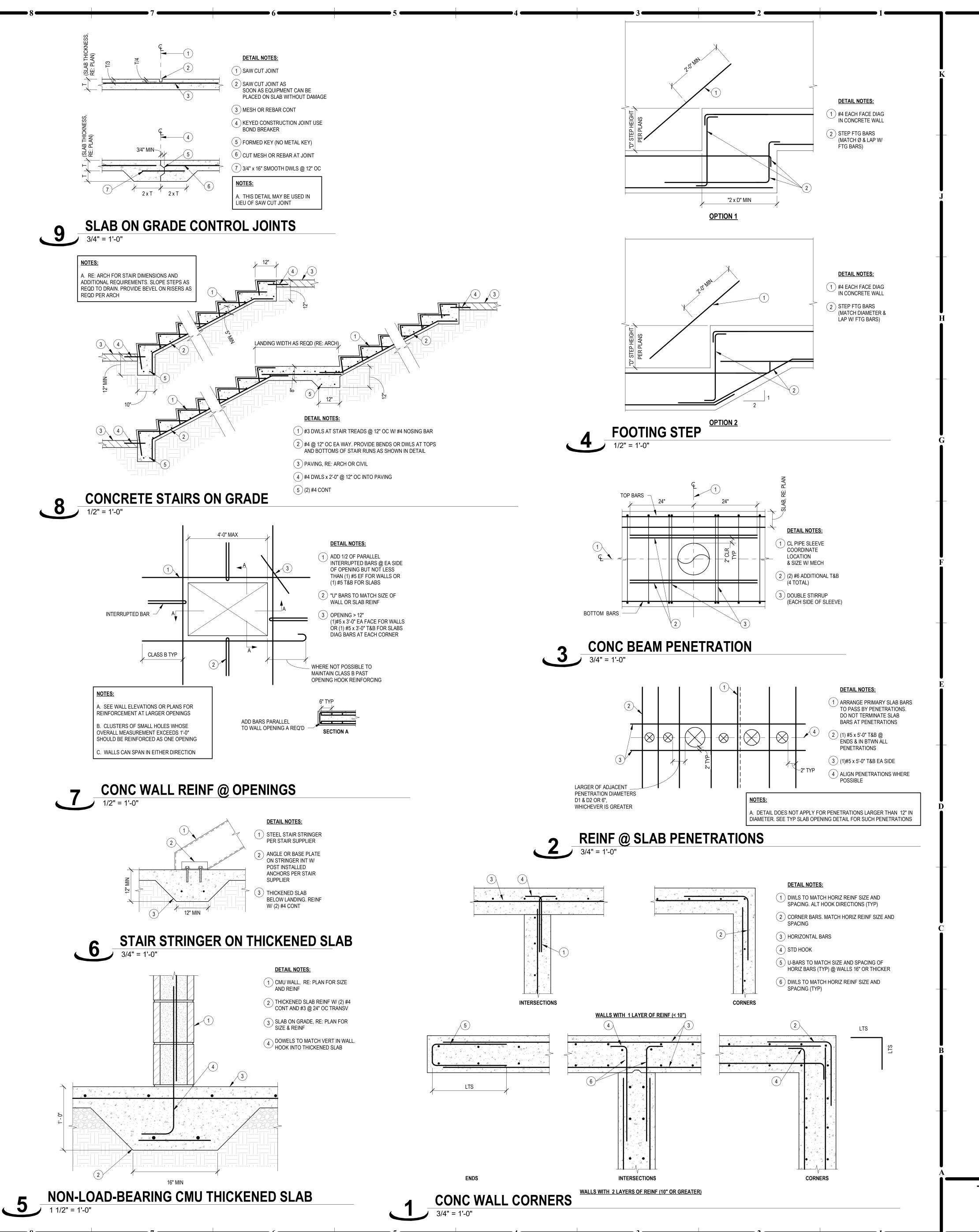
INCLUDE ALL FASTENERS AND CONNECTORS REQUIRED TO ANCHOR THE CURB TO THE ROOF STRUCTURE. SUBMIT SIGNED AND SEALED ANALYSIS CALCULATIONS, DESIGN AND SHOP DRAWINGS TO MECHANICAL AND STRUCTURAL ENGINEER FOR RFVIFW

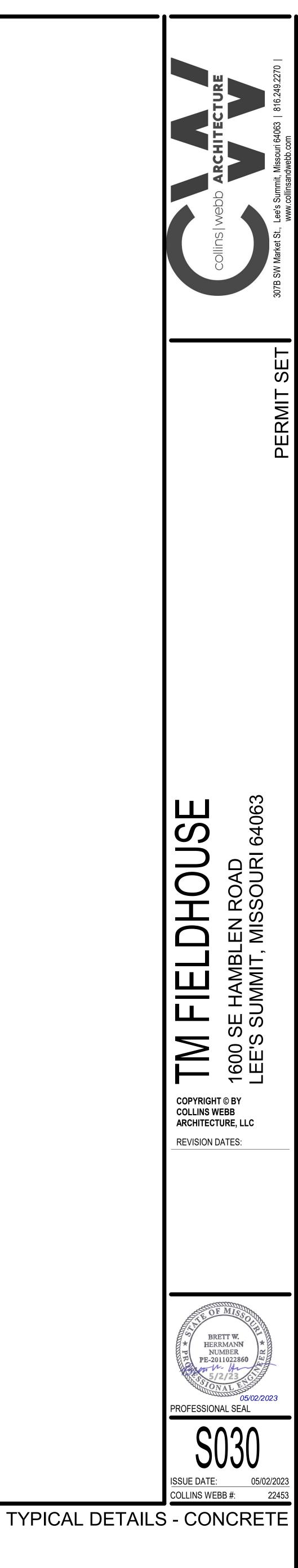
2. CURB SHALL BE FABRICATED OF A MINIMUM OF 14 GA GALVANIZED STEEL

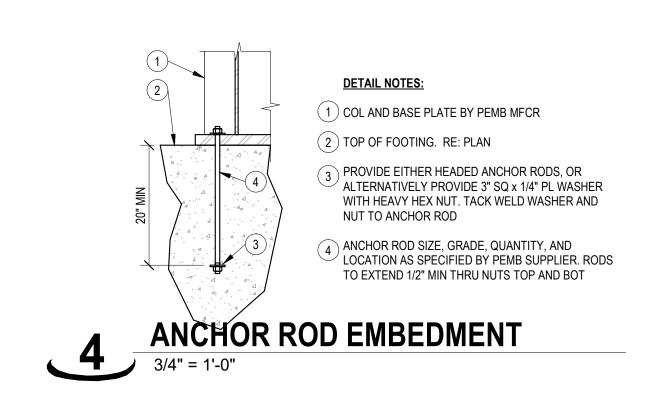
3. CURBS SHALL BE INSULATED

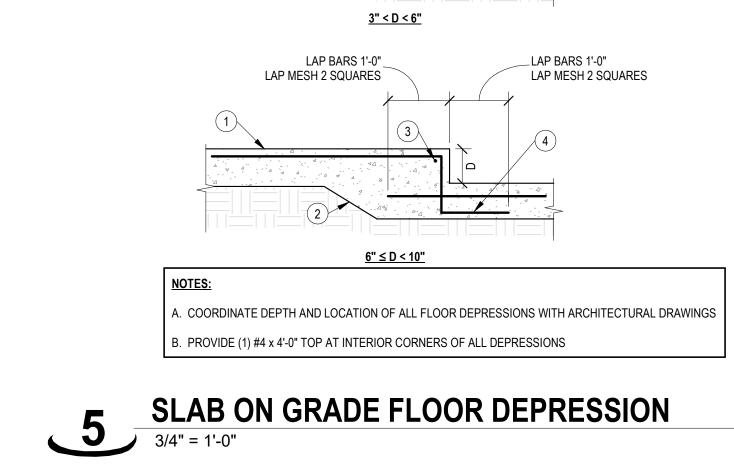


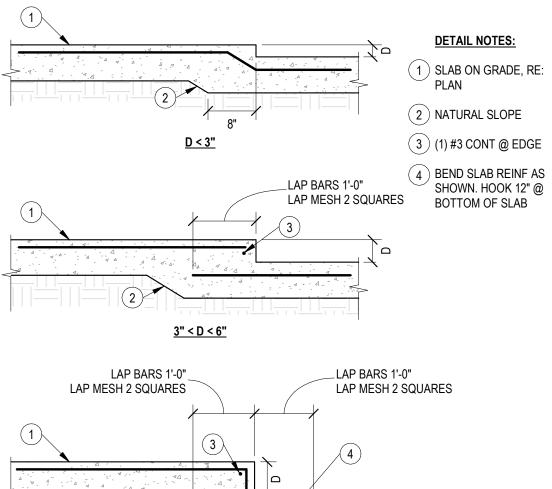


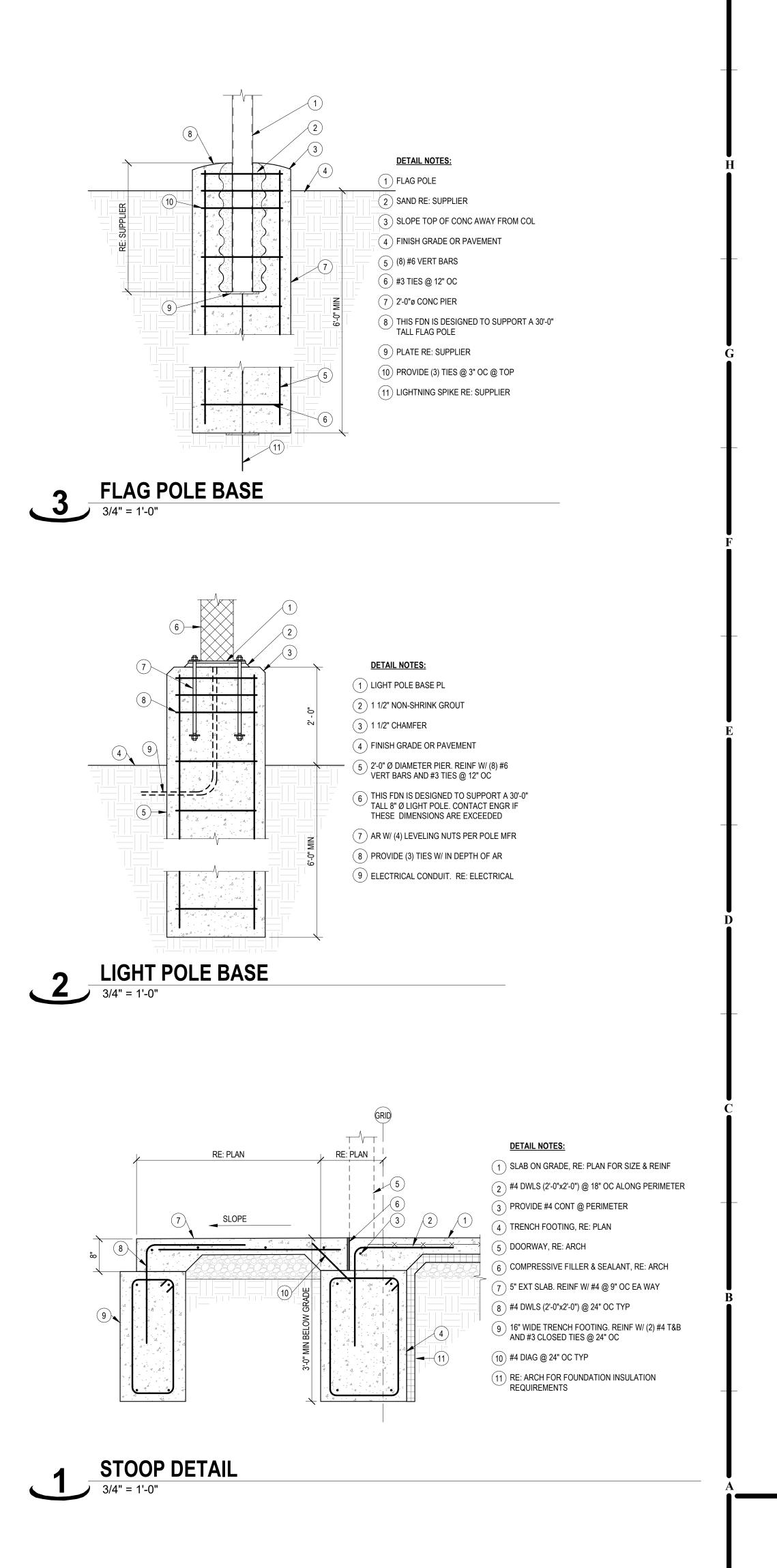


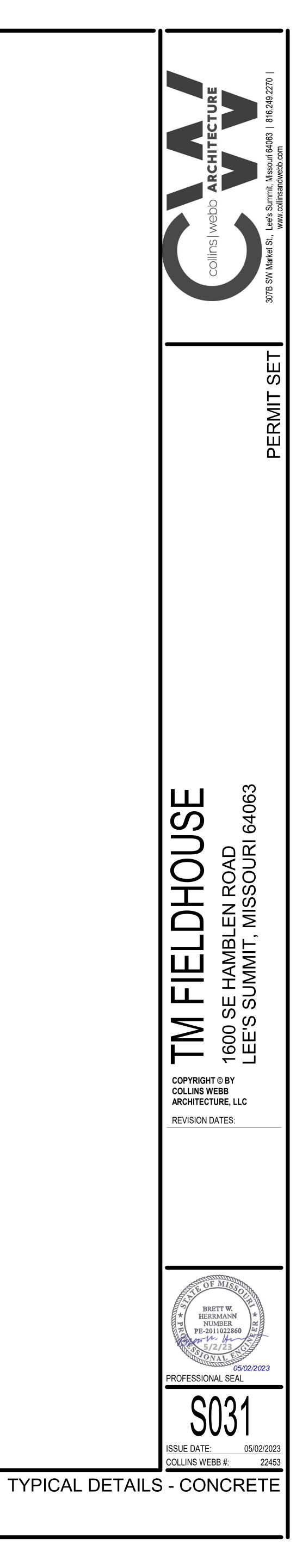




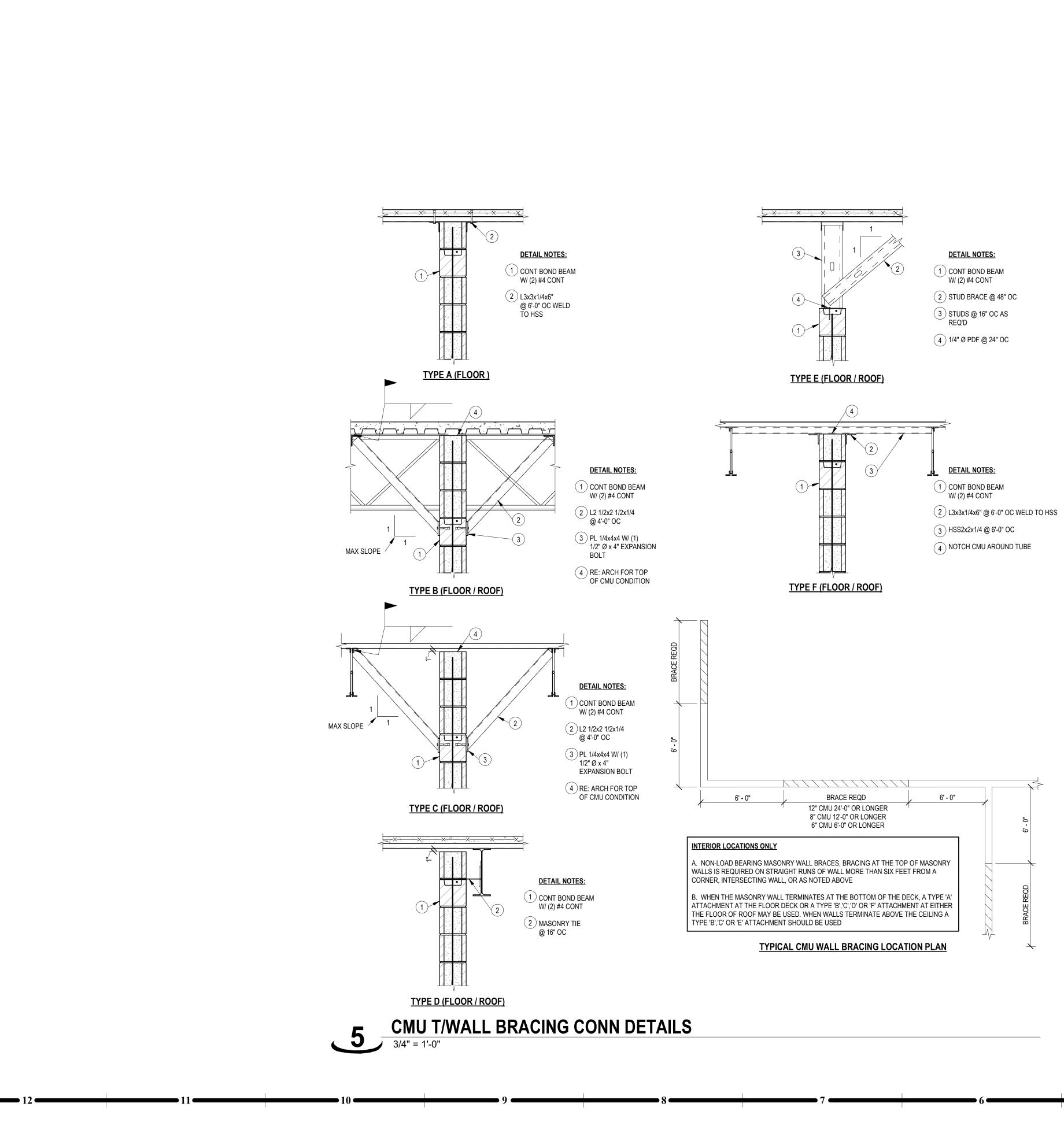








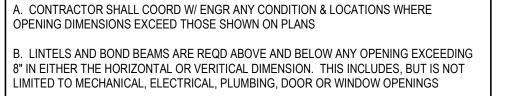


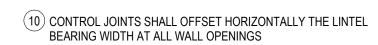


SEE GEN NOTES FOR MAX SPACING

MASONRY WALL REINF 1/4" = 1'-0"

CONTROL JOINTS





- (9) BOND BEAM PER GENERAL NOTES AT THE TOPS OF ALL WALLS
- BEAM BEARING ELEVATIONS (8) LADDER TYPE HORIZONTAL REINF SHALL BE DISCONTINUOUS AT ALL CONTROL JOINTS
- (7) PROVIDE BOND BEAMS WHERE FLOORS AND ROOFS ATTACH TO THE WALL AND PROVIDE BOND BEAMS AT JOIST AND
- (6) LINTEL PER SCHEDULE OVER ALL OPENINGS 8" OR WIDER. LINTEL REINF SHALL EXTEND 24" PAST EDGE OF OPENING
- (5) #9 LADDER TYPE HORIZ JOINT REINF @ 16"OC UNO
- (4) PROVIDE BOND BEAM PER GENERAL NOTES UNDER ALL WINDOWS (AND SIMILAR OPENINGS)

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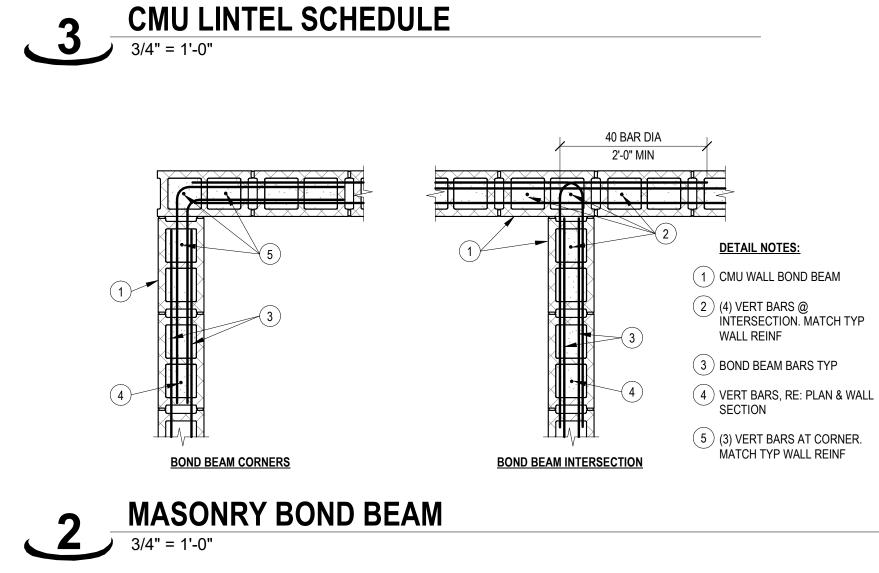
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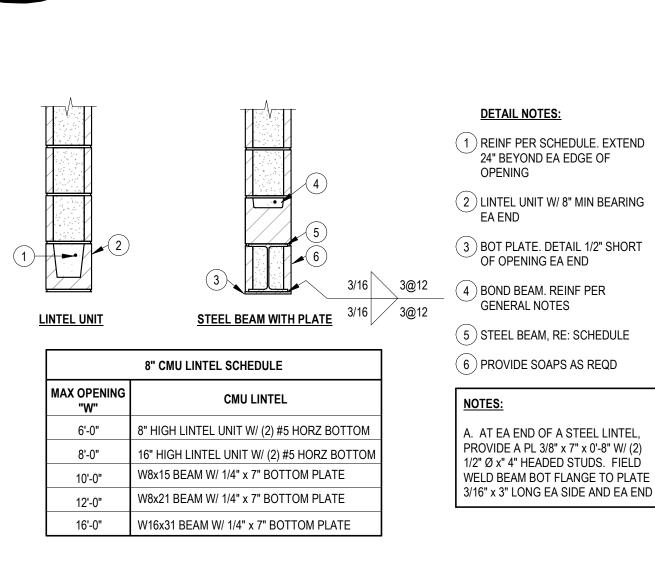
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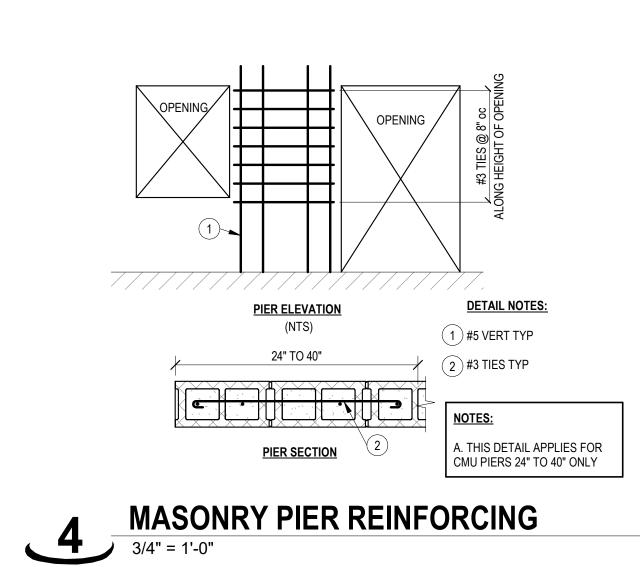
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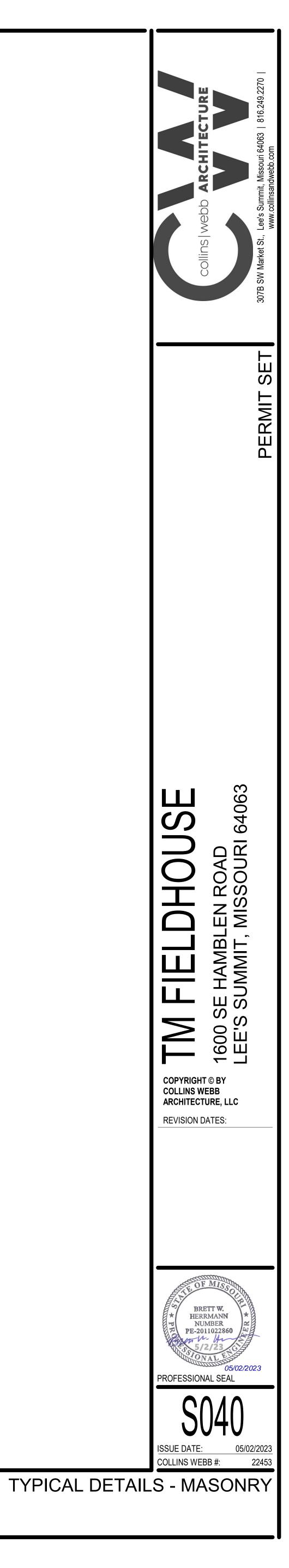
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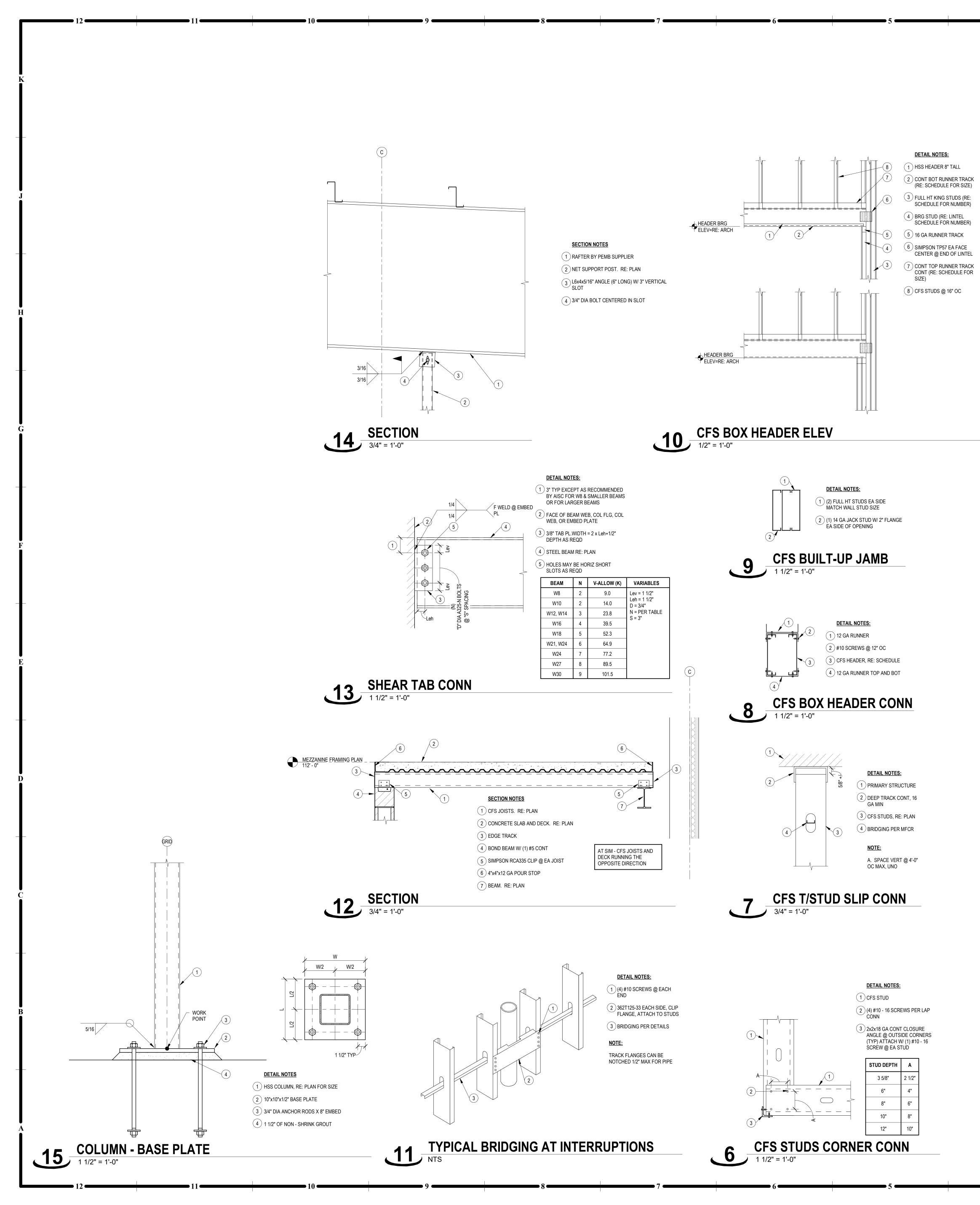
- 3) PROVIDE DWLS INTO FTG THAT MATCH VERT BAR SIZE AND SPACING
- EACH DECK LEVEL AND @ THE TOPS OF WALLS (2) WALL VERT REINF, RE: PLAN OR GENERAL NOTES
- DETAIL NOTES: (1) HORIZ REINF ACROSS CONTROL JOINTS SHALL BE CONT @

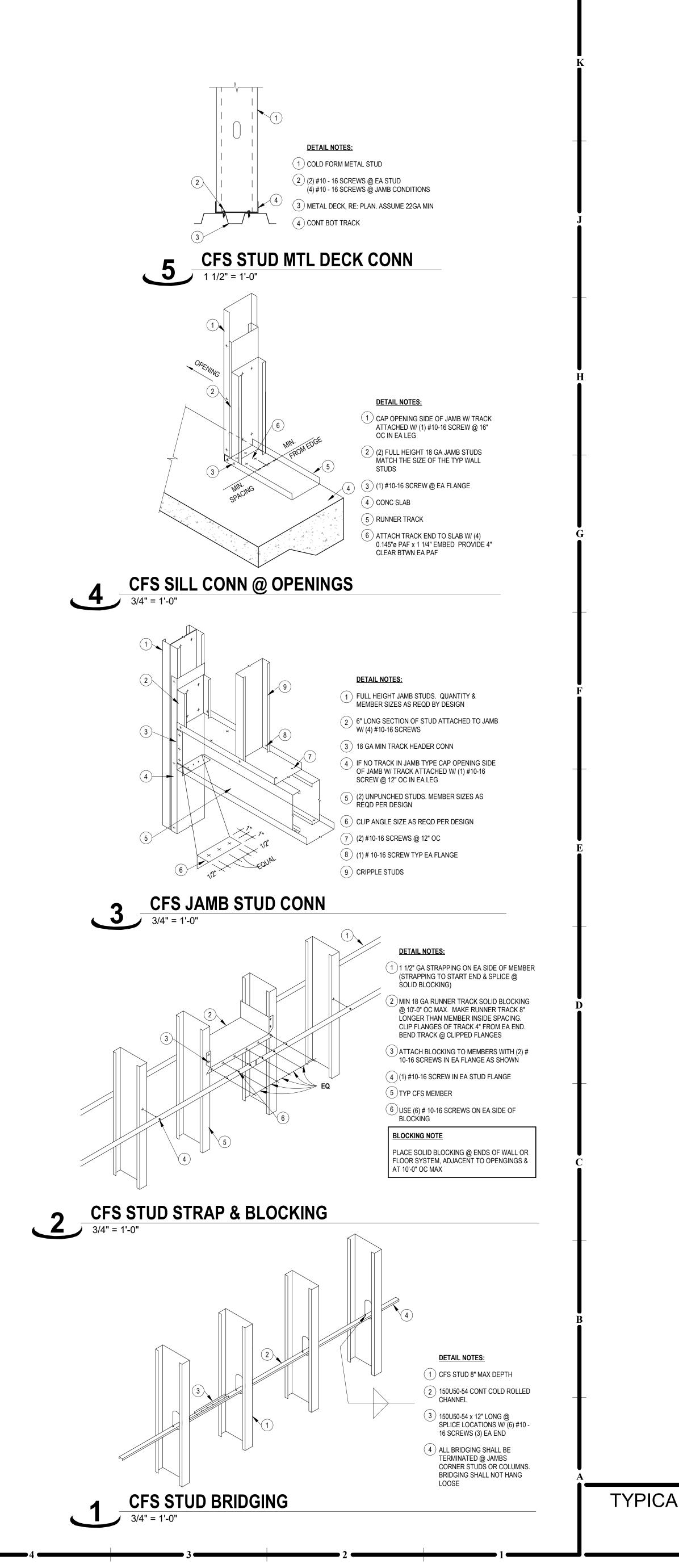


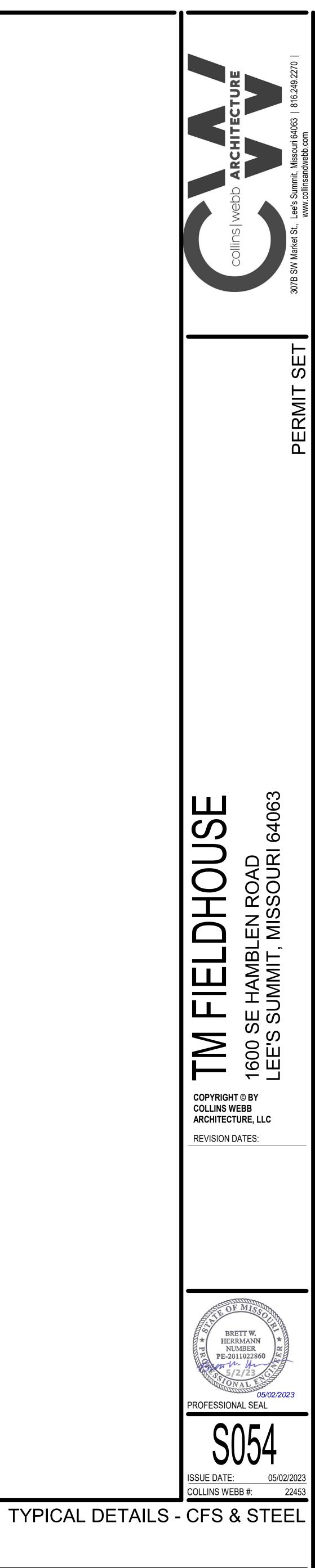


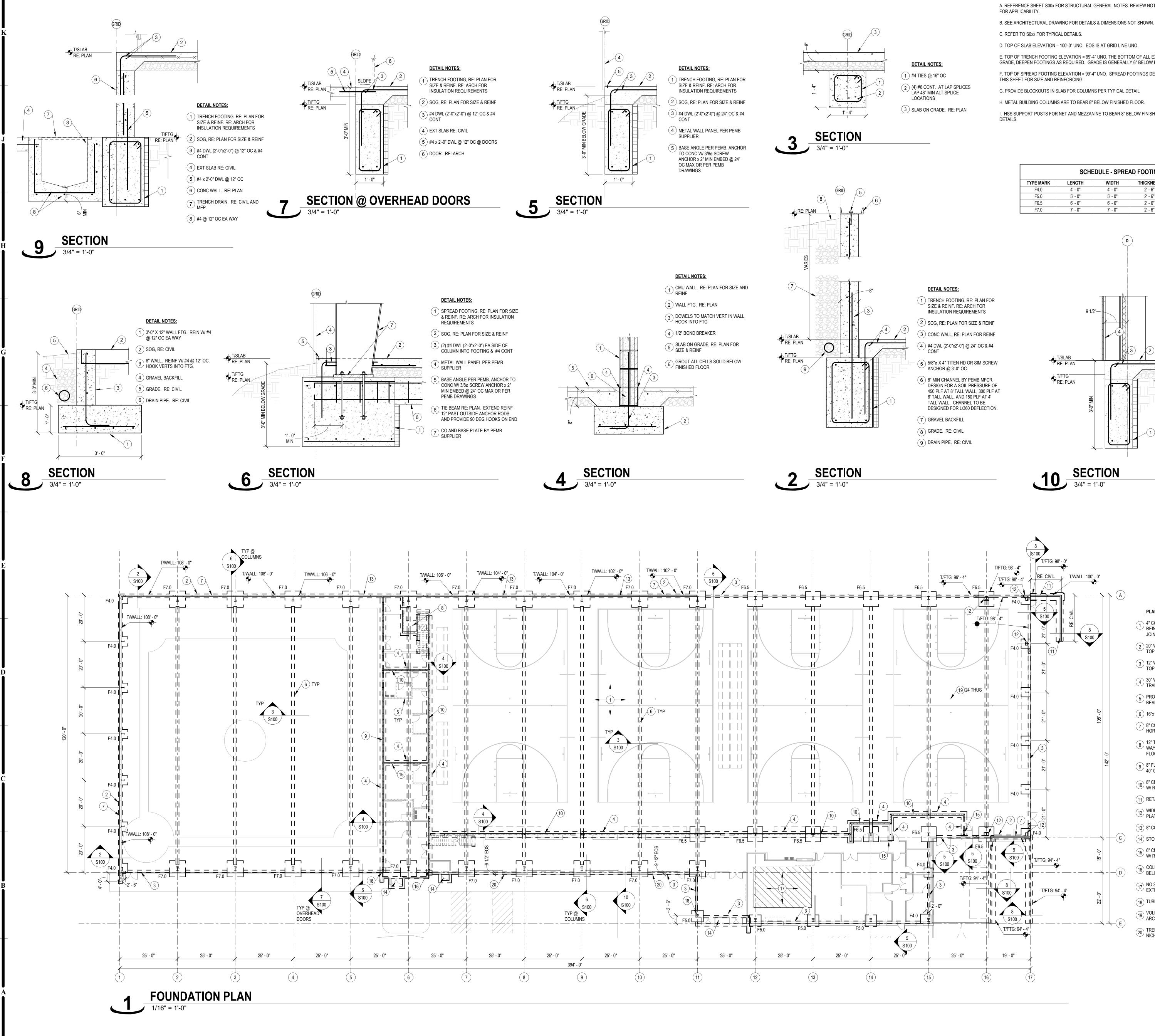












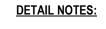
SHEET NOTES:

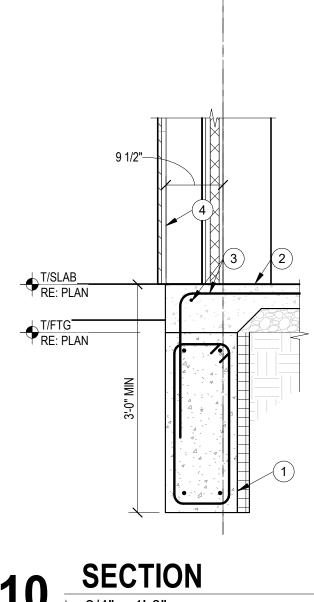
A. REFERENCE SHEET S00x FOR STRUCTURAL GENERAL NOTES. REVIEW NOTES & DETAILS

E. TOP OF TRENCH FOOTING ELEVATION = 99'-4" UNO. THE BOTTOM OF ALL EXTERIOR FOOTINGS SHALL BE 3'-0" MIN BELOW GRADE, DEEPEN FOOTINGS AS REQUIRED. GRADE IS GENERALLY 6" BELOW FINISH FLOOR ELEVATION (COORDINATE WITH CIVIL). F. TOP OF SPREAD FOOTING ELEVATION = 99'-4" UNO. SPREAD FOOTINGS DENOTED ON PLAN BY "Fx.x". REFER TO SCHEDULE ON

I. HSS SUPPORT POSTS FOR NET AND MEZZANINE TO BEAR 8" BELOW FINISHED FLOOR. PROVIDE BASE PLATES PER THE TYP

SCHEDULE - SPREAD FOOTING					
TYPE MARK	LENGTH	WIDTH	THICKNESS	REINF	
F4.0	4' - 0"	4' - 0"	2' - 6"	(5) #5 EW TOP & BOT	
F5.0	5' - 0"	5' - 0"	2' - 6"	(6) #5 EW TOP & BOT	
F6.5	6' - 6"	6' - 6"	2' - 6"	(7) #5 EW TOP & BOT	
F7.0	7' - 0"	7' - 0"	2' - 6"	(8) #5 EW TOP & BOT	



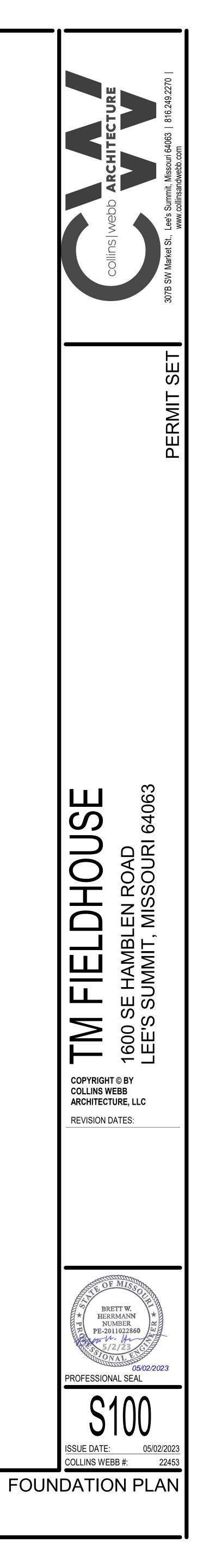


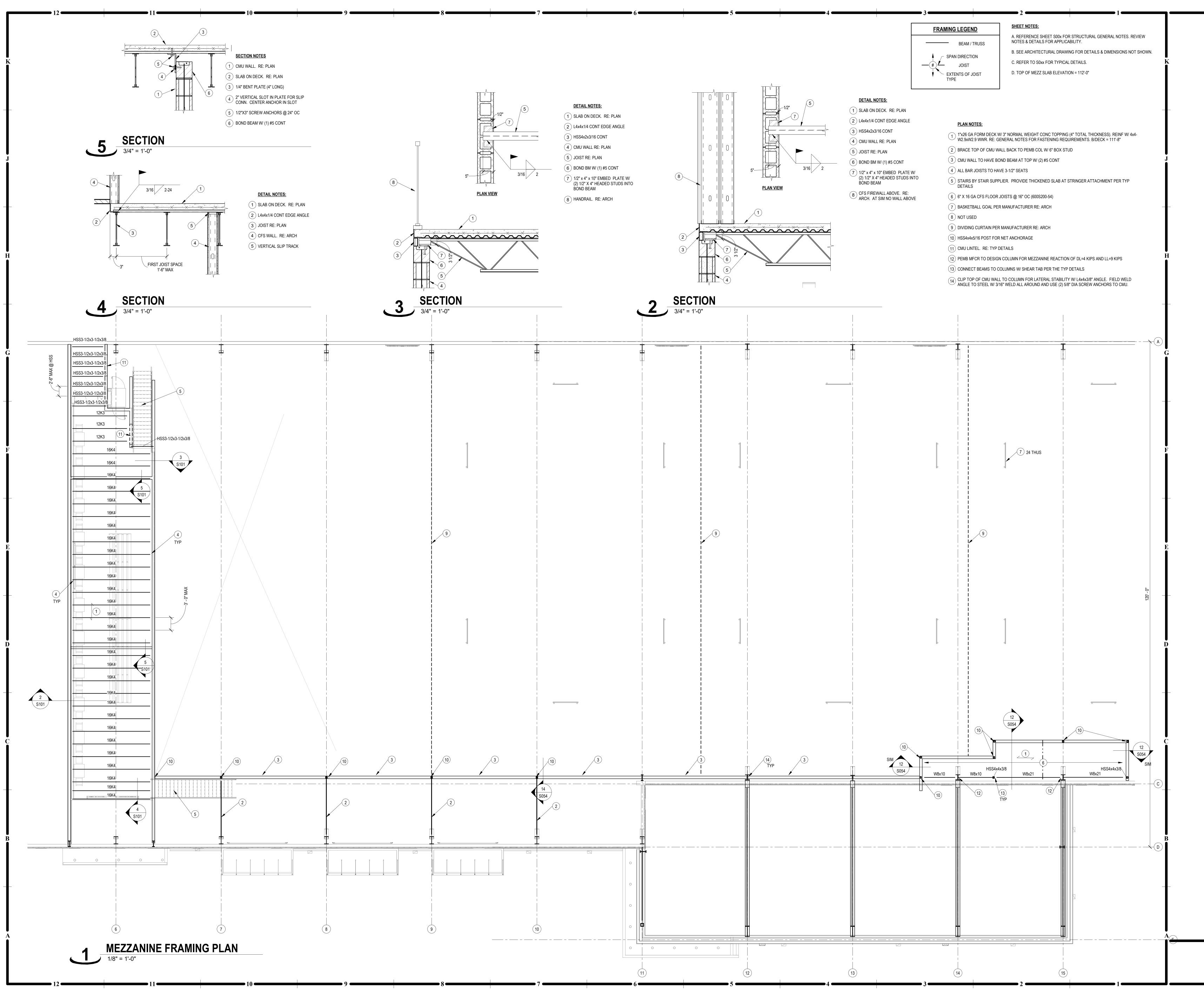
DETAIL NOTES: TRENCH FOOTING, RE: PLAN FOR SIZE & REINF. RE: ARCH FOR

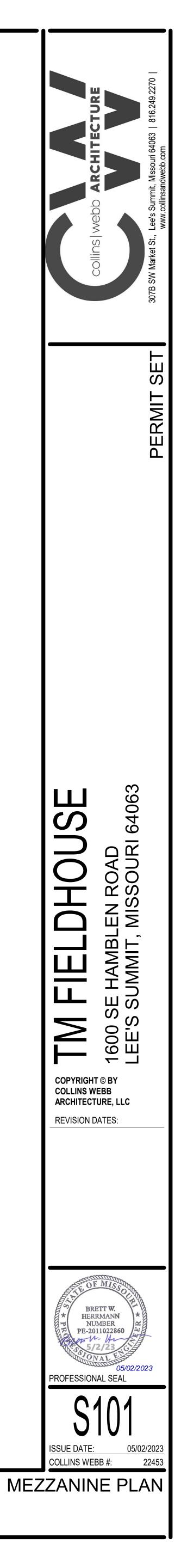
INSULATION REQUIREMENTS

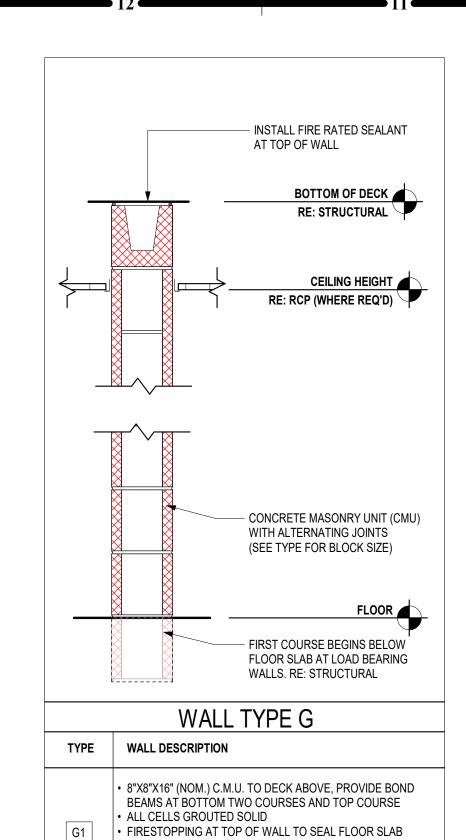
- (2) SOG, RE: PLAN FOR SIZE & REINF (3) #4 DWL (2'-0"x2'-0") @ 24" OC & #4
- CONT (4) CFS STUD WALL. RE: ARCH

	PLAN NOTES:	
1)	4" CONCRETE SLAB ON GRADE. RE:GENERAL NOTES FOR REINFORCING, GRANULAR FILL, VAPOR BARRIER AND JOINTING REQUIREMENTS	
2)	20" WIDE x 2'-6" DEEP TRENCH FOOTING. REINF W/ (2) #5 TOP AND BOTTOM AND #4 TIES @ 24" OC	
3	12" WIDE x 2'-6" DEEP TRENCH FOOTING. REINF W/ (2) #4 TOP AND BOTTOM AND #4 TIES @ 24" OC	D
4	30" WIDE x 1'-0" DEEP WALL FTG. REINF W/ (3) #5 CONT & #5 TRANS @ 18" OC	
5	PROVIDE THICKENED SLAB UNDER ALL NON-LOAD BEARING CMU WALLS PER THE TYP DETAILS	
6	16"x16" TIE BEAM. RE: SECTION FOR REINF	
7)	8" CONC WALL. REINF W/ #4 @ 9" OC VERT & #4 @ 12" OC HORIZ.	-
8	12" THICK MAT SLAB BELOW LIFT. REINF W/ #4 @ 12" OC EA WAY, TOP AND BOTTOM. RECESS 3" BELOW FINISHED FLOOR (VERIFY SUPPLIERS EXACT REQMT'S)	
9	8" FULLY GROUTED CMU FIRE WALL. REINF W/ #4 VERT @ 40" 0C	
	8" CMU WALL. REINF W/ #4 VERT @ 40" 0C. GROUT CELLS W/ REINF	C
11)	RETAINING WALL AND FTG. RE: SECTION FOR REINF	
12)	WIDEN FDN WALL TO CREATE PILASTER UNDER COL BASE PLATE. REINF PILASTER W/ (4) #6 VERT AND (3) #4 TIES	
13)	8" CONC WALL. REINF W/ #4 @ 12" OC EA WAY.	
14)	STOOP. RE: TYP DETAILS.	
15)	6" CMU WALL. REINF W/ #4 VERT @ 32" 0C. GROUT CELLS W/ REINF	
16)	COLUMN BY PEMB SUPPLIER AS REQ'D FOR SUPPORT OF BELOW EAVE CANOPY	
17)	NO SLAB ON GRADE IN HATCHED AREA. RE: ARCH FOR EXTENTS	B
18)	TUBE COL (8" MAX DEPTH) BY PEMB SUPPLIER.	
19	VOLLEYBALL GOAL POST SLEEVE PER MANUFACTURER RE: ARCH	
20)	TRENCH FOOTING AND EDGE OF SLAB JOGS OUT AT NICHIHA WALL AREA. RE: SECTION	





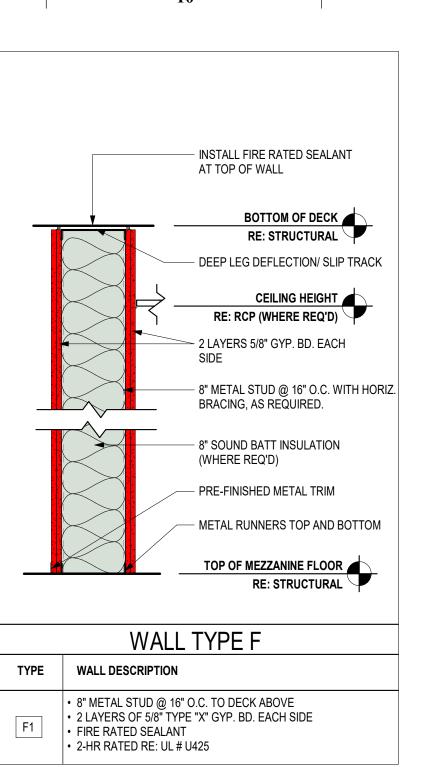


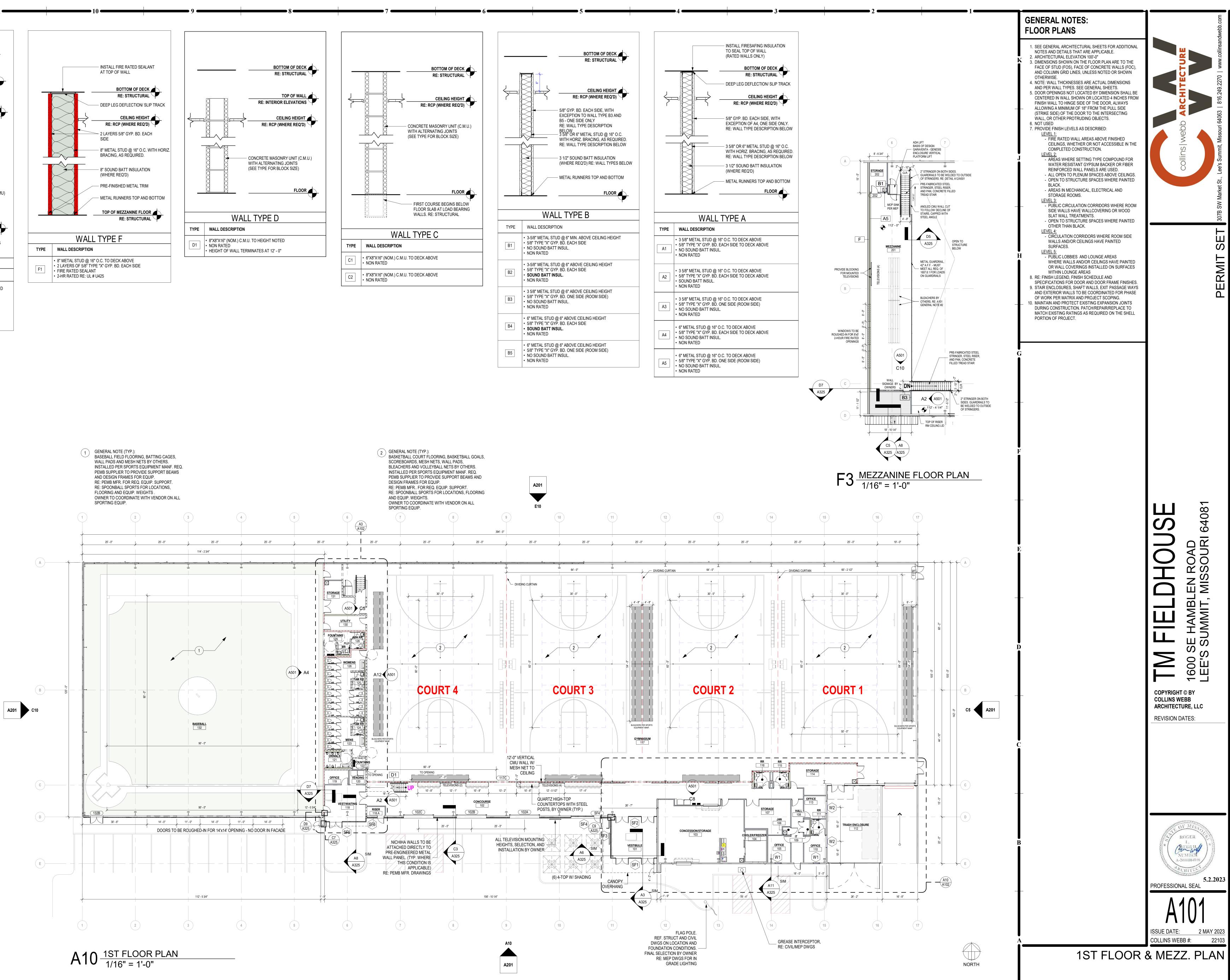


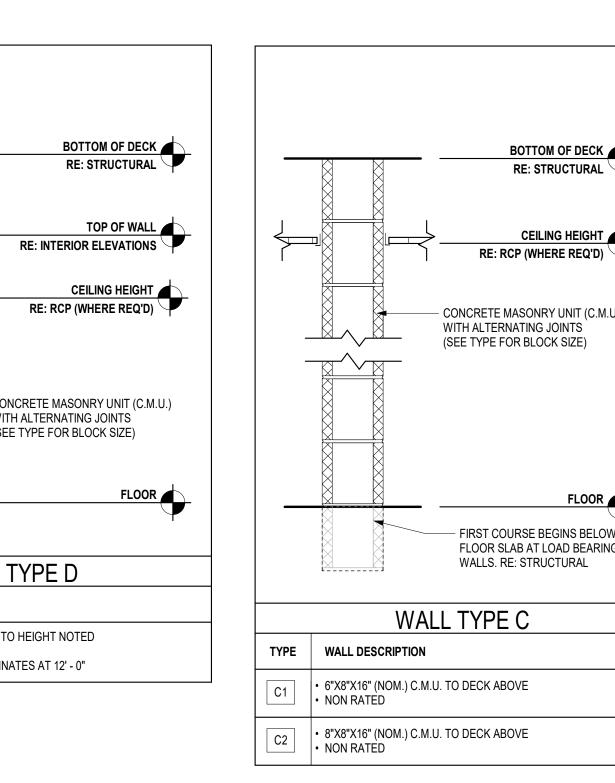
STEEL CLIP ANGELS EACH SIDE OF WALL

 FIRE-RATED SEALANT • 2-HR RATED RE: UL # U905

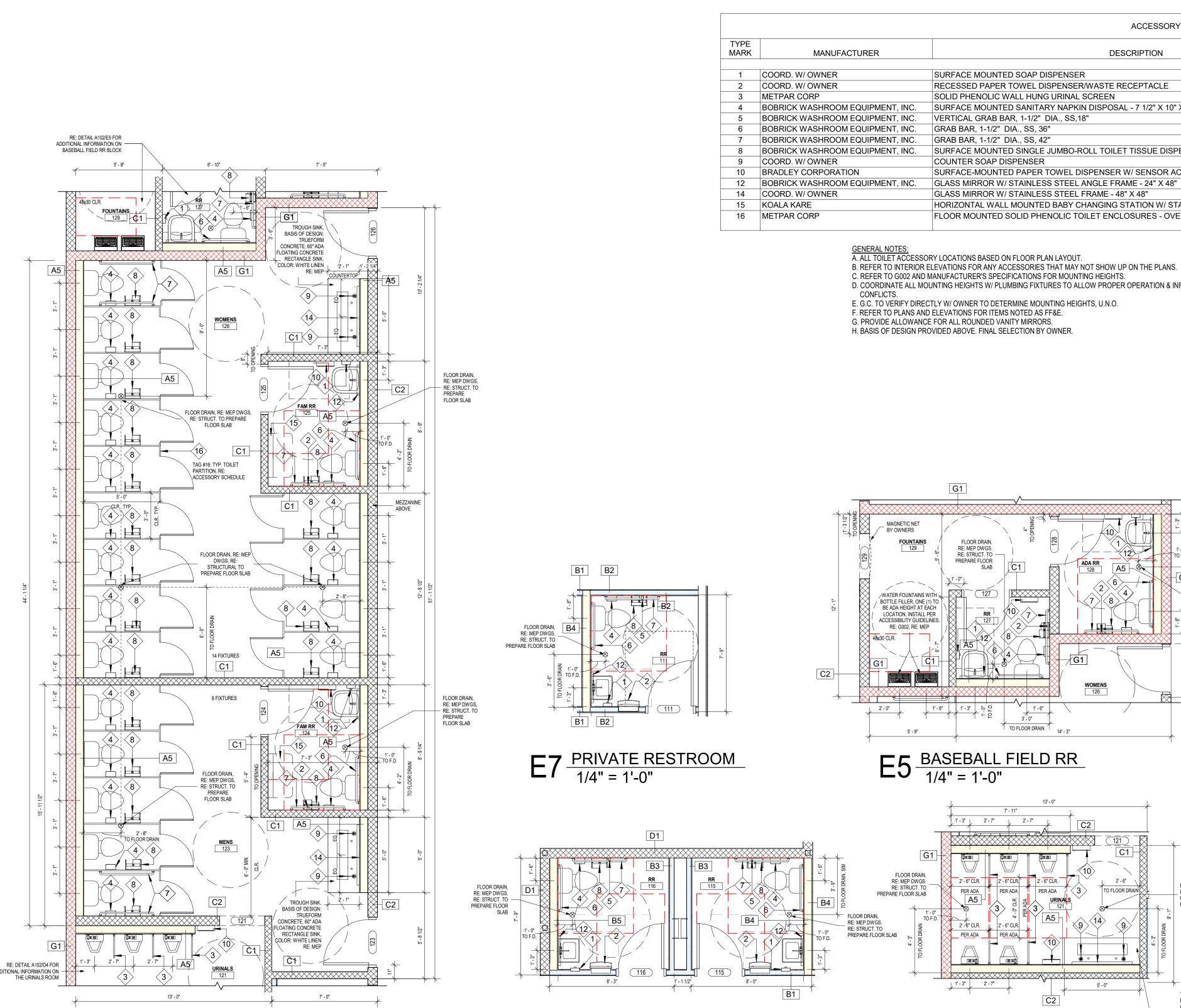
ALL HOLLOW METAL FRAMES GROUTED SOLID

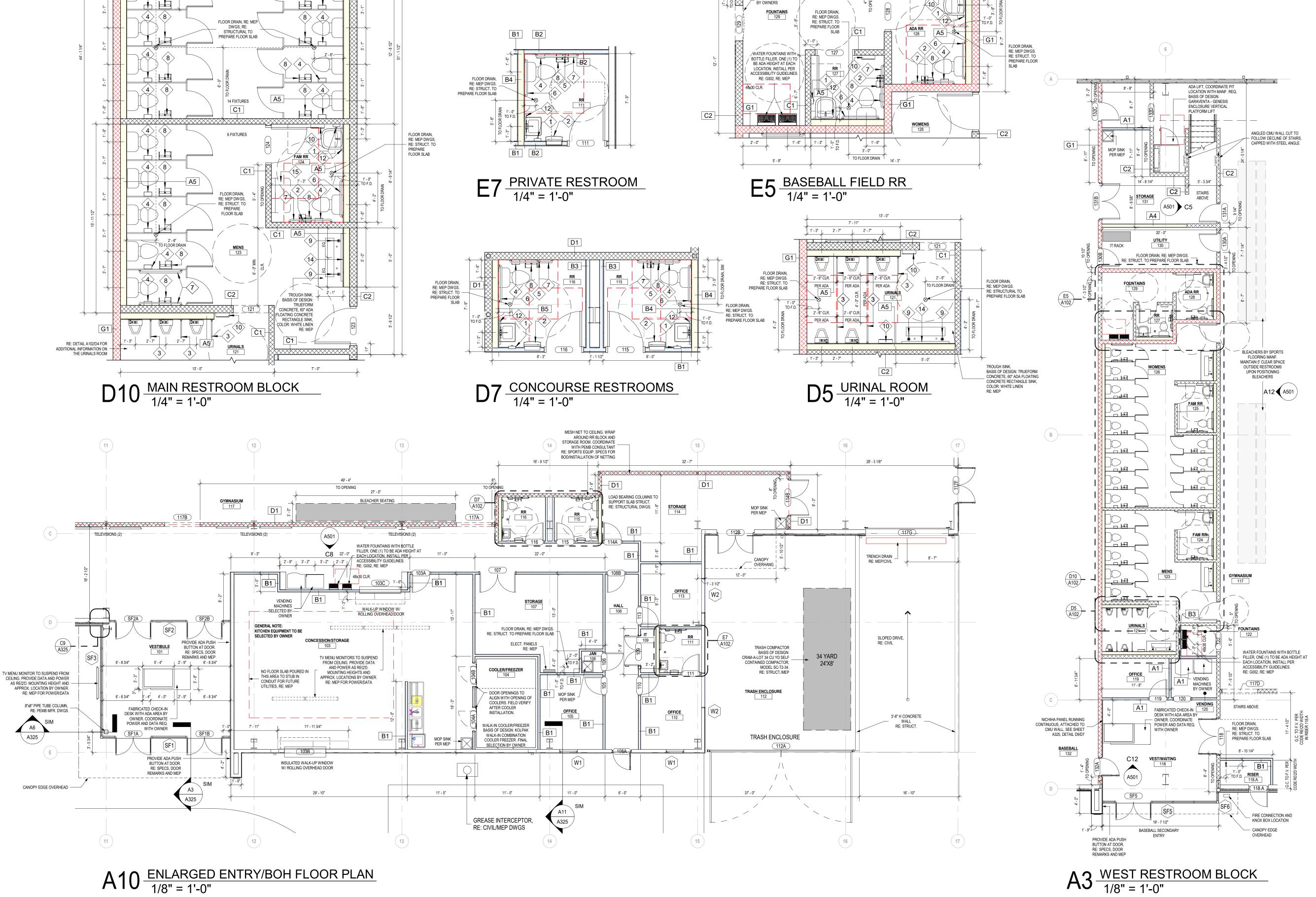






	BOTTOM OF DECK RE: STRUCTURAL					
	Image: Constraint of the constraint					
WALL TYPE B						
TYPE	WALL DESCRIPTION					
B1	3-5/8" METAL STUD @ 6" MIN. ABOVE CEILING HEIGHT 5/8" TYPE "X" GYP. BD. EACH SIDE NO SOUND BATT INSUL. NON RATED					
B2	 3-5/8" METAL STUD @ 6" ABOVE CEILING HEIGHT 5/8" TYPE "X" GYP. BD. EACH SIDE SOUND BATT INSUL. NON RATED 					
B3	B3 • 3 5/8" METAL STUD @ 6" ABOVE CEILING HEIGHT • 5/8" TYPE "X" GYP. BD. ONE SIDE (ROOM SIDE) • NO SOUND BATT INSUL. • NON RATED					
B4	 6" METAL STUD @ 6" ABOVE CEILING HEIGHT 5/8" TYPE "X" GYP. BD. EACH SIDE SOUND BATT INSUL. NON RATED 					
B5	 6" METAL STUD @ 6" ABOVE CEILING HEIGHT 5/8" TYPE "X" GYP. BD. ONE SIDE (ROOM SIDE) NO SOUND BATT INSUL. NON RATED 					



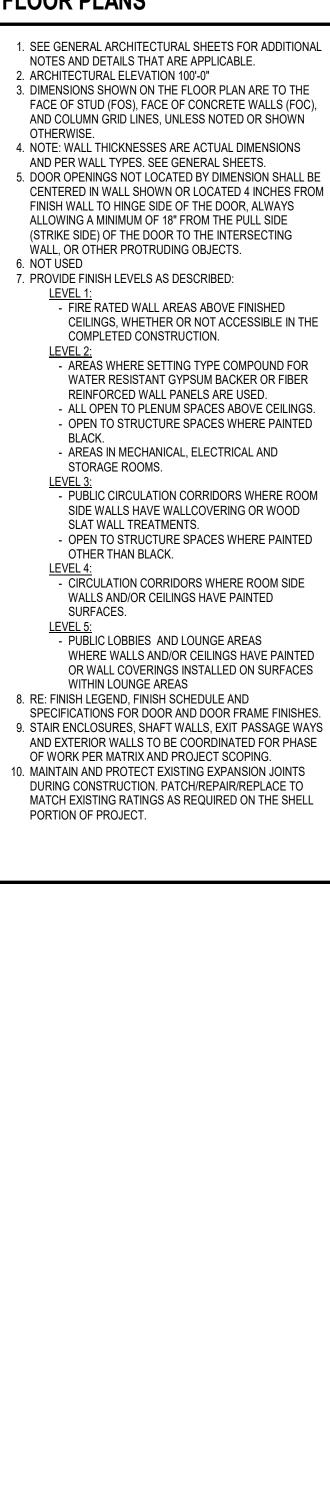


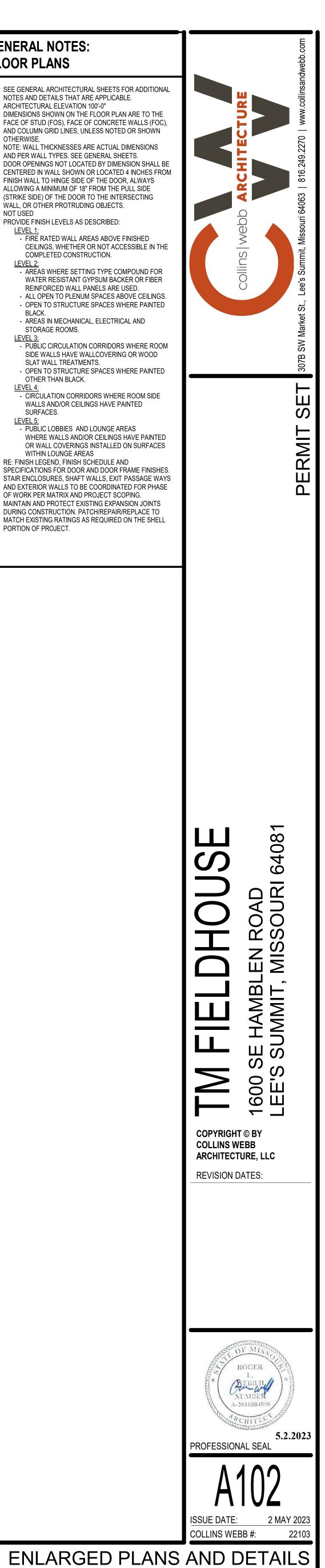
ACCESSORY SCHEDULE			
DESCRIPTION	MODEL	FINISH	REMARKS
ISER	COORD. W/ OWNER	COORD. W/ OWNER	1
SER/WASTE RECEPTACLE	COORD. W/ OWNER	COORD. W/ OWNER	1
VAL SCREEN	18" X 42" WALL HUNG	COORD. W/ OWNER	1
PKIN DISPOSAL - 7 1/2" X 10" X 3 13/16"	B-270	STAINLESS STEEL W/ SATIN FINISH	1
SS,18"	B-6806-18	SATIN W/ PEENED GRIP	1
	B-6806-36	SATIN W/ PEENED GRIP	1
	B-6806-42	SATIN W/ PEENED GRIP	1
O-ROLL TOILET TISSUE DISPENSER - 10 21/32" DIA. X 4 29/64"	09606	STAINLESS STEEL W/ SATIN FINISH	1
	COORD. W/ OWNER	COORD. W/ OWNER	1
L DISPENSER W/ SENSOR ACTIVATION - 12.27" X 15.2" X 9.47"	2494	COORD. W/ OWNER	1
EL ANGLE FRAME - 24" X 48"	B-290	STAINLESS STEEL W/ SATIN FINISH	1, 2
EEL FRAME - 48" X 48"	COORD. W/ OWNER	COORD. W/ OWNER	1, 2
Y CHANGING STATION W/ STAINLESS STEEL VENEER	KB200-SS	COORD. W/ OWNER	1
C TOILET ENCLOSURES - OVERHEAD BRACED	THE CORINTHIAN (TYPE FP500)	COORD. W/ OWNER	1

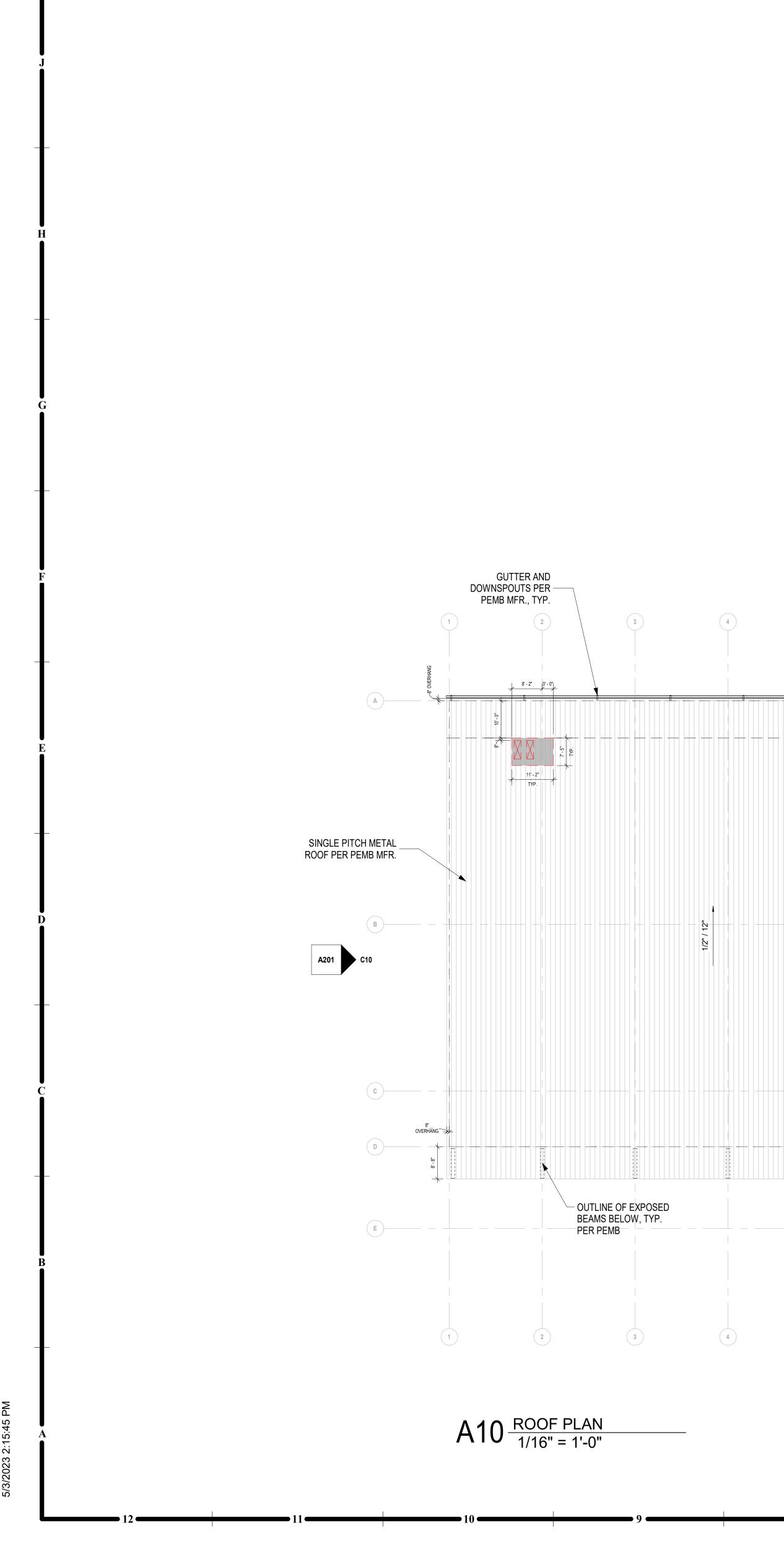
D. COORDINATE ALL MOUNTING HEIGHTS W/ PLUMBING FIXTURES TO ALLOW PROPER OPERATION & INFORM ARCHITECT IN WRITING OF ANY

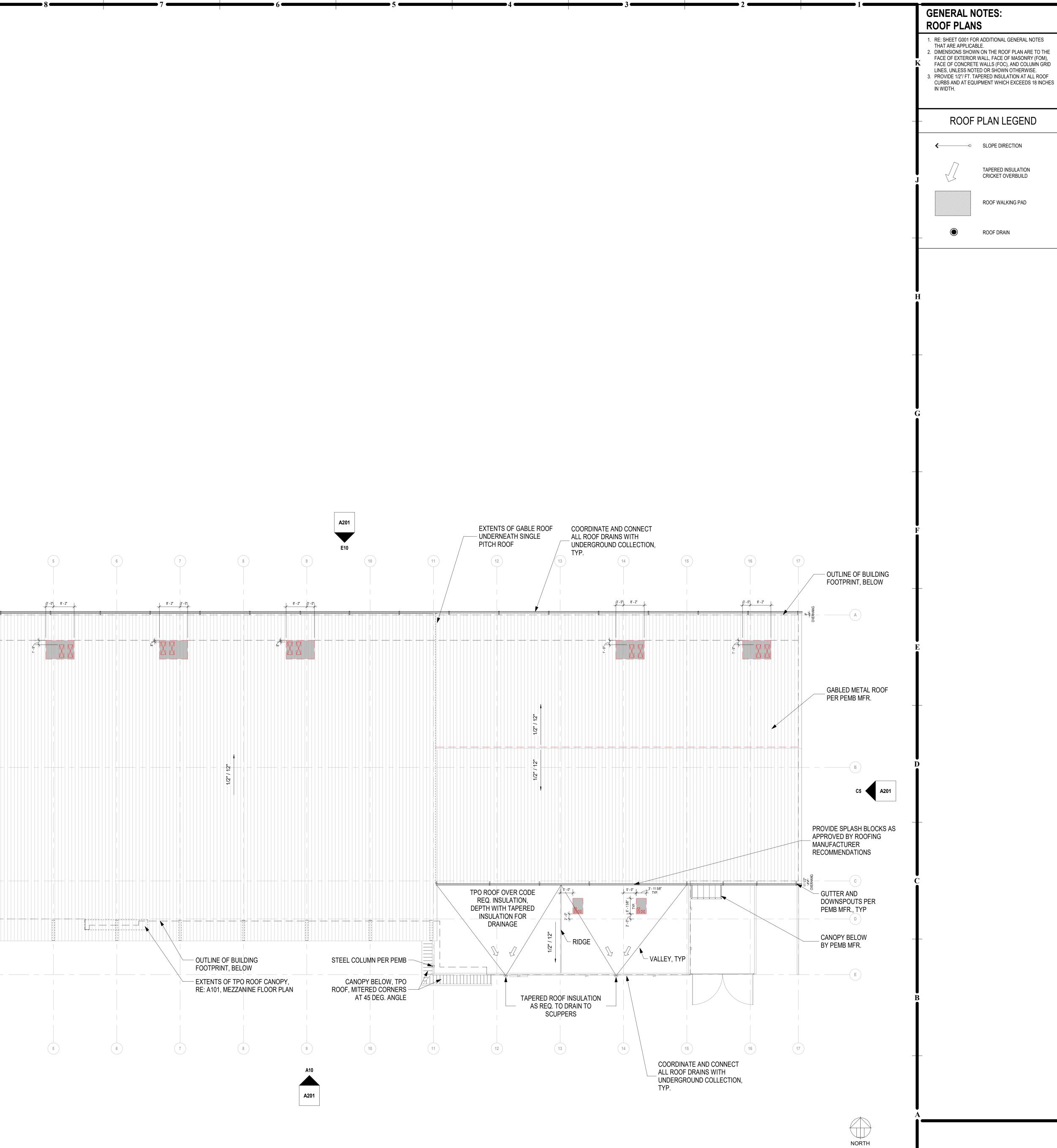
1. FF&E ITEM - OWNER FURNISHED, CONTRACTOR INSTALLED. REFER TO PLANS AND ELEVATIONS FOR FURTHER CLARIFICATION. 2. MIRRORS TO BE CENTERED AT SINKS, TYP. 3. NFPA 286 TESTED AND APPROVED PRODUCT.

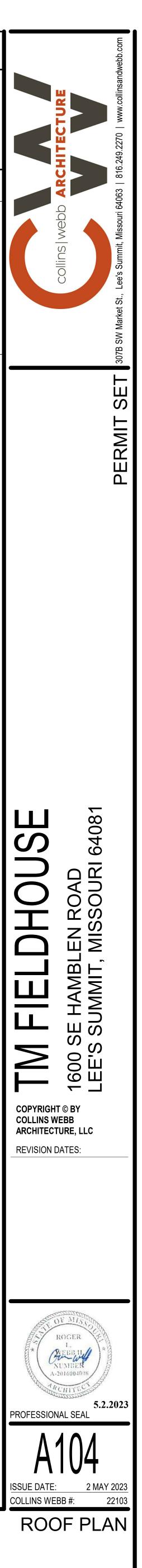
GENERAL NOTES: FLOOR PLANS

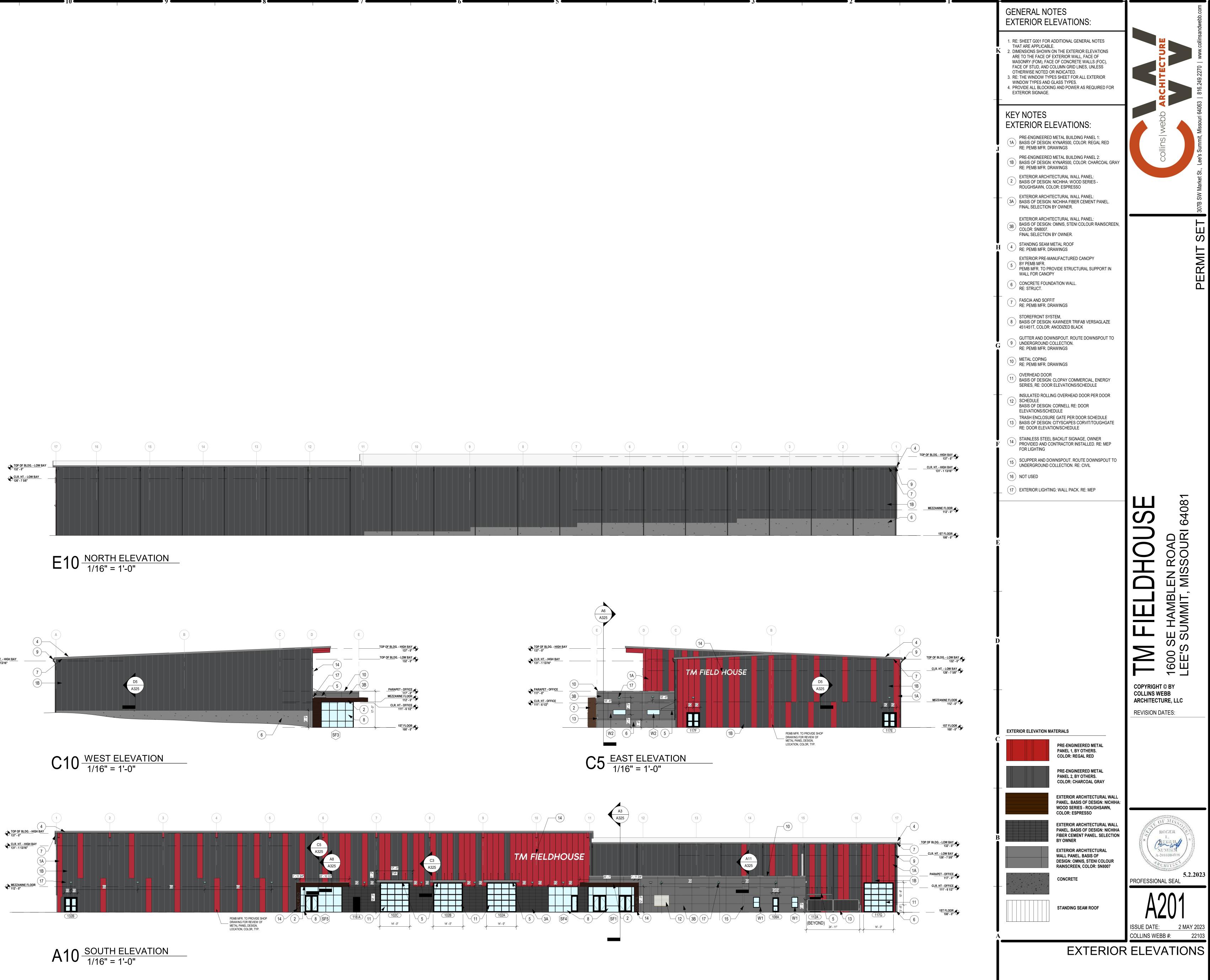




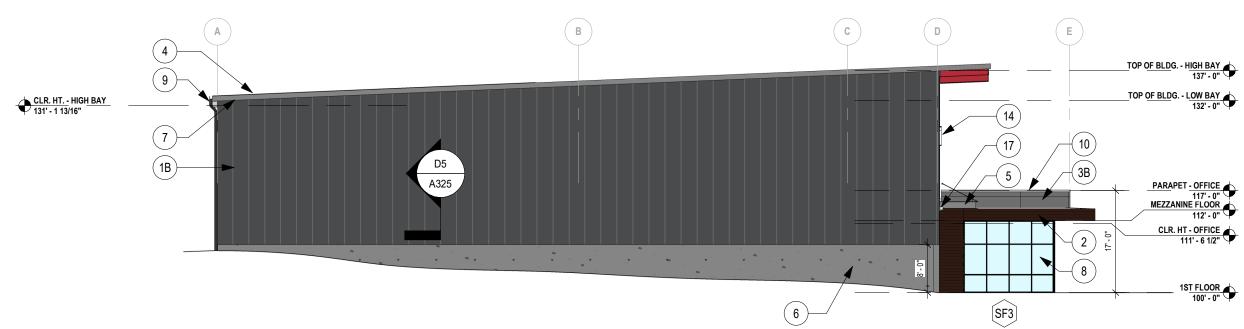


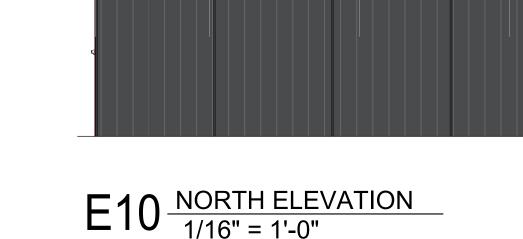


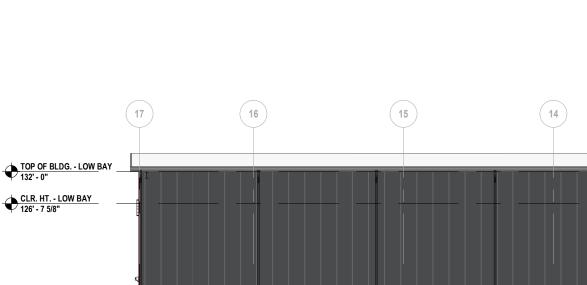


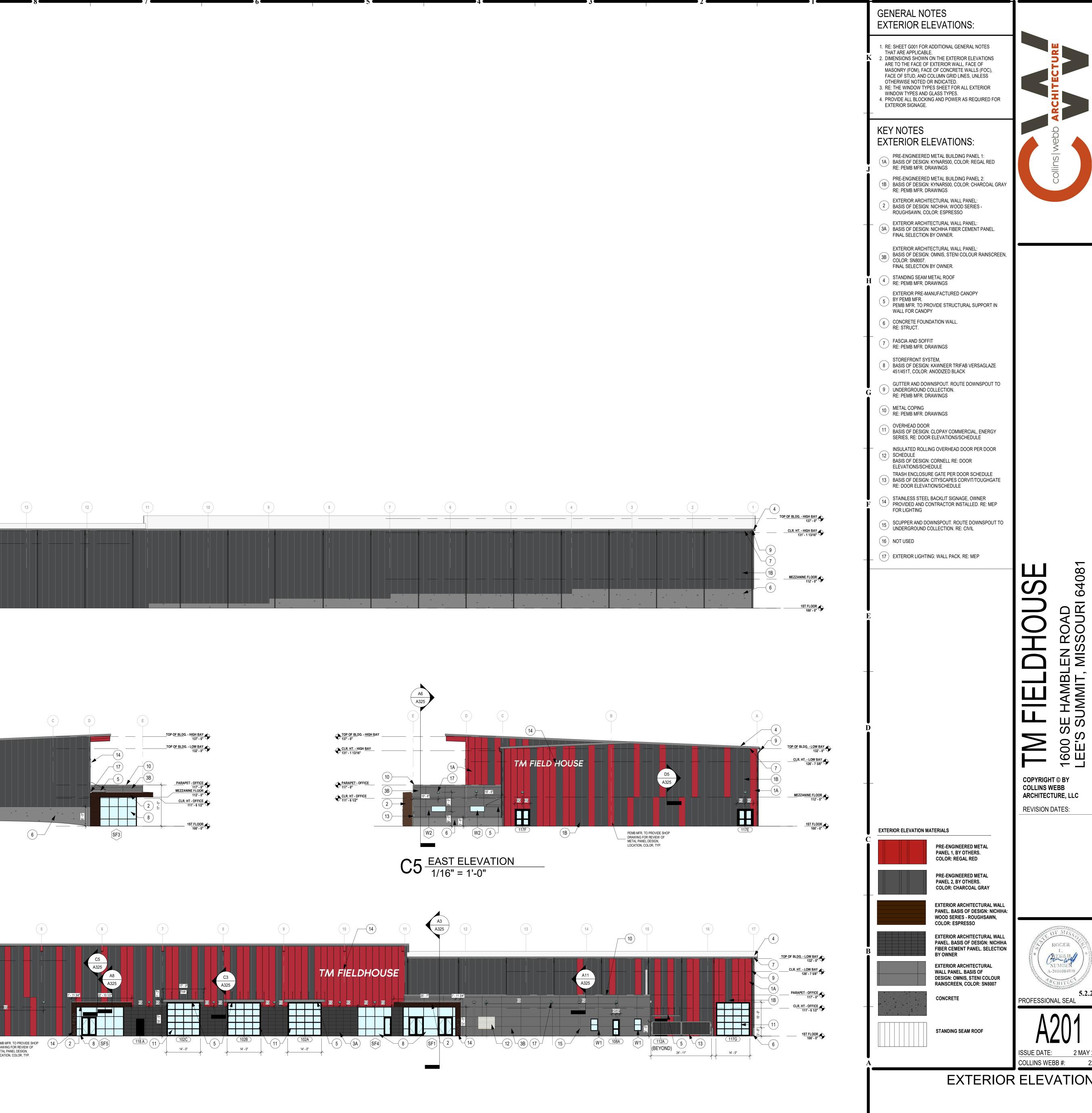


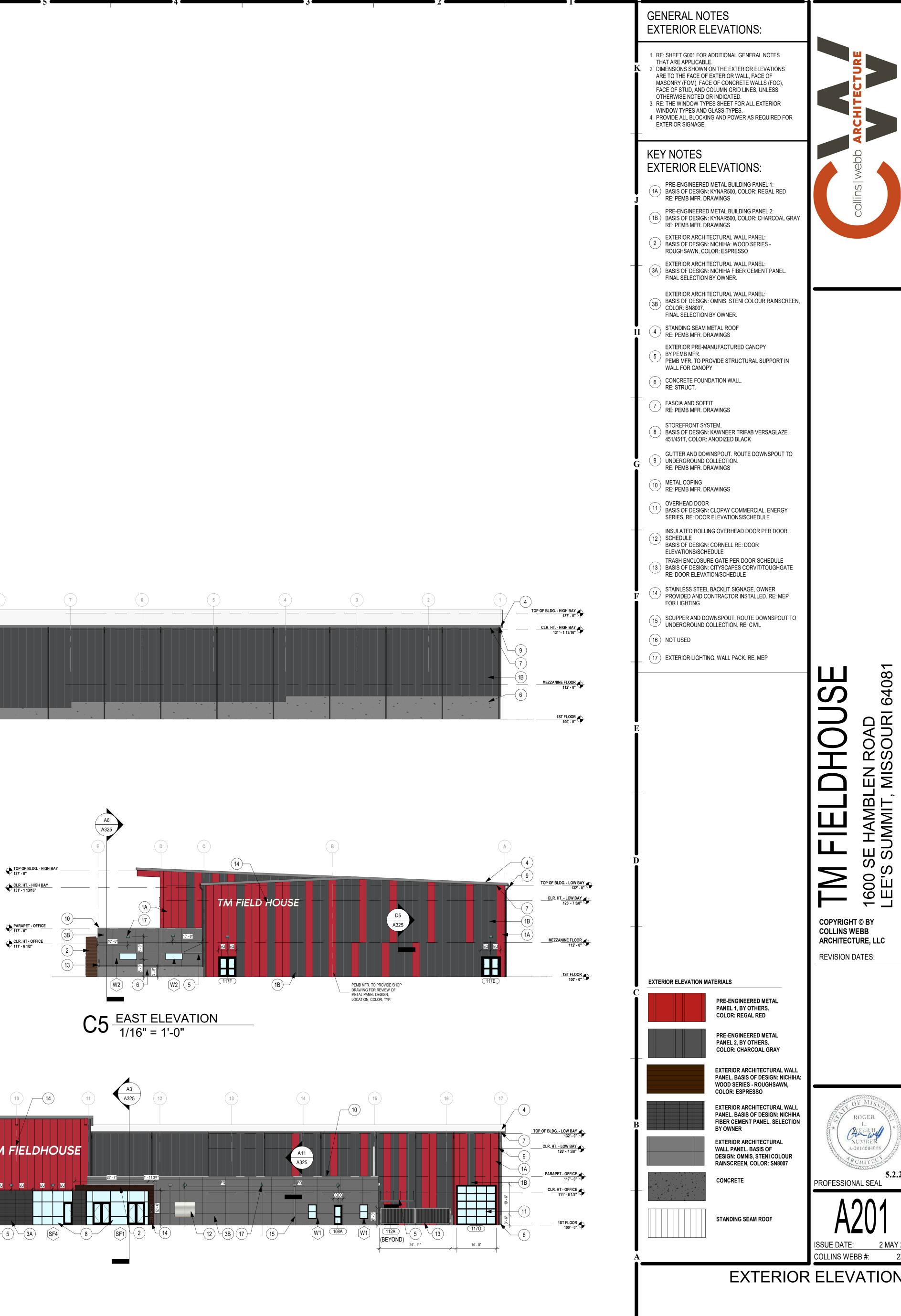






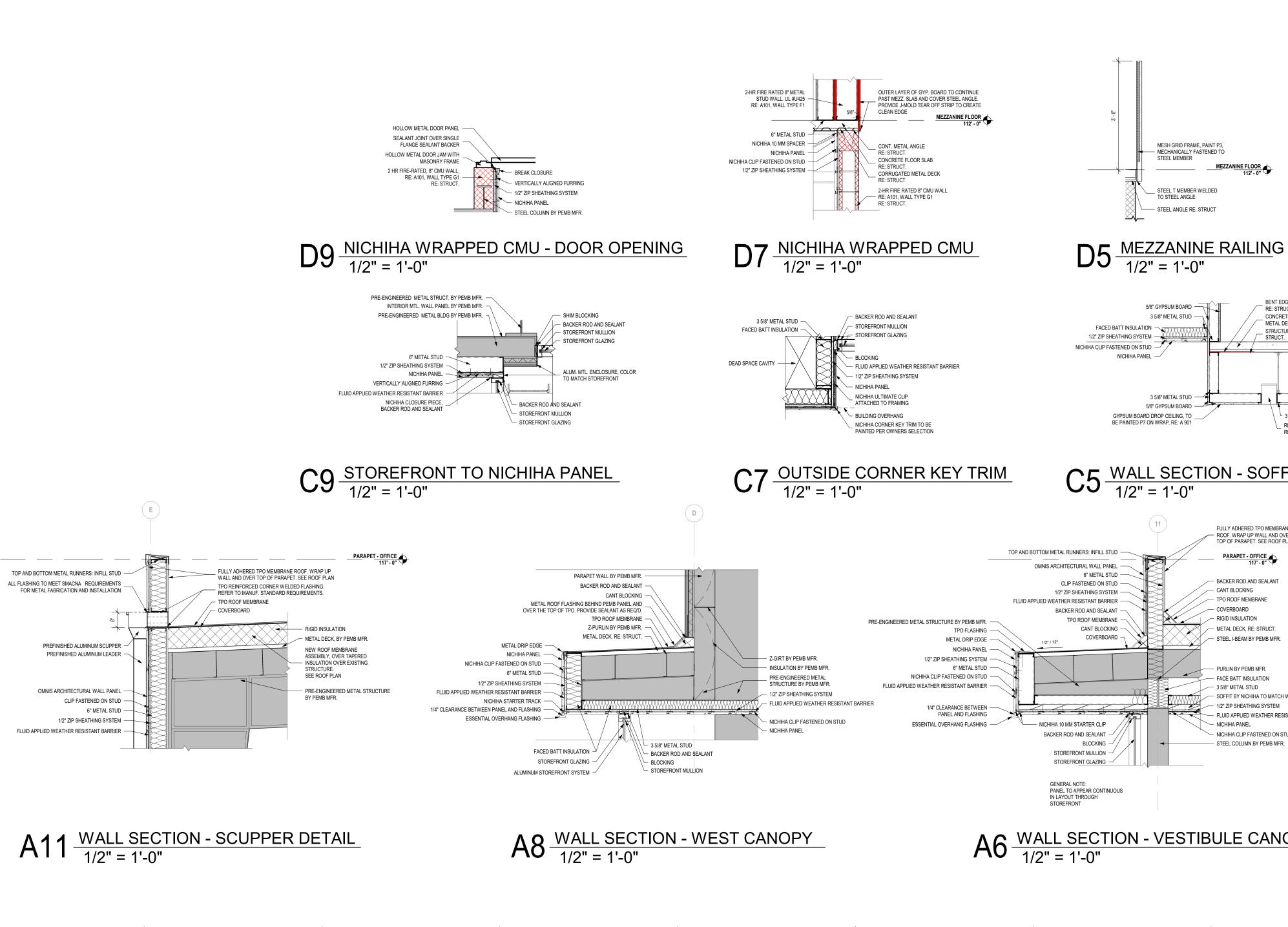


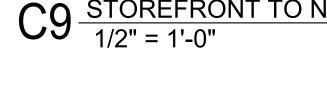


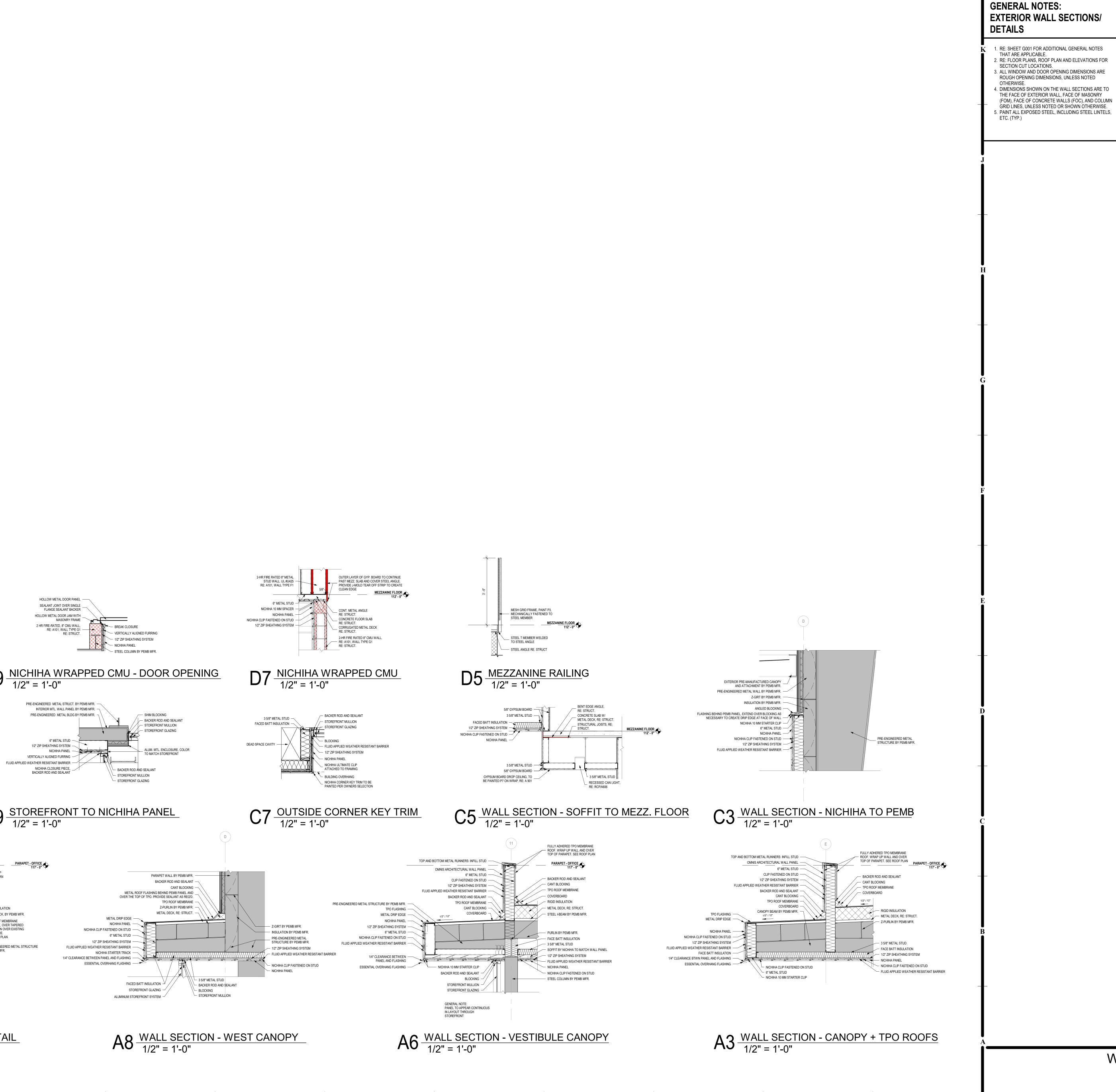


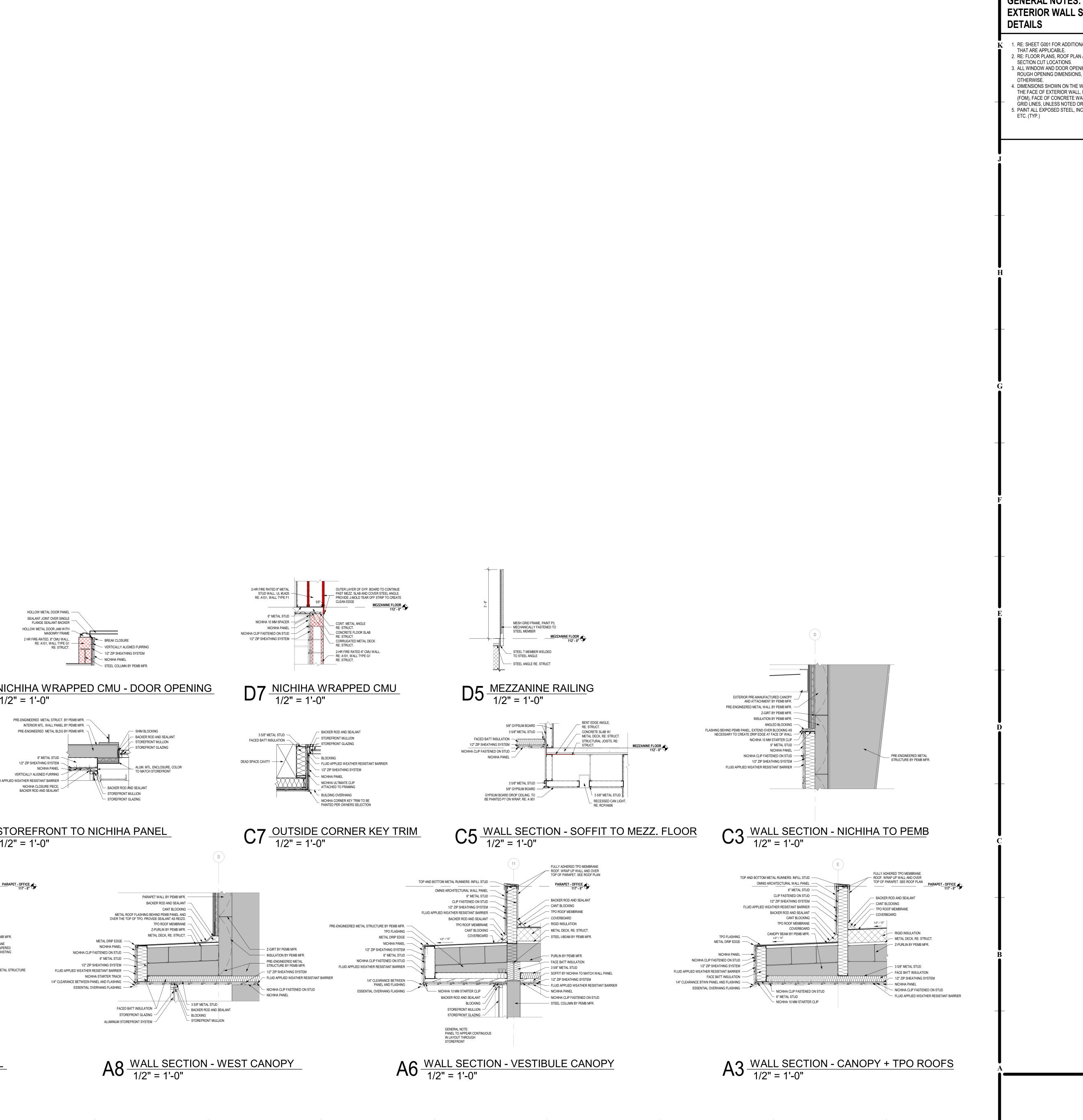
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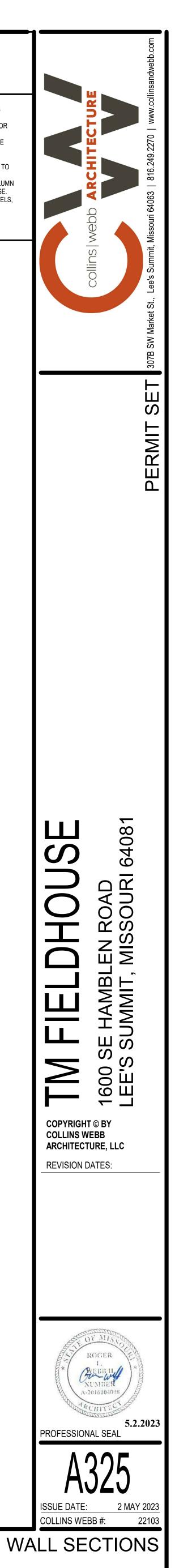


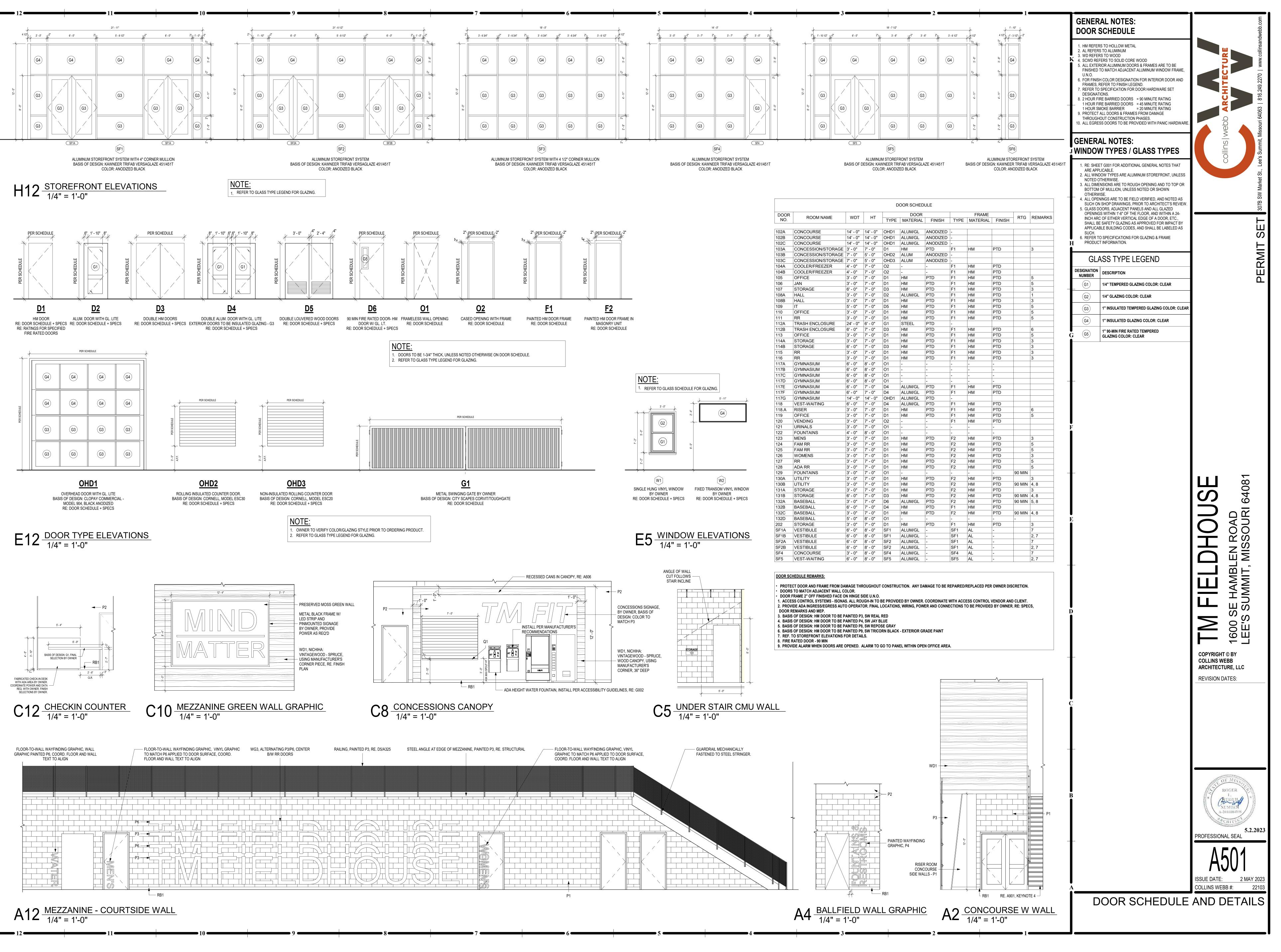


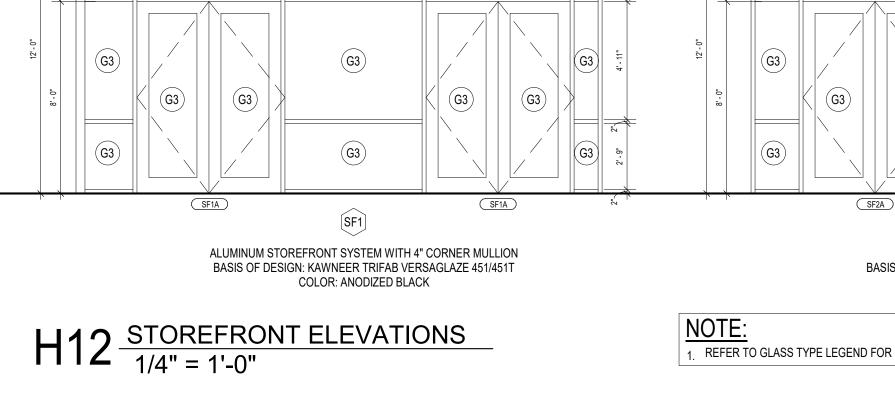


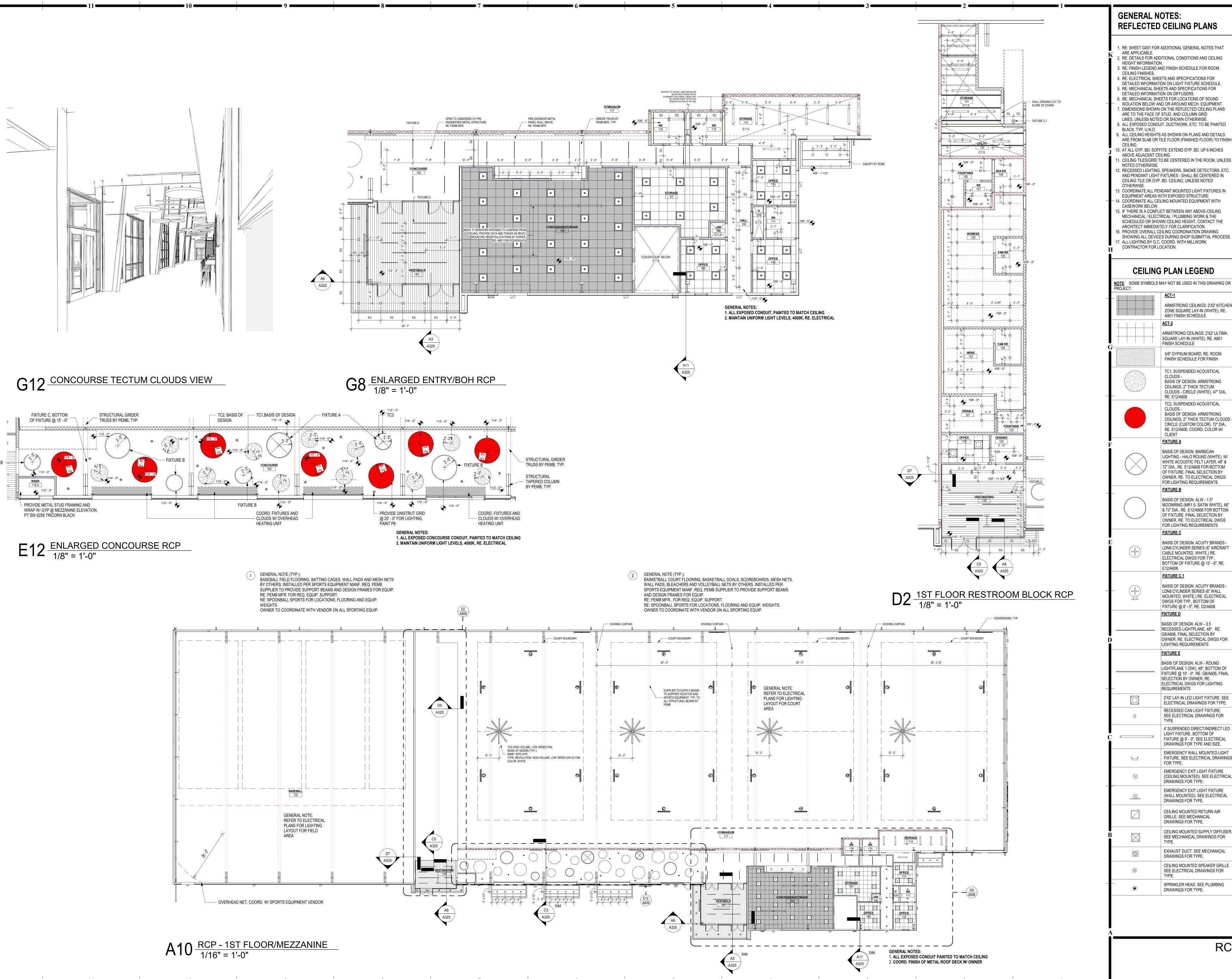


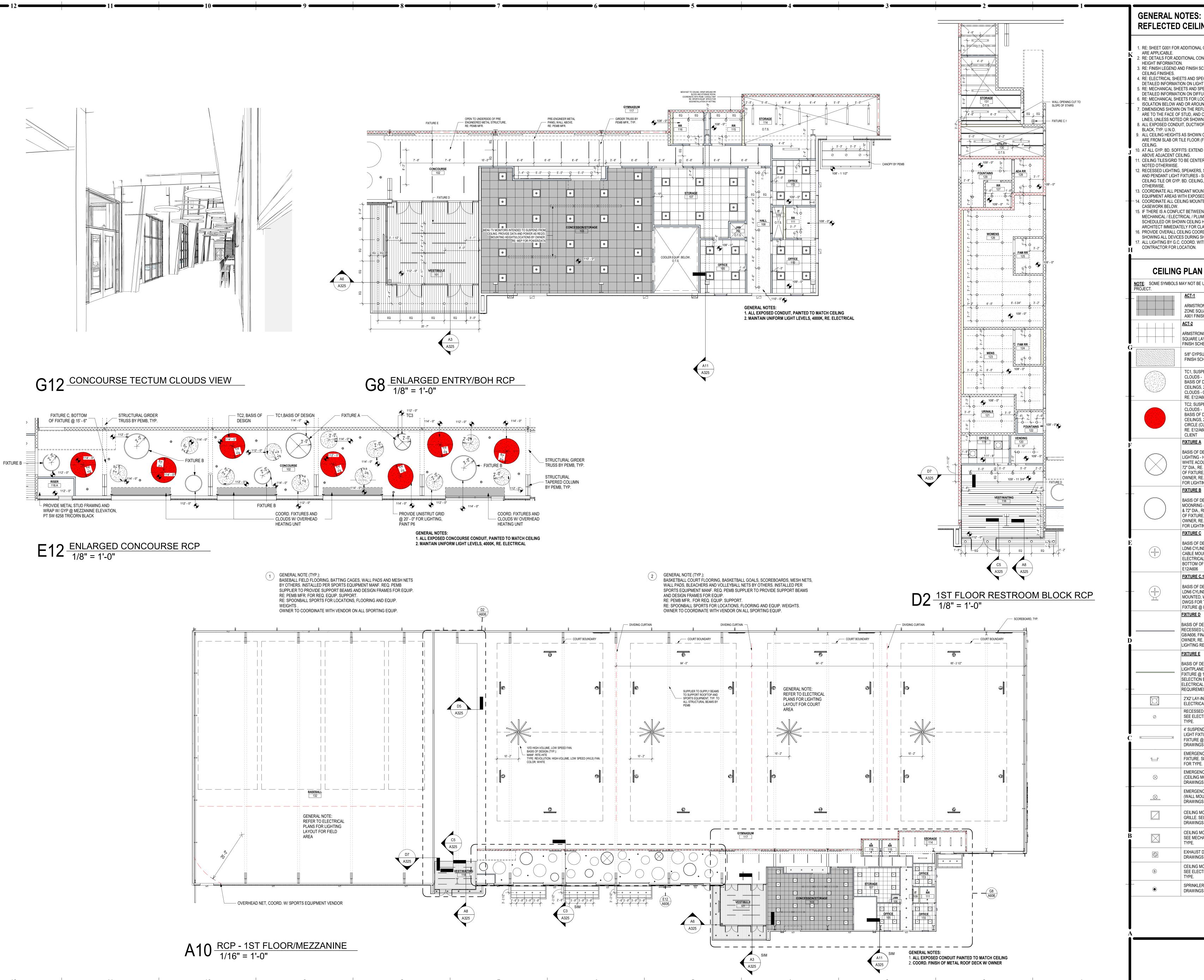




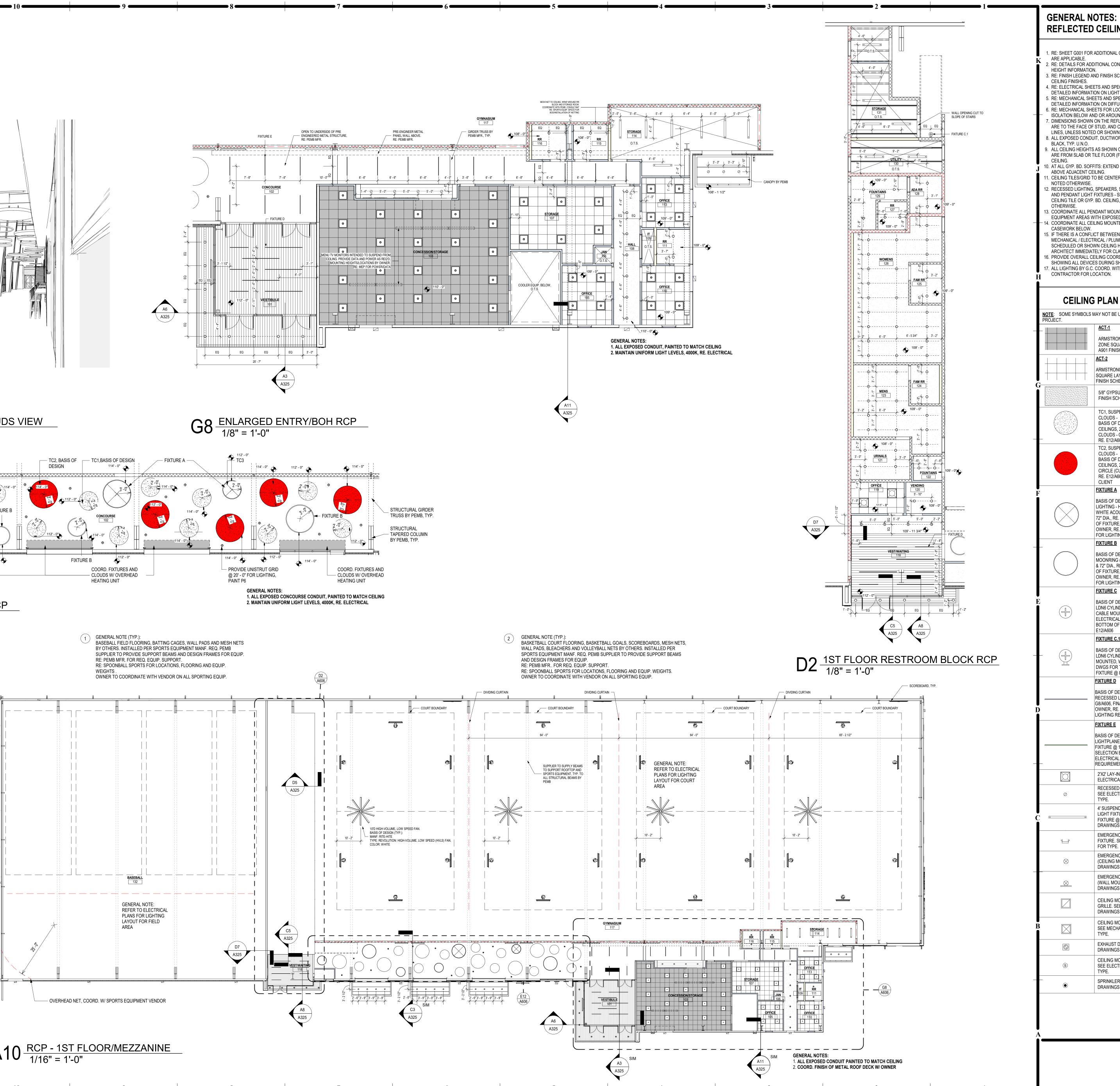












ARMSTRONG CEILINGS: 2'X2' KITCHEN ZONE SQUARE LAY-IN (WHITE), RE.

ARMSTRONG CEILINGS: 2'X2' ULTIMA SQUARE LAY-IN (WHITE), RE. A901

5/8" GYPSUM BOARD, RE. ROOM FINISH SCHEDULE FOR FINISH

TC1, SUSPENDED ACOUSTICAL BASIS OF DESIGN: ARMSTRONG

CEILINGS, 2" THICK TECTUM CLOUDS - CIRCLE (WHITE). 47" DIA.,

BASIS OF DESIGN: ARMSTRONG CEILINGS, 2" THICK TECTUM CLOUDS CIRCLE (CUSTOM COLOR). 72" DIA., RE. E12/A606, COORD. COLOR W/

BASIS OF DESIGN: BARBICAN LIGHTING - HALO ROUND (WHITE), W/ WHITE ACOUSTIC FELT LAYER, 48" & 72" DIA., RE. E12/A606 FOR BOTTOM OF FIXTURE, FINAL SELECTION BY OWNER, RE. TO ELECTRICAL DWGS FOR LIGHTING REQUIREMENTS

MOONRING (MR1.5- SATIN WHITE), 48" & 72" DIA., RÈ. E12/A606 FOR BOTTOM OF FIXTURE, FINAL SELECTION BY OWNER, RE. TO ELECTRICAL DWGS FOR LIGHTING REQUIREMENTS

BASIS OF DESIGN: ACUITY BRANDS -LDN6 CYLINDER SERIES (6" AIRCRAFT CABLE MOUNTED, WHITE,) RE. ELECTRICAL DWGS FOR TYP., BOTTOM OF FIXTURE @ 15' - 6", RE.

BASIS OF DESIGN: ACUITY BRANDS -LDN6 CYLINDER SERIES (6" WALL MOUNTED, WHITE,) RE. ELECTRICAL DWGS FOR TYP., BOTTOM OF

RECESSED LIGHTPLANE, 48", RE. G8/A606, FINAL SELECTION BY OWNER, RE. ELECTRICAL DWGS FOR

BASIS OF DESIGN: ALW - ROUND LIGHTPLANE 1 (SW), 48", BOTTOM OF FIXTURE @ 10' - 0", RE. G8/A606, FINAL ELECTRICAL DWGS FOR LIGHTING

2'X2' LAY-IN LED LIGHT FIXTURE. SEE ELECTRICAL DRAWINGS FOR TYPE. RECESSED CAN LIGHT FIXTURE. SEE ELECTRICAL DRAWINGS FOR

4' SUSPENDED DIRECT/INDIRECT LED LIGHT FIXTURE. BOTTOM OF FIXTURE @ 9' - 0", SEE ELECTRICAL DRAWINGS FOR TYPE AND SIZE. EMERGENCY WALL MOUNTED LIGHT

EMERGENCY EXIT LIGHT FIXTURE (CEILING MOUNTED). SEE ELECTRICAL

EMERGENCY EXIT LIGHT FIXTURE (WALL MOUNTED). SEE ELECTRICAL

CEILING MOUNTED RETURN AIR

SEE MECHANICAL DRAWINGS FOR EXHAUST DUCT. SEE MECHANICAL

CEILING MOUNTED SPEAKER GRILLE. SEE ELECTRICAL DRAWINGS FOR

SPRINKLER HEAD. SEE PLUMBING



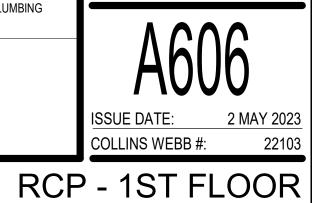
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ROGER Our wy NUMBER A-2016004008 5.2.2023 PROFESSIONAL SEAL

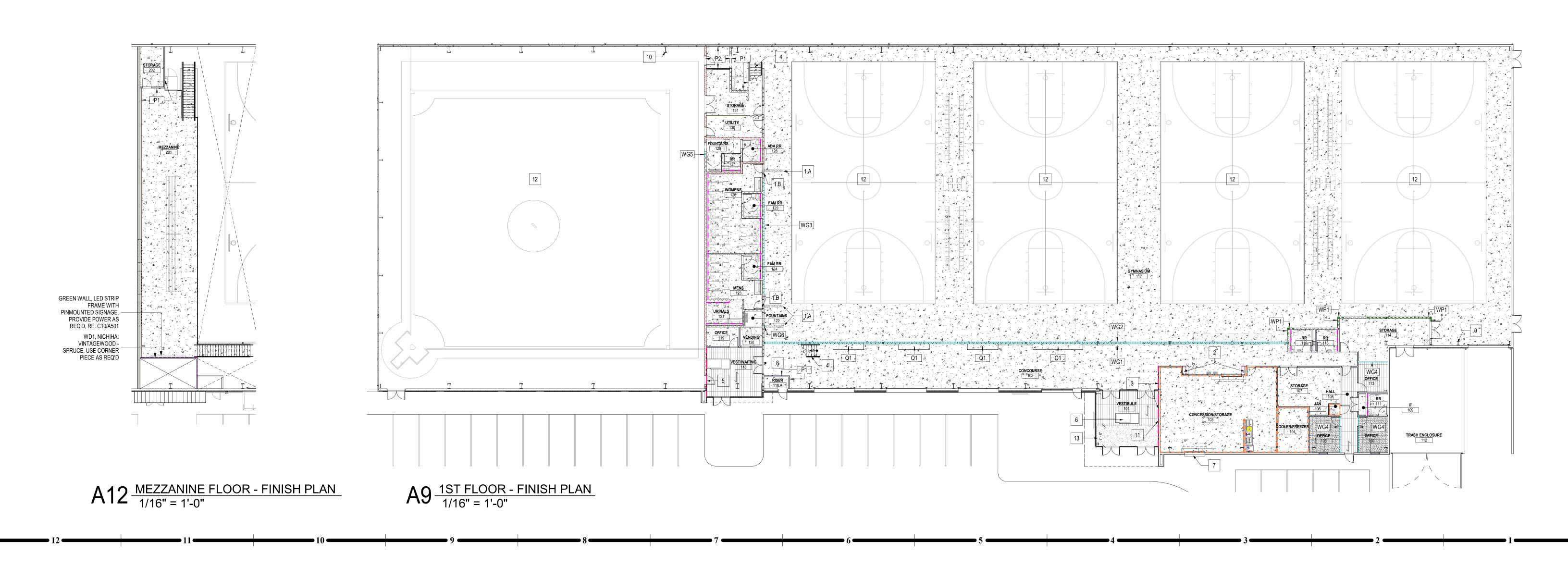


FINISH LEGEND							
SYMBOL	MATERIAL	MANUFACTURER	ТҮРЕ	COLOR	TYP. AREA / REMARKS		
OOR FINISH							
C1	CARPET TILE (24"X24")	J+J FLOORING	WELL VERSED II	COORD. W/ OWNER	OFFICE, ASHLAR INSTALLATION		
C2	WALK-OFF CARPET (24"X24")	J+J FLOORING	CATWALK II	COUTURE 1426	VESTIBULE		
LVT1	LUXURY VINYL PLANK TILE - GLUE DOWN (56"X9")	KARNDEAN	ART SELECT	CLASSIC HICKORY EW13	STAGGERED INSTALLATION, VESTIBULE, VEST/WAITING, HALL, OFFIC		
SC1	SEALED CONCRETE			COORD. ACID STAIN AND STENCILED	RE. FINISH PLAN ALL FLOORS U.N.O. RE. FINISH PLAN		
501	SEALED CONCRETE			WAYFINDING W/ OWNER	ALL FLOORS U.N.U. RE. FINISH PLAN		
ALL BASE							
RB1	RUBBER BASE (4"H)	ROPPE	700 SERIES	100 BLACK	ALL CMU AND STUD WALLS U.N.O., USE INSIDE/OUTSIDE CORNER PI AS REQ.		
TB1	BULLNOSE TILE BASE (3"X24")	DALTILE	WANDERWISE	ROAM WW03	ALL RESTROOM AND RESTROOM AND URINAL WALLS U.N.O.		
ALL FINISH							
EP2	PAINT - EPOXY	SHERWIN WILLIAMS	EGGSHELL	SW 7015 REPOSE GRAY	ALL RESTROOM WALLS U.N.O., FOUNTAINS 129		
EP3	PAINT - EPOXY	SHERWIN WILLIAMS	EGGSHELL	SW 6258 TRICORN BLACK	FOUNTAINS 122		
P1	PAINT	SHERWIN WILLIAMS	EGGSHELL	SW 6258 TRICORN BLACK	ALL CONCOURSE, GYMNASIUM, AND MEZZANINE STUD AND CMU W/		
P2	PAINT	SHERWIN WILLIAMS	EGGSHELL	SW 7015 REPOSE GRAY	ALL WALLS U.N.O.		
P3	PAINT	SHERWIN WILLIAMS	SEMI-GLOSS	SW 6868 REAL RED	BASIS OF DESIGN: ALL COLUMNS AND GIRDERS EAST OF FIRE SEPARATION WALL, WG3, AND DOORS, RE. DOOR SCHEDULE, WALL GRAPHIC ACCENT COLOR, COORD. FINAL COLOR SELECTION W/ CLI RE. A12/A501,C8/A501		
P4	PAINT	SHERWIN WILLIAMS	SEMI-GLOSS	SW 6797 JAY BLUE	BASIS OF DESIGN: ALL COLUMN AND GIRDERS WEST OF FIRE SEPARATION WALL, WG5 ,AND DOORS, RE. DOOR SCHEDULE, COOF FINAL COLOR SELECTION W/ CLIENT, RE. A2/A501		
P5	PAINT	SHERWIN WILLIAMS	SEMI-GLOSS	SW 7605 GALE FORCE	WG4, BASIS OF DESIGN OFFICE WALL GRAPHIC ACCENT COLOR, CO FINAL COLOR SELECTION W/ CLIENT, RE.FINISH PLAN		
P6	PAINT	SHERWIN WILLIAMS	SEMI GLOSS	SW 7005 PURE WHITE	WG3, WG6, RE. A12/1501		
P8	PAINT	SHERWIN WILLIAMS	SEMI-GLOSS	SW 7015 REPOSE GRAY	RE. DOOR SCHEDULE AND REMARKS		
P9	PAINT	SHERWIN WILLIAMS	SEMI GLOSS	SW 6258 TRICORN BLACK	RE. DOOR SCHEDULE AND REMARKS, DOORS TO RECEIVE EXTERIO GRADE PAINT		
T1	GLAZED PORCELAIN TILE (12"X24")	DALTILE	WANDERWISE	ROAM WW03	RESTROOM WET WALLS, 1/3 HORIZONTAL RUNNING BOND INSTALLATION, 84"H, BASIS OF DESIGN, COORD. FINAL SELECTION V OWNER		
TG1	TILE GROUT - EPOXY (1/16" GROUT JOINTS)	MAPEI	KERAPOXY	IRON 107	TO BE USED WITH T1, BASIS OF DESIGN, COORD. FINAL SELECTION OWNER		
WD1	ARCHITECTURAL WALL PANEL	NICHIHA	VINTAGEWOOD	SPRUCE	CONCESSIONS, MEZZANINE, USING MANUFACTUER'S CORNER PIEC		
WD2	ARCHITECTURAL WALL PANEL	NICHIHA	ROUGHSAWN	ESPRESSO	VESTIBULE, CONCOURSE, USING MANUFACTUER'S CORNER PIECE, FINISH PLAN		
WG1	PAINTED WALL GRAPHIC			COORD. W/ OWNER	CONCOURSE N WALL, RE. FINISH PLAN		
WG2	PAINTED WALL GRAPHIC			COORD. W/ OWNER	GYMNASIUM S WALL, RE. FINISH PLAN		
WG3	PAINTED WALL GRAPHIC	SHERWIN WILLIAMS		P3 & P6	GYMNASIUM W WALL, A12/A501		
WG4	PAINTED WALL GRAPHIC	SHERWIN WILLIAMS		P5	OFFICE, RE. FINISH PLAN AND ROOM FINISH SCHEDULE FOR LOCAT COORD.GRAPHIC W/ OWNER		
WG5	PAINTED WALL GRAPHIC	SHERWIN WILLIAMS		P4	BALLFIELD E WALL, WALL PAINTED WAYFINDING GRAPHIC, RE. A4/A		
WG6	PAINTED WALL GRAPHIC	SHERWIN WILLIAMS		P6	GYMNASIUM W WALL, WAYFINDING GRAPHIC, COORD. FLOOR AND V		
WP1	SPORTS WALL PADS	SPOONBALL SPORTS		COORD. W/ CLIENT	TEXT TO ALIGN, RE. A12/A501 COURTSIDE, COORD. LOCATIONS AND MOUNTING HT W/ OWNER		
WP2	SPORTS WALL PADS	SPOONBALL SPORTS		COORD. W/ CLIENT	BALLFIELD SIDE, COORD. LOCATIONS AND MOUNTING HT W/ OWNER		
LLWORK / CASE							
Q1	QUARTZ	DALTILE	2CM, POLISHED	CARRARA VEIL OQ12	VESTIBULE CHECKIN DESK, CONCOURSE, CONCESSIONS, BASIS OF DESIGN, COORD. FINAL SELECTION W/ OWNER		
ALL PROTECTIC	N BER REINFORCED PANEL / RIGID SHEET WALLCOVERING (.06")	INPRO	SMOOTH FINISH, FULL HEIGHT	0101 DESIGNER WHITE	CONCESSIONS. MEZZANINE		
	BER REINFORCED PANEL / RIGID SHEET WALLCOVERING (.06")	INPRO	SMOOTH FINISH, 6'H	0151 GRAYSTONE	JAN		
EILING FINISH ACT1	LATEX-FACED CEILING TILE (2'x2')	ARMSTRONG CEILINGS	KITCHEN ZONE SQUARE LAY-IN	WHITE	CONCESSIONS		
ACT1 GRID	15/16" SUSPENSION SYSTEM	ARMSTRONG CEILINGS	TRIM (SQUARE)	WHITE	TO BE USED WITH ACT1 AND ACT2		
ACT1 GRID ACT2	ACOUSTICAL CEILING TILE (2'x2')	ARMSTRONG CEILINGS	ULTIMA SQUARE LAY-IN	WHITE	OFFICE, STORAGE, RE. RCP		
EP1	PAINT - EPOXY	SHERWIN WILLIAMS	FLAT	SW 7005 PURE WHITE	RESTROOMS		
EP4	PAINT - EPOXY	SHERWIN WILLIAMS	FLAT	SW 6258 TRICORN BLACK	FOUNTAINS (122), RE. ROOM FINISH SCHEDULE		
P7	PAINT	SHERWIN WILLIAMS	FLAT	SW 7005 PURE WHITE	RE. ROOM FINISH SCHEDULE		
TC1	TECTUM CLOUD (2" THICK, 47"DIA.)	ARMSTRONG CEILINGS	TECTUM CLOUDS - CIRCLE	WHITE	BASIS OF DESIGN, CONCOURSE, RE. E12/A606		
TC2	TECTUM CLOUD (2" THICK, 72" DIA.)	ARMSTONG CEILINGS	TECTUM CLOUDS - CUSTOM SHAPES (2	CUSTOM COLOR - COORD. W/ CLIENT	BASIS OF DESIGN, CONCOURSE, RE. E12/A606		
			HALF CIRCLES)				

FINISH LEGEND NOTES:

1. BASIS OF DESIGN: ALL EXPOSED GIRTS TO BE PAINTED TO MATCH P6, COORD. FINAL 2. ALL FINISHES BASIS OF DESIGN, COORD. FINAL SELECTION W/ OWNER

3. COORD. FINISH OF METAL ROOF DECK W/ OWNER



	Ι	-	I		I	-	I	-	I		
	ROOM FINISH SCHEDULE										
		FLOORS WALL FINISH							CASEWOI	RK	
RM. NO.	ROOM NAME	FLOOR	WALL BASE	NORTH WALL	EAST WALL	SOUTH WALL	WEST WALL	CEILING FINISH	COUNTERTOP CABIN		REMAR
101	VESTIBULE	LVT1/C2		N/A	WD2	N/A	N/A	WD3			
102	CONCOURSE	SC1	RB1	WG1	P1	METAL PANEL/P1	P1	TC1/TC2	Q1		2
103	CONCESSION/STORA GE		RB1	FRP1	FRP1	FRP1	FRP1	ACT1	Q1		
104	COOLER/FREEZER	SC1	RB1	FRP1	FRP1	FRP1	FRP1	OTS			
105	OFFICE	C1	RB1	P2	P2/WG4	P2	P2	ACT2			2
106	JAN	SC1	RB1	FRP2	FRP2	FRP2	FRP2	OTS			
107	STORAGE	SC1	RB1	P2	P2	P2	P2	ACT2			
108	HALL	LVT1	RB1	P2	P2	P2	P2	P7			
109	IT	SC1	RB1	P2	P2	P2	P2	OTS			
110	OFFICE	C1	RB1	P2	P2	P2	P2/WG4	ACT2			2
111	RR	SC1	TB1	EP2	EP2	EP2	T1/EP2	EP1			1
112	TRASH ENCLOSURE	N/A	N/A	N/A	N/A	N/A	N/A	N/A			
113	OFFICE	LVT1	RB1	P2/WG4	P2	P2	P2	ACT2			2
114	STORAGE	SC1	RB1	P2	P2	P2	P2	OTS			
115	RR	SC1	TB1	EP2	T1/EP2	EP2	EP2	EP1			1
116	RR	SC1	TB1	EP2	EP2	EP2	T1/EP2	EP1			1
117	GYMNASIUM	SC1, COURTS PER EQUIPMENT VENDOR	RB1	METAL PANEL	METAL PANEL	P1/WG2	P1/WG3	OTS			2,3,4,5
118	VEST/WAITING	LVT1	RB1	P2	P2	N/A	WD2	WD3/P7			
118.A	RISER	SC1	RB1	P2	P2	P2	P2	P7			
119	OFFICE	SC1	RB1	P2	P2	P2	P2	ACT2			
120	VENDING	SC1	RB1	P2	P2	P2	P2	P7			
121	URINALS	SC1	TB1	T1/EP2	EP2	T1/EP2	EP2	EP1			1
122	FOUNTAINS	SC1	RB1	EP3	EP3	EP3	EP3	P10			
123	MENS	SC1	TB1	EP2	EP2	EP2	T1/EP2	EP4			1
124	FAM RR	SC1	TB1	EP2	T1/EP2	EP2	EP2	EP1			1
125	FAM RR	SC1	TB1	EP2	T1/EP2	EP2	EP2	EP1			1
126	WOMENS	SC1	TB1	EP2	T1/EP2	EP2	T1/EP2	EP1			1
127	RR	SC1	TB1	EP2	EP2	T1/EP2	EP2	EP1			1
128	ADA RR	SC1	TB1	EP2	T1/EP2	EP2	EP2	EP1			1
129	FOUNTAINS	SC1	RB1	EP2	EP2	EP2	EP2	EP1			
130	UTILITY	SC1	RB1	P2	P2	P2	P2	OTS			
131	STORAGE	SC1	RB1	P2	P2	P2	P2	OTS			
132	BASEBALL	PER EQUIPMENT VENDOR	RB1	METAL PANEL	P2/P4	METAL PANEL	METAL PANEL	OTS			2, 4,5
201	MEZZANINE	SC1	RB1	P1	N/A	WD1	P1	OTS			
202	STORAGE	SC1	RB1	P2	P2	P2	P2	OTS			

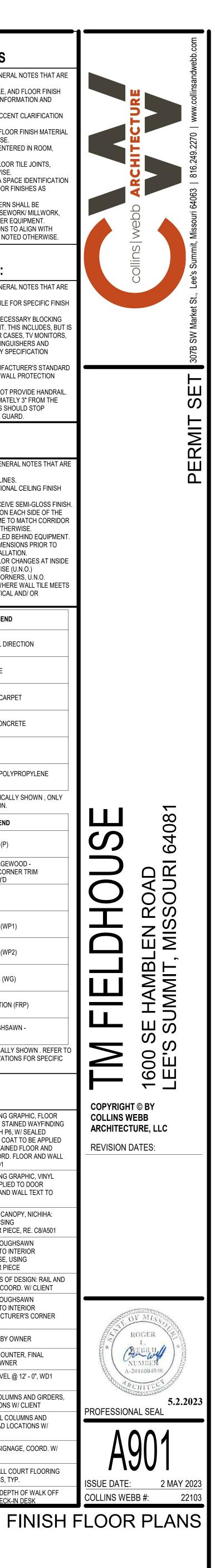
ROOM FINISH SCHEDULE REMARKS:

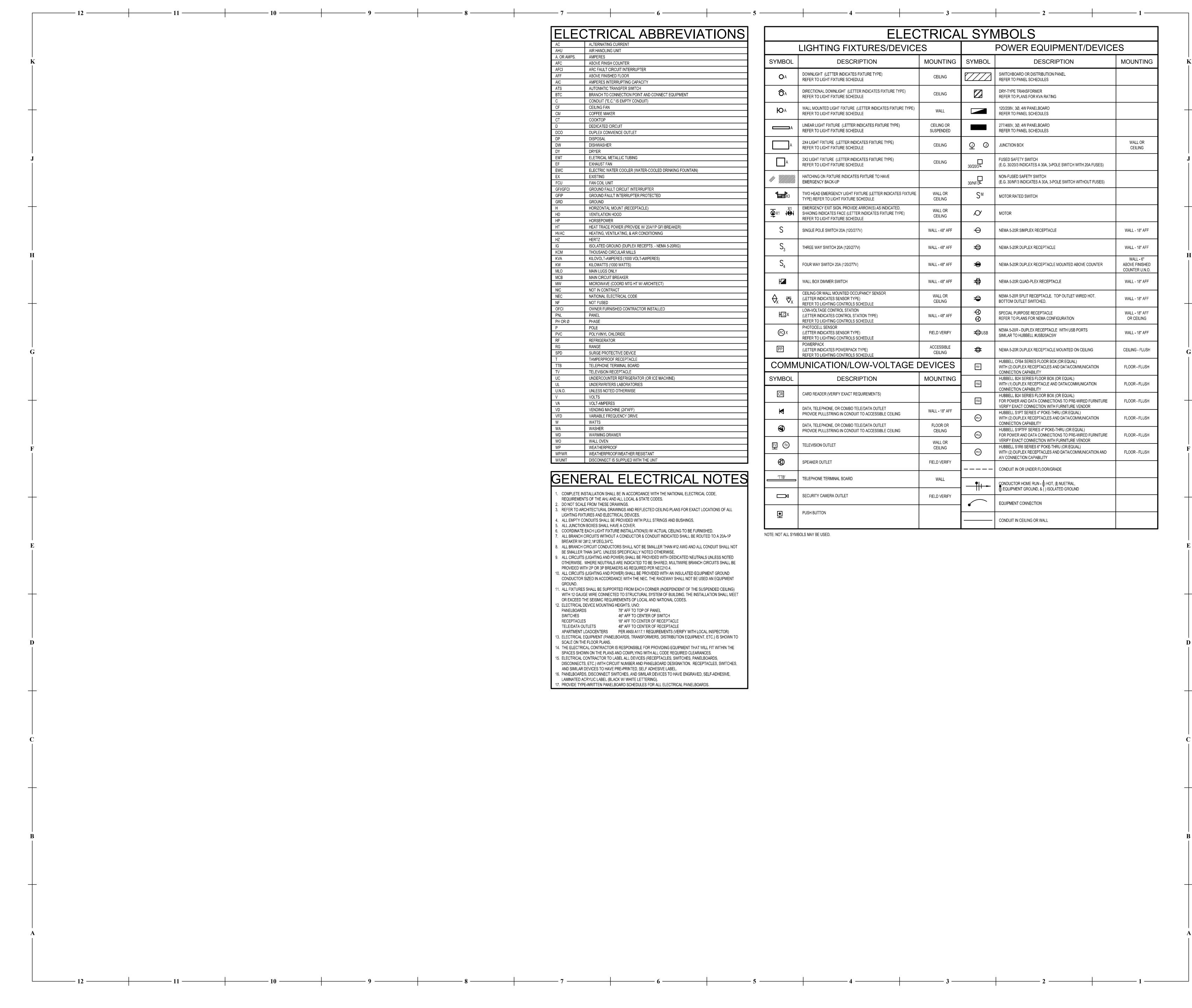
- **TRANSITION, RE. FINISH PLAN**
- 2. COORD. WALL GRAPHIC W/ OWNER
- 4. COORD. FINAL WALL PAD COLOR AND LOCATIONS W/ OWNER
- 5. NETS PER SPORTS EQUIPMENT VENDOR, COORD. LOCATIONS W/ OWNER

1. TOILET/URINAL FIXTURE WALL TO RECEIVE T1, 84" H, EP2 ABOVE, USE SCHLUTER FINISHING STRIP AT

3. FLOOR-TO-WALL WAYFINDING GRAPHIC, COORD. TEXT TO ALIGN, RE. FINISH PLAN AND A12/A501

	GENERAL N	
	1. RE: G-SHEETS - FOF	
	APPLICABLE. 2. RE: FINISH LEGEND, PLANS FOR SPECIFI	
	LOCATIONS. 3. FLOOR FINISHES SH ONLY.	
	 INSTALL TRANSITION CHANGES, UNLESS FLOOR FINISH PATT 	NOTED OTHERWISE ERN SHALL BE CEN
	UNLESS NOTED OT ALIGN ALL WALL TIL UNLESS NOTED OR	E JOINTS WITH FLOO SHOWN OTHERWIS
7	7. ALL CLOSETS & ALC NUMBER SHALL HAV ADJOINING SPACES	/E THE SAME FLOOP
8	 FLOOR FINISH MATE INSTALLED UNDER UNDER OPEN COUN 	TOE KICKS OF CASE
ę	9. FLOOR MATERIAL/ C ROOM SIDE OF DOC	COLOR TRANSITIONS
T	VALL FINISI PROTECTIO	
	1. RE: G-SHEETS - FOF	
	APPLICABLE. 2. RE: FINISH LEGEND INFORMATION & LOO	CATIONS.
	 CONTRACTOR SHAL FOR WALL PROTEC NOT LIMITED TO: HA 	TION ATTACHMENT. NDRAILS,POSTER C
	BATHROOM ACCES EQUIPMENT. RE: RO SECTION FOR CLAR	DUGH CARPENTRY S
2	 CONTRACTOR SHAL ACCESSORY MOLDI ITEMS, UNLESS NOT 	NG OR TRIM FOR W
Ę	5. IF WALL IS LESS TH/ HANDRAILS SHOULD OPEN SWING OF A D	O STOP APPROXIMA
H_	APPROXIMATELY 3"	
	NTERIOR F	
	 RE: SHEET G001 FC APPLICABLE. RE: G002 FOR ACCE 	
	 RE: A600 SERIES SH INFORMATION. HOLLOW METAL FR 	HEETS FOR ADDITIO
	WHERE WALL COLO HOLLOW METAL FR	DR IS DIFFERENT ON AME, PAINT FRAME ED OR SHOWN OTH
	5. CONTINUE WALL FI 6. CONTRACTOR SHA	NISH AS SCHEDULEI LL VERIFY ALL DIME
Ğ	7. TRANSITION ALL WA	NOTED OTHERWISI
		ANSITION STRIP WHI NALL IN ALL VERTIC
	HORIZONTAL COND	LOOR FINISH LEGEN
		GRAIN / INSTALL D
_		C1: CARPET TILE
	Δ ⁴ 4- 4	C2 - WALK OFF CA
F		SC1: SEALED CON
		LVT1
		SPORT COURT PO SURFACE
	NOT ALL FLOOR FINIS THOSE FOR TRANSIT	
	V	VALL FINISH LEGEN
		ACCENT PAINT (P
E		NICHIHA: VINTAGE SPRUCE, USE CO PIECES AS REQ'D
		WALL TILE (T)
	•••••	WALLPADDING (W
		WALLPADDING (W
		WALL GRAPHIC (V
		WALL PROTECTIC
		NICHIHA: ROUGHS
D	NOT ALL WALL FINISH	ESPRESSO
	FINISH SCHEDULE AN LOCATIONS AND MAT	ID INTERIOR ELEVAT
	KEYED N FINISH PL	
	FLOOR-TO	-WALL WAYFINDING
	GRAPHIC, CONCRET	COLOR TO MATCH F E TOP COAT, TOP CO ER CONCRETE STAIL
	TEXT TO A	COMPLETE, COORI
C	1.B GRAPHIC SURFACE,	-WALL WAYFINDING TO MATCH P6, APPLI COORD. FLOOR AN
		CESSIONS WOOD CA
	MANUFAC WD2, EXTE	TURER'S CORNER P ERIOR NICHIHA: ROL
_	VESTIBULE	O) TO EXTEND INTO E AND CONCOURSE, TURER'S CORNER P
	4 HM & PREC RISERS TO	CAST STAIR, BASIS () BE PAINTED P3, CC
	5 (ESPRESS	ERIOR NICHIHA: ROU O) TO EXTEND INTO E, USING MANUFACT
D D	PIECE	E QUEUING DESK BY
B	EXTERIOR	CONCESSIONS COU SELECTION BY OWN
		IL MEZZANINE LEVE
	COORD. FI	E, WP1 AT ALL COLU INAL PAD LOCATION
) SIDE, WP2 AT ALL (COORD. FINAL PAD
		L PIN-MOUNTED SIG
	12 BASEBALL	FIELD/BASKETBALL PMENT BY OTHERS,
A A		DESIGN, COORD. DE // CLIENT AND CHEC





С НU	ALTERNATING CURRENT AIR HANDLING UNIT
OR AMPS.	AMPERES
FC FCI	
FCI FF	ARC FAULT CIRCUIT INTERRUPTER ABOVE FINISHED FLOOR
IC	AMPERES INTERRUPTING CAPACITY
TS TO	
ТС	BRANCH TO CONNECTION POINT AND CONNECT EQUIPMENT CONDUIT ("E.C." IS EMPTY CONDUIT)
	CEILING FAN
M	COFFEE MAKER
Т	COOKTOP DEDICATED CIRCUIT
00	DUPLEX CONVIENCE OUTLET
P	DISPOSAL
W Y	DISHWASHER DRYER
и ИТ	ELETRICAL METALLIC TUBING
	EXHAUST FAN
NC X	ELECTRIC WATER COOLER (WATER-COOLED DRINKING FOUNTAIN) EXISTING
^ CU	FAN COIL UNIT
FI/GFCI	GROUND FAULT CIRCUIT INTERRUPTER
FIP	GROUND FAULT INTERRUPTER PROTECTED
RD	GROUND HORIZONTAL MOUNT (RECEPTACLE)
)	VENTILATION HOOD
)	
r /AC	HEAT TRACE POWER (PROVIDE W/ 20A/1P GFI BREAKER) HEATING, VENTILATING, & AIR CONDITIONING
	HERTZ
	ISOLATED GROUND (DUPLEX RECEPTS NEMA 5-20RIG)
M	
/A V	KILOVOLT-AMPERES (1000 VOLT-AMPERES) KILOWATTS (1000 WATTS)
LO	MAIN LUGS ONLY
CB	
N	MICROWAVE (COORD MTG HT W/ ARCHITECT) NOT IN CONTRACT
c C	NATIONAL ELECTRICAL CODE
	NOT FUSED
FCI NL	OWNER FURNISHED CONTRACTOR INSTALLED PANEL
+ OR Ø	PHASE
	POLE
/C -	POLYVINYL CHLORIDE
: G	REFRIGERATOR RANGE
D	SURGE PROTECTIVE DEVICE
	TAMPERPROOF RECEPTACLE
В ′	TELEPHONE TERMINAL BOARD TELEVISION RECEPTACLE
)	UNDERCOUNTER REFRIGERATOR (OR ICE MACHINE)
L	UNDERWRITERS LABORATORIES
N.O.	UNLESS NOTED OTHERWISE
4	VOLTS VOLT-AMPERES
D	VENDING MACHINE (24"AFF)
D	VARIABLE FREQUENCY DRIVE
A	WATTS WASHER
D	WASHER WARMING DRAWER
0	WALLOVEN
P P/WR	WEATHERPROOF
2/WR UNIT	WEATHERPROOF/WEATHER RESISTANT DISCONNECT IS SUPPLIED WITH THE UNIT
	ERAL ELECTRICAL NOTES
Complete i Requirement	NSTALLATION SHALL BE IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE, NTS OF THE AHJ AND ALL LOCAL & STATE CODES. LE FROM THESE DRAWINGS.
LIGHTING FIX ALL EMPTY (RCHITECTURAL DRAWINGS AND REFLECTED CEILING PLANS FOR EXACT LOCATIONS OF ALL (TURES AND ELECTRICAL DEVICES. CONDUITS SHALL BE PROVIDED WITH PULL STRINGS AND BUSHINGS.
COORDINATI	ON BOXES SHALL HAVE A COVER. E EACH LIGHT FIXTURE INSTALLATION(S) W/ ACTUAL CEILING TO BE FURNISHED. I CIRCUITS WITHOUT A CONDUCTOR & CONDUIT INDICATED SHALL BE ROUTED TO A 20A-1P 2#12,1#12EG.3/4"C.
ALL BRANCH	2#12,1#12EG,3/4"C. CIRCUIT CONDUCTORS SHALL NOT BE SMALLER THAN #12 AWG AND ALL CONDUIT SHALL NOT THAN 3/4"C. UNLESS SPECIFICALLY NOTED OTHERWISE.
	S (LIGHTING AND POWER) SHALL BE PROVIDED WITH DEDICATED NEUTRALS UNLESS NOTED
ALL CIRCUIT	WHERE NEUTRALS ARE INDICATED TO BE SHARED, MULTIWIRE BRANCH CIRCUITS SHALL BE
ALL CIRCUIT OTHERWISE	
ALL CIRCUIT OTHERWISE PROVIDED W ALL CIRCUIT CONDUCTOF	VITERE REGINATED FOR BE ONARED, MOLETIAN ED FOR STARED FOR STARED BE VITH 2P OR 3P BREAKERS AS REQUIRED PER NEC210.4. S (LIGHTING AND POWER) SHALL BE PROVIDED WITH AN INSULATED EQUIPMENT GROUND R SIZED IN ACCORDANCE WITH THE NEC. THE RACEWAY SHALL NOT BE USED AN EQUIPMENT
ALL CIRCUIT OTHERWISE PROVIDED W ALL CIRCUIT CONDUCTOF GROUND. ALL FIXTURE	/ITH 2P OR 3P BREAKERS AS REQUIRED PER NEC210.4. S (LIGHTING AND POWER) SHALL BE PROVIDED WITH AN INSULATED EQUIPMENT GROUND & SIZED IN ACCORDANCE WITH THE NEC. THE RACEWAY SHALL NOT BE USED AN EQUIPMENT S SHALL BE SUPPORTED FROM EACH CORNER (INDEPENDENT OF THE SUSPENDED CEILING)
ALL CIRCUIT OTHERWISE PROVIDED W 0. ALL CIRCUIT CONDUCTOF GROUND. . ALL FIXTURE WITH 12 GAL	/ITH 2P OR 3P BREAKERS AS REQUIRED PER NEC210.4. S (LIGHTING AND POWER) SHALL BE PROVIDED WITH AN INSULATED EQUIPMENT GROUND & SIZED IN ACCORDANCE WITH THE NEC. THE RACEWAY SHALL NOT BE USED AN EQUIPMENT S SHALL BE SUPPORTED FROM EACH CORNER (INDEPENDENT OF THE SUSPENDED CEILING) IGE WIRE CONNECTED TO STRUCTURAL SYSTEM OF BUILDING. THE INSTALLATION SHALL MEET
ALL CIRCUIT OTHERWISE PROVIDED W ALL CIRCUIT CONDUCTOF GROUND. ALL FIXTURE WITH 12 GAL OR EXCEED ELECTRICAL	VITH 2P OR 3P BREAKERS AS REQUIRED PER NEC210.4. S (LIGHTING AND POWER) SHALL BE PROVIDED WITH AN INSULATED EQUIPMENT GROUND R SIZED IN ACCORDANCE WITH THE NEC. THE RACEWAY SHALL NOT BE USED AN EQUIPMENT S SHALL BE SUPPORTED FROM EACH CORNER (INDEPENDENT OF THE SUSPENDED CEILING) IGE WIRE CONNECTED TO STRUCTURAL SYSTEM OF BUILDING. THE INSTALLATION SHALL MEET THE SEISMIC REQUIREMENTS OF LOCAL AND NATIONAL CODES. DEVICE MOUNTING HEIGHTS, UNO:
ALL CIRCUIT OTHERWISE PROVIDED W ALL CIRCUIT CONDUCTOF GROUND. ALL FIXTURE WITH 12 GAL OR EXCEED	VITH 2P OR 3P BREAKERS AS REQUIRED PER NEC210.4. S (LIGHTING AND POWER) SHALL BE PROVIDED WITH AN INSULATED EQUIPMENT GROUND R SIZED IN ACCORDANCE WITH THE NEC. THE RACEWAY SHALL NOT BE USED AN EQUIPMENT S SHALL BE SUPPORTED FROM EACH CORNER (INDEPENDENT OF THE SUSPENDED CEILING) IGE WIRE CONNECTED TO STRUCTURAL SYSTEM OF BUILDING. THE INSTALLATION SHALL MEET THE SEISMIC REQUIREMENTS OF LOCAL AND NATIONAL CODES. DEVICE MOUNTING HEIGHTS, UNO:
ALL CIRCUIT OTHERWISE PROVIDED W ALL CIRCUIT CONDUCTOF GROUND. ALL FIXTURE WITH 12 GAL OR EXCEED ELECTRICAL PANELBOAR SWITCHES RECEPTACLI	//TH 2P OR 3P BREAKERS AS REQUIRED PER NEC210.4. S (LIGHTING AND POWER) SHALL BE PROVIDED WITH AN INSULATED EQUIPMENT GROUND R SIZED IN ACCORDANCE WITH THE NEC. THE RACEWAY SHALL NOT BE USED AN EQUIPMENT SS SHALL BE SUPPORTED FROM EACH CORNER (INDEPENDENT OF THE SUSPENDED CEILING) IGE WIRE CONNECTED TO STRUCTURAL SYSTEM OF BUILDING. THE INSTALLATION SHALL MEET THE SEISMIC REQUIREMENTS OF LOCAL AND NATIONAL CODES. DEVICE MOUNTING HEIGHTS, UNO: DS 78" AFF TO TOP OF PANEL 46" AFF TO CENTER OF SWITCH ES 18" AFF TO CENTER OF RECEPTACLE
ALL CIRCUIT OTHERWISE PROVIDED W ALL CIRCUIT CONDUCTOF GROUND. ALL FIXTURE WITH 12 GAL OR EXCEED ELECTRICAL PANELBOAR SWITCHES RECEPTACLI	/ITH 2P OR 3P BREAKERS AS REQUIRED PER NEC210.4. S (LIGHTING AND POWER) SHALL BE PROVIDED WITH AN INSULATED EQUIPMENT GROUND & SIZED IN ACCORDANCE WITH THE NEC. THE RACEWAY SHALL NOT BE USED AN EQUIPMENT IS SHALL BE SUPPORTED FROM EACH CORNER (INDEPENDENT OF THE SUSPENDED CEILING) IGE WIRE CONNECTED TO STRUCTURAL SYSTEM OF BUILDING. THE INSTALLATION SHALL MEET THE SEISMIC REQUIREMENTS OF LOCAL AND NATIONAL CODES. DEVICE MOUNTING HEIGHTS, UNO: DS 78" AFF TO TOP OF PANEL 46" AFF TO CENTER OF SWITCH

SCALE ON THE FLOOR PLANS.

4. THE ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR PROVIDING EQUIPMENT THAT WILL FIT WITHIN THE

DISCONNECTS, ETC.) WITH CIRCUIT NUMBER AND PANELBOARD DESIGNATION. RECEPTACLES, SWITCHES,

6. PANELBOARDS, DISCONNECT SWITCHES, AND SIMILAR DEVICES TO HAVE ENGRAVED, SELF-ADHESIVE,

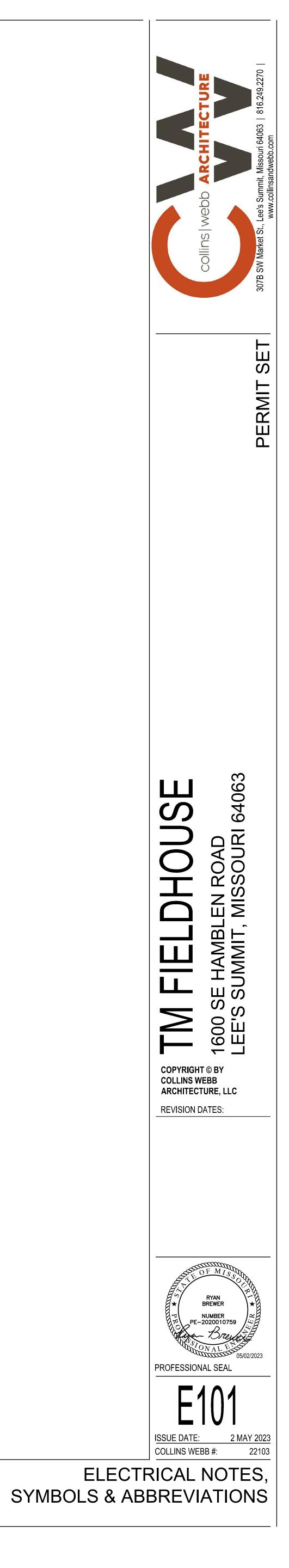
SPACES SHOWN ON THE PLANS AND COMPLYING WITH ALL CODE REQUIRED CLEARANCES. 15. ELECTRICAL CONTRACTOR TO LABEL ALL DEVICES (RECEPTACLES, SWITCHES, PANELBOARDS,

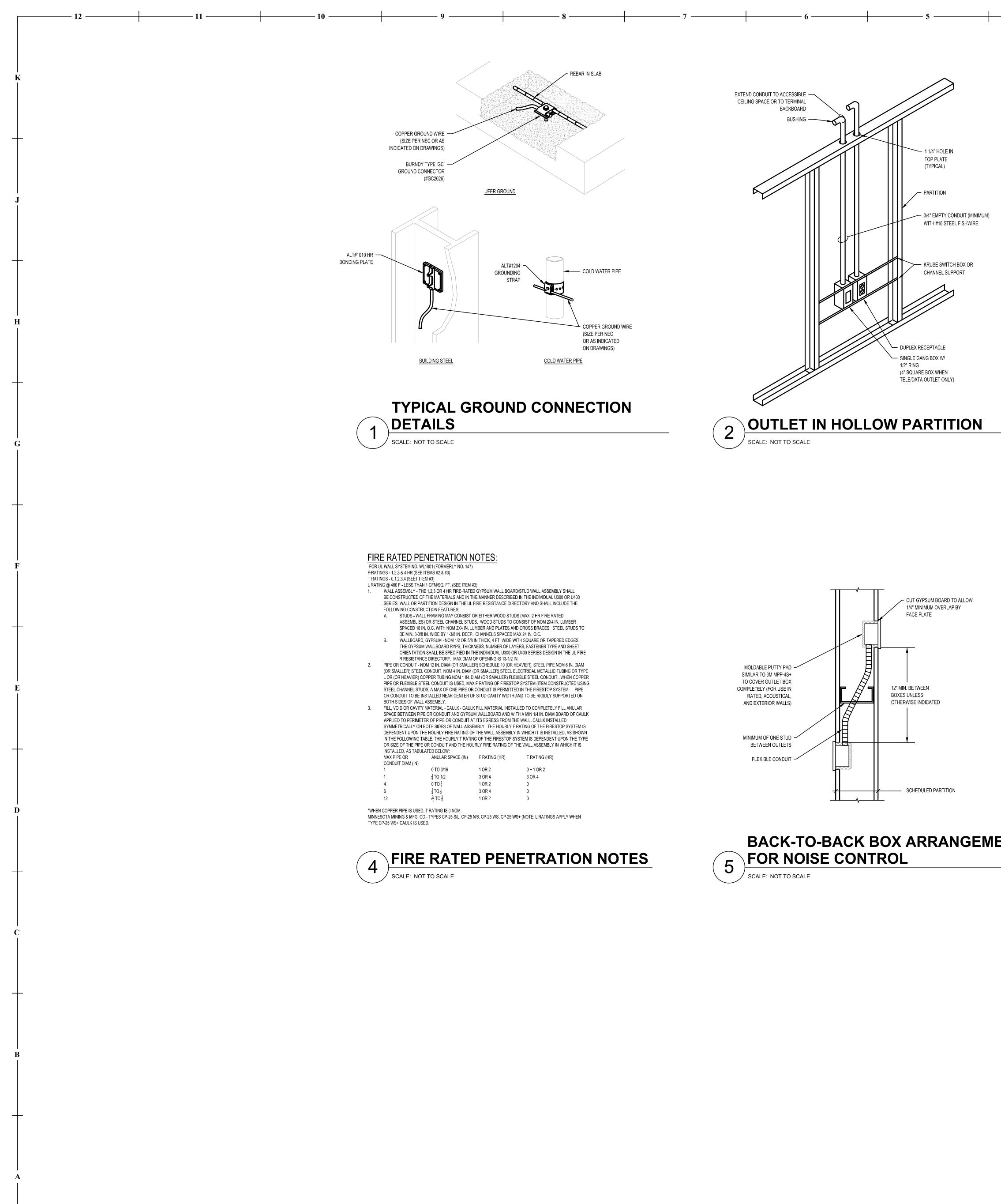
LAMINATED ACRYLIC LABEL (BLACK W/ WHITE LETTERING). 17. PROVIDE TYPE-WRITTEN PANELBOARD SCHEDULES FOR ALL ELECTRICAL PANELBOARDS.

AND SIMILAR DEVICES TO HAVE PRE-PRINTED, SELF ADHESIVE LABEL.

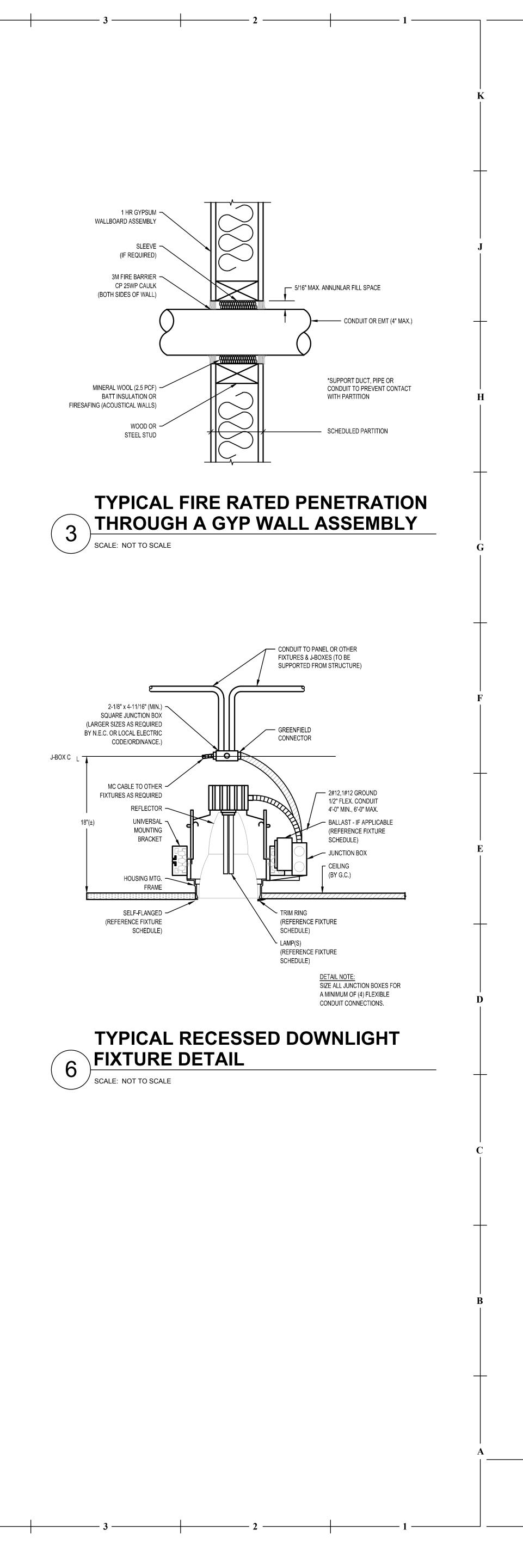
	LIGHTING FIXTURES/DEVICE	S		POWER EQUIPMENT/DEVIC	ES
SYMBOL	DESCRIPTION	MOUNTING	SYMBOL	DESCRIPTION	MOUNTING
OA	DOWNLIGHT (LETTER INDICATES FIXTURE TYPE) REFER TO LIGHT FIXTURE SCHEDULE	CEILING		SWITCHBOARD OR DISTRIBUTION PANEL REFER TO PANEL SCHEDULES	
ô A	DIRECTIONAL DOWNLIGHT (LETTER INDICATES FIXTURE TYPE) REFER TO LIGHT FIXTURE SCHEDULE	CEILING		DRY-TYPE TRANSFORMER REFER TO PLANS FOR KVA RATING	
ΜΑ	WALL MOUNTED LIGHT FIXTURE (LETTER INDICATES FIXTURE TYPE) REFER TO LIGHT FIXTURE SCHEDULE	WALL		120/208V, 3Ø, 4W PANELBOARD REFER TO PANEL SCHEDULES	
A	LINEAR LIGHT FIXTURE (LETTER INDICATES FIXTURE TYPE) REFER TO LIGHT FIXTURE SCHEDULE	CEILING OR SUSPENDED		277/480V, 3Ø, 4W PANELBOARD REFER TO PANEL SCHEDULES	
A	2X4 LIGHT FIXTURE (LETTER INDICATES FIXTURE TYPE) REFER TO LIGHT FIXTURE SCHEDULE	CEILING	<u>Q</u> 0	JUNCTION BOX	WALL OR CEILING
A	2X2 LIGHT FIXTURE (LETTER INDICATES FIXTURE TYPE) REFER TO LIGHT FIXTURE SCHEDULE	CEILING	30/20/3	FUSED SAFETY SWITCH (E.G. 30/20/3 INDICATES A 30A, 3-POLE SWITCH WITH 20A FUSES)	
11 × 11/1/1/1/1	HATCHING ON FIXTURE INDICATES FIXTURE TO HAVE EMERGENCY BACK-UP		30/NF/3L	NON-FUSED SAFETY SWITCH (E.G. 30/NF/3 INDICATES A 30A, 3-POLE SWITCH WITHOUT FUSES)	
1111111111111	TWO HEAD EMERGENCY LIGHT FIXTURE (LETTER INDICATES FIXTURE TYPE) REFER TO LIGHT FIXTURE SCHEDULE	WALL OR CEILING	S™	MOTOR RATED SWITCH	
	EMERGENCY EXIT SIGN. PROVIDE ARROW(S) AS INDICATED. SHADING INDICATES FACE (LETTER INDICATES FIXTURE TYPE) REFER TO LIGHT FIXTURE SCHEDULE	WALL OR CEILING	Ŋ	MOTOR	
S	SINGLE POLE SWITCH 20A (120/277V)	WALL - 48" AFF	θ	NEMA 5-20R SIMPLEX RECEPTACLE	WALL - 18" AFF
S ₃	THREE WAY SWITCH 20A (120/277V)	WALL - 48" AFF	Ð	NEMA 5-20R DUPLEX RECEPTACLE	WALL - 18" AFF
S ₄	FOUR WAY SWITCH 20A (120/277V)	WALL - 48" AFF	÷Ə	NEMA 5-20R DUPLEX RECEPTACLE MOUNTED ABOVE COUNTER	WALL - 6" ABOVE FINISHED COUNTER U.N.O.
HZ	WALL BOX DIMMER SWITCH	WALL - 48" AFF	#	NEMA 5-20R QUAD-PLEX RECEPTACLE	WALL - 18" AFF
$\Theta_x \overline{\nabla}_x$	CEILING OR WALL MOUNTED OCCUPANCY SENSOR (LETTER INDICATES SENSOR TYPE) REFER TO LIGHTING CONTROLS SCHEDULE	WALL OR CEILING	÷	NEMA 5-20R SPLIT RECEPTACLE. TOP OUTLET WIRED HOT. BOTTOM OUTLET SWITCHED.	WALL - 18" AFF
HCX	LOW-VOLTAGE CONTROL STATION (LETTER INDICATES CONTROL STATION TYPE) REFER TO LIGHTING CONTROLS SCHEDULE	WALL - 48" AFF	₩ Ø	SPECIAL PURPOSE RECEPTACLE REFER TO PLANS FOR NEMA CONFIGURATION	WALL - 18" AFF OR CEILING
PCX	PHOTOCELL SENSOR (LETTER INDICATES SENSOR TYPE) REFER TO LIGHTING CONTROLS SCHEDULE	FIELD VERIFY	₩USB	NEMA 5-20R - DUPLEX RECEPTACLE WITH USB PORTS SIMILAR TO HUBBELL #USB20AC5W	WALL - 18" AFF
PP	POWERPACK (LETTER INDICATES POWERPACK TYPE) REFER TO LIGHTING CONTROLS SCHEDULE	ACCESSIBLE CEILING	Ф	NEMA 5-20R DUPLEX RECEPTACLE MOUNTED ON CEILING	CEILING - FLUSH
COMM	UNICATION/LOW-VOLTAGE [DEVICES	FB1	HUBBELL CFB4 SERIES FLOOR BOX (OR EQUAL) WITH (2) DUPLEX RECEPTACLES AND DATA/COMMUNICATION CONNECTION CAPABILITY	FLOOR - FLUSH
SYMBOL	DESCRIPTION	MOUNTING	FB2	HUBBELL B24 SERIES FLOOR BOX (OR EQUAL) WITH (1) DUPLEX RECEPTACLE AND DATA/COMMUNICATION CONNECTION CAPABILITY	FLOOR - FLUSH
CR			FB3	HUBBELL B24 SERIES FLOOR BOX (OR EQUAL) FOR POWER AND DATA CONNECTIONS TO PRE-WIRED FURNITURE VERIFY EXACT CONNECTION WITH FURNITURE VENDOR	FLOOR - FLUSH
¥	DATA, TELEPHONE, OR COMBO TELE/DATA OUTLET PROVIDE PULLSTRING IN CONDUIT TO ACCESSIBLE CEILING	WALL - 18" AFF	РК1	HUBBELL S1PT SERIES 4" POKE-THRU (OR EQUAL) WITH (2) DUPLEX RECEPTACLES AND DATA/COMMUNICATION CONNECTION CAPABILITY	FLOOR - FLUSH
	DATA, TELEPHONE, OR COMBO TELE/DATA OUTLET PROVIDE PULLSTRING IN CONDUIT TO ACCESSIBLE CEILING	FLOOR OR CEILING	PK2	HUBBELL S1PTFF SERIES 4" POKE-THRU (OR EQUAL) FOR POWER AND DATA CONNECTIONS TO PRE-WIRED FURNITURE VERIFY EXACT CONNECTION WITH FURNITURE VENDOR	FLOOR - FLUSH
	TELEVISION OUTLET	WALL OR CEILING	РКЗ	HUBBELL S1R6 SERIES 6" POKE-THRU (OR EQUAL) WITH (2) DUPLEX RECEPTACLES AND DATA/COMMUNICATION AND	FLOOR - FLUSH
	SPEAKER OUTLET	FIELD VERIFY		A/V CONNECTION CAPABILITY CONDUIT IN OR UNDER FLOOR/GRADE	
'TTB'	TELEPHONE TERMINAL BOARD	WALL		CONDUCTOR HOME RUN - () HOT, () NUETRAL, () EQUIPMENT GROUND, & () ISOLATED GROUND	
	SECURITY CAMERA OUTLET	FIELD VERIFY		EQUIPMENT CONNECTION	
▣	PUSH BUTTON			CONDUIT IN CEILING OR WALL	

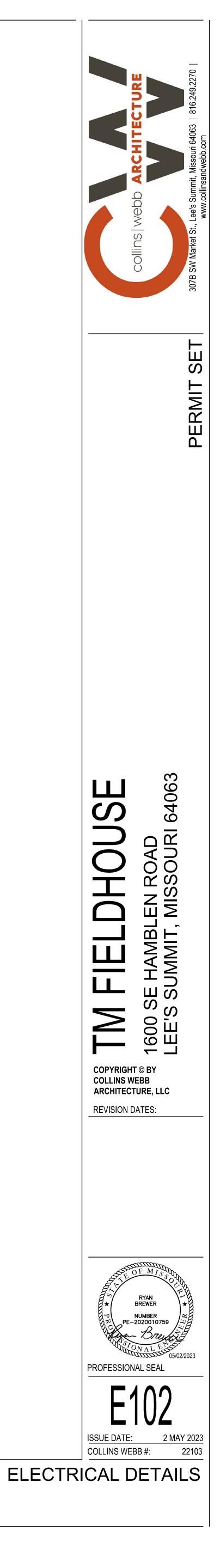
NOTE: NOT ALL SYMBOLS MAY BE USED.

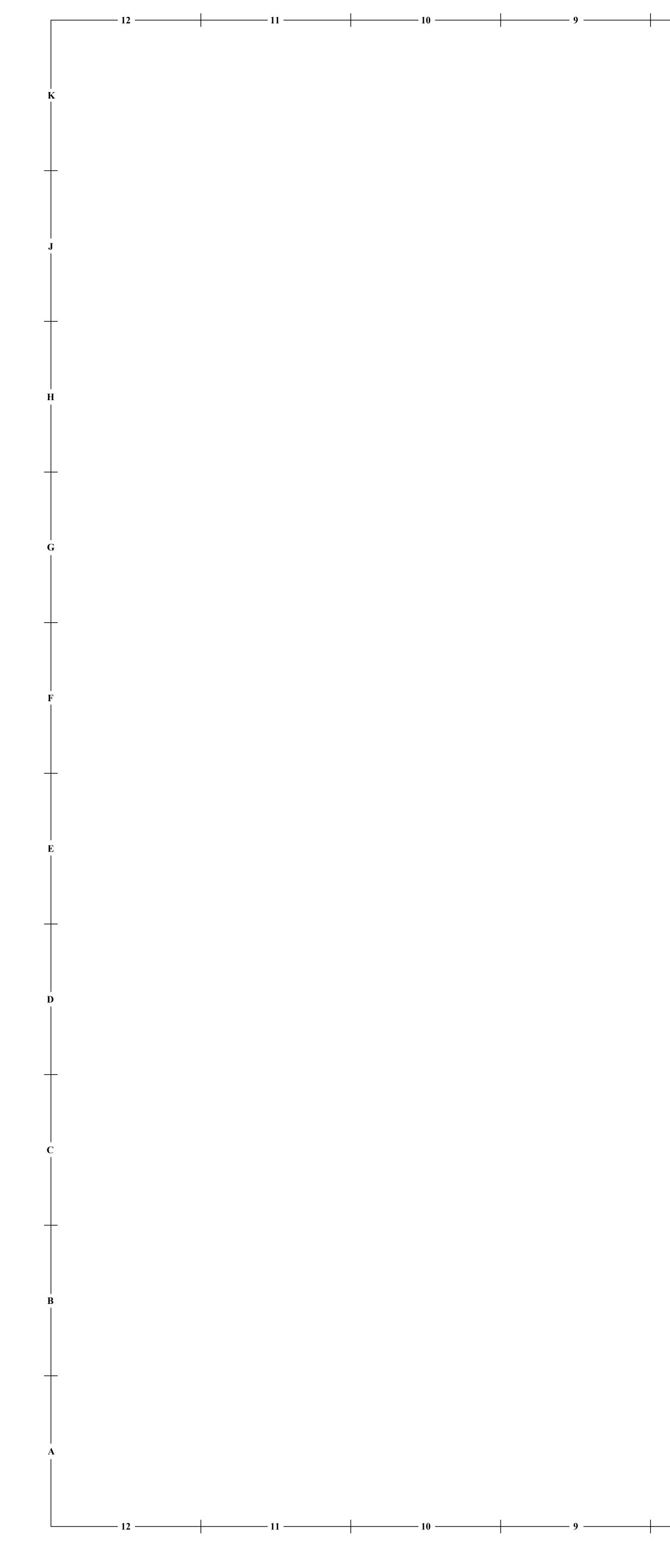


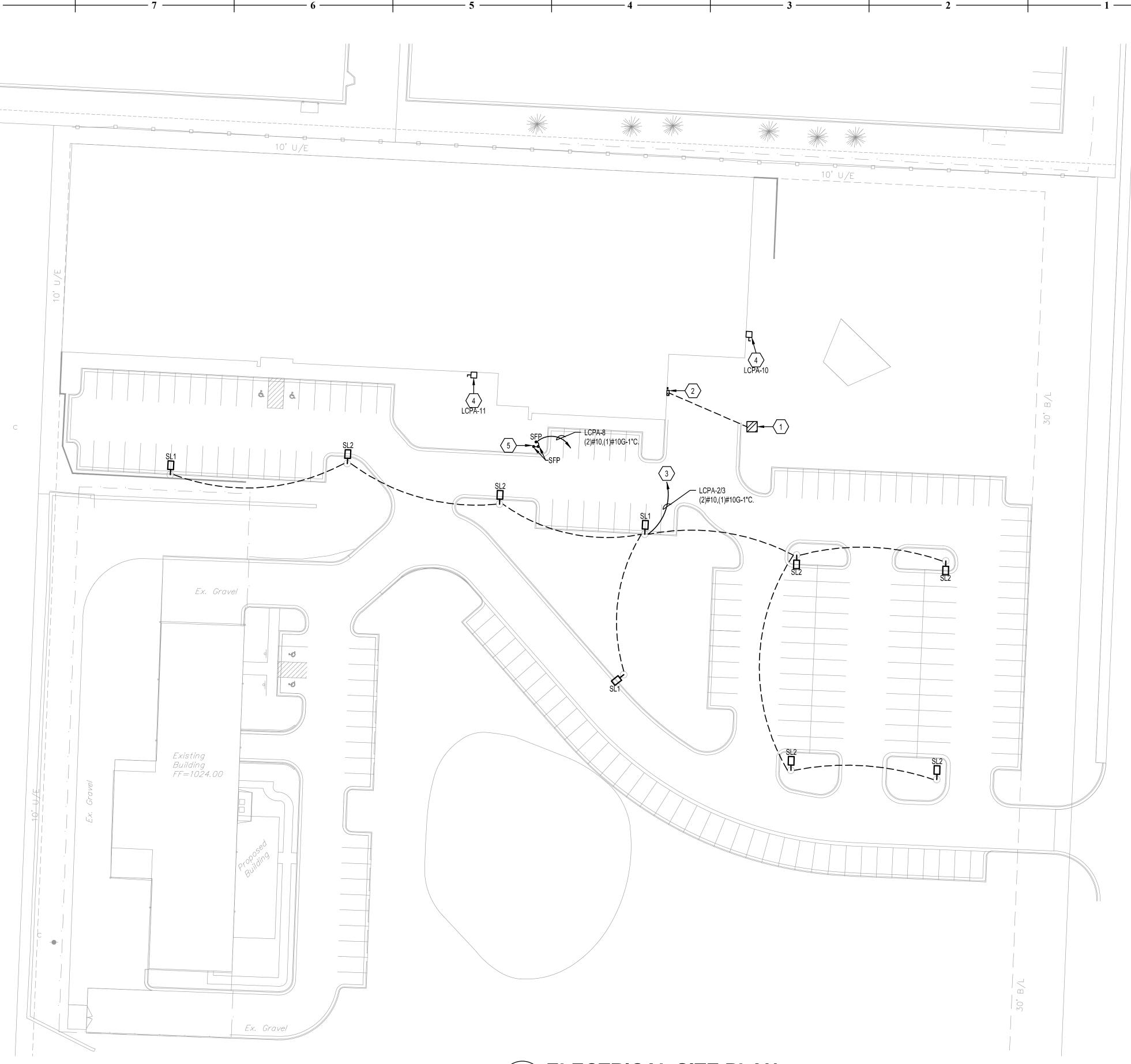


BACK-TO-BACK BOX ARRANGEMENT





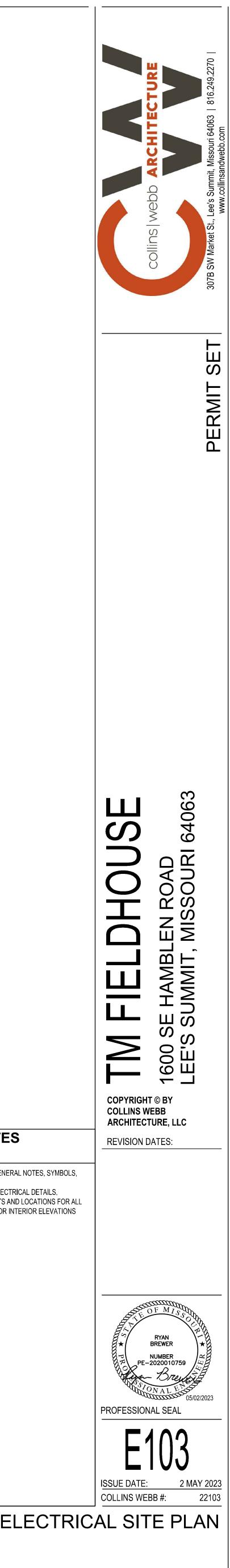




SCALE: 1/32" = 1'-0"

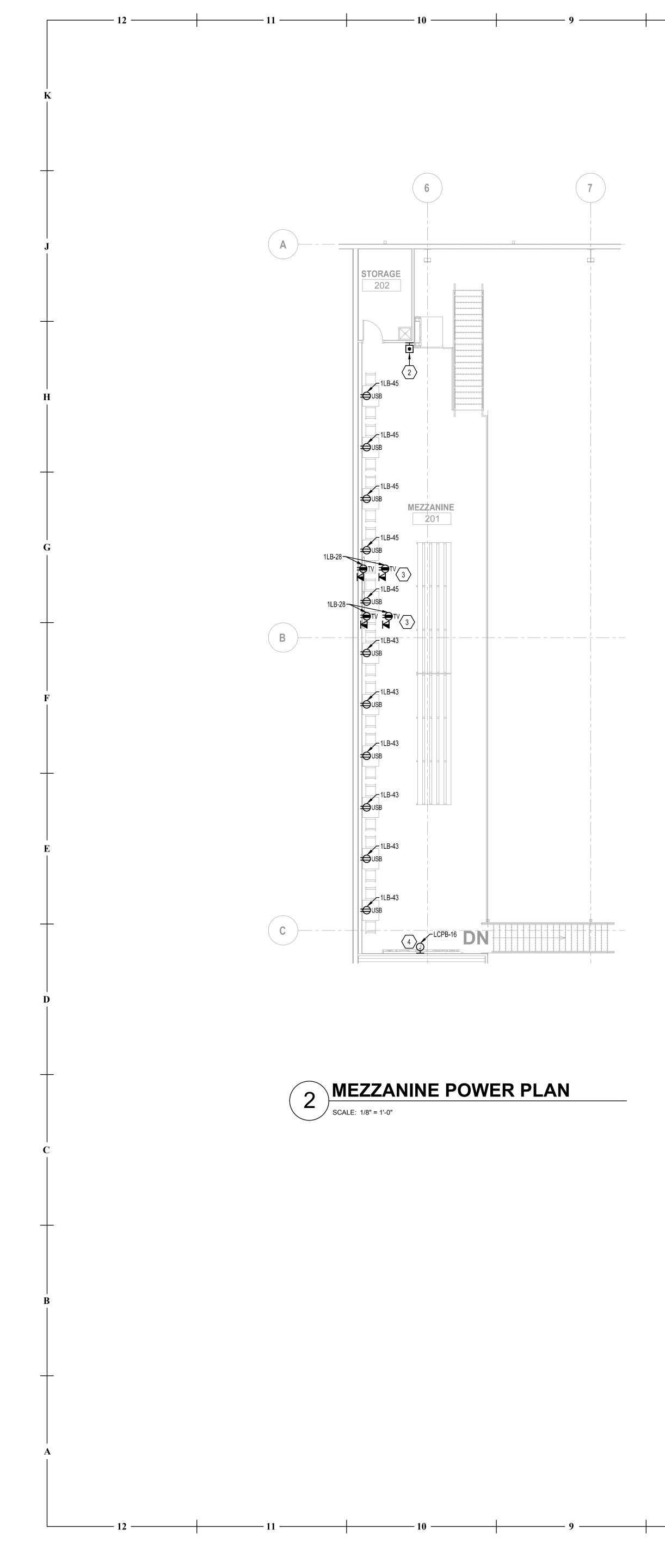
ELECTRICAL SITE PLAN

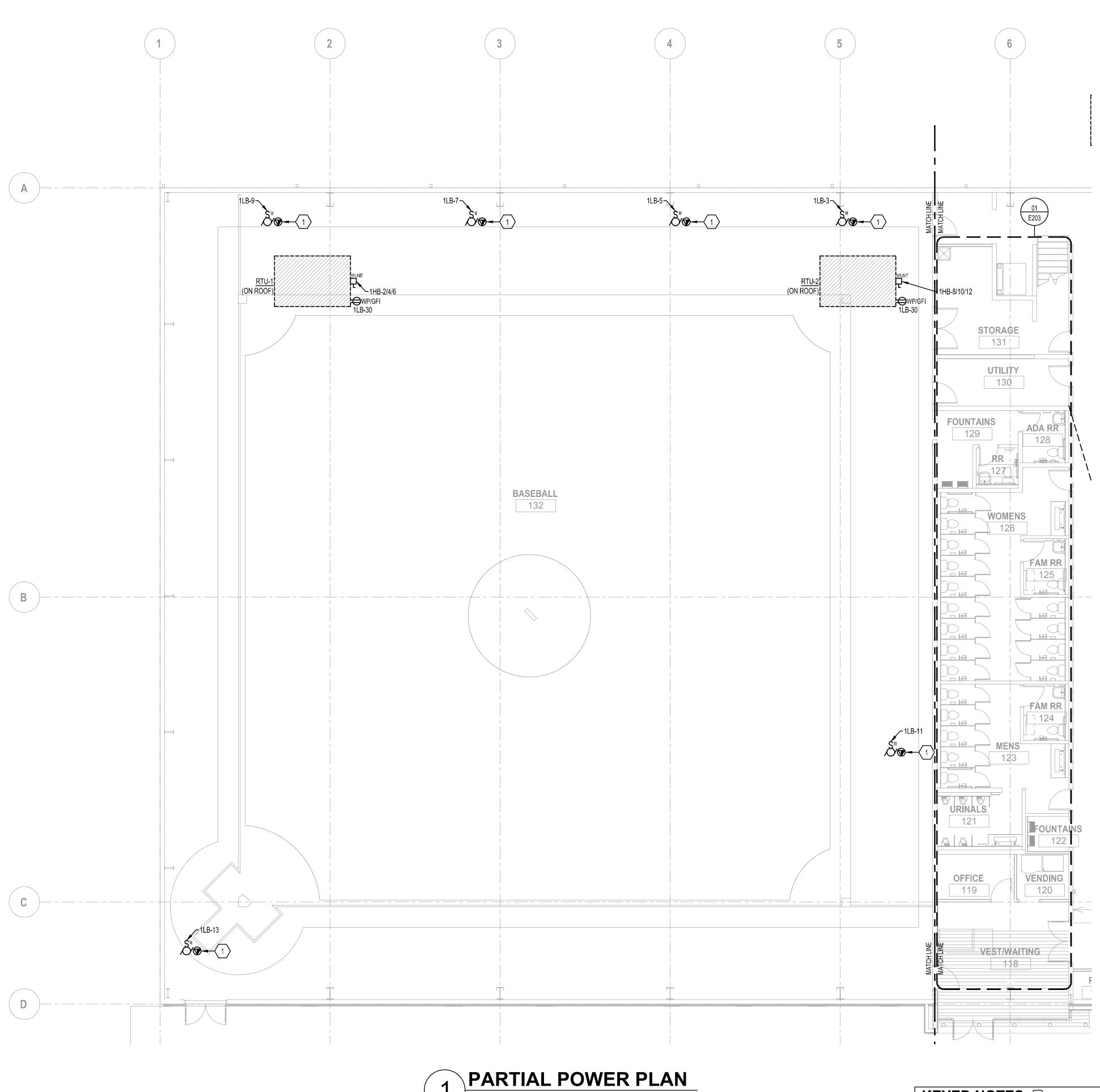
		GENERAL NOTE
		(NOT ALL NOTES APPLY)
 TRANSFORMER. REFLOCATION. 2. UTILITY CO. CT CABINFOR ADDITIONAL INF 3. LIGHTING CONTROLFIXTURES TO BE 'ONPHOTOCELL OVERRIFICATION SIGNAGE.ROUGH-IN. 5. IN-GRADE FIXTURES 	INTENT FOR EXTERIOR LIGHTING IS FOR //OFF' VIA TIME-OF-DAY SCHEDULE WITH	 REFERENCE SHEET E101 FOR GENER AND ABBREVIATIONS. REFERENCE SHEET E102 FOR ELECTI COORDINATE MOUNTING HEIGHTS AN DEVICES WITH ARCHITECT AND/OR IN PRIOR TO ROUGH-IN.
		E



ES

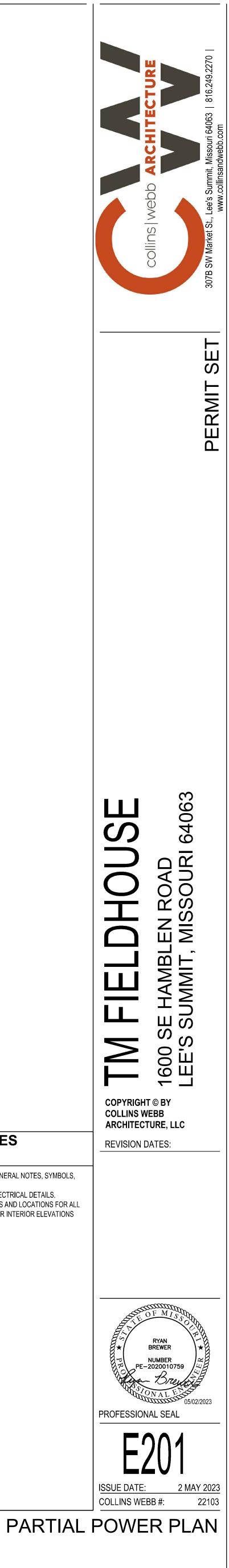
NERAL NOTES, SYMBOLS, LECTRICAL DETAILS. TS AND LOCATIONS FOR ALL OR INTERIOR ELEVATIONS





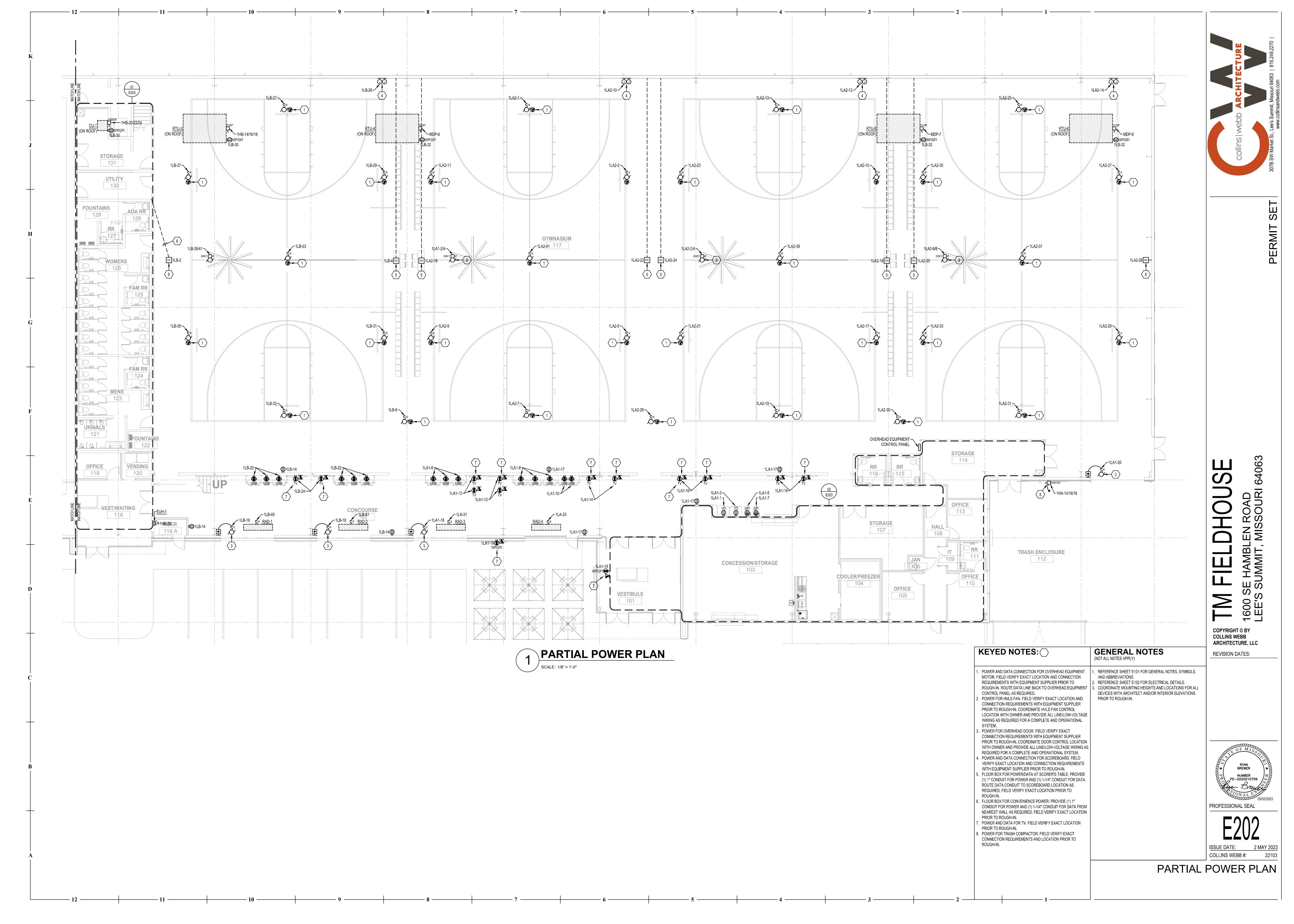
SCALE: 1/8" = 1'-0"

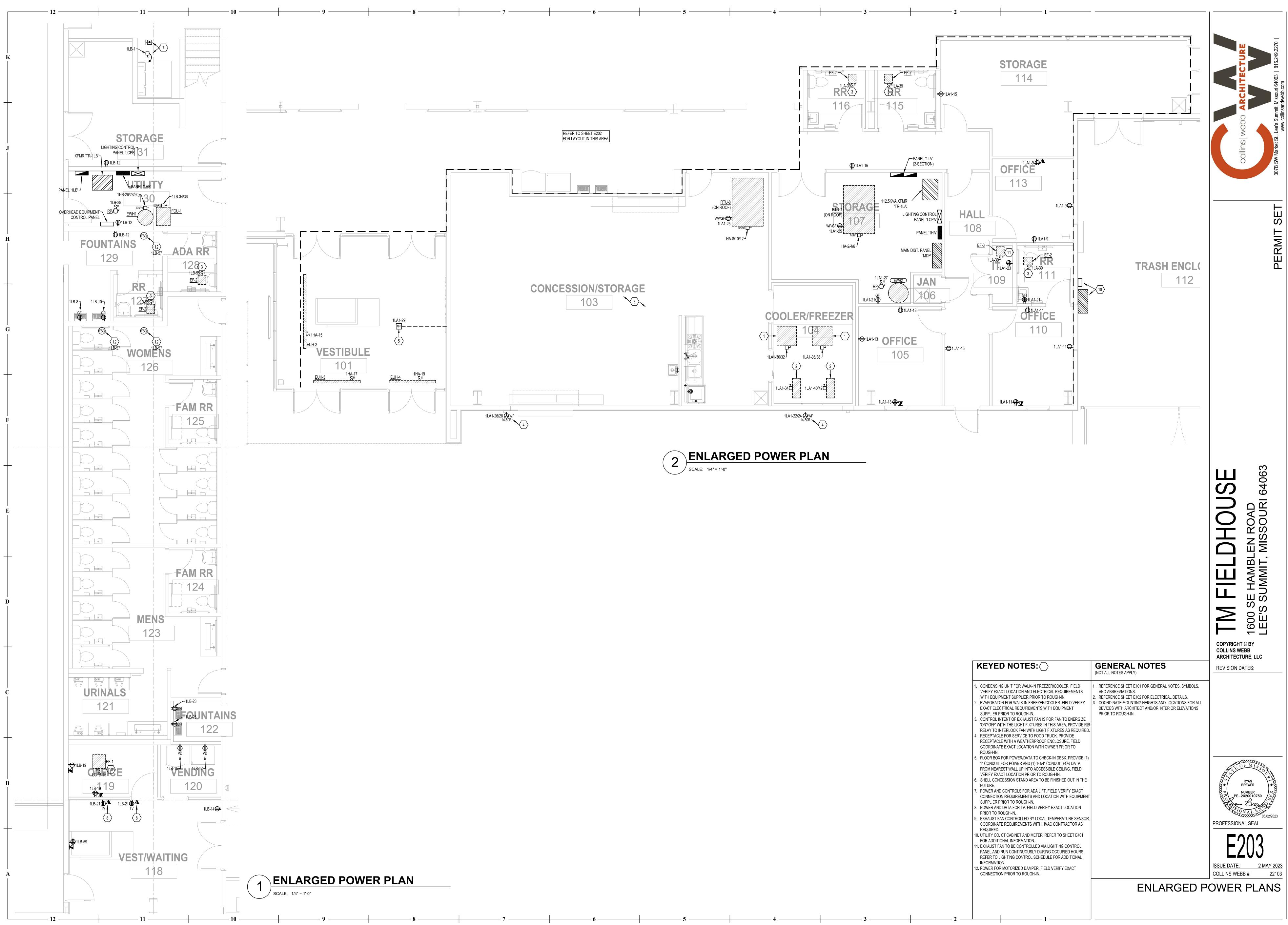
_		
	KEYED NOTES:	GENERAL NOTES (NOT ALL NOTES APPLY)
2	 POWER AND DATA CONNECTION FOR OVERHEAD EQUIPMENT MOTOR. FIELD VERIFY EXACT LOCATION AND CONNECTION REQUIREMENTS WITH EQUIPMENT SUPPLIER PRIOR TO ROUGH-IN. ROUTE DATA LINE BACK TO OVERHEAD EQUIPMENT CONTROL PANEL AS REQUIRED. CONTROLS FOR ADA LIFT. FIELD VERIFY EXACT CONNECTION REQUIREMENTS AND LOCATION WITH EQUIPMENT SUPPLIER PRIOR TO ROUGH-IN. POWER AND DATA FOR TV. FIELD VERIFY EXACT LOCATION PRIOR TO ROUGH-IN. POWER FOR ILLUMINATED SIGNAGE. FIELD VERIFY EXACT CONNECTION PRIOR TO ROUGH-IN. 	 REFERENCE SHEET E101 FOR GENER/ AND ABBREVIATIONS. REFERENCE SHEET E102 FOR ELECTR COORDINATE MOUNTING HEIGHTS AN DEVICES WITH ARCHITECT AND/OR IN PRIOR TO ROUGH-IN.
		F



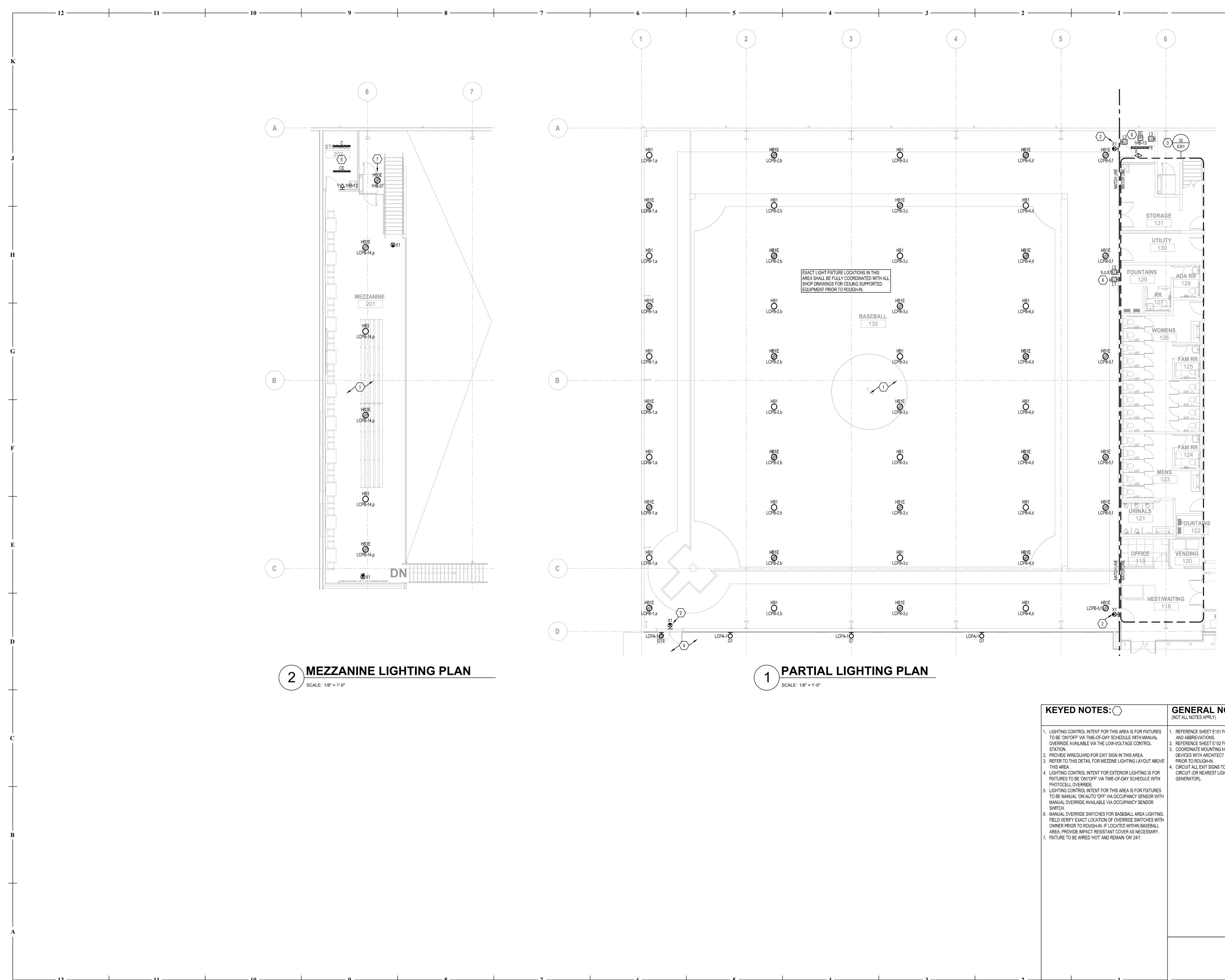
S

IERAL NOTES, SYMBOLS, ECTRICAL DETAILS. S AND LOCATIONS FOR ALL R INTERIOR ELEVATIONS

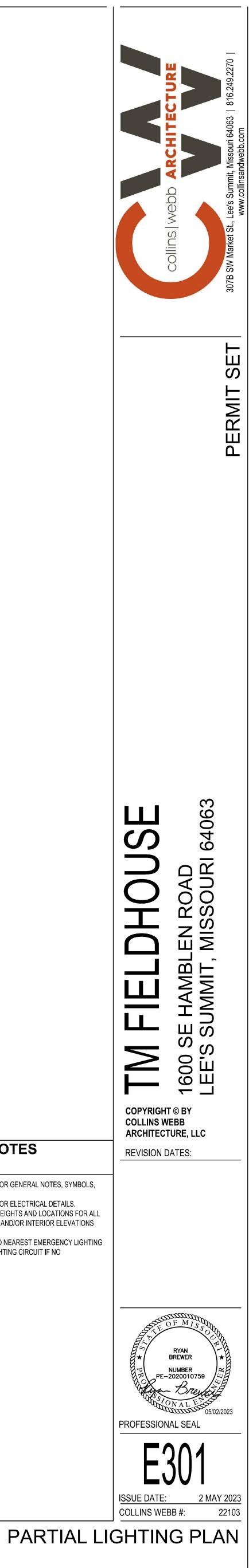




 CONDENSING UNIT FOR WALK-IN FREEZER/COOLER. FIELD VERIFY EXACT LOCATION AND ELECTRICAL REQUIREMENTS WITH EQUIPMENT SUPPLIER PRIOR TO ROUGH-IN. EVAPORATOR FOR WALK-IN FREEZER/COOLER. FIELD VERIFY EXACT ELECTRICAL REQUIREMENTS WITH EQUIPMENT SUPPLIER PRIOR TO ROUGH-IN. CONTROL INTENT OF EXHAUST FAN IS FOR FAN TO ENERGIZE 'ON'/OFF' WITH THE LIGHT FIXTURES IN THIS AREA. PROVIDE RIB RELAY TO INTERLOCK FAN WITH LIGHT FIXTURES AS REQUIRED. RECEPTACLE FOR SERVICE TO FOOD TRUCK. PROVIDE RECEPTACLE WITH A WEATHERPROOF ENCLOSURE. FIELD COORDINATE EXACT LOCATION WITH OWNER PRIOR TO ROUGH-IN. FLOOR BOX FOR POWER/DATA TO CHECK-IN DESK. PROVIDE (1) 1" CONDUIT FOR POWER AND (1) 1-1/4" CONDUIT FOR DATA FROM NEAREST WALL UP INTO ACCESSIBLE CEILING. FIELD VERIFY EXACT LOCATION PRIOR TO ROUGH-IN. SHELL CONCESSION STAND AREA TO BE FINISHED OUT IN THE FUTURE. POWER AND CONTROLS FOR ADA LIFT. FIELD VERIFY EXACT CONNECTION REQUIREMENTS AND LOCATION WITH EQUIPMENT SUPPLIER PRIOR TO ROUGH-IN. POWER AND DATA FOR TV. FIELD VERIFY EXACT LOCATION PRIOR TO ROUGH-IN. POWER AND DATA FOR TV. FIELD VERIFY EXACT LOCATION PRIOR TO ROUGH-IN. EXHAUST FAN CONTROLLED BY LOCAL TEMPERATURE SENSOR. COORDINATE REQUIREMENTS WITH HVAC CONTRACTOR AS REQUIRED. UTILITY CO. CT CABINET AND METER. REFER TO SHEET E401 FOR ADDITIONAL INFORMATION. EXHAUST FAN TO BE CONTROLLED VIA LIGHTING CONTROL PANEL AND RUN CONTINUOUSLY DURING OCCUPIED HOURS. REFER TO LIGHTING CONTROL SCHEDULE FOR ADDITIONAL INFORMATION. POWER FOR MOTORIZED DAMPER. FIELD VERIFY EXACT CONNECTION PRIOR TO ROUGH-IN. 	 REFERENCE SHEET E101 FOR GENER AND ABBREVIATIONS. REFERENCE SHEET E102 FOR ELECTI COORDINATE MOUNTING HEIGHTS AN DEVICES WITH ARCHITECT AND/OR IN PRIOR TO ROUGH-IN.
	ENLA



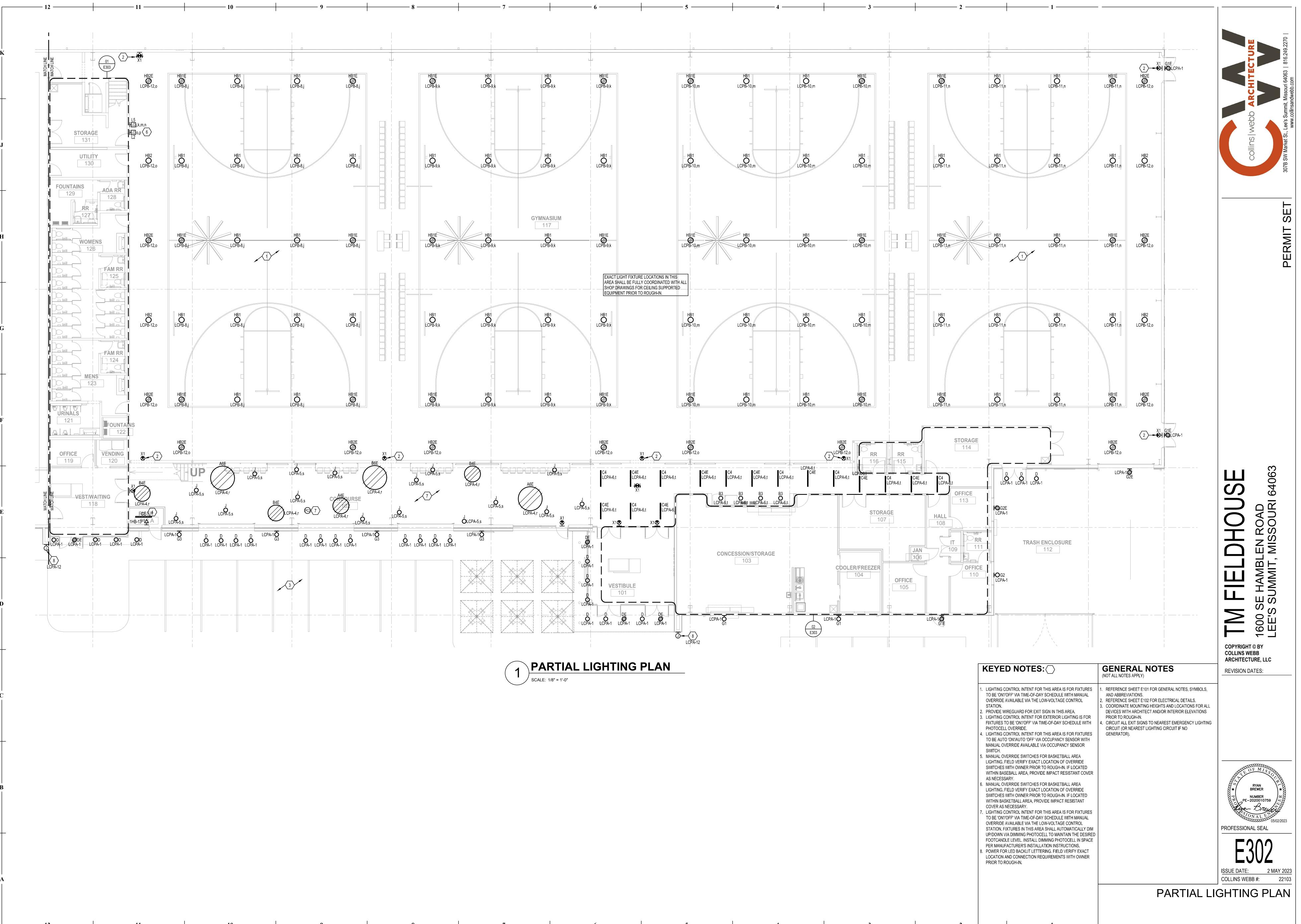
KEYED NOTES:	GENERAL NOTE (NOT ALL NOTES APPLY)
 LIGHTING CONTROL INTENT FOR THIS AREA IS FOR FIXTURES TO BE 'ON!'OFF' VIA TIME-OF-DAY SCHEDULE WITH MANUAL OVERRIDE AVAILABLE VIA THE LOW-VOLTAGE CONTROL STATION. PROVIDE WIREGUARD FOR EXIT SIGN IN THIS AREA. REFER TO THIS DETAIL FOR MEZZINE LIGHTING LAYOUT ABOVE THIS AREA. LIGHTING CONTROL INTENT FOR EXTERIOR LIGHTING IS FOR FIXTURES TO BE 'ON!'OFF' VIA TIME-OF-DAY SCHEDULE WITH PHOTOCELL OVERRIDE. LIGHTING CONTROL INTENT FOR THIS AREA IS FOR FIXTURES TO BE MANUAL 'ON!AUTO 'OFF' VIA OCCUPANCY SENSOR WITH MANUAL OVERRIDE AVAILABLE VIA OCCUPANCY SENSOR SWITCH. MANUAL OVERRIDE SWITCHES FOR BASEBALL AREA LIGHTING. FIELD VERIFY EXACT LOCATION OF OVERRIDE SWITCHES WITH OWNER PRIOR TO ROUGH-IN. IF LOCATED WITHIN BASEBALL AREA, PROVIDE IMPACT RESISTANT COVER AS NECESSARY. FIXTURE TO BE WIRED 'HOT' AND REMAIN 'ON' 24/7. 	 REFERENCE SHEET E101 FOR GENE AND ABBREVIATIONS. REFERENCE SHEET E102 FOR ELEC COORDINATE MOUNTING HEIGHTS A DEVICES WITH ARCHITECT AND/OR PRIOR TO ROUGH-IN. CIRCUIT ALL EXIT SIGNS TO NEARES CIRCUIT (OR NEAREST LIGHTING CIR GENERATOR).
	PA

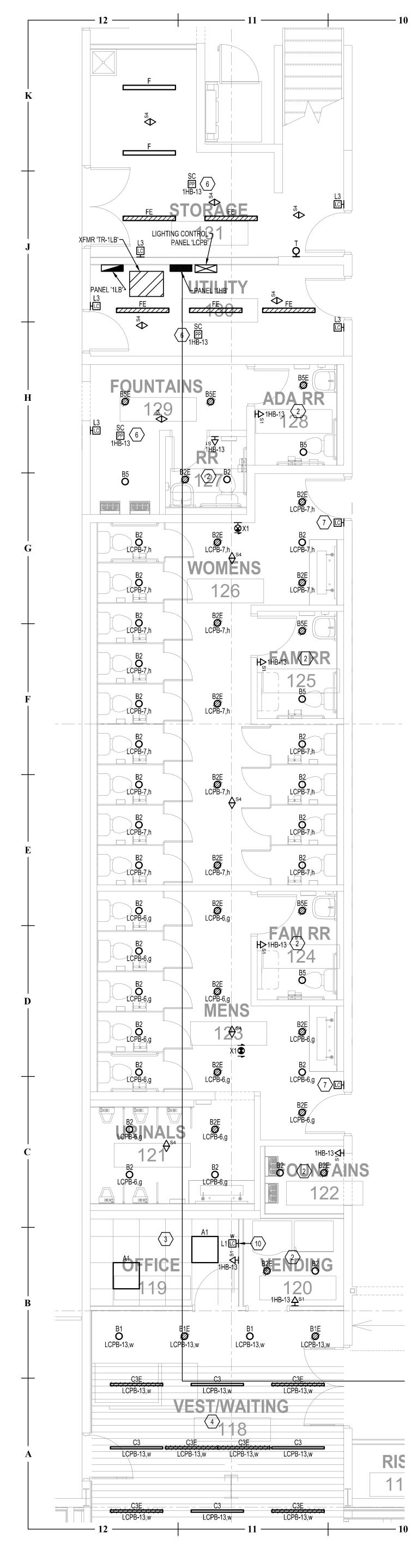


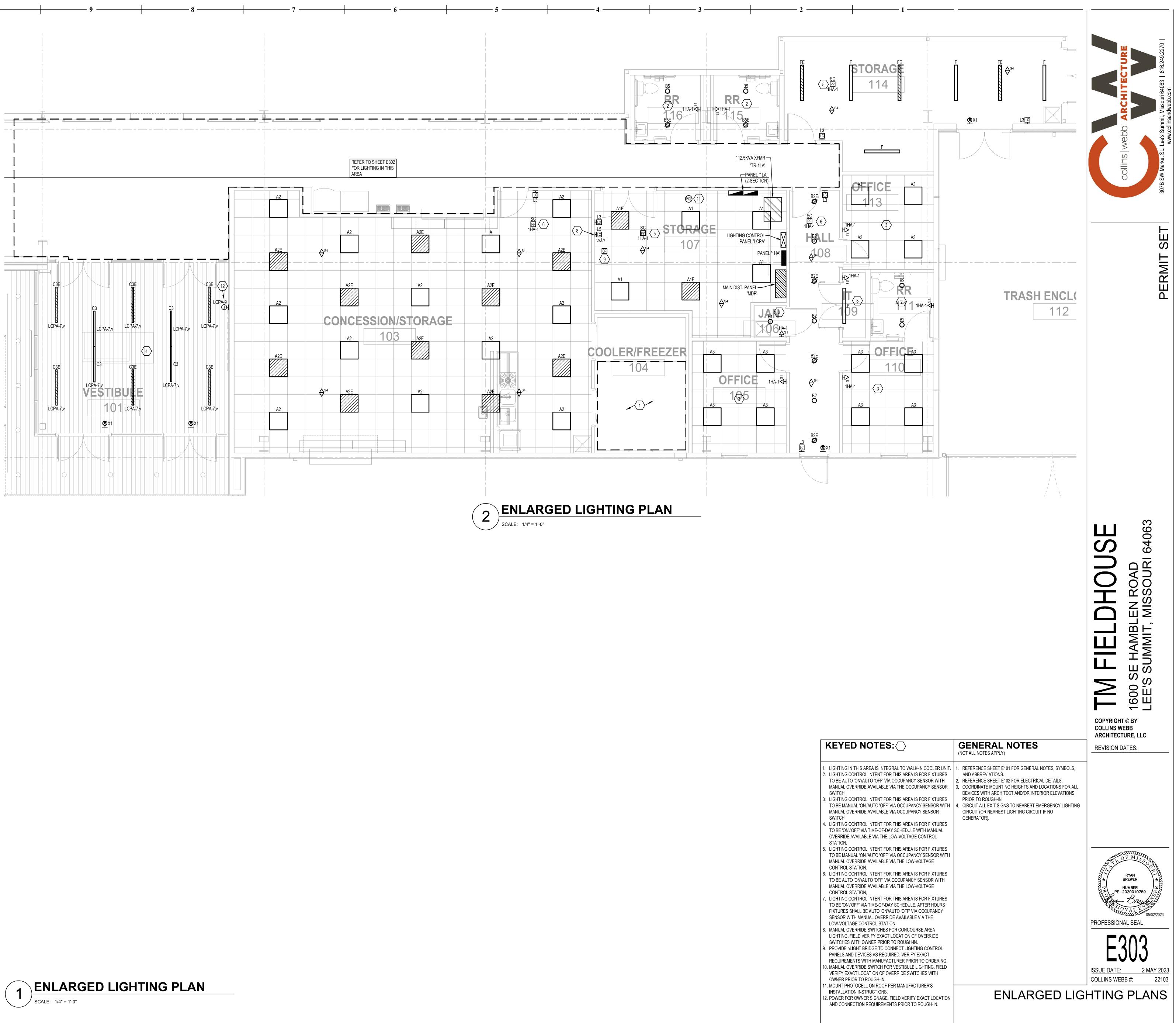
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NERAL NOTES, SYMBOLS, LECTRICAL DETAILS. TS AND LOCATIONS FOR ALL OR INTERIOR ELEVATIONS

REST EMERGENCY LIGHTING CIRCUIT IF NO

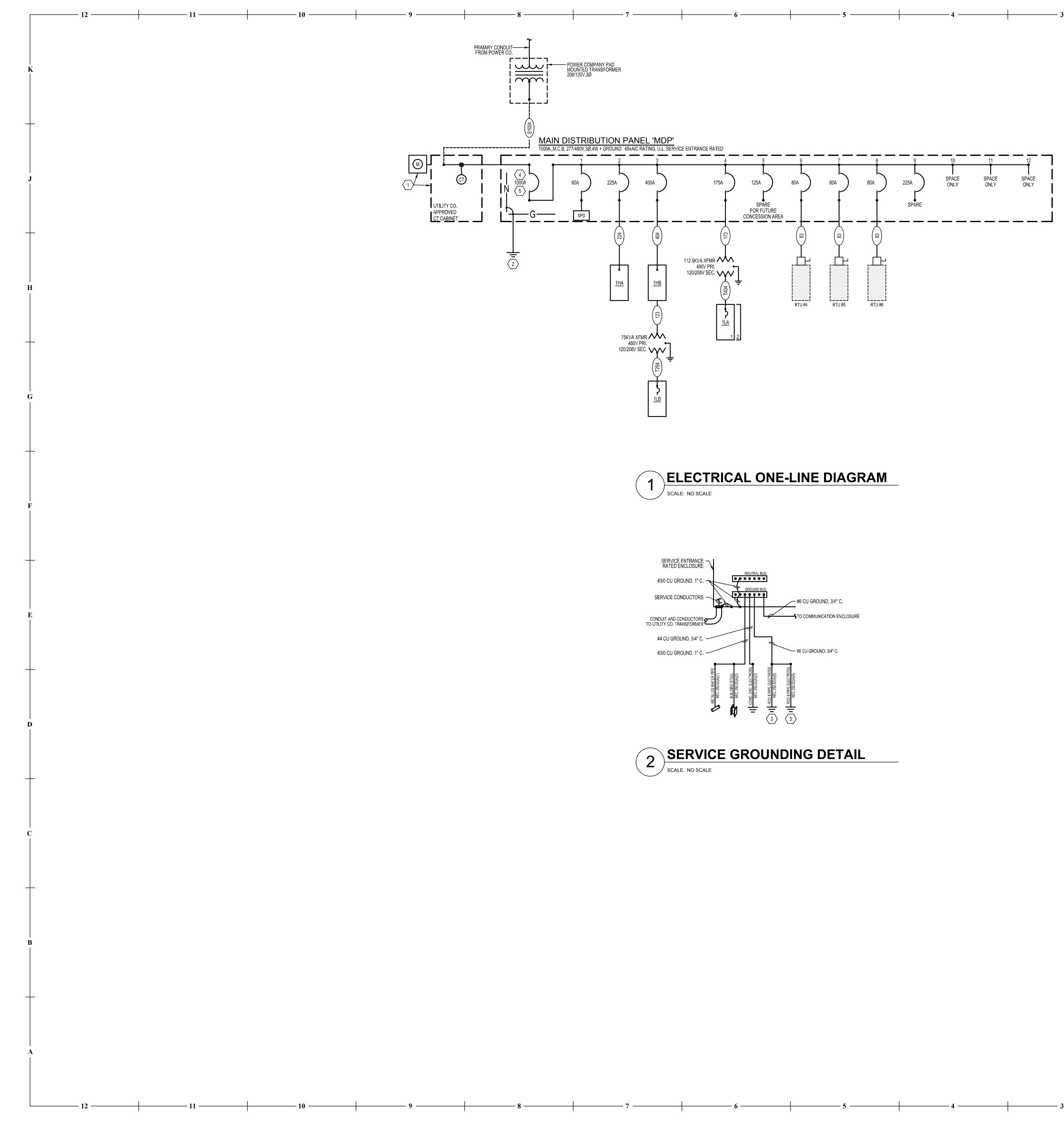








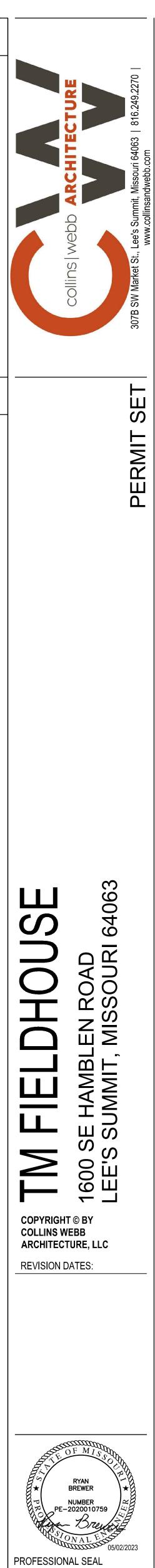
	KEYED NOTES:	GENERAL NOTES APPLY)
2. 3. 4. 5. 6. 7. 8. 9.	 LIGHTING IN THIS AREA IS INTEGRAL TO WALK-IN COOLER UNIT. LIGHTING CONTROL INTENT FOR THIS AREA IS FOR FIXTURES TO BE AUTO 'ON'/AUTO 'OFF' VIA OCCUPANCY SENSOR WITH MANUAL OVERRIDE AVAILABLE VIA THE OCCUPANCY SENSOR SWITCH. LIGHTING CONTROL INTENT FOR THIS AREA IS FOR FIXTURES TO BE MANUAL 'ON'/AUTO 'OFF' VIA OCCUPANCY SENSOR WITH MANUAL OVERRIDE AVAILABLE VIA OCCUPANCY SENSOR SWITCH. LIGHTING CONTROL INTENT FOR THIS AREA IS FOR FIXTURES TO BE 'ON'/OFF' VIA TIME-OF-DAY SCHEDULE WITH MANUAL OVERRIDE AVAILABLE VIA THE LOW-VOLTAGE CONTROL STATION. LIGHTING CONTROL INTENT FOR THIS AREA IS FOR FIXTURES TO BE MANUAL 'ON'/AUTO 'OFF' VIA OCCUPANCY SENSOR WITH MANUAL OVERRIDE AVAILABLE VIA THE LOW-VOLTAGE CONTROL STATION. LIGHTING CONTROL INTENT FOR THIS AREA IS FOR FIXTURES TO BE MANUAL 'ON'/AUTO 'OFF' VIA OCCUPANCY SENSOR WITH MANUAL OVERRIDE AVAILABLE VIA THE LOW-VOLTAGE CONTROL STATION. LIGHTING CONTROL INTENT FOR THIS AREA IS FOR FIXTURES TO BE AUTO 'ON'/AUTO 'OFF' VIA OCCUPANCY SENSOR WITH MANUAL OVERRIDE AVAILABLE VIA THE LOW-VOLTAGE CONTROL STATION. LIGHTING CONTROL INTENT FOR THIS AREA IS FOR FIXTURES TO BE 'ON'/OFF' VIA TIME-OF-DAY SCHEDULE. AFTER HOURS FIXTURES SHALL BE AUTO 'ON'/AUTO 'OFF' VIA OCCUPANCY SENSOR WITH MANUAL OVERRIDE AVAILABLE VIA THE LOW-VOLTAGE CONTROL STATION. MANUAL OVERRIDE SWITCHES FOR CONCOURSE AREA LIGHTING. FIELD VERIFY EXACT LOCATION OF OVERRIDE SWITCHES WITH OWNER PRIOR TO ROUGH-IN. PROVIDE NLIGHT BRIDGE TO CONNECT LIGHTING CONTROL PANELS AND DEVICES AS REQUIRED. VERIFY EXACT REQUIREMENTS WITH MANUFACTURER PRIOR TO ORDERING. MANUAL OVERRIDE SWITCH FOR VESTIBULE LIGHTING. FIELD VERIFY EXACT LOCATION OF OVERRIDE SWITCHES WITH OWNER PRIOR TO ROUGH-IN. MANUAL OVERRIDE SWITCH FOR VESTIBULE LIGHTING. FIELD VERIFY EXACT LOCATION OF OVERRIDE SWITCHES WITH OWNER PRIOR TO ROUGH-IN. MANUAL OVERRIDE SWITCH FOR VESTIBULE LIGHTING. FIELD VERIFY EXACT LOCATION OF OVERRIDE SWITCHES WI	 REFERENCE SHEET E101 FOR GENEF AND ABBREVIATIONS. REFERENCE SHEET E102 FOR ELECT COORDINATE MOUNTING HEIGHTS AI DEVICES WITH ARCHITECT AND/OR IN PRIOR TO ROUGH-IN. CIRCUIT ALL EXIT SIGNS TO NEARES' CIRCUIT (OR NEAREST LIGHTING CIR GENERATOR).
	INSTALLATION INSTRUCTIONS. 2. POWER FOR OWNER SIGNAGE. FIELD VERIFY EXACT LOCATION AND CONNECTION REQUIREMENTS PRIOR TO ROUGH-IN.	ENLAR



	-		I					_	ENERAL NOTES DT ALL NOTES APPLY)
	HWN COF		NDUCTO	RS W/ E	LE g condu conduc			₽ 2. C	REFERENCE SHEET E1.01 FOR GENERAL NO AND ABBREVIATIONS. COORDINATE MOUNTING HEIGHTS AND LOC
/		DUCTOF					k	K P	DEVICES WITH ARCHITECT AND/OR INTERIO PRIOR TO ROUGH-IN. FIELD VERIFY ALL ELECTRICAL WORK WITH 1
CODE SE	TS	CONE	UCTORS		RACEWAY	/ AMPS			TART OF PROJECT.
83 -	-	3#4,1#	#8G. (CU)		1"	85			
123 -	-	3#1,1#	#6G. (CU)		1-1/2"	130			
173 -	-	3#2/0,1	I#6G. (CU)		2"	175			
224 -	-	4#4/0,1	#4G. (CU)		2-1/2"	230			
404 2	2	4#3/0,1	1#3G. (CU)		2"	400			
T254 -	-	4#300KCI	M,1#2G. (CL)	3"	285	J	ſ	
<u> </u>	2	4#4/0,1#	#1/0G. (CU)		2-1/2"	460			
(\$1004) 3 NOTES:	3	4#400	KCM (CU)		3"	1005			
COND 2. ALL R/ 4(CHA 3. ELECT TERMI COND 4. VERIF ALLOV 5. EQUIP TO BE 6. ALUMI COND BRANCH CIRCUIT RATING (AMPS)	UCTORS W ACEWAY SI PTER 9), 40 TRICAL CON INATION TE UCTOR AM Y MAXIMUN WED W/ UTI MENT GRO ADJUSTED INUM FEED DUCTORS.	/ 75°C INSUL ZES (EMT/R)% FILL COL ITRACTOR ITRACTOR PACITY ANE A NO. OF SE LITY CO. UNDING CO PER T250.6 ERS NOT TO ERS NOT TO CIRCUIT HEDULE	ATION. MC/PVC 40 UMN. TO VERIFY / E RATINGS CONDUIT TS OF SER ONDUCTORS 6 FOR SEP D BE USED D BE USED VOLTAG FOR 1Ø) BASED ON ALL EQUIPN (IE, 60°C O SIZES ACCO VICE ENTRA B BASED ON ARATELY E ON TRANSF P CH E DROP CIRCUITS	ANCE CONDA N T250.122. (DERIVED SYS FORMER SEC TORMER SEC TORMER SEC TORMER SEC TORMER SEC	ABLE JCTOR JST UCTORS GROUND STEMS. CONDARY	H	1. F U 2. R 3. R 4. N 5. R	ROVIDE UTILITY METER AND CT CABINET P COMPANY STANDARDS. INSTALLATION SHA UTILITY COMPANY REQUIREMENTS AND LOC REFER TO DETAIL 2 (THIS SHEET) FOR ADDIT NFORMATION. REFER TO NEC 250.53 FOR ADDITIONAL INFO MAIN BREAKER TO HAVE AN 'LSIG' (LONG TIM NSTANTANEOUS AND GROUND FAULT) TRIP PROVIDE ARC ENERGY REDUCTION MAINTED REQUIRED PER NEC 240.87.
20A	#10	140	230	280	320	550			
	#6	215	375	430	500	870			
	#10	50	100	110	130	225			
	#8	80	160	180	210	360			
30A	#6	135	250	280	325	560			
	#4	220	400	450	525	910		7	
ABOVI BRANG MAY P EQUIP APPRO 2. COND	E FOR ALL I CH CIRCUIT PERFORM V PMENT CON OPRIATELY PUCTOR SIZ	LIGHTING A S SERVE D OLTAGE DR NECTED LC SIZED TO L ES ARE BAS THAN #6 AN	ND RECEPT EDICATED B ROP CALCUI DAD AND PR IMIT VOLTA SED ON SOL ND STRAND	ACLE BRAN EQUIPMENT ATIONS BA OVIDE CON GE DROP T ID COPPEN ED COPPEN	TO A MAXIMU R CONDUCTO R CONDUCTO	rs. Where Ractor Tual JM of 3%. Drs for			



IERAL NOTES, SYMBOLS, AND LOCATIONS FOR ALL RINTERIOR ELEVATIONS ORK WITH OWNER PRIOR TO



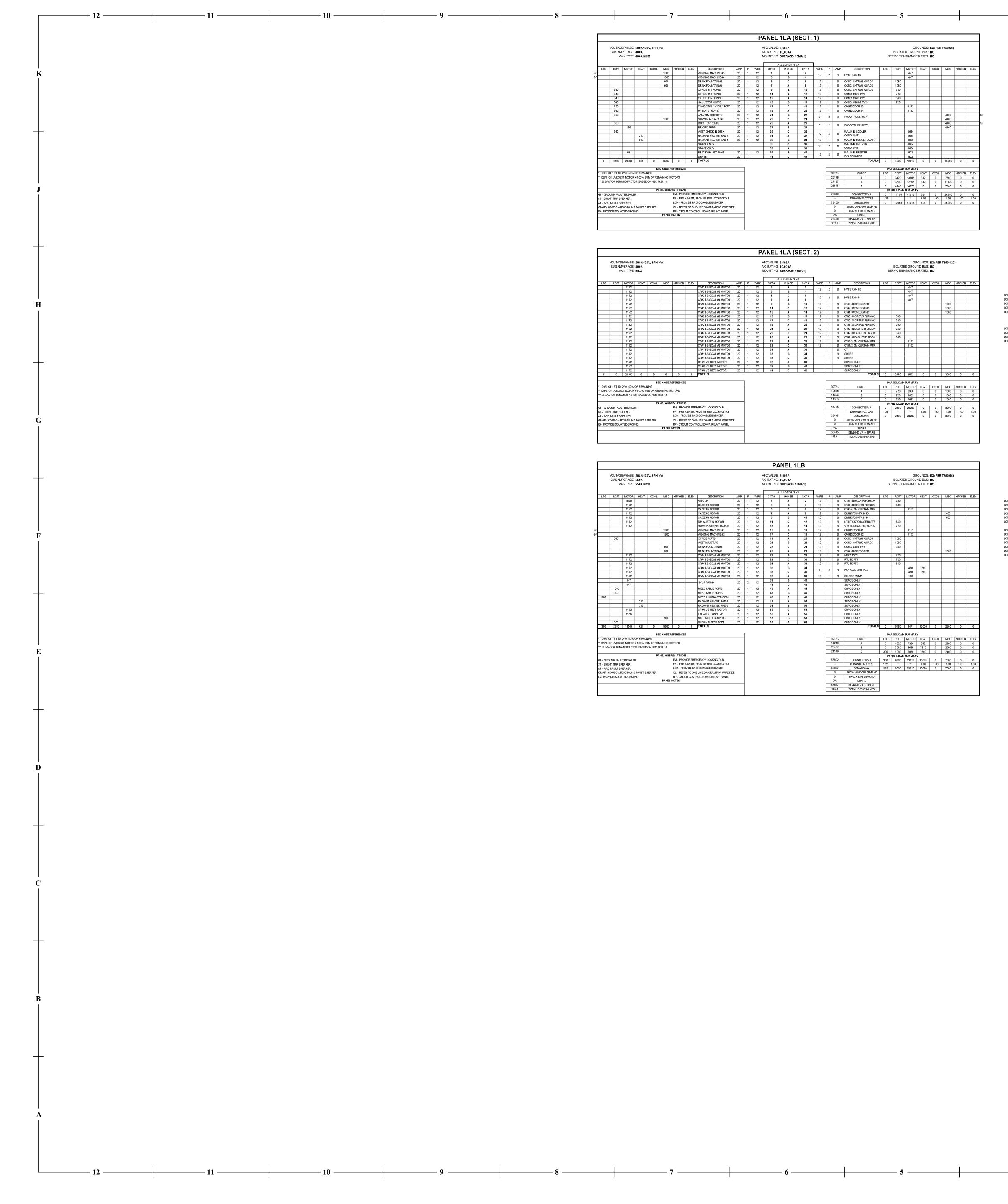
E401

 ISSUE DATE:
 2 MAY 2023

 COLLINS WEBB #:
 22103

ABINET PER UTILITY TION SHALL MEET ALL AND LOCAL CODES. FOR ADDITIONAL

ONAL INFORMATION. (LONG TIME, SHORT TIME, AULT) TRIP UNIT. DN MAINTENANCE SWITCH AS



	VOLTAGE BUS AMI	E/PHASE: PERAGE:)V, 3PH,	4W							AFC VALUE AIC RATING	-,							ISOLATI		ROUNDS: JND BUS:	EG (PER NO	T250.66)	I	
	MA	IN TYPE:	400A MC	в								MOUNTING	SURFACE (N	EMA1)					SE	RVICEE	NTRANCI	E RATED:	NO			
													ALL LOADS N \		<u> </u>			I								_
LTG	RCPT	MOTOR	HEAT	COOL	MISC 1800	KITCHEN	ELEV	DESCRIPTION VENDING MACHINE #3	A MP 20	P	WIRE 12	CKT #	PHASE	CKT#	WIRE	Р	AMP	DESCRIPTION	LTG	RCPT	MOTOR 447	HEAT	COOL	MISC	KITCHEN	N
					1800			VENDING MACHINE #3	20	1	12	3	A B	4	12	2	20	HVLS FAN #3			447	<u> </u>			<u> </u>	+
					600			DRINK FOUNTAIN #3	20	1	12	5	C B	6	12	1	20	CONC. CNTR #3 QUADS		1080	447	-	<u> </u>		+	+
					600			DRNK FOUNTAIN #4	20	1	12	7	A	8	12	1	20	CONC. CNTR #4 QUADS		1080			+		<u> </u>	+
	540							OFFICE 113 RCPTS	20	1	12	9	В	10	12	1	20	CONC. CNTR #5 QUADS		720		<u> </u>			<u> </u>	+
	540							OFFICE 110 RCPTS	20	1	12	11	с	12	12	1	20	CONC. CT#3 TV'S		720		-				+
	540							OFFICE 105 RCPTS	20	1	12	13	A	14	12	1	20	CONC. CT#3 TV'S		360			<u> </u>		1	+
	540							HALL/STOR RCPTS	20	1	12	15	В	16	12	1	20	CONC. CT#1/2 TV'S		720						+
	720							CONC/CT#2-3 CONV RCPT	20	1	12	17	с	18	12	1	20	OVHD DOOR #3			1152					T
	360							PATIO TV RCPTS	20	1	12	19	A	20	12	1	20	OVHD DOOR #4			1152					
	360							JAN/PRIV RR RCPTS	20	1	12	21	В	22	8	2	50	FOOD TRUCK RCPT						4160		
					1800			SERVER AREA QUAD	20	1	12	23	с	24	, ,	-						L		4160		_
	360							ROOFTOP RCPTS	20	1	12	25	A	26	- 8	2	50	FOOD TRUCK RCPT				<u> </u>	<u> </u>	4160	<u> </u>	+
		150						RE-CIRC PUMP	20	1	12	27	В	28							1001	<u> </u>	<u> </u>	4160	<u> </u>	+
	360		312					VEST CHECK-N DESK RADIANT HEATER RAD-3	20 20	1	12	29	C A	30	10	2	30	WALK-N COOLER COND. UNIT			1664 1664	<u> </u>	 		──	+
			312					RADIANT HEATER RAD-3	20	1	12	33	B	32	12	1	20	WALK-N COOLER EVAP.			1004	<u> </u>	<u> </u>			+
			312					SPACE ONLY	20	+ '	12	35	C B	34	12			WALK-N FREEZER			1664	<u> </u>	──		+	+
								SPACE ONLY		-		37	A	38	10	2	30	COND. UNIT			1664		<u> </u>		<u>+</u>	+
		63						RR/IT EXHAUST FANS	20	1	12	39	в	40				WALK-N FREEZER			832	-	-			+
								SPARE	20	1		41	с	42	12	2	20	EVAPORATOR			832				-	+
0	6480	28498	624	0	9600	0	0	TOTALS				1		1				TOTALS	0	4680	12518	0	0	16640	0	T
				NE	CODER	EFERENCES				٦									PHA	ASELOAD	SUMMAR					
* 100% C	OF 1ST 10 P	(VA, 50%	OF REMAIN	ING						-						т	OTAL	PHASE	LTG	RCPT	MOTOR	HEAT	COOL	MISC	KITCHEN	1
** 125% 0	OF LARGES	T MOTOR	+ 100% SL	M OF RE	MAINING MK	DTORS										2	5178	A	0	3420	13886	312	0	7560	0	+
*** ELEVA	TOR DEMA	ND FACTO	OR BASED	ON NEC T	620.14.											2	7187	В	0	3600	12155	312	0	11120	0	t
																2	6675	с	0	4140	14975	0	0	7560	0	T
				PA	NEL ABBR	REVIATIONS	3												PAI	NEL LOAD	SUMMAR	iY	-			_
GF - GRO	UND FAUL	T BREAKE	२					RGENCY LOCKING TAB								7	9040	CONNECTED VA	0	11160	41016	624	0	26240	0	
	NT TRIP BR						,	PROVIDE RED LOCKING TAB										DEMAND FACTORS	1.25	*	**	1.00	1.00	1.00	1.00	T
	FAULT BR							DLOCKABLE BREAKER									8460	DEMAND VA	0	10580	41016	624	0	26240	0	
	OMBOAR			REAKER				E-LINE DIAGRAM FOR WIRE SIZ	E								0	SHOW WINDOW DEMAND								
IG - PROV	DE ISOLA	TED GROU	ND		DANE		IT CONTR	ROLLED VIA RELAY PANEL		4							0	TRACK LTG DEMAND								
					PANELI	NOTES										1 '	0%	SPARE								

											PANE	_ 1LA (S	SECT.	2)											
	BUS AM	E/PHASE: PERAGE: NN TYPE:	400A	0V, 3PH, 4	w							E: 5,695A G: 10,000A G: SURFACE (N	NEMA 1)					SE		GF ED GROU NTRANCI	ND BUS:		T250.12	2)	
			-									ALL LOADS N	VA	1											
LTG	RCPT	MOTOR	HEAT	COOL	MISC	KITCHEN	ELEV	DESCRIPTION	AMP		IRE CKT#	PHASE	CKT #	WIRE	Р	AMP	DESCRIPTION	LTG	RCPT	MOTOR	HEAT	COOL	MISC	KITCHEN	I ELEV
		1152						CT#3 BB GOAL #1 MOTOR	20		2 1	A	2	12	2	20	HVLS FAN #2			447					
		1152						CT#3 BB GOAL #2 MOTOR	20		2 3	В	4							447					<u> </u>
		1152						CT#3 BB GOAL #3 MOTOR	20	-	2 5	С	6	12	2	20	HVLS FAN #1			447					<u> </u>
		1152						CT#3 BB GOAL #4 MOTOR	20		2 7	A	8							447					
		1152						CT#3 BB GOAL #5 MOTOR	20		2 9	В	10	12	1	20	CT#3 SCOREBOARD						1000		
		1152						CT#3 BB GOAL #6 MOTOR	20		2 11	C	12	12	1	20	CT#2 SCOREBOARD						1000		4
		1152						CT#2 BB GOAL #1 MOTOR	20		2 13	A	14	12	1	20	CT#1 SCOREBOARD						1000		<u> </u>
		1152						CT#2 BB GOAL #2 MOTOR	20		2 15	В	16	12	1	20	CT#3 SCORER'S FLRBOX		360						
		1152						CT#2 BB GOAL #3 MOTOR	20		2 17	с	18	12	1	20	CT#2 SCORER'S FLRBOX		360						<u> </u>
		1152						CT#2 BB GOAL #4 MOTOR	20		2 19	A	20	12	1	20	CT#1 SCORER'S FLRBOX		360						<u> </u>
		1152						CT#2 BB GOAL #5 MOTOR	20		2 21	В	22	12	1	20	CT#3 BLEACHER FLRBOX		360						<u> </u>
		1152						CT#2 BB GOAL #6 MOTOR	20		2 23	С	24	12	1	20	CT#2 BLEACHER FLRBOX		360						
		1152						CT#1 BB GOAL #1 MOTOR	20		2 25	A	26	12	1	20	CT#1 BLEACHER FLRBOX		360						
		1152						CT#1 BB GOAL #2 MOTOR	20		2 27	В	28	12	1	20	CT#2/3 DIV CURTAIN MTR			1152					
		1152						CT#1 BB GOAL #3 MOTOR	20		2 29	С	30	12	1	20	CT#1/2 DIV CURTAIN MTR			1152					
		1152						CT#1 BB GOAL #4 MOTOR	20		2 31	A	32		1	20	СТ								
		1152						CT#1 BB GOAL #5 MOTOR	20	_	2 33	В	34		1	20	SPARE								
		1152						CT#1 BB GOAL #6 MOTOR	20	1 1	2 35	c	36		1	20	SPARE								
		1152						CT #1 VB NETS MOTOR	20		2 37	A	38				SPACEONLY								
		1152						CT #2 VB NETS MOTOR	20		2 39	В	40				SPACEONLY								
		1152						CT #3 VB NETS MOTOR	20	1 1	2 41	С	42				SPACEONLY								
0	0	24192	0	0	0	0	0	TOTALS									TOTALS	0	2160	4093	0	0	3000	0	0
				NE		EFERENCE	s											PH	ASELOAD	SUMMAR	Y				
* 100% C	F 1ST 10 H	KVA, 50%	OF REMAI	NING											T	OTAL	PHASE	LTG	RCPT	MOTOR	HEAT	COOL	MISC	KITCHEN	ELEV
** 125% (FLARGES	ST MOTOR	+ 100% S	UM OF REM	AINING M	OTORS									1	0678	Α	0	720	8958	0	0	1000	0	0
*** ELEV#	TOR DEMA	AND FACTO	OR BASED	ON NEC TO	620.14.										1	1383	В	0	720	9663	0	0	1000	0	0
															1	1383	C	0	720	9663	0	0	1000	0	0
				PA	NEL ABB	REVIATION	S										-			SUMMAR		-		-	
GF - GRC	JND FAUL	TBREAKE	R			EM - PRO	VIDE EME	RGENCY LOCKING TAB							3	3445	CONNECTED VA	0	2160	28285	0	0	3000	0	0
						FA - FIRE	ALARM,	PROVIDE RED LOCKING TAB									DEMAND FACTORS	1.25	*	**	1.00	1.00	1.00	1.00	1.00
	FAULT BR					LCK - PRO	OV IDE PA	DLOCKABLE BREAKER							3	3445	DEMAND VA	0	2160	28285	0	0	3000	0	0
		C/GROUND	FAULT B	REAKER		OL - REFE	ER TO ON	E-LINE DIAGRAM FOR WIRE SIZ	E							0	SHOW WINDOW DEMAND					,	· · ·		4
		TED GROU						ROLLED VIA RELAY PANEL								0	TRACK LTG DEMAND								
					PANEL											0%	SPARE								
															3	3445	DEMAND VA + SPARE								

												P/	ANEL 1	LB												
		/PHASE: PERAGE: IN TYPE:	250A		w						/	AFC VALUE AIC RATING MOUNTING	,	EMA 1)					SE		GF ED GROU NTRANCE	ND BUS:		T250.66)		
													ALL LOADS N V	Ά	1											
LTG	RCPT	MOTOR	HEAT	COOL	MISC	KITCHEN	ELEV	DESCRIPTION	AMP	P	WIRE	CKT#	PHASE	CKT #	WIRE	P	AMP	DESCRIPTION	LTG	RCPT	MOTOR	HEAT	COOL	MISC	KITCHEN	ELE
		1500						ADA LIFT	20	1	12	1	A	2	12	1	20	CT#4 BLEACHER FLRBOX		360						
		1152						CAGE #1 MOTOR	20	1	12	3	В	4	12	1	20	CT#4 SCORER'S FLRBOX		360						
		1152						CAGE #2 MOTOR	20	1	12	5	c	6	12	1	20	CT#3/4 DIV CURTAIN MTR			1152					
		1152						CAGE #3 MOTOR	20	1	12	7	A	8	12	1	20	DRINK FOUNTAIN #3						600		
		1152						CAGE #4 MOTOR	20	1	12	9	В	10	12	1	20	DRINK FOUNTAIN #4						600		
		1152						DIV CURTAIN MOTOR	20	1	12	11	c	12	12	1	20	UTILITY/STORAGE RCPTS		540						
		1152						HOME PLATE NET MOTOR	20	1	12	13	A	14	12	1	20	VEST/CONC/CT#4 RCPTS		720						
					1800			VENDING MACHINE #1	20	1	12	15	В	16	12	1	20	OVHD DOOR #1			1152					
					1800			VENDING MACHINE #2	20	1	12	17	с	18	12	1	20	OVHD DOOR #2			1152					
	540							OFFICE RCPTS	20	1	12	19	A	20	12	1	20	CONC. CNTR #1 QUADS		1080						
								VESTIBULE TV'S	20	1	12	21	В	22	12	1	20	CONC. CNTR #2 QUADS		1080	ļ				ļ	-
					600			DRINK FOUNTAIN #1	20	1	12	23	C	24	12	1	20	CONC. CT#4 TV'S		360						
					600			DRINK FOUNTAIN #2	20	1	12	25	A	26	12	1	20	CT#4 SCOREBOARD						1000		_
		1152						CT#4 BB GOAL #1 MOTOR	20	1	12	27	В	28	12	1	20	MEZZ TV'S		720						
		1152						CT#4 BB GOAL #2 MOTOR	20	1	12	29	C	30	12	1	20	RTU RCPTS		720						
		1152						CT#4 BB GOAL #3 MOTOR	20	1	12	31	A	32	12	1	20	RTU RCPTS		540						
		1152						CT#4 BB GOAL #4 MOTOR	20	1	12	33	В	34	4	2	70	FAN COIL UNIT 'FCU-1'			458	7500				
		1152						CT#4 BB GOAL #5 MOTOR	20	1	12	35	с	36							458	7500				
		1152						CT#4 BB GOAL #6 MOTOR	20	1	12	37	A	38	12	1	20	RE-CIRC PUMP			100					
		447						HVLS FAN #4	20	2	12	39	В	40				SPACEONLY								
		447										41	c	42				SPACEONLY								_
	1080							MEZZ TABLE RCPTS	20	1	12	43	A	44				SPACE ONLY								-
	900							MEZZ TABLE RCPTS	20	1	12	45	В	46		-		SPACE ONLY								-
300								MEZZ ILLUMINATED SIGN	20	1	12	47	c	48		-		SPACE ONLY								
			312					RADIANT HEATER RAD-1	20 20	1	12	49	A B	50 52		-		SPACE ONLY								-
		4450	312					RADIANT HEATER RAD-2	20	1	12	51 53	C B	52		-		SPACE ONLY SPACE ONLY								_
		1152 1176									12															_
		1176			500			EXHAUST FAN 'EF-1'	20	1	12	55	A	56				SPACE ONLY								_
	360				500			MOTORIZED DAMPERS CHECK-N DESK RCPT	20 20	1	12	57 59	B C	58 60				SPACE ONLY SPACE ONLY								_
300	2880	18546	624	0	5300	0	0	TOTALS	20	1	12	29	ເ	60				TOTALS	0	6480	4471	15000		2200		
300	2880	18546	624	0	5300	U	0	TOTALS										IUIALS	U	6480	4471	15000	0	2200	0	
				NE		FERENCES				٦									PH	SELOAD	SUMMAR	Y				
100%	OF 1ST 10 K	VA. 50% (OF REMAIN							-						Η _T	OTAL	PHASE	LTG	RCPT	MOTOR	HEAT	COOL	MISC	KITCHEN	EL
	OF LARGES	·			IAINING MC	TORS											4216	A	0	4320	7384	312	0	2200	0	
	ATOR DEMA																20437	В	0	3060	6665	7812	0	2900	0	
				0111120 11	20.11.												21149	C C	300	1980	8969	7500	0	2300	0	
				PA	NEL ABBR		;			-						<u> </u>					SUMMAR		0	2400	1 0	
F - GP	DUND FAUL		2					RENCY LOCKING TAB		-						-	55802	CONNECTED VA	300	9360	23018	15624	0	7500	0	
	JNT TRIP BRE							ROVIDE RED LOCKING TAB		1						<u>ا</u>		DEMAND FACTORS	1.25	*	**	1.00	1.00	1.00	1.00	1.
	C FAULT BRI							DLOCKABLE BREAKER								-	55877	DEMAND VA	375	9360	23018	15624	0	7500	0	1.
	COMBOAR			FAKER				LINE DIAGRAM FOR WIRE SE	F	1						F	0	SHOW WINDOW DEMAND	0,0	0000	20010	10024		1000	- <u> </u>	-
	VIDE ISOLA							ROLLED VIA RELAY PANEL	-	1						-	0	TRACK LTG DEMAND								
- 110	. DL NOLA				PANEL			STED TR NELAT FANEL		-						\vdash	0%	SPARE								
										4							55877	DEMAND VA + SPARE								
										1																

	4	3				<u> </u>]	1 —	
]		м		STRII	BUTION PANE									
5)	VOLTAGE/PHASE: 480Y/277V, 3PH, 4 V BUS AMPERAGE: 1000A MAIN TYPE: 1000A MCB		A A	FC VALUE:	43,070A			SE		ED GROUI	OUNDS: EG ND BUS: NC : RATED: YE	,	56)	
C KITCHEN ELEV	LTG RCPT MOTOR HEAT COOL	MISC KITCHEN ELEV DESCRIPTION AMP	P WRE			MRE P AMP	DESCRIPTION	LTG		MOTOR			с кітаны	
			3	1	c	OL 3 225	PANEL '1HA'	4736 2188 3020	0 0 0	5265 5265 5265	1500 4 750 4	138 0 138 0 138 0	0	0 0 0
	8876 4320 25009 312 39075 11418 3060 24290 7812 39075 9326 1980 26594 9000 39075	5400 0 0	3 OL	3	с	OL 3 175	PANEL '1LA' VIA XFIVR	0 0 0	3420 3600 4140	13886 12155 14975	312 0	0 756 0 1112 0 756	0 0	0 0 0
30 GF		25000 SPA RE FOR PUTURE 25000 CONCESSION PANEL 125 25000 'ILC' VIA XFMR	3	5	с	OL 3 80	RTU #4			5875 5875 5875	1:	2249 2249 2249		
0 GF 0 GF 0 GF 0 GF	5875 12249 5875 12249 5875 12249 5875 12249	80 #5	3 OL	7	с	OL 3 80	RTU #6			5875 5875 5875	1:	2249 2249 2249		
		SPARE 225	3	9	A B C		SPACE ONLY							
		SPACE ONLY		11	A B C		SPACE ONLY							
0 0 0		16500 75000 0 TOTALS CODE REFERENCES						PHA	ASELOAD	92063	Y	5907 2624		0
C KITCHEN ELEV	* 100% OF 1ST 10 KVA, 50% OF REMAINING ** 125% OF LARGEST MOTOR + 100% SUM OF REMA *** ELEVATOR DEMAIND FACTOR BASED ON NEC 16/					TOTAL 202231 211206	A B	13612 13606	7740 6660	MOTOR 61786 59336	1374 7 9624 7	9960 1276 9960 1702	0 25000	0
20 0 0 60 0 0 	GF - GROUND FAULT BREAKER	EL ABBREVIATIONS BM- PROVIDE EMERGENCY LOCKING TAB				210596 624033	C CONNECTED VA	39564	20520		Y 20748 23		0 75000	0
40 0 0 10 1.00 1.00 40 0 0	ST - SHUNT TRIP BREAKER A F - ARC FAULT BREAKER GF/AF - COMBO A RC/GROUND FAULT BREAKER	FA - FREALARM, PROVIDE RED LOCKING TAB LCK - PROVIDE PADLOCKABLE BREAKER OL - REFER TO ONE-LNE DIA GRAM FOR WIRE SZE				 581666 0	DEMAND FACTORS DEMAND VA SHOW WINDOW DEMAND	1.25 49455	* 15260	** 185582		1.00 1.00 9879 4274		1.00 0
	EX - EXISTING ORCUIT AND WIRING TO REWAIN	RP- CIRCUIT CONTROLLED VIA RELAY PANEL PANEL NOTES				0 10% 664805	TRACK LTG DEWAND SPARE DEWAND VA + SPARE							
						799.6	TOTAL DESIGN AMPS	1						
1	Γ			D	ANEL 1HA									
122)	VOLTAGE/PHASE: 480Y/277V, 3PH, 4V BUS AMPERAGE: 225A	N		FC VALUE:	37,304A						OUNDS: EG	•	122)	
	BUS AWFERAGE: 2258 MAIN TYPE: MLO			IOUNTING:	ALL LOADS IN VA			SE			RATED: NC			
C KITCHEN ELEV	LTG RCPT MOTOR HEAT COOL 1910	SUPPORT A REA LTG 20	P WIRE 1 12 1	CKT#	PHASE CKT# V	MIRE P AMP 12 3 15		LTG	RCPT	MOTOR 693 693		OOL MISC 740 740		ELEV
0	LCP 632	POLE LTG 20	1 12 2 SP	5 7 9		12 3 20	RTU-8			693 693 693	1	740 397 397		
0	LCP 1188	VESTIBULE/CONC LN LTG 20 EUH-2 (VESTIBULE) 15	1 12 1 12 1 12	11 13 15		8 3 35	TRASH COMPACTOR			693 3880 3880	2	397		
	LCP 1200	EUH-4 (VESTIBULE) 15 VESTIBULE SIGNAGE 20	1 12 1 12 1 12 1 12	17 19 21	C 18 A 20 B 22 C 24		SPACE ONLY SPACE ONLY			3880				
	LCP 1200	SOUTH EXT. SIGNAGE 20	1 12 1 12 1 12	23 25 27 29	C 24 A 26 B 28 C 30		SPACE ONLY SPACE ONLY SPACE ONLY SPACE ONLY SPACE ONLY							
		SPACE ONLY SPACE ONLY SPACE ONLY SPACE ONLY		31 33 35	C 30 A 32 B 34 C 36		SPACE ONLY SPACE ONLY SPACE ONLY SPACE ONLY						-	
		SPACE ONLY SPACE ONLY SPACE ONLY		37 39 41	A 38 B 40 C 42		SPACE ONLY SPACE ONLY SPACE ONLY							
		0 0 0 TOTALS							SELOAD	15796	r	2413 0		0
IC KITCHEN ELEV 00 0 0 00 0 0 00 0 0	* 100% OF 1ST 10 KVA, 50% OF REMAINING ** 125% OF LARGEST MOTOR + 100% SUM OF REMA *** ELEVATOR DEMAIND FACTOR BASED ON NEC 16/					TOTAL 14889 13090 13173	PHASE A B	LTG 4736 2188	0	MOTOR 5265 5265	750 4 1500 4	138 0 138 0	0	0
00 0 0 00 0 0 00 1.00 1.00	PAN GF - GROUND FAULT BREAKER ST - SHUNT TRIP BREAKER	EL ABBREVIATIONS EM- PROVIDE EMERGENCY LOCKING TAB FA - FRE ALARM, PROVIDE RED LOCKING TAB				41152	CONNECTED VA	3020 PAN 9944 1.25	0 NEL LOAD 0 *	5265 SUMMAR 15796 **	Y 3000 1:	138 0 2413 0 1.00 1.00	0	0
	SI - SHUNI I RIP BREAKER AF - ARC FAULT BREAKER GF/AF - COMBO AR(/GROUND FAULT BREAKER SP - REFER TO SITE PLAN FOR WIRE SIZE	CK - PROVIDE PADLOCKABLE BREAKER CL - REFER TO ONE-INE DIAGRAM FOR WIRE SIZE LCP - CKT CONTROLLED VIA LTG CONTROL PANEL				40638 0 0	DEMAND FACTORS DEMAND VA SHOW WINDOW DEMAND TRACK LTG DEMAND	12429		15796		2413 0	_	0
		PANEL NOTES				0% 40638 48.9	SPA RE DEMAND VA + SPARE TOTAL DESIGN A MPS							
I														
				PA	ANEL 1HB									
.66)	VOLTAGE/PHASE: 480Y/277V, 3PH, 4V BUS AMPERAGE: 400A MAIN TYPE: MLO	N	A		22,000A SURFACE (NEMA 1)			SE		ED GROUI	ounds: Eg Nd Bus: NC : Rated: NC		122)	
C KITCHEN ELEV	LTG RCPT MOTOR HEAT COOL LCP 1950		P WRE 1 12 1 12	/ CKT# 1 3	A 2	MIRE P AMP		LTG	RCPT	MOTOR 5875 5875	1:	OOL MISC 2249 2249		ELEV
	LCP 1950 LCP 1950 LCP 1950 LCP 1170	BA SEBALL FLD ROW 3 LTG 20 BA SEBALL FLD ROW 4 LTG 20		3 5 7 9	C 6 A 8	4 3 80				5875 5875 5875 5875	1:	2249 2249 2249 2249 2249		
	LCP 660 785 LCP 3900 C	MEN/WOMEN RR LTG 20 CORE AREA LTG 20	1 12 1 12 1 12 1 12 1 12	9 11 13 15	C 12 A 14	4 3 80				5875 5875 5875 5875	1:	2249 2249 2249 2249 2249		
	LCP 3900 LCP 3900 LCP 3900 LCP 3900	BBALL COURT 3 LTG 20 BBALL COURT 2 LTG 20	1 12	17 17 19 21	C 18 A 20		COND. UNIT 'CU-1'			5875	1:	2249 328 328		
00	LCP 2516	BBALL AREA GEN LTG 20 VEST/WAITING LTG 20 MEZZANINE LTG 20	1 12 1 12 1 12	23 25 27	C 24 A 26 B 28		WATER HEATER 'EWH1'					328 3000 3000	D	
	1500	EUH-1 (RISER RM) 15 SPACE ONLY SPACE ONLY	1 12	29 31 33	C 30 A 32 B 34		SPACE ONLY SPACE ONLY					300		
		SPACE ONLY SPACE ONLY SPACE ONLY		35 37 39	C 36 A 38 B 40		SPACE ONLY SPACE ONLY SPACE ONLY							
		SPACE ONLY UNUSABLE SPACE UNUSABLE SPACE		41 43 45		OL 3 125		0	4320 3060	7384 6665	7812	0 2200	0 C	0
	29320 0 0 1500 0	UNUSABLE SPACE 0 0 TOTALS		47	C 48		VIA SUB-FEED BREAKER	300 300	1980 9360	8969 75894	7500 15624 11	0 240 7225 1650		0

									101	NOSABLE SPACE		4.5		40	1		120			3000	00000	1 1012	· ·	2300		
									UN	NUSA BLE SPACE		47	С	48				VIA SUB-FEED BREAKER	300	1980	8969	7500	0	2400	0	0
29320	0	0	1500	0	0		0	0	TC	OTALS								TOTALS	300	9360	75894	15624	117225	16500	0	0
								~								_										
					EC CODE	REFE	RENCE	s											PH	ASELUAL	SUMMAR	ίΥ.				
* 100% O	= 1ST 10 M	(VA, 50%	OF REMAI	NNG												· ·	TOTAL	PHASE	LTG	RCPT	MOTOR	HEAT	COOL	MISC	KITCHEN	ELE
** 125% O	F LA RGES	ST MOTOR	R + 100% S	UM OF RE	EMAINING M	иото	ORS										82793	A	8876	4320	25009	312	39075	5200	0	0
*** ELEVA	for Dema	ND FACT	OR BASED	ON NEC	T620.14.												91555	В	11418	3060	24290	7812	39075	5900	0	0
																	91375	С	9326	1980	26594	9000	39075	5400	0	0
				Р	ANEL ABB	BREVI	IA TION	IS											PAI	NEL LOAD	SUMMAR	Ý				
GF - GROL	IND FAUL	T BREAK	ER			EM	1 - PRO	VIDE E	MERGE	ENCY LOCKING TAB						1	265723	CONNECTED VA	29620	9360	75894	17124	117225	16500	0	0
ST - SHUN	T TRIP BR	EAKER				FA	- FIRE	ALAR	(M, PRO)	OVIDE RED LOCKING TAB								DEMAND FACTORS	1.25	*	**	1.00	1.00	1.00	1.00	1.00
AF - ARC	AULT BR	EAKER				LC	ж - PR(DVIDE	PADLO	OCKABLE BREAKER						2	256004	DEMAND VA	37025	9360	75894	0	117225	16500	0	0
GF/AF - CO	OMBO A R	C/GROUN	D FAULT B	REAKER		OL	- REFE	ER TO	ONE-LIN	NE DIA GRAM FOR WIRE SL	ZE						0	SHOW WINDOW DEMAND								
SF - SUB-I	EED BREA	AKER				LC	Р - СКТ	CONT	TROLLE	ED VIA LTG CONTROL PAN	IEL						0	TRACK LTG DEMAND	1							
					PANEL	. NOT	res										0%	SPARE	1							
																2	256004	DEMAND VA + SPARE	1							
																	307.9	TOTAL DESIGN A MPS	1							



	LIGHTING FIXT					NI.		
=IXT. ГҮРЕ	DESCRIPTION & MANUFACTURER OPTIONS	NO.	LAMPS TYPE	FIXT.	TOTAL WATTS	FINISH	REMARKS/MOUNTING	NOTE
	Linear LED Strip Light	1	LED	UNV	18.6W	Standard	Pendant (Verify Ht w/ Architect)	1
F	M# LITHONIA #CLX-L48-3000LM-SEFRDL-MVOLT	-						
	Linear LED Strip Light w/ Emergency Battery Pack	1	LED	UNV	18.6W	Standard	Pendant (Verify Ht w/ Architect)	1,2
FE	M# LITHONIA #CLX-L48-3000LM-SEFRDL-MVOLT-PS1050	-						
	Exterior LED WallPack	1	LED	UNV	15W	Coord. w/ Architect	Wall 14'-0" AFG (Refer Arch Elevation)	1
G1	M# LITHONIA #WDGE2-LED-P2-40K-80CRI-VF-MVOLT							
	Exterior LED WallPack w/ Emergency Battery Pack	1	LED		15W	Coord. w/	Wall 14'-0" AFG (Refer	1,2
	Extend LED Wair ack W Emergency Dattery Fack				1574	Architect	Arch Elevation)	1,2
G1E	M# LITHONIA #WDGE2-LED-P2-40K-80CRI-VF-MVOLT-E10WH							
	Exterior LED WallPack	1	LED	UNV	46.7W	Coord. w/	Wall 16'-0" AFG (Refer	1
<u></u>						Architect	Arch Elevation)	
G2	M# LITHONIA #WDGE2-LED-P4-40K-80CRI-T4M-MVOLT							
	Exterior LED WallPack w/ Emergency Battery Pack	1	LED	UNV	46.7W	Coord. w/	Wall 16'-0" AFG (Refer	1,2
G2E						Architect	Arch Elevation)	
- 46	M# LITHONIA #WDGE2-LED-P4-40K-80CRI-T4M-MVOLT-E10WH							
	Exterior LED WallPack	1	LED	UNV	16.8W	Coord. w/	Wall 5'-0" AFG (Refer	1,2
G3						Architect	Arch Elevation)	
	M# INDESSA LTG #501-1LED19-MVOLT							
	LED High Bay Light Fixture, 27,000 Lumens, 4000K w/ 0-10V	1	LED	UNV	195W	White	Pendant Mount at 26'-0"	1
HB1	Dimming M# LITHONIA #CPRB-AL014-UVOLT-SWW9-80CRI-DWH						AFF. Field Coordinate Exact Location to Avoid	
							Ceiling Mounted Equipment.	
	LED High Bay Light Fixture, 27,000 Lumens, 4000K w/ 0-10V Dimming and Emergency Battery Pack	1	LED	UNV	195W	White	Pendant Mount at 26'-0" AFF. Field Coordinate	1,2
B1E							Exact Location to Avoid Ceiling Mounted	
	LITHONIA #RBAY BLDE40WCP M4 (EMERGENCY BATTERY)						Equipment.	
	LED High Bay Light Fixture, 21,000 Lumens, 4000K w/ 0-10V Dimming	1	LED	UNV	148W	White	Pendant Mount at 26'-0" AFF. Field Coordinate	1
1B2	M# LITHONIA #CPRB-AL014-UVOLT-SWW9-80CRI-DWH	-					Exact Location to Avoid Ceiling Mounted	
							Equipment.	
	LED High Bay Light Fixture, 21,000 Lumens, 4000K w/ 0-10V Dimming and Emergency Battery Pack	1	LED	UNV	148W	White	Pendant Mount at 26'-0" AFF. Field Coordinate	1,2
B2E	M# LITHONIA #CPRB-AL014-UVOLT-SWW9-80CRI-DWH	-					Exact Location to Avoid Ceiling Mounted	
	LITHONIA #RBAY BLDE40WCP M4 (EMERGENCY BATTERY)						Equipment.	
	LED High Bay Light Fixture, 12,000 Lumens, 4000K w/ 0-10V Dimming	1	LED	UNV	83W	White	Pendant Mount at 26'-0" AFF. Field Coordinate	1
HB3	M# LITHONIA #CPRB-AL013-UVOLT-SWW9-80CRI-DWH	-					Exact Location to Avoid Ceiling Mounted	
							Equipment.	
	LED High Bay Light Fixture, 12,000 Lumens, 4000K w/ 0-10V Dimming and Emergency Battery Pack	1	LED	UNV	83W	White	Pendant Mount at 26'-0" AFF. Field Coordinate	1,2
B3E	M# LITHONIA #CPRB-AL013-UVOLT-SWW9-80CRI-DWH LITHONIA #RBAY BLDE40WCP M4 (EMERGENCY BATTERY)						Exact Location to Avoid Ceiling Mounted Equipment.	
	Pendant Mounted LED Cylinder w/ 0-10V Dimming	1	LED		22.5W	Coord. w/	Coord. w/ Architect	1
					22.500	Architect	Coold. W Alchitect	'
J	M# LITHONIA #LDN6CYL-40-20-L06-AR-LSS-MVOLT-GZ1-PM	1						
	Pole Mounted LED Parking Area Fixture	1	LED	480V/	133W	White	Pole Mounted at 22'-0"	
				1 PH			AFG.	
6L1	M# LITHONIA #RSX1-LED-P4-40K-R3-HVOLT	1						
	Pole Mounted LED Parking Area Fixture	1	LED	480V/	150W	White	Pole Mounted at 22'-0"	
				1 PH			AFG.	
SL2	M# LITHONIA #RSX1-LED-P3-40K-R5-HVOLT							
	In-Grade Flag Pole Luminaire w/ 0-10V Dimming	1	LED	UNV	46W	Coord. w/	Recessed (In-Grade)	1
SFP						Architect		
JI-17	M# HYDREL #M9720C-LED-P3-MVOLT-NSP-LDIM							
	Wall Mounted LED Cylinder w/ 0-10V Dimming	1	LED	UNV	22.5W	Coord. w/	Coord. w/ Architect	1
т						Architect		
-	M# LITHONIA #LDN6CYL-40-20-L06-AR-LSS-MVOLT-GZ1-WM							
	LED Exit Sign, Single/Double Sided, Universal Mount, Emergency Battery Pack. Provide Arrows as Indicated.	1	LED	UNV	2W		Wall/Ceiling/Pendant	2
X1	M# DUAL LITE #EVE-U-R-W-E							
	MI# DUAL LITE #EVE-U-R-W-E EVENLITE #TLX-EM-RU-W (OR EQUAL)	1						

1. Coordinate Exact Mounting Height and Location of All Fixtures With Owner and Architect Prior to Rough-In. 2. Circuit Emergency Battery Packs and Exit Signs to Local Lighting Circuit Ahead of Any Means of Control for Proper Operation.

IXT.		NO.	LAMPS TYPE	FIXT. VOLT	TOTAL WATTS	FINISH	REMARKS/MOUNTING		FIXTURE DC
TPE	2x2 LED Panel	1	LED			Standard	Recessed (Lay-In)	1	DC2
A 1	M# LITHONIA #CPX-2X2-3200LM-80CRI-35K-SWL-MVOLT	-							sc
	2x2 LED Panel w/ Emergency Battery Pack	1	LED		31W	Standard	Recessed (Lay-In)	1,2	L1
				UNV	3100	Standard	Recessed (Lay-In)	1,2	L2
A1E	M# LITHONIA #CPX-2X2-3200LM-80CRI-35K-SWL-MVOLT-E10WLCP								L3
	2x2 LED Panel	1	LED	UNV	36.3W	Standard	Recessed (Lay-In)	1	L5
A2	M# LITHONIA #CPX-2X2-4000LM-80CRI-35K-SWL-MVOLT	-							PC1
									PC:
	2x2 LED Panel w/ Emergency Battery Pack	1	LED	UNV	36.3W	Standard	Recessed (Lay-In)	1,2	53
A2E	M# LITHONIA #CPX-2X2-3200LM-80CRI-35K-SWL-MVOLT-E10WLCP								S4
	2x2 LED Panel	1	LED	UNV	15.6W	Standard	Recessed (Lay-In)	1	WIF
A3									BF
	M# LITHONIA #CPX-2X2-2000LM-80CRI-35K-SWL-MVOLT								LCF
	48" Diameter Moon Ring LED Pendant in Concourse Area w/ Acoustic Insert, Emergency Battery Pack and 0-10V Dimming	1	LED	UNV		Coord. w/ Architect	Coord. w/ Architect	1,2	LCF
A4E		-							NOTES:
					4 47344	O a cont cont	Or and and Anality of		1. COOR 2. PROV
	72" Diameter Moon Ring LED Pendant in Concourse Area w/ Acoustic Insert, Emergency Battery Pack and 0-10V Dimming	1	LED	UNV		Coord. w/ Architect	Coord. w/ Architect	1,2	3. MODIF 4. LOCA
46 E	M# ALW #MR1.5-D6-SS-MED-80-4000K-V01-LENS-N-N-N-SW-UNV-EMB W/ ACOUSTIC INSERT	1							IF NEC 5. LOCA 6. PROV
	LED Downlight w/ 0-10V Dimming	1	LED	UNV	7.9W	Standard	Recessed (Ceiling -	1	7. ROUT
B1	M# GOTHAM LTG #EVO4-35-07-AR-LSS-MWD-MVOLT-GZ1						Provide Flange)		8. DEVIC 9. PEND
	WIT GOTTIMWIETS #EV04-33-07-AK-LOO-MWU-MVULI-GZ1								
	LED Downlight w/ 0-10V Dimming and Emergency Battery Pack	1	LED	UNV	7.9W	Standard	Recessed (Ceiling - Provide Flange)	1,2	
31E	M# GOTHAM LTG #EVO4-35-07-AR-LSS-MWD-MVOLT-GZ1-EL	-							
	LED Downlight	1	LED		8.8W	Standard	Recessed (Ceiling -		
D٩					0.099		Provide Flange)		
B2	M# GOTHAM LTG #EVO4-35-10-AR-LSS-MWD-MVOLT								
	LED Downlight w/ Emergency Battery Pack	1	LED	UNV	8.8W	Standard	Recessed (Ceiling -	1,2	
32E	M# GOTHAM LTG #EVO4-35-10-AR-LSS-MWD-MVOLT-EL	_					Provide Flange)		
	LED Downlight	1	LED	UNV	8.8W	Standard	Recessed (Ceiling - Provide Flange)	1	
B3	M# GOTHAM LTG #EVO4-35-10-AR-LSS-MD-MVOLT	-							
	48" Diameter Moon Ring LED Pendant in Concourse Area w/	1	LED	UNV	97W	Coord. w/	Coord. w/ Architect	1,2	
- 45	Emergency Battery Pack and 0-10V Dimming			OIV		Architect		1,2	
34E	M# ALW #MR1.5-D4-SS-MED-80-4000K-V01-LENS-N-N-N-SW-UNV-EMB								
	LED Downlight	1	LED	UNV	13.7W	Standard	Recessed (Ceiling - Provide Flange)	1	
B5	M# GOTHAM LTG #EVO4-35-15-AR-LSS-MWD-MVOLT	-					Flowide Flange)		
	LED Downlight w/ Emergency Battery Pack	1	LED	UNV	13.7W	Standard	Recessed (Ceiling - Provide Flange)	1,2	
B5E	M# GOTHAM LTG #EVO4-35-15-AR-LSS-MWD-MVOLT-EL								
	72" Diameter Moon Ring LED Pendant in Concourse Area w/	1	LED	UNV	147W	Coord. w/	Coord. w/ Architect	1,2	
B6E	Emergency Battery Pack and 0-10V Dimming					Architect			
	M# ALW #MR1.5-D6-SS-MED-80-4000K-V01-LENS-N-N-N-SW-UNV-EMB W/ ACOUSTIC INSERT								
	Adjustable Output LED Strip Light	1	LED	UNV	35.8W	Standard	Pendant (Verify Ht w/ Architect)	1	
С	M# LITHONIA #CSS-L48-AL03-MVOLT-SWW3-80CR	-					,		
	Adjustable Output LED Othin Linkt of English Diff. Diff.				2E 011	Stand -	Dondont Alaste 19		
-	Adjustable Output LED Strip Light w/ Emergency Battery Pack	1	LED	UNV	35.8W	Standard	Pendant (Verify Ht w/ Architect)	1,2	
CE	M# LITHONIA #CSS-L48-AL03-MVOLT-SWW3-80CRI-IE10WCPHE	1							
	Suspended, Round Linear LED in Concourse Area	1	LED	UNV		Standard	Pendant (Verify Ht w/	1	
C3					FT		Architect)		
	M# ALW #LP3.5R-4FT-LOW-DIRECT-80-4000-V01-UNV								
	Suspended, Round Linear LED in Concourse Area w/ Emergency Battery Pack	1	LED	UNV	6.2W/ FT	Standard	Pendant (Verify Ht w/ Architect)	1,2	
C3E		-							
	Suspended, Round Linear LED in Concourse Area w/ 0-10V	1	LED		8.4W/	Standard	Pendant (Verify Ht w/		
<u> </u>	Dimming				8.4VV/ FT		Architect)		
C4	M# ALW #LP3.5R-4FT-MED-DIRECT-80-4000-V01-UNV	1							
	Suspended, Round Linear LED in Concourse Area w/ 0-10V	1	LED	UNV		Standard	Pendant (Verify Ht w/	1,2	
C4E	Dimming and Emergency Battery Pack M# ALW #LP3.5R-4FT-MED-DIRECT-80-4000-V01-UNV-EMB	4			FT		Architect)		
	Damp Location Rated LED Downlight	1	LED	UNV	10W	Standard	Recessed (Ceiling - Provide Flange)	1	
D	M# GOTHAM LTG #EVO6SQ-40-10-AR-LSS-MVOLT	-							
	Damp Location Rated LED Downlight w/ Emergency Battery Pack		LED	UNV	10W	Standard	Recessed (Ceiling -	1,2	
					1000	Stanuard	Recessed (Celling - Provide Flange)	1,2	
DE				I					

٩G	MANUFACTURER	MODEL #	SETTINGS	DESCRIPTION	NOTES
	ACUITY BRANDS: nLIGHT	nPP16-D SERIES	REFER TO PLANS	ON/OFF ROOM 0-10V DIMMING CONTROLLER	1,2,4
			FOR CONTROL INTENT	LINE VOLTAGE - SINGLE RELAY	
	ACUITY BRANDS: nLIGHT	nSP5 PCD-(2W,3W,MLV,ELC 12	REFER TO PLANS	MLV, ELV, 2-WIRE, 3-WIRE DIMMING POWER PACK	1,2,4
			FOR CONTROL INTENT		
	ACUITY BRANDS: nLIGHT	nPP16 SERIES	REFER TO PLANS	ON/OFF ROOM SWITCH CONTROLLER	1,2,4
			FOR CONTROL INTENT	LINE VOLTAGE - SINGLE RELAY	
	ACUITY BRANDS: nLIGHT	nPODM-DX	-	ON/OFF AND DIMMING LOW VOLTAGE SWITCH	1,6
				WITH 1-CHANNEL CONTROL	
	ACUITY BRANDS: nLIGHT	nPODM-2P-DX	-	ON/OFF AND DIMMING LOW VOLTAGE SWITCH	1,6
				WITH 2-CHANNEL CONTROL	
	ACUITY BRANDS: nLIGHT	nPODM	-	ON/OFF LOW VOLTAGE SWITCH	1,6
				WITH 1-CHANNEL CONTROL	
	ACUITY BRANDS: nLIGHT	nPODM-4P	-	ON/OFF AND DIMMING LOW VOLTAGE SWITCH	1,6
				WITH 4-CHANNEL CONTROL	
	ACUITY BRANDS: nLIGHT	nCM-ADCX-RJB		CEILING MOUNTED AUTOMATIC DIMMING CONTROL PHOTOCELL	1
				SENSOR	
	ACUITY BRANDS: nLIGHT	ARPA-PC		EXTERIOR PHOTOCELL SENSOR FOR SWITCHING ONLY	1
	SENSOR SWITCH	WSX SERIES	REFER TO PLANS	WALL MOUNT OCCUPANCY SENSOR	1
			FOR CONTROL INTENT	LINE VOLTAGE - SINGLE RELAY	
	ACUITY BRANDS: nLIGHT	nCM-9 SERIES	-	CEILING MOUNT OCCUPANCY SENSOR - SMALL MOTION	3
				LOW VOLTAGE	
	ACUITY BRANDS: nLIGHT	nCM-10 SERIES	-	CEILING MOUNT OCCUPANCY SENSOR - LARGE MOTION	3
				LOW VOLTAGE	
	-	-	-	CAT5, CAT5e, OR CAT 6. STANDARD OR SOLID.	
				TERMINATED AS RJ45 TIA/EIA-568B	
	ACUITY BRANDS: nLIGHT	nBRG-8-KIT	-	8-PORT nLIGHT BRIDGE	5
_	ACUITY BRANDS: nLIGHT	ARP INTENC08 NLT		16-POLE ARP RELAY PANEL WITH DIGITAL TIME CLOCK	
		16FCR-MVOLT-SM-DTC			
	ACUITY BRANDS: nLIGHT	ARP INTENC16 NLT		16-POLE ARP RELAY PANEL. CONNECT TO LCPA VIA BRIDGE	
		16FCR-MVOLT-SM		AS REQUIRED	

1. COORDINATE ALL MODEL NUMBERS WITH MANUFACTURER PRIOR TO ORDERING. PROVIDE DEVICES TO MEET CONTROL INTENT INDICATED ON THE DRAWINGS. 2. PROVIDE 6'-0" OF EXCESS CONTROL WIRING, COILED AND TIED, BETWEEN CEILING MOUNTED OCCUPANCY SENSOR AND CORRESPONDING LOAD CONTROLLER. 3. MODIFY LOCATIONS OF CEILING MOUNTED OCCUPANCY SENSORS AS REQUIRED SO THAT NO OCCUPACNY SENSORS IS WITHIN 4'-0" OF AN HVAC SUPPLY DIFFUSER. 4. LOCATE DEVICE ABOVE CEILING OR AT STRUCTURE IN ACCESSIBLE LOCATION. LOCATIONS SHOWN ON DRAWINGS ARE SCHEMATIC. ADD ACCESS PANEL WITHIN CEILING IF NECESSARY. COORDINATE ACCESS PANEL LOCATION AND SPECIFICATION DIRECTLY WITH ARCHITECT.

5. LOCATION SHOWN ON PLAN FOR REFERENCE ONLY. CONTRACTOR MAY RELOCATE BRIDGE PORTS FOR A MORE ECONOMICAL LAYOUT IF DESIRED.

6. PROVIDE DEVICES WITH DEFAULT MANUFACTURE MARKINGS ON BUTTONS. 7. ROUTE RECEPTACLE CIRCUIT INDICATED ON PLAN AS "CONTROLLED RECEPTACLES" THROUGH PLUG LOAD CONTROLLER FOR AUTOMATIC ON/OFF CONTROL MA OCCUPACNY SENSOR. ONE CONTROLLED CIRCUIT PER PLUG CONTROLLER.

8. DEVICE TO BE INSTALLED IN SINGLE GANG BOX. COORDINATE TIME-OF-DAY SCHEDULES WITH OWNER FOR ZONES TO BE ON TIME-OF-DAY CONTROL. 9. PENDANT MOUNT DEVICE TO 1/2" KNOCKOUT ON JUNCTION BOX AS REQUIRED.

LIGHTING CONTROL PANEL SCHEDULE

							MOUNTING:	SURFACE (NEMA 1)
PANEL: RELAY		CONTROLLED		TIME	TIME	PHOTOCELL	DIMMING	NOTES
	ZONE		MANUAL					NOTES
NO:	DESCRIPTION	CIRCUIT	OVERRIDE	ON	OFF	OVERRIDE	RELAY	
1	EXTERIOR LTG	1HA-5	NO	NOTE #1	NOTE#1	ON/OFF	NO	#2
2	POLE LTG	1HA-7	NO	NOTE #1	NOTE#1	ON/OFF	NO	#2
3	POLE LTG	1HA-9	NO	NOTE #1	NOTE#1	ON/OFF	NO	#2
4	CONCOURSE RINGS	1HA-11	YES, 'r'	NOTE #1	NOTE#1	N/A	YES	#1, #3, #4
5	CONCOURSE PENDANTS	1HA-11	YES, 's'	NOTE #1	NOTE#1	N/A	YES	#1, #3, #4
6	CONCOURSE LINEAR LTS	1HA-13	YES, 't'	NOTE #1	NOTE#1	N/A	YES	#1, #4
7	VESTIBULE LINEAR LTS	1HA-13	YES, 'v'	NOTE #1	NOTE#1	N/A	YES	#1, #4
8	FLAG POLE LTS	1HA-27	NO	NOTE #1	NOTE#1	N/A	NO	#2
9	VESTIBULE SIGNAGE	1HA-21	NO	NOTE #1	NOTE#1	N/A	NO	#1
10	EAST EXT. SIGNAGE	1HA-23	NO	NOTE #1	NOTE#1	N/A	NO	#2
11	SOUTH EXT. SIGNAGE	1HA-25	NO	NOTE #1	NOTE#1	N/A	NO	#2
12	BACKLIT ENTRY LETTERING	1HA-27	NO	NOTE #1	NOTE#1	N/A	NO	#2
13	SPARE							
14	SPARE							
15	SPARE							
16	SPARE							

1. CIRCUIT TO BE ON TIME-OF-DAY SCHEDULE. VERIFY TIME-OF-DAY SCHEDULE WITH OWNER AS REQUIRED.

2. CIRCUIT TO BE ON TIME-OF-DAY SCHEDULE WITH PHOTOCELL OVERRIDE. VERIFY TIME-OF-DAY SCHEDULE WITH OWNER AS REQUIRED. 3. THIS ZONE TO AUTOMATICALLY DIM UP/DOWN VIA PHOTOCELL TO MAINTAIN DESIRED FOOTCANDLE LEVEL BASED ON AMOUNT DAY LIGHT PRESENT.

4. THIS ZONE TO DIM UP/DOWN VIA LOW-VOLTAGE CONTROL STATION.

5. EXHAUST FAN TO RUN CONTINUOUSLY DURING BUSINESS HOURS. VERIFY SCHEDULE WITH OWNER.

6. VERIFY EXACT DIMMING TYPE OF FIXTURE AND PROVIDE ALL ACCESSORIES AS REQUIRED FOR A COMPLETE AND OPERATIONAL SYSTEM. 7. PROVIDE VOLTAGE BARRIERS IN RELAY PANEL AS REQUIRED.

							MOUNTING:	SURFACE (NEMA 1)
PANEL:	LCPB						-	
RELAY	ZONE	CONTROLLED	MANUAL	TIME	TIME	PHOTOCELL	DIMMING	NOTES
NO:	DESCRIPTION	CIRCUIT	OVERRIDE	ON	OFF	OVERRIDE	RELAY	
1	BASEBALL FLD ROW 1 LTG	1HB-1	YES, 'a'	NOTE #1	NOTE#1	N/A	YES	#4, #6
2	BASEBALL FLD ROW 2 LTG	1HB-3	YES, 'b'	NOTE #1	NOTE#1	N/A	YES	#4, #6
3	BASEBALL FLD ROW 3 LTG	1HB-5	YES, 'c'	NOTE #1	NOTE#1	N/A	YES	#4, #6
4	BASEBALL FLD ROW 4 LTG	1HB-7	YES, 'd'	NOTE #1	NOTE#1	N/A	YES	#4, #6
5	BASEBALL FLD ROW 5 LTG	1HB-9	YES, 'f'	NOTE #1	NOTE#1	N/A	YES	#4, #6
6	MEN'S RR LTG	1HB-11	YES, 'g'	NOTE #1	NOTE#1	N/A	NO	#1
7	WOMEN'S RR LTG	1HB-11	YES, 'h'	NOTE #1	NOTE#1	N/A	NO	#1
8	BBALL COURT #4 LTG	1HB-15	YES, 'j'	NOTE #1	NOTE#1	N/A	YES	#4, #6
9	BBALL COURT #3 LTG	1HB-17	YES, 'K'	NOTE #1	NOTE#1	N/A	YES	#4, #6
10	BBALL COURT #2 LTG	1HB-19	YES, 'm'	NOTE #1	NOTE#1	N/A	YES	#4, #6
11	BBALL COURT #1 LTG	1HB-21	YES, 'n'	NOTE #1	NOTE#1	N/A	YES	#4, #6
12	BBALL AREA GENERAL LTG	1HB-23	YES, 'o'	NOTE #1	NOTE#1	N/A	YES	#4, #6
13	VEST/WAITING LTG	1HB-25	YES, 'w'	NOTE #1	NOTE#1	N/A	YES	#1, #4, #6
14	MEZZANINE LTG	1HB-27	YES, 'p'	NOTE #1	NOTE#1	N/A	YES	#4, #6
15	MEN/WOMEN RR EX. FANS	1LB-55	NO	NOTE #1	NOTE#1	N/A	NO	#5, #7
16	MEZZANINE ILLUM. SIGN	1LB-47	NO	NOTE #1	NOTE#1	N/A	NO	#1

NOTES:

1. CIRCUIT TO BE ON TIME-OF-DAY SCHEDULE. VERIFY TIME-OF-DAY SCHEDULE WITH OWNER AS REQUIRED.

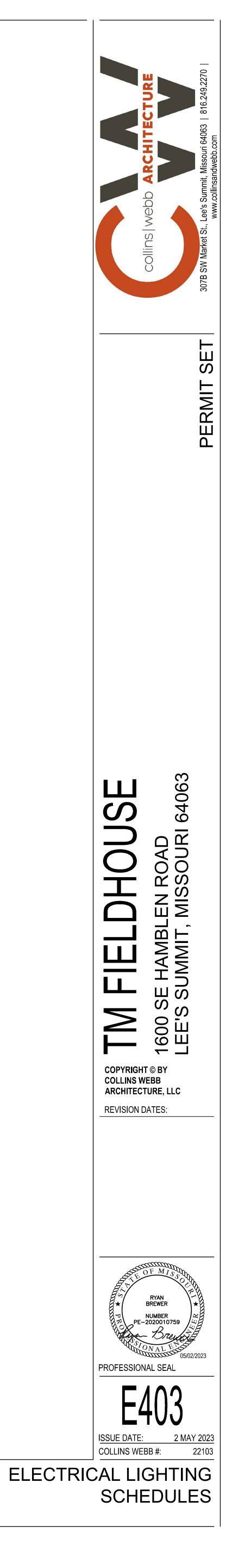
2. CIRCUIT TO BE ON TIME-OF-DAY SCHEDULE WITH PHOTOCELL OVERRIDE. VERIFY TIME-OF-DAY SCHEDULE WITH OWNER AS REQUIRED.

3. THIS ZONE TO AUTOMATICALLY DIM UP/DOWN VIA PHOTOCELL TO MAINTAIN DESIRED FOOTCANDLE LEVEL BASED ON AMOUNT DAY LIGHT PRESENT.

4. THIS ZONE TO DIM UP/DOWN VIA LOW-VOLTAGE CONTROL STATION.

5. EXHAUST FAN TO RUN CONTINUOUSLY DURING BUSINESS HOURS. VERIFY SCHEDULE WITH OWNER.

6. VERIFY EXACT DIMMING TYPE OF FIXTURE AND PROVIDE ALL ACCESSORIES AS REQUIRED FOR A COMPLETE AND OPERATIONAL SYSTEM. 7. PROVIDE VOLTAGE BARRIERS IN RELAY PANEL AS REQUIRED.



DIVISION 16 OF THE SPECIFICATIONS COVERS ALL ELECTRICAL WORK FOR THE PROJECT. WORK SHALL INCLUDE LABOR, MATERIAL AND ACCESSORIES NECESSARY TO ACCOMPLISH THE WORK AS SPECIFIED AND SHOWN ON THE

DRAWINGS, INCLUDING CONNECTION AND CHECKOUTS OF EQUIPMENT FURNISHED BY OTHERS (OTHER TRADES, THE OWNER AND OTHER OR AS REQUIRED.

THE ARCHITECTURAL SPECIFICATIONS AND DRAWINGS INCLUDING THE GENERAL

BIDDERS, AND OTHERS PERTINENT DOCUMENTS ISSUED BY THE ARCHITECT ARE A PART OF THESE SPECIFICATIONS AND ELECTRICAL DRAWINGS. THIS TRADE SHALL CONSULT THEM FOR INSTRUCTIONS WHICH APPLY. DRAWINGS INDICATE THE GENERAL ARRANGEMENT OF THE ELECTRICAL LAYOUT AND WORK INCLUDED. ELECTRICIAN SHALL FOLLOW DRAWINGS IN LAYOUT THE ELECTRICAL WORK AND INSTALLATION STUDIES ARE REQUIRED TO COORDINATE THE ELECTRICAL WORK CONSULT THE DRAWINGS AND LAYOUTS OF OTHER TRADES TO VERIFY LOCATION WITH THE WORK OF OTHER TRADES. PREPARE COORDINATION DRAWINGS AT AND SPACES IN WHICH WORK WILL BE INSTALLED.

CODES, PERMITS, INSPECTION AND COMMISSIONING

INSTALLATION SHALL COMPLY WITH ALL LAWS APPLYING TO ELECTRICAL WORK IN EFFECT, INCLUDING THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE (N.E.C.), THE NATIONAL ELECTRICAL SAFETY CODE, ALL LOCAL GOVERNING CODES AND ORDINANCES, WITH THE REGULATIONS OF THE SERVING ELECTRICAL UTILITY COMPANY. PROVIDE ALL REQUIRED PERMITS AND INCLUDE THE COST OF PROVIDE APPROVED SHOP DRAWINGS TO ALL REQUIRED DISCIPLINES AND SAME IN THE COST OF THE PROJECT. OBTAIN AND PAY FOR (WITHOUT ADDITIONAL EXPENSE TO THE OWNER) ALL REQUIRED INSPECTIONS AND REVIEWS. PROVIDE FOR AND PAY ALL EXPENSES (WITHOUT ADDITIONAL EXPENSE DIFFERS FROM CONTEMPLATED DESIGN. MAKE NECESSARY ADJUSTMENTS TO TO THE OWNER) ASSOCIATED WITH LIGHTING AND LIGHTING CONTROLS COMMISSIONING. ALL COMMISSIONING DOCUMENTATION SHALL BE CERTIFIED AND GIVEN TO OWNER AND DESIGN PROFESSIONAL.

THE FOLLOWING INDUSTRY STANDARDS AS APPLICABLE TO ELECTRICAL WORK SHALL APPLY TO THE WORK OF THIS DIVISION EXCEPT THAT, WHERE THE REQUIREMENTS OF THESE SPECIFICATIONS ARE MORE THAN THE LISTED STANDARD, THESE SPECIFICATIONS SHALL TAKE PRECEDENCE:

UL - UNDERWRITERS' LABORATORIES NEMA - NATIONAL ELECTRICAL MANUFACTURERS' ASSOCIATION

NECA - NATIONAL ELECTRICAL CONTRACTOR'S ASSOCIATION ANSI - AMERICAN NATIONAL STANDARDS INSTITUTE ASTM - AMERICAN SOCIETY OF TESTING MATERIALS

ALL MATERIALS SHALL BE NEW, UL LISTED AND LABELED WHERE LABELED MATERIALS ARE AVAILABLE, UNDAMAGED AND FREE OF DEFECTS AT TIME OF INSTALLATION. MATERIALS OR EQUIPMENT DAMAGED IN SHIPMENT OR OTHERWISE DAMAGED PRIOR TO OR DURING INSTALLATION SHALL NOT BE REPAIRED AT THE JOB SITE, BUT SHALL BE REPLACED WITH NEW MATERIALS. WHEN THE MANUFACTURER'S NAME APPEARS IN THESE SPECIFICATIONS AND DRAWINGS, IT SHALL BE CONSTRUED THAT THE MANUFACTURER HAS TO MEET THE FULL REQUIREMENTS OF THE SPECIFICATIONS AND DRAWINGS.

SUBMIT SHOP DRAWINGS AND PRODUCT DATA FOR EQUIPMENT TO THE

ARCHITECT FOR ENGINEER'S REVIEW ELECTRONICALLY OR HARD COPIES. INCLUDE SUFFICIENT INFORMATION TO INDICATE COMPLETE COMPLIANCE WITH SPECIFICATIONS. PROVIDE SUBMITTALS AS EARLY AS REQUIRED TO SUPPORT THE PROJECT SCHEDULE. ALLOW ONE WEEK FOR ENGINEER REVIEW TIME. THE ENGINEER'S SUBMITTAL REVIEWS WILL NOT RELIEVE THE CONTRACTOR FROM RESPONSIBILITY FOR ERRORS IN DIMENSIONS, DETAILS, SIZE OF MEMBERS, OR QUANTITIES: OR FOR OMITTING COMPONENTS OR FITTINGS: OR FOR NOT COORDINATING ITEMS WITH ACTUAL BUILDING CONDITIONS AND/OR OTHER TRADES.

ACCUMULATE DURING THE PROGRESS OF THE JOB. THE FOLLOWING DATA IN DUPLICATE, AND PREPARE IN A NEAT BROCHURE OR PACKET FOLDER TO BE TURNED OVER TO THE OWNER AT SUBSTANTIAL COMPLETION: RECORD DRAWINGS PER ABOVE.

ALL WARRANTIES, GUARANTEES, AND MANUFACTURER'S DIRECTION ON EQUIPMENT & MATERIAL FURNISHED.

COMPLETE PLAIN ENGLISH STEP-BY-STEP OPERATING INSTRUCTIONS FOR THE ELECTRICAL SYSTEM. ONE COPY OF THESE INSTRUCTIONS SHALL BE FRAMED AND POSTED AS DIRECTED ON THE PREMISES.

CERTIFIED LIGHTING AND LIGHTING CONTROLS COMMISSIONING AS REQUIRED BY CURRENTLY ADOPTED ENERGY CODE REQUIREMENTS.

MANUFACTURERS' NAMES AND CATALOG NUMBERS

IN SOME INSTANCES, SPECIFIC REFERENCES HAVE BEEN MADE TO ONE OR MORE MANUFACTURER'S NAME AND MODEL OR CATALOG NUMBERS. USE OF NAMES AND CATALOG NUMBERS DOES NOT INDICATE THAT THE EQUIPMENT SPECIFIED IN ACCESSORIES SHALL HAVE FIRE-RESISTANCE RATINGS INDICATED, AS NECESSARILY AN "OFF THE SHELF" ITEM. VARIANCES MAY BE DUE TO REQUIREMENT OF DESIRED FINISH, MATERIAL OR OTHER MODIFICATION.

IN THE CASE OF PANELBOARDS, SAFETY SWITCHES AND OTHER EQUIPMENT REQUIRING WIRE AND CABLE TERMINATIONS, ASCERTAIN THAT LUG SIZES AND WIRING GUTTERS OR WIRING SPACE ALLOWED IS PROPER FOR THE WIRES AND CABLES CONTAINED THEREIN.

WHEN APPROVAL IS GIVEN FOR THE USE OF EQUIPMENT DIFFERING FROM THAT SHOWN ON DRAWINGS IN REGARD TO FOUNDATIONS, SPACE FOR PIPING, DUCTWORK, WIRING, INSULATION, ETC. CHANGES REQUIRED TO ACCOMPLISH SUCH DIFFERENCES SHALL BE ACCOMPLISHED AT NO COST TO THE OWNER.

OTECTION OF EQUIPMENT

ELECTRICAL EQUIPMENT SHALL BE PROTECTED FROM THE WEATHER, IN PARTICULAR, DRIPPING OR SPLASHING WATER, AT ALL TIMES DURING SHIPMENT, STORAGE AND CONSTRUCTION. MANUFACTURER'S RECOMMENDATIONS WITH REGARD TO STORAGE, PROTECTION, AND HANDLING SHALL BE FOLLOWED.

SHALL BE THOROUGHLY DRIED AND PUT THROUGH A DIELECTRIC TEST, AT THE EXPENSE OF THE CONTRACTOR, TO ASCERTAIN THE SUITABILITY OF THE APPARATUS OR IT SHALL BE REPLACED WITHOUT ADDITIONAL COST TO THE OWNER.

DAMAGED OR DEFECTIVE EQUIPMENT: INSPECT ALL ELECTRICAL EQUIPMENT AND REQUIREMENTS. MATERIALS PRIOR TO INSTALLATION. INSTALLATION OR PLACEMENT INTO SERVICE OF DAMAGED MATERIALS WITHOUT THE PRIOR WRITTEN CONSENT OF THE OWNER IS PROHIBITED. REPLACE OR REPAIR TO NEW CONDITION, AS CERTIFIED BY THE MANUFACTURER, AND TEST DAMAGED EQUIPMENT IN COMPLIANCE WITH INDUSTRY STANDARDS AT NO ADDITIONAL COST TO THE OWNER. EQUIPMENT REQUIRED FOR THE TESTING SHALL BE PROVIDED BY THE CONTRACTOR.

ALLOCATED SPACE.

INSTALL ALL EQUIPMENT IN A MANNER TO PERMIT ACCESS TO ALL SURFACES. MAINTAIN PROPER CLEARANCE TO MEET ALL SAFETY AND OPERATING CODES, CONTRACTORS), AND TO ALL EQUIPMENT ITEMS AND AS INDICATED ON DRAWINGS PARTICULARLY N.E.C. INCLUDE ALL REQUIREMENTS DICTATED BY OPERATION. CONTROL, ADJUSTMENT, MAINTENANCE AND POSSIBLE REPLACEMENT OF EQUIPMENT IN DETERMINING CLEARANCE.

OF FOUIPMEN

EXCAVATION AND BACKFIL EXCAVATION, TRENCHING AND BACKFILLING ARE SPECIFIED IN SECTION EXCAVATION TRENCHING AND BACKFILLING FOR UTILITIES. CONDUIT IS TO BE INSTALLED AS SPECIFIED FOR PIPELINES. CONDUIT INSTALLED BENEATH FLOOR SLAB SHALL BE A MINIMUM OF 6" BELOW SLAB. BACKFILL OVER CONDUIT SHALL BE COMPACTED AS FOR SLAB BEDDING MATERIAL. REFER TO STRUCTURAL DRAWINGS FOR DETAILS OF CONDUIT (PIPE) PENETRATION OF EXTERIOR FOOTINGS. COMPLETE INSTALLATION SHALL CONFORM TO N.E.C.

COORDINATE SLEEVE SELECTION AND APPLICATION WITH SELECTION AND APPLICATION OF FIRE-STOPPING SPECIFIED IN ARCHITECTURAL SPECIFICATIONS.

ROOFS: COORDINATE ALL ROOF PENETRATIONS WITH ENGINEER. OWNER, AND AS APPLICABLE. THE ROOFING CONTRACTOR PROVIDING A ROOF WARRANTY. KEEP ALL RACEWAY PENETRATIONS WITHIN MECHANICAL EQUIPMENT CURBS WHEREVER POSSIBLE. COORDINATE WITH DIVISION 15. FLASH AND COUNTERFLASH ALL OPENINGS THROUGH ROOF, AND/OR PROVIDE PRE-FABRICATED MOLDED SEALS COMPATIBLE WITH THE ROOF CONSTRUCTION INSTALLED, OR AS REQUIRED BY THE ENGINEER, OWNER, OR ROOFING CONTRACTOR. ALL ROOF PENETRATIONS SHALL BE LEAKTIGHT AT THE TERMINATINO OF THE WORK AND SHALL NOT VOID ANY NEW OR EXISTING ROOF WARRANTIES.

WALLS AND FLOORS - SLEEVES FOR RACEWAYS AND CABLES: STEEL PIPE SLEEVES: ASTM A 53/A 53M, TYPE E, GRADE B, SCHEDULE 40, GALVANIZED STEEL, PLAIN ENDS AND DRIP RINGS.

CAST IRON PIPE SLEEVES: CAST OR FABRICATED "WALL PIPE". EQUIVALIENT TO DUCTILE-IRON PRESSURE PIPE, WITH PLAIN ENDS AND INTEGRAL SATERSTOP, UNLESS OTHERWISE INDICATED.

814, BY UNDERWRITER'S LABORATORIES, INC., OR OTHER NRTL ACCEPTABLE TO TECHNOLOGY INC., UNITED STATES GYPSUM COMPANY.

PROVIDE ALL REQUIRED GROUNDING FOR A COMPLETE SERVICE ENTRANCE GROUNDING SYSTEM. PERMANENTLY AND EFFECTIVELY GROUND AND BOND THE ELECTRICAL INSTALLATION IN A THOROUGH AND EFFICIENT MANNER, AND IN CONFORMANCE (AT A MINIMUM) WITH N.E.C. OR THESE DOCUMENTS, WHERE SHOULD ANY APPARATUS BE SUBJECTED TO POSSIBLE INJURY DUE TO WATER, IT THEY EXCEED CODE REQUIREMENTS. USE BARE OR INSULATED CONDUCTORS, AS SPECIFIED HEREIN, AND OTHER MATERIALS INDICATED ON THE DRAWINGS.

> PROVIDE ALL NECESSARY ENCLOSURES REQUIRED BY THE OWNER FOR THE UTILITY COMPANY METERING. REFER TO DRAWINGS FOR MINIMUM REQUIREMENTS. COORDINATE WITH UTILITY COMPANY PRIOR TO BID FOR ALL

PRODUCTS

ALL EQUIPMENT OF A PARTICULAR KIND. SUCH AS WIRING DEVICES AND PANELBOARDS AND ALL LIGHTING FIXTURES OF THE SAME TYPE, SHALL BE THE PRODUCT OF THE SAME MANUFACTURER.

THE SIZE OF ELECTRICAL EQUIPMENT SHOWN ON THE DRAWINGS IS BASED ON WHILE OTHER MANUFACTURERS MAY BE ACCEPTABLE, IT IS THE RESPONSIBILITY REQUIRED. OF THE TRADE TO DETERMINE IF THE EQUIPMENT PROPOSED WILL FIT IN THE

CONDITIONS, INCLUDING ALL SUPPLEMENTS ISSUED THERETO, INSTRUCTIONS TO SHOULD THERE BE APPARENT VIOLATIONS OF N.E.C. CLEARANCE, NOTIFY THE ARCHITECT-ENGINEER BEFORE PROCEEDING WITH CONNECTION OR PLACEMENT

> ACCURATE SCALE WHERE SEVERAL ELEMENTS OF ELECTRICAL OR COMBINED MECHANICAL/STRUCTURAL/ELECTRICAL WORK MUST BE SEQUENCED AND POSITIONED WITH PRECISION IN ORDER TO FIT INTO THE AVAILABLE SPACE.

SHOW THE ACTUAL PHYSICAL DIMENSIONS REQUIRED FOR PROPER INTEGRATION OF EQUIPMENT WITH BUILDING SYSTEMS.

TO ANY EQUIPMENT. WHEN ELECTRICAL DATA ON APPROVED SHOP DRAWINGS THE WIRING, DISCONNECTS, AND BRANCH-CIRCUIT PROTECTION FOR THE EQUIPMENT ACTUALLY INSTALLED AT NO ADDITIONAL COST TO THE OWNER.

DAMAGE FROM INTERFERENCE CAUSED BY INADEQUATE COORDINATION SHALL BE RECTIFIED AT NO ADDITIONAL COST TO THE OWNER.

ALL WORK SHALL BE EXECUTED IN A WORKMANLIKE MANNER AND SHALL PRESENT A NEAT MECHANICAL APPEARANCE WHEN COMPLETED.

MAKE THE WORK COMPLETE IN ALL RESPECTS AND READY FOR OPERATION SHALL BE PROVIDED WITHOUT ADDITIONAL COST TO THE OWNER.

IN CONSTRUCTIVE PARTS OF THE BUILDING LIKELY TO IMPAIR ITS STRENGTH SHALL BE DONE WITHOUT THE ARCHITECT-ENGINEER'S WRITTEN APPROVAL.

FIRESTOPPING: FIRE RESISTANT THROUGH PENETRAION SEALANTS - TWO PART, FOAMED-IN-PLACE, SILICONE SEALANT FORMULATED FOR USE IN ESTABLISHED BY TESTING IDENTICAL ASSEMBLIES IN ACCORDANCE WITH ASTME

ACCEPTABLE MANUFACTURERS - HILTI, INC., 3M CORP, RECTORSEAL, SPECIFY

SERVICE SHALL BE AS SHOWN ON DRAWINGS.

PROVIDE SECONDARY SERVICE INTO THE BUILDING WITH CONDUIT AND WIRING AS SHOWN ON THE PLANS, INCLUDING, BUT NOT LIMITED TO, UNDERGROUND RACEWAYS AND CABLES AND SECONDARY CONNECTIONS TO UTILITY TRANSFORMERS AS REQUIRED BY SERVING ELECTRICAL UTILITY COMPANY. COORDINATE ALL REQUIREMENTS WITH UTILITY COMPANY PRIOR TO BID.

PROVIDE ACCESS PANELS FOR ALL EQUIPMENT AND DEVICES REQUIRING SUCH PANELS. SIZE AS REQUIRED FOR PROPER ACCESS AND MAINTENANCE. MINIMUM DIMENSIONS OF A PARTICULAR MANUFACTURER, (GENERALLY THE FIRST NAMED). ACCEPTABLE IS 12 IN BY 12 IN CLEAR OPENING WHERE HAND ACCESS ONLY IS

> PROVIDE LABELS FOR EACH MOTOR CONTROLLER, SAFETY SWITCH, RELAY, PANELBOARD, CONTACTOR, TIMER, CONTROL DEVICE, METER AND CIRCUIT BREAKER. LABELS SHALL BE LAMINATED, PHENOLIC STRIPS 1/16" THICK, AND ENGRAVED TO SHOW BLACK LETTERS ON A WHITE BACKGROUND NOT LESS THAN DESCRIBED BELOW UNDER "PLATES". 1/4" HIGH. SIZE STRIPS TO PROPERLY FIT MANUFACTURER'S BRACKETS AND BE LEGIBLE. WHERE MANUFACTURER'S BRACKETS ARE NOT PROVIDED. MOUNT LABELS WITH PROPER SCREWS, OR AN APPROVED ADHESIVE.

CONDUIT, RIGID STEEL; GALVANIZED OR SHERADIZED AND MANUFACTURED IN ACCORDANCE WITH ANSI STANDARD C80.L. FITTINGS SHALL BE PIPE THREADED, MALLEABLE IRON. CONNECTORS SHALL BE INSULATED THROAT TYPE.

CONDUIT, PVC: POLYVINYLCHLORIDE SCHEDULE 40 PIPE SPECIFICALLY MANUFACTURED AND LABELED (UL STANDARD 651) FOR USE AS ELECTRICAL CONDUIT. FITTINGS SHALL BE EITHER SOCKET WELDED TYPE OR PIPE THREADED WITH INSULATED THROAT.

CONDUIT, FLEXIBLE METALLIC: GALVANIZED, INTERLOCKED SPIRALLY WOUND STEEL STRIP WITH GALVANIZED OR SHERADIZED FITTINGS. LISTED PER UL-L. FITTINGS SHALL BE OF THE SQUEEZE TYPE WITH INSULATED THROATS.

CONDUIT, LIQUIDTIGHT FLEXIBLE METALLIC: GALVANIZED, INTERLOCKED VERIFY FINAL ELECTRICAL CHARACTERISTICS BEFORE ROUGHING POWER FEEDS SPIRALLY WOUND STEEL STRIP WITH OVERALL JACKET OF LIQUID TIGHT PVC, UL LISTED. FITTINGS SHALL BE STEEL OR MALLEABLE IRON INSULATED THROAT, WATERTIGHT.

> ELECTRIC METALLIC TUBING: GALVANIZED OR SHERADIZED AND MANUFACTURED SPECIFICATION GRADE, ORANGE FACE, GROUND CONTACT FULLY ISOLATED FROM CIRCUIT BREAKERS: CIRCUIT BREAKERS OF THE PROPER SIZE, RATING, AND IN ACCORDANCE WITH ANSI STANDARD C80.3. FITTINGS 1/2 INCH THROUGH 2 INCH STRAP AND EQUIPPED WITH SCREW TERMINAL. HUBBELL #IG-5362* OR EQUAL. TRADE SIZE SHALL BE COMPRESSION TYPE, MANUFACTURED FROM MALLEABLE IRON OR STEEL, AND RAIN AND/OR CONCRETE-TIGHT AS REQUIRED BY INSTALLATION. POT METAL OR DIE CAST TYPE FITTINGS ARE PROHIBITED. CONNECTORS SHALL BE INSULATED THROAT TYPE.

NDUCTORS AND CABLES

GENERAL: SERVICE LATERALS AND PANELBOARD FEEDERS SHALL BE OF ANY MATERIAL ITEMS OR WORK NOT SHOWN ON THE DRAWINGS, BUT MENTIONED ANNEALED (SOFT) COPPER COMPLYING WITH ICEA S-95-658/NEMA WC70; SOLID IN THESE SPECIFICATIONS OR VISA-VERSA, OR ANY ACCESSORIES NECESSARY TO CONDUCTOR FOR NO. 10 AWG AND SMALLER; CONCENTRIC, COMPRESSED STRANDED FOR NO. 8 AWG AND LARGER. ALL FEEDER CONDUCTORS NO 8 AWG AND LARGER; STRANDED, TYPE THWN-2 OR XHHW-2 INSULATION.

THIS TRADE SHALL DO OR HAVE DONE BY COMPETENT TRADESMEN ALL CUTTING ALL BRANCH CIRCUITS SHALL BE ANNEALED (SOFT) COPPER COMPLYING WITH AND PATCHING NECESSARY FOR THE INSTALLATION OF THIS WORK. NO CUTTING ICEA S-95-658/NEMA WC70; SOLID CONDUCTOR FOR NO. 10AWG AND SMALLER; CONCENTRIC, COMPRESSED STRANDED FOR NO. 8 AWG AND LARGER. ALL BRANCH CIRCUIT CONDUCTORS NO 8 AWG AND LARGER; STRANDED, TYPE THWN-2 OR XHHW-2 INSULATION, ALL CONDUCTORS, NO 10 AWG AND SMALLER. USED FOR POWER AND LIGHTNG CIRCUITS; SOLID COPPER, TYPE THWN-2 INSULATION (WET OR DAMP LOCATIONS, OR IN CONDUIT BELOW GRADE OR SLAB), TYPE THHN INSULATION (DRY LOCATIONS ONLY ABOVE GRADE), OR DUAL RATED TYPE THHN/THWN-2. ALL BRANCH CIRCUIT WIRING SHALL NOT BE SMALLER THAN NO 12 AWG. IF NO CONDUCTOR SIZE IS INDICATED ON THE DRAWINGS FOR A BRANCH CIRCUIT, PROVIDE CONDUCTORS AND CONDUIT SIZED PER NFPA 70 AND BASED ON THE INDICATED BRANCH CIRCUIT OVERCURRENT PROTECTIVE DEVICE RATING AND NUMBER OF POLES. WHERE NO CIRCUIT SIZE (CONDUCTORS AND OVERCURRENT PROTECTIVE DEVICE) IS INDICATED ON THE DRAWINGS FOR A BRANCH CIRCUIT. PROVIDE THREE NO 12 AWG CONDUCTORS IN 3/4" RACEWAY. AND A 20A SINGLE POLE CIRCUIT BREAKER.

> CONDUCTOR INSULATION TYPES; 90-DEGREE C-RATED, TYPE THHN/THWN-2 OR XHHW-2 COMPLYING WITH ICEA S-95-658/NEMA WC70

COLORS FOR 208/120V CONDUCTORS PHASE A: BLACK PHASE B: RED PHASE C: BLUE NEUTRAL: WHITE EQUIPMENT GROUND: GREEN ISOLATED GROUND: GREEN WITH YELLOW STRIPE COLORS FOR 480/277V CONDUCTORS

PHASE A: BROWN PHASE B: ORANGE PHASE C: YELLOW NEUTRAL: WHITE EQUIPMENT GROUND: GREEN

UNLESS NOTED OTHERWISE, SPECIAL PURPOSE CONDUCTORS AND CABLES, SUCH AS LOW VOLTAGE CONTROL AND SHIELDED INSTRUMENT WIRING, SHALL BE SHALL BE FURNISHED COMPLETE WITH PROPER FUSES. AS RECOMMENDED BY THE SYSTEM EQUIPMENT MANUFACTURER.

THROUGH-PENETRAION FIRE-STOPPING AROUND CABLES, RACEWAYS, AND CABLE CONTROL WIRING; STRANDED COPPER CONDUCTORS, 600V INSULATION, OF THE TRAY PENETRAIONS THROUGH FIRE-RATED WALLS AND FLOORS. SEALANTS AND PROPER TYPE, SIZE AND NUMBER AS REQUIRED TO ACCOMPLISH SPECIFIED FUNCTION. MINIMUM SIZE; NO. 14 AWG UNLESS NOTED OTHERWISE.

> MC TYPE CABLE CAN BE USED IF ACCEPTED BY LOCAL AUTHORITY AND GOVERNING CODES FOR WHIPS FROM JUNCTION BOX TO LIGHT FIXTURES ONLY. TYPE MC CABLE; 600V, UNJACKETED; ANSI E119 AND E814, UL STANDARDS 44 OR 83 (AS APPLICABLE), AND 1569, NFPA 70 ARTICLE 330; ALUMINUM OR GALVANIZED STEEL INTERLOCKED ARMOR; THHN- OR XHHW-INSULATED CONDUCTORS; COLOR A CYLINDER LOCK, INDEX CARD CIRCUIT DIRECTORY MOUNTED BEHIND CLEAR CODE; ICEA METHOD 1, WITH GREEN INSULATED GROUDING CONDUCTOR.

PROVIDE A DEDICATED EQUIPMENT-GROUNDING CONDUCTOR, OR BONDING JUMPER, AS APPLICABLE, IN ALL BRANCH CIRCUITS AND FEEDERS, SIZED IN ACCORDANCE WITH NFPA 70, UNLESS INDICATED AS LARGER ON THE DRAWINGS.

PROVIDE A DEDICATED NEUTRAL (WHERE REQUIRED) AND DEDICATED GROUNDING CONDUCTOR FOR EACH BRANCH CIRCUIT.

VOLTAGE DROP IN BRANCH CIRCUITS SHALL NOT EXCEED 2%.

GFCI CIRCUITS: DO NOT USE MULTI-CONDUCTOR CIRCUITS, WITH A SHARED NEUTRAL FOR ANY GFCI CIRCUIT BREAKER OR RECEPTACLE CIRCUIT. BRANCH CIRCUITS FED FROM GFCI CIRCUIT BREAKERS, LIMIT THE ONE-WAY CONDUCTOR LENGTH TO 100 FEET BETWEEN THE PANELBOARD AND THE MOST REMOTE RECEPTACLE OR LOAD ON THE GFCI CIRCUIT.

OUTLET BOXES: GALVANIZED PRESSED STEEL WITH GALVANIZED STEEL EXTENSION RINGS OR PLASTER RINGS OR TILE RINGS TO PROVIDE EXPOSED SURFACE FLUSH WITH WALL OR CEILING FINISH. PROVIDE ALL CEILING OUTLET BOXES WITH "NO-BOLT" OR THROUGH AND LOCKNUTTED TYPE FIXTURE STUDS.

JUNCTION AND PULL BOXES: FABRICATE IN ACCORDANCE WITH NEMA AND N.E.C. STANDARDS AND REQUIREMENTS INSOFAR AS MATERIAL, GAUGES, DIMENSIONS, AND FABRICATION METHODS. BOXES SHALL BEAR THE UL LABEL. WHERE BOXES BREAKER STATUS. CIRCUIT BREAKERS SHALL BE UL LISTED IN ACCORDANCE ARE NOT SIZED ON THE DRAWINGS, THEY SHALL BE SIZED IN ACCORDANCE WITH WITH UL STANDARDS.

N.E.C. REQUIREMENTS. FINISH IN STANDARD GRAY ENAMEL, WITH SIDES AND WITH BRASS MACHINE SCREWS.

ITCHES: HEAVY DUTY AC, RATED 20 AMPERES, 120/277 VOLTS, SINGLE-POLE, DOUBLE-POLE, THREE-POLE, OR FOUR-WAY AS NOTED ON DRAWINGS OR AS REQUIRED FOR THE SWITCHING ARRANGEMENTS IN EACH SPACE. HUBBELL #HBL122** OR EQUAL. COORDINATE SWITCH COLORS WITH COVERPLATES AS

SWITCHES, SPECIAL PURPOSE: KEY OPERATED, HEAVY-DUTY AC, RATED 20 AMPERES, 120/277 VOLTS, SINGLE OR MULTI-POLE AS NOTED OR AS REQUIRED. HUBBELL #HBL122** OR EQUAL.

RECEPTACLES: THREE WIRE GROUNDING TYPE, 120 VOLT RATED, SPECIFICATION GRADE 20 AMPERES DUPLEX UNLESS NOTED OTHERWISE ON DRAWINGS. HUBBELL #5362 OR EQUAL. COORDINATE RECEPTACLE COLOR WITH COVERPLATE AS DESCRIBED BELOW UNDER "PLATES". SINGLE RECEPTACLE, 20 AMPERE, 120 VOLT, SPECIFICATION GRADE. HUBBELL #5361 OR EQUAL.

DUST AND MOISTURE RESISTANT, MELAMINE BODY, GRAY NYLON FACE BACKED BY FABRIC REINFORCED NEOPRENE GASKET SLIT TO PROVIDE WIPING ACTION ON CAP BLADES. PASS & SEYMOUR #6307 OR APPROVED EQUAL. GROUND FAULT CIRCUIT INTERRUPTER, NYLON FACE CLASS A, NEMA 5-20R, SPECIFICATION GRADE HUBBELL #GF-5362* OR EQUAL.

CORROSION RESISTANT, SIMILAR AND APPROVED EQUAL TO STANDARD RECEPTACLE, EXCEPT FABRICATED FROM YELLOW MELAMINE PLASTIC WITH YELLOW NYLON FACE AND EXPOSED METAL PARTS FINISHED TO RESIST CORROSION. (NEMA 5-15R = HUBBELL #52CM61).

ISOLATED GROUND. DUPLEX OR SIMPLEX THREE WIRE GROUNDING TYPE.

RECEPTACLES, SPECIAL PURPOSE: SPECIAL PURPOSE OUTLETS SHALL BE AS SCHEDULED ON DRAWINGS.

PLATES: PROVIDE PLATES FOR ALL OUTLET BOXES. PLATES SHALL BE OF SUITABLE CONFIGURATION FOR THE NUMBER AND TYPE OF DEVICES SERVED, SHALL BE ONE PIECE, SHALL OVERLAP OUTLET BOX EDGE AND ROOM SURFACES. AND SHALL BE SMOOTH FINISH NYLON TYPE OF SAME MANUFACTURER AS THE WIRING DEVICES. VERIFY DESIRED MATERIALS AND COLORS WITH ARCHITECT PRIOR TO INSTALLATION.

ALL COLORS WITH ARCHITECT

INTERIOR DAMP LOCATIONS: STAINLESS STEEL.

EXTERIOR LOCATIONS: FOR UNATTENDED WET LOCATIONS, PROVIDE IN-USE NEMA 3R, UL LABELED PLATES MOLDED FROM A CLEAR HIGH IMPACT ULTRAVIOLET STABILIZED POLYCARBONATE MATERIAL FOR EASY VERIFICATION THAT CORDS ARE PLUGGED IN AND THAT THE GFCI IS FUNCTIONING. COVER PLATES SHALL BE BY THE SAME MANUFACTURER AS THE WIRING DEVICES; COMPLYING WITH NFPA 70 406,8 (A) OR (B) REQUIREMENTS FOR ATTENDED OR UNATTENDED USE AS APPLICABLE.

ACCEPTABLE MANUFACTURERS: HUBBELL, PASS & SEYMOUR, LEVITON AND COOPER.

FURNISH AND INSTALL FLUSH CABINETS AND ENCLOSURES AS SHOWN ON THE PLANS AND AS HEREIN SPECIFIED. UNIT SHALL BE PROVIDED WITH DEAD FRONT SUB PANEL, RECESSED AS REQUIRED, TO HOUSE CONTROLS, DOOR SHALL BE PROVIDED WITH CONCEALED HINGES AND FLUSH KEY OPERATED LOCK. DOOR SPECIAL FINISHES. AND TRIM SHALL BE PRIME PAINTED FOR FIELD PAINTING TO MATCH WALL REQUIRED TO MEET FIELD CONDITIONS. EXACT BACKBOX SIZE TO BE COORDINATED WITH EQUIPMENT SUPPLIER.

CIRCUIT DISCONNECTS

SAFETY SWITCHES: SAFETY SWITCHES SHALL CONSIST OF A BOX, FRONT COVER. AND CIRCUIT PROTECTOR DEVICE ALL MANUFACTURED AND ASSEMBLED IN ACCORDANCE WITH NEMA STANDARDS

THE BOX SHALL BE FABRICATED FROM CODE GAUGE GALVANIZED SHEET STEEL IN ACCORDANCE WITH U.L. LISTING AND LABEL. THE CIRCUIT PROTECTOR DEVICE RATED FOR MOTOR CIRCUITS AND/OR SERVICE ENTRANCE DUTY, IF REQUIRED. UNITS SHALL BE FURNISHED FOR SURFACE OR FLUSH MOUNTING WITH EITHER GENERAL PURPOSE OR RAINTIGHT ENCLOSURES, AS REQUIRED, FUSED UNITS

SHALL CONSIST OF BOX. INTERIOR. FRONT, AND CIRCUIT PROTECTIVE DEVICES. THE ASSEMBLY SHALL BE U.L. LABELED AND BE LISTED FOR SERVICE. THE ASSEMBLY SHALL BE DESIGNED AND MANUFACTURED IN ACCORDANCE WITH NEMA STANDARD PB-1. THE LATEST UL STANDARD (UL-50) AND SHALL HAVE A PROVIDE STANDARD KNOCKOUTS ON REMOVABLE BOX ENDS. FABRICATE FROM SHEET STEEL AND FINISH WITH BAKED ON GRAY ENAMEL OVER RUST INHIBITOR. EACH FRONT SHALL HAVE A DOOR MOUNTED ON SEMI-CONCEALED HINGES WITH PLASTIC AND HELD IN A METAL FRAME, AND CONCEALED TRIM CLAMPS FOR MOUNTING TO THE BOX. ALL LOCKS SHALL BE MASTER KEYED AND ALL PANEL DIRECTORIES SHALL BE TYPEWRITTEN.

ALL INTERIORS SHALL BE COMPLETELY FACTORY ASSEMBLED. THE DESIGN OF THE INTERIOR SHALL PERMIT REPLACEMENT OF INDIVIDUAL BRANCH BREAKERS WITHOUT DISTURBING ADJACENT UNITS AND WITHOUT MACHINE DRILLING OR TAPPING. BUS BARS FOR PANELS RATED 600 AMPERES OR MORE SHALL BE TIN PLATED 98% CONDUCTIVITY COPPER OR TIN FINISH ALUMINUM (57% CONDUCTIVITY) OF RECTANGULAR CROSS-SECTION. BUS BARS FOR PANELS RATED LESS THAN 600 AMPERES SHALL BE TIN PLATED 98% CONDUCTIVITY

COPPER OF RECTANGULAR CROSS-SECTION. BUS BAR CONNECTIONS TO BRANCH CIRCUIT BREAKERS SHALL BE THE PHASE SEQUENCE TYPE AND ACCEPT PROVIDE FLUORESCENT FIXTURES WITH ELECTRONIC BALLASTS SUITABLE FOR BOLT-ON TYPE BREAKERS ONLY. PANELBOARD BUS STRUCTURE AND MAIN BREAKER OR MAIN LUGS SHALL BE RATED AS SCHEDULED ON DRAWING. SUCH RATINGS SHALL BE ESTABLISHED BASED ON HEAT RISE TESTS IN ACCORDANCE

WITH UL STANDARDS. GROUP INCOMING CABLE LUGS AT ONE END FOR SEPARATION FROM LOAD SIDE CABLES. EQUIPMENT NEUTRAL BUSSING WITH A LUG FOR EACH BRANCH BREAKER POSITION. INTERIOR SHALL MOUNT TO BOX WITHOUT TOOLS.

BREAKERS SHALL BE QUICK-MAKE, QUICK-BREAK, BOLT-ON THERMAL-MAGNETIC MOLDED CASE CIRCUIT BREAKERS ONE. TWO OR THREE POLE WITH INTEGRAL TOGGLE-TYPE OPERATING ACTION AND POSITIVE HANDLE INDICATION OF

BACK SPOT-WELDED IN POSITION AND THE REMOVABLE SCREW COVER MOUNTED EACH PANELBOARD, AS A COMPLETE UNIT, SHALL HAVE A SHORT CIRCUIT RATING EQUAL TO OR GREATER THAN THE INTEGRATED EQUIPMENT RATING SHOWN ON DRAWINGS. THE RATING SHALL BE ESTABLISHED BY TESTING WITH THE OVERCURRENT DEVICES MOUNTED IN THE PANELBOARD. THE SHORT CIRCUIT TESTS ON THE OVERCURRENT DEVICES ON THE STRUCTURE SHALL BE MADE SIMULTANEOUSLY BY CONNECTING THE FAULT TO EACH OVERCURRENT DEVICE WITH THE PANELBOARD CONNECTED TO ITS RATED SUPPLY VOLTAGE.

> REFER TO PANELBOARD SCHEDULES FOR FULLY RATED OR SERIES-RATED REQUIREMENTS. SERIES-RATED SYSTEMS ARE NOT ALLOWED UNLESS SPECIFICALLY INDICATED ON PANELBOARD SCHEDULES. WHERE ALLOWED, SERIES-RATED SYSTEMS SHALL BE PROPERLY LABELLED BY NEC REQUIREMENTS.

METHOD OF TESTING SHALL BE PER UL STANDARDS. PANELBOARDS SHALL BE MARKED WITH THEIR MAXIMUM SHORT CIRCUIT CURRENT RATING AT THE SUPPLY VOLTAGE.

APPROVED MANUFACTURERS: SQUARE-D CO. OR EQUAL BY GE, SIEMENS AND/OR INDICATED. FULL-CAPACITY PRIMARY TAPS: BELOW 25 KVA - MINIMUM OF TWO 5% FATON

OVERCURRENT PROTECTIVE DEVICE:

FUSES OF THE PROPER SIZE, RATING AND ELECTRICAL CHARACTERISTICS SHALL BE PROVIDED IN EACH FUSIBLE DEVICE. FUSES OF 600 VOLTS AND BELOW SHALL BE UL CLASS RK-1, CURRENT-LIMITING, TIME-DELAY, DUAL-ELEMENT, 200,000 AMPERE RMS SYMMETRICAL INTERRUPTING CAPACITY ON NON-MOTOR CIRCUITS SHEET STEEL CONSTRUCTION. MANUFACTURERS: SQUARE D, GENERAL AND UL CLASS RK-5, TIME-DELAY, DUAL-ELEMENT, 200,000 AMPERES RMS SYMMETRICAL INTERRUPTING CAPACITY ON MOTOR CIRCUITS.

APPROVED MANUFACTURERS: BUSSMANN, LITTLEFUSE OR FERRAZ-SHAWMUT (ALL FUSES SHALL BE OF SAME MANUFACTURER TO ENSURE SELECTIVE COORDINATION).

ELECTRICAL CHARACTERISTICS SHALL BE PROVIDED WHERE CALLED FOR ON DRAWINGS. BREAKERS SHALL BE THERMAL MAGNETIC MOLDED-CASE WITH QUICK-MAKE, QUICK-BREAK, OVER CENTER TOGGLE TYPE MECHANISM AND TRIP-FREE HANDLE MECHANISM. THE BREAKER SHALL BE ENCLOSED IN A SUITABLE NEMA RATED ENCLOSURE. BREAKERS SHALL BE OF SAME MANUFACTURER AS THOSE IN THE PANELBOARDS.

ELECTRONIC TIME SWITCHES: ELECTRONIC, SOLID STATE PROGRAMMABLE UNITS

WITH ALPHANUMERIC DISPLAY; COMPLYING WITH UL917. SPST, 30 AMPERE INDUCTIVE OR RESISTIVE, 240VAC, CONTACT RATING, 2 PROGRAMMABLE ON-OFF SET POINTS ON A 24-HOUR SCHEDULE, ALLOWING DIFFERENT SET POINTS FOR STANDARD INTERIOR: IVORY FINISHED ON LIGHT COLORED WALLS - COORDINATE EACH DAY OF THE WEEK. ALLOW CONNECTION OF A PHOTOELECTRIC RELAY AS SUBSTITUE FOR ON-OFF FUNCTION OF A PROGRAM. ASTRONOMIC TIME ON ALL CHANNELS. BATTERY BACKUP FOR SCHEDULES AND TIME CLOCK.

OR PHOTOELECTRIC SWITCHE

SOLID STATE, WITH SPST DRY CONTACT RATED FOR 1800-VA TUNGSTEN OR 1000-VA INDUCTIVE, TO OPERATE CONNECTED RELAY, CONTACTOR COILS OR MICROPROCESSOR INPUT, COMPLYING WITH UL 773A.

PHONE AND DATA SYSTE

DRAWINGS.

FURNISH AND INSTALL A SYSTEM OF PROPERLY SIZED AND PROPERLY LOCATED OUTLETS WITH ASSOCIATED CONNECTING CONDUIT RUNS, EXTENDING TO PULL BOXES AND TELEPHONE BACKBOARD. FURNISH AND INSTALL RACEWAYS, FOR INCOMING SERVICE WHERE INDICATED.

OUTLET BOXES: UNLESS OTHERWISE INDICATED, ALL TELEPHONE OUTLETS AND JUNCTION BOXES SHALL BE PROVIDED AS REQUIRED TO ACCOMMODATE INTERNAL TERMINAL STRIPS BY TELEPHONE CO.

OUTLET COVER PLATES: TELEPHONE OUTLET COVER PLATES SHALL MATCH THOSE SPECIFIED FOR ADJACENT WIRING DEVICES. INCLUDING THOSE WITH

FINISHES. PROVIDE KNOCK-OUTS, LOUVERS AND IDENTIFICATION ENGRAVING AS RACEWAYS: MATERIALS FOR TELEPHONE RACEWAY SYSTEM WORK SHALL BE IN ACCORDANCE WITH CORRESPONDING RACEWAYS SPECIFIED HEREIN AND IN OTHER SECTIONS.

> VERIFY LOCATION OF WALL OUTLETS BEFORE ROUGHING IN TO ENSURE COORDINATION WITH OWNER'S FINAL INTENDED FURNITURE LAYOUT. PLAN INDICATIONS SHALL NOT BE SCALED UNLESS DIRECTED. OUTLETS SHALL BE RELOCATED WITHIN ROOMS BEFORE ROUGH-IN WHERE DIRECTED BY ARCHITECT-ENGINEER WITHOUT ADDITIONAL COST TO OWNER.

TELEPHONE SERVICE CONDUIT LAYOUT SHALL HAVE THE JOB SITE APPROVAL OF SHALL BE HEAVY DUTY, QUICK-MAKE, QUICK-BREAK FUSED OR UNFUSED SWITCH AN AUTHORIZED REPRESENTATIVE OF THE TELEPHONE CO. COORDINATE WORK SO THAT BOTH TELEPHONE CO. AND OWNER'S REPRESENTATIVES ARE PRESENT AT THE SAME TIME FOR APPROVAL OR CHANGES IN AMPLE TIME FOR ANY REQUIRED CORRECTIONS BEFORE COMPLETION OF PROJECT.

> FROM EACH TELEPHONE OUTLET, PROVIDE 3/4" EMT CONDUIT CONCEALED IN WALL TO 6" ABOVE ACCESSIBLE CEILING OR UP TO STRUCTURE WHERE NO CEILING EXISTS, UNLESS SHOWN OTHERWISE ON DRAWINGS.

TELEPHONE TERMINAL BOARD: PRIOR TO INSTALLATION OF TELEPHONE TERMINAL BOARD, THE EXACT LOCATION SHALL BE VERIFIED WITH THE TURNED EDGE AROUND THE FRONT FOR RIGIDITY AND FOR CLAMPING ON FRONT. TELEPHONE CO. THE TELEPHONE TERMINAL BOARD SHALL BE PROVIDED WITH A DOUBLE DUPLEX RECEPTACLE LOCATED WHERE INDICATED ON THE DRAWINGS. THE TERMINAL BOARD SHALL BE CONSTRUCTED OF 4' X 8' X 3/4" PLYWOOD WITH TWO (2) COATS OF FLAME RETARDANT PAINT UNLESS NOTED OTHERWISE ON

> FIXTURES ARE SPECIFIED IN THE SCHEDULE BY MANUFACTURER'S NAME AND CATALOG NUMBER.

ALL RECESSED LIGHT FIXTURES SHALL BE PROVIDED WITH FACTORY INSTALLED THERMAL PROTECTION.

ALL LAMPS USED ON THIS PROJECT SHALL BE NEW, DELIVERED TO THE JOB SITE IN THE ORIGINAL PACKING CASES AND SLEEVES AND SHALL BE OF THE SAME MANUFACTURER.

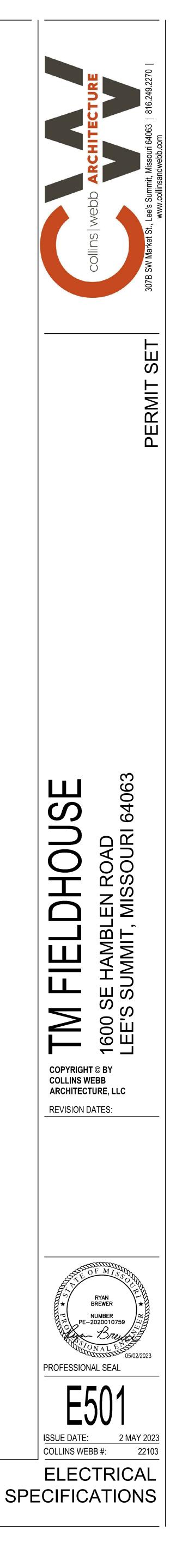
OPERATION OF LAMPS SPECIFIED; TOTAL HARMONIC DISTORTION LESS THAN 20%; FREQUENCY OF OPERATION OF 20 KHZ OR GREATER WITH NO VISIBLE FLICKER; LINE TRANSIENT WITHSTAND RATINGS AS DEFINED IN ANSI/IEEE, CATEGORY A. APPROVED MANUFACTUERERS: ADVANCE OR EQUAL BY MAGNETEK, MOTOROLA OR OSRAM.

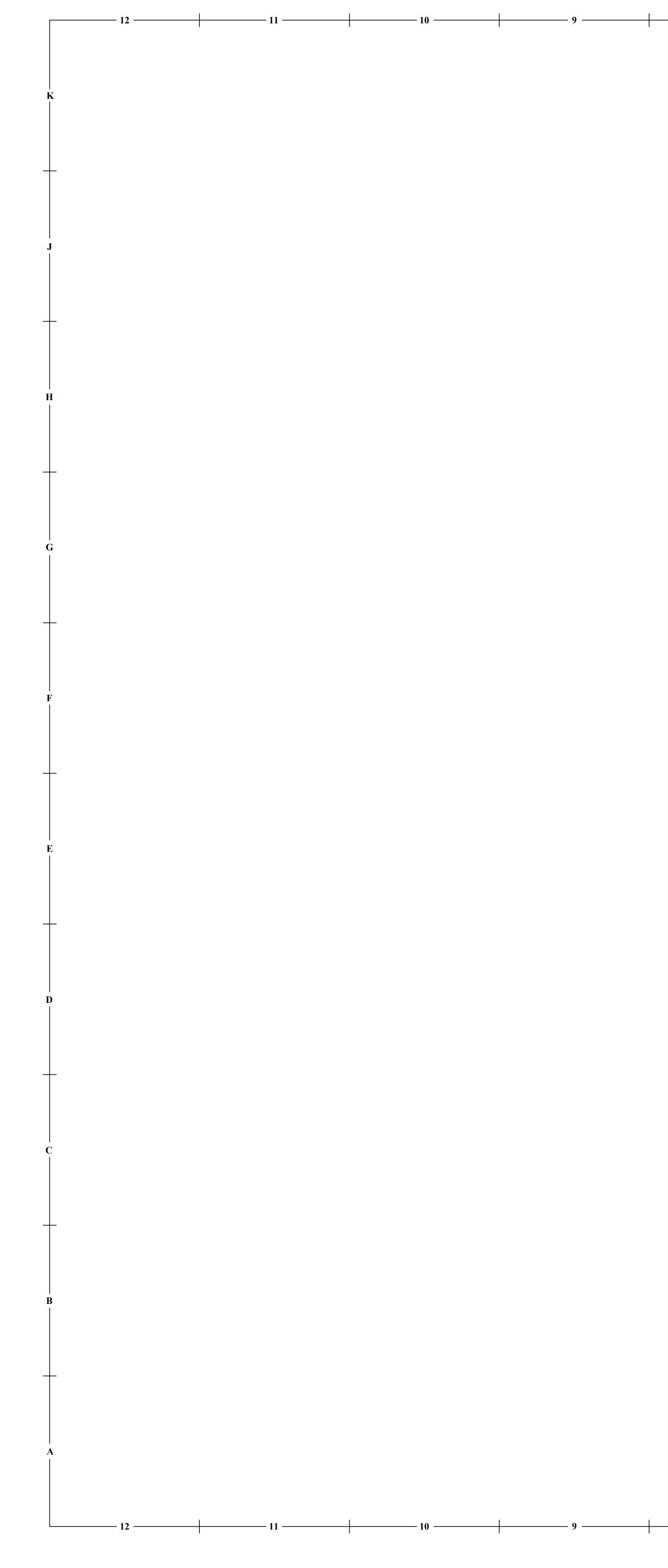
HID BALLASTS SHALL BE AUTO TRANSFORMER REACTOR, HIGH POWER FACTOR POTTED AND ENCASED TO MINIMIZE SOUND. APPROVED MANUFACTURERS: GE, SYLVANIA, OR OSRAM.

CROSSBAR FOR MULTI-POLE UNITS, EQUIPPED WITH AN OVERCENTER, TRIP-FREE, LED LIGHT FIXTURES ARE TO BE PROVIDED WITH COMPATIBLE DRIVER AND MUST BE COORDINATED WITH CONTROL TYPE INDICATED. CONTRACTOR IS RESPONSIBLE TO ENSURE CONTROLS ARE CAPABLE OF PROPERLY CONTROLLING LIGHT FIXTURES AS INDICATED WITHIN THESE DRAWINGS.

CONTACTORS AND RELAY ALL CONTACTORS AND RELAYS SHALL BE UL LISTED AND LABELED. GENERAL PURPOSE, ELECTRICALLY HELD TYPE, IN NEMA 1 ENCLOSURES. WHERE SPECIFICALLY NOTED ON DRAWINGS, UNITS SHALL BE ELECTRICALLY HELD OR MOMENTARY OPERATIONAL TYPE. UNITS SHALL BE FURNISHED WITH LINE OR LOW VOLTAGE CONTROL AS NOTED AND WITH THE CORRECT NUMBER OF POLES AND CURRENT CHARACTERISTICS. WHERE LOW VOLTAGE OPERATION IS INDICATED, PROVIDE PROPER STEPDOWN TRANSFORMERS AND RECTIFIERS. APPROVED MANUFACTURERS: ASCO, OR MANUFACTURER OF APPROVED PANELBOARDS FURNISHED.

GENERAL PURPOSE, UL-LISTED/LABELED 150 DEGREES C TEMPERATURE RISE ABOVE 40 DEGREES C AMBIENT. INSULATING MATERIALS: EXCEED NEMA ST-020 STANDARDS, RATED FOR 220 DEGREES C, UL-COMPONENT RECOGNIZED INSULATION SYSTEM. PHASES, VOLTAGES, AND SIZES: AS INDICATED ON THE DRAWINGS. SOUND LEVEL: NOT EXCEEDING NEMA STANDARDS FOR THE SIZES (2-); 25 KVA TO 300 KVA - MINIMUM OF SIX 2.5% (2+, 4-); ABOVE 300 KVA - FOUR 2.5% (2+, 2-). TRANSFORMER CORE AND COIL ASSEMBLIES: MOUNTED ON INTEGRAL VIBRATION-ABSORBING PADS. MAKE FINAL CONDUIT CONNECTIONS TO TRANSFORMERS WITH FLEXIBLE CONDUIT, WITH AT LEAST 6" OF SLACK IN ALL DIRECTIONS. TRANSFORMER ENCLOSURES: FULLY ENCLOSED (EXCEPT FOR VENTILATION OPENINGS), NEMA 2, DRIP-PROOF, FABRICATED OF HEAVY GAUGE ELECTRIC, ACME, SIEMENS.





WIRING OF MECHANICAL EQUIPMENT PROVIDE ALL RACEWAYS AND POWER WIRING FOR ALL DIVISION 15 EQUIPMENT

REQUIRING ELECTRICAL CONNECTIONS, INCLUDING, BUT NOT LIMITED TO, PUMPS, WATER HEATERS, AND HVAC EQUIPMENT, AND ALL LINE-VOLTAGE CONTROL AND EMPTY CONDUIT SYSTEMS INSTALLED FOR COMMUNICATION SYSTEMS, PUBLIC INTERLOCK WIRING NOT PROVIDED UNDER DIVISION 15. CONNECT PER MANUFACTURER'S WIRING DIAGRAMS. COORDINATE WITH DIVISION 15 FOR DISCONNECTS FURNISHED WITH EQUIPMENT, AND PROVIDE ALL DISCONNECT SWITCHES AS REQUIRED. AFTER INSTALLING WIRING, VERIFY THAT EACH MOTOR LOAD HAS THE CORRECT PHASE ROTATION.

VERIFY THE ACTUAL "MAXIMUM OVERCURRENT PROTECTION" DEVICE RATINGS AND "MINIMUM CIRCUIT AMPACITY" CONDUCTOR SIZING FOR MECHANICAL EQUIPMENT FROM THE EQUIPMENT NAMEPLATE. BASE ELECTRICAL INSTALLATIONS ON ACTUAL REQUIRED AMPERAGES, WHICH MAY VARY SOMEWHAT FROM THE CONDUCTOR AND EQUIPMENT SIZES SHOWN ON THE DRAWINGS; HOWEVER, IN NO CASE, REDUCE THE SIZE OF CONDUCTORS INDICATED ON THE DRAWINGS WITHOUT AUTHORIZATION FROM THE ENGINEER. PROVIDE PROPERLY SIZED ELECTRICAL WIRING AND EQUIPMENT WITHOUT EXTRA MOISTURE, USE LIQUIDTIGHT FLEXIBLE CONDUIT WITH WATERTIGHT FITTINGS. COST TO THE OWNER. NOTIFY THE ENGINEER OF ALL CHANGES REQUIRED IN THE ELECTRICAL INSTALLATION DUE TO EQUIPMENT VARIANCES SO THAT THE EFFECTS ON FEEDERS, BRANCH CIRCUITS, PANELBOARDS, FUSES AND CIRCUIT BREAKERS CAN BE CHECKED PRIOR TO PURCHASING AND INSTALLATION. BE RESPONSIBLE FOR COORDINATING WITH DIVISION 15 TO VERIFY THE ACTUAL AMPACITIES AND CORRECT SIZES OF ALL CONDUCTORS AND OVERCURRENT

PROVIDE ALL RACEWAYS, POWER WIRING, AND LINE-VOLTAGE CONTROL AND INTERLOCK WIRING NOT PROVIDED UNDER DIVISION 15, FOR ALL THERMOSTATS, PLUS THE WEIGHT OF A MAN. TEMPERATURE CONTROL DEVICES, AND CONTROLS, INCLUDING, BUT NOT LIMITED TO, NIGHT-STATS, WATER HEATER INTERLOCKS, TIME SWITCHES AND OVERRIDE TIMERS. SEE MECHANICAL DRAWINGS FOR LOCATIONS AND TEMPERATURE CONTROL DIAGRAMS. LOW-VOLTAGE CONDUCTORS FOR THERMOSTATS AND TEMPERATURE CONTROL SYSTEMS MAY BE RUN EXPOSED ABOVE FINISHED ACCESSIBLE CEILINGS, IF APPROVED AND LISTED FOR THIS PURPOSE, BUT SHALL ON CENTERS BE INSTALLED IN CONDUIT WITHIN WALLS AND WHERE EXPOSED IN THE WORK

FOR ALL MOTORS, WHEN STARTERS ARE PROVIDED UNDER DIVISION 16.

EXECUTION

AREAS.

METHOD OF PROCEDURI

ERECT EQUIPMENT PARTS AT SUCH TIME AND IN SUCH MANNER AS TO MINIMIZE INTERFERENCES AND DELAYS IN THE EXECUTION OF THE WORK CARE SHALL BE USED IN THE ERECTION AND INSTALLATION OF ALL EQUIPMENT AND MATERIALS NO ADDITIONAL COST TO THE OWNER.

EQUIPMENT REQUIRING ELECTRICAL SERVICE SHALL NOT BE ENERGIZED OR PLACED IN SERVICE UNTIL ALL INTERESTED PARTIES HAVE BEEN DULY NOTIFIED AND ARE PRESENT OR HAVE WAIVED THEIR RIGHT TO BE PRESENT. WHERE EQUIPMENT TO BE PLACED IN SERVICE INVOLVES SERVICE OR CONNECTION FROM ANOTHER CONTRACTOR OR THE OWNER, NOTIFY THE OWNER IN WRITING BE COMPLETE.

REQUIRED TO ALL MISCELLANEOUS EQUIPMENT FURNISHED BY OTHERS, OR UNDER OTHER DIVISIONS OF THE WORK. THIS SHALL INCLUDE POWER AND CONTROL WIRING, WIRING DEVICES AND COVER-PLATES FOR BUILT-IN EQUIPMENT ARE INCLUDED IN THE WORK OF THIS DIVISION. SAFETY DISCONNECTS AND OTHER MISCELLANEOUS PROTECTIVE DEVICES REQUIRED BY FINAL CONNECTIONS FROM APPROVED SHOP DRAWINGS ONLY.

COMPLIANCE WITH THE DRAWING AND ANY NOTES THEREON IS REQUIRED. PROVIDE OPENINGS THROUGH WALLS, PARTITIONS, FLOORS, AND ROOFS AS REQUIRED FOR ELECTRICAL WORK.

PROVIDE SLEEVES FOR ELECTRICAL WORK PASSING THROUGH WALLS, OTHERWISE SPECIFIED. FIRE WALL AND/OR FLOOR INTEGRITY SHALL BE CONCRETE FLOORS AND ROOFS. SHALL BE FABRICATED FROM STANDARD GALVANIZED STEEL PIPE WITH ENDS FINISHED SMOOTH, BURR FREE, WITHOUT SHARP EDGES. SLEEVES IN WALLS, ROOFS, AND FLOORS OF OTHER CONSTRUCTION AND THROUGH SUSPENDED CEILINGS SHALL BE FABRICATED FLOOR SLEEVES AND PASSING CONDUIT SHALL BE FILLED WITH DUCT SEAL BE FABRICATED SUCH THAT WATERPROOFING CAN BE FLASHED ONTO AND AROUND THE SLEEVE.

ALL POWER AND LIGHTING CIRCUITS SHALL BE RUN IN METALLIC RACEWAYS EXCEPT WHERE SPECIFICALLY NOTED OTHERWISE. THESE RACEWAYS SHALL BE RUN CONCEALED IN ALL FINISHED AREAS, AND WHERE RUN EXPOSED SHALL BE SQUARE TO THE BUILDING AND HELD TIGHT TO THE BUILDING CONSTRUCTION. LOW VOLTAGE, TELEPHONE, INTERCOM, MUSIC, ALARM AND SECURITY WIRING RUN ABOVE ACCESSIBLE CEILINGS SHALL BE RUN USING INSULATED, PLENUM AHJ. VERIFY ALL REQUIREMENTS PRIOR TO INSTALLATION. METALLIC CONDUIT FOR THESE SYSTEMS SHALL BE PROVIDED ONLY WHERE RUN INSIDE WALLS. THE DRAWINGS INDICATE THE REQUIRED SIZE OF ALL RACEWAYS (EXCEPT AS HEREINAFTER SPECIFIED), THE POINTS OF TERMINATION AND THE SUGGESTED ROUTING. HOWEVER, THE INSTALLER IS RESPONSIBLE FOR PROPER AND N.E.C. FILL.

CONDUIT SHALL BE CONSTRUED AS ELECTRICAL RACEWAYS AND SHALL CONFORM TO THE FOLLOWING: CONCEALED IN SUSPENDED CEILINGS AND INTERIOR PARTITIONS - EMT WITH SET SCREW TYPE FITTINGS. UNDERGROUND FOR PARKING AREA LIGHTING, SIGNS, ETC. ELBOWS SHALL BE GRS). EXPOSED ON OUTLET BOX TYPE WHERE ONLY ONE CONDUIT ENTERS SAME. UNLESS BUILDING EXTERIOR - GRS.

CONDUIT BENDS SHALL BE MADE TO THE LARGEST POSSIBLE RADIUS FOR EASE IN ADAPTER RING. PULLING CONDUCTORS AND TO PROVIDE A NEATLY INSTALLED APPEARANCE. EQUIPMENT AND CONDITIONS PERMITTING, POWER CONDUIT BENDS SHALL IN, - 24 IN, RADIUS; 3 IN, - 36 IN, RADIUS,

GRS CONDUIT SHALL BE CUT WITH POWER OR HACKSAW AND CLEANLY REAMED

TO REMOVE ALL "BURRS" AND ALL FIELD CUT THREADS SHALL BE PAINTED WITH WHITE LEAD BEFORE COUPLINGS ARE APPLIED.

TELEPHONES, OWNER ITEMS AND OTHER SYSTEMS AS INDICATED ON DRAWINGS SHALL BE INSTALLED COMPLETE WITH NYLON PULL WIRES PROPERLY TAGGED AT BOTH ENDS FOR IDENTIFICATION.

WHERE BUILDING VENTILATION CONDITIONS ARE SUCH THAT AIR MAY FLOW CONTINUOUSLY IN CONDUITS, CAUSING CONDENSATION AND THE COLLECTION OF MOISTURE, THE CONDUITS SHALL BE SEALED AT EACH END WITH A PLIABLE X DUCT SEALING COMPOUND. ALSO SEAL ALL CONDUITS ENTERING AND LEAVING REFRIGERATED EQUIPMENT AND PROVIDE EXPANSION JOINTS PER N.E.C.

ALL CONNECTIONS TO MOTORS, SOLENOID VALVES, PRESSURE SWITCHES, LIMIT SWITCHES, AND SIMILAR APPARATUS SHALL BE FLEXIBLE CONDUIT WHERE PERMITTED. WHERE EQUIPMENT IS INSTALLED OUTDOORS OR EXPOSED TO

EQUIPMENT LEVELING, HANGERS AND SUPPORTS SET EACH PIECE INSTALLED UNDER THIS DIVISION TRUE AND LEVEL.

ADEQUATELY SUPPORT ALL RACEWAYS FROM THE STRUCTURE USING SCREW CLAMPS TO SECURE TO SAME. ARRANGE SUPPORTS TO PREVENT MOISTURE COLLECTION AND ALLOW ENTRANCE TO BOXES WITHOUT BENDS. INSTALL PROTECTIVE DEVICES FOR ALL EQUIPMENT, AND CORRECT OVERLOAD HEATERS MULTIPLE CONDUITS USING CHANNEL TRAPEZE SUPPORTS TIGHT TO STRUCTURE GROUND CONDUCTOR - SIZE AS PER N.E.C. REQUIREMENTS. SOFT DRAWN OR ABOVE. USE APPROVED SPACERS TO INSULATE FROM CONTACT WITH BUILDING. SIZE CLAMPS, INSERTS, CHANNELS AND ALL OTHER MEMBERS TO SUPPORT A LOAD EQUAL TO 200% OF THE COMBINED WEIGHT OF ALL SUPPORTED MATERIAL

> WHERE SEVERAL RACEWAYS ARE SUPPORTED ON A COMMON TRAPEZE HANGER, SUPPORTS SHALL BE SPACED TO ACCOMMODATE THE SMALLEST SIZE RACEWAY INVOLVED. SPACE HANGERS AS FOLLOWS: RIGID CONDUIT: 1/2 AND 3/4 IN. SIZE; 6'-0" ON CENTERS; 1 AND 1-1/4 IN. SIZE; 9'-0"

ELECTRIC METALLIC TUBING: 1/2 AND 3/4 IN. SIZE: 5'-0" ON CENTERS: 1 AND 1-1/4 IN SIZE: 6'-0" ON CENTERS.

SECURELY ATTACH HANGERS AND SUPPORTS TO CONSTRUCTION BY METHODS RECOMMENDED IN THE "NECA STANDARDS OF INSTALLATION" MANUAL COORDINATION WITH MECHANICAL TRADES: THE INTENT OF THE ABOVE CEILING SUPPORTS IS TO COMBINE AS MANY PIPES, CONDUITS, ETC., AS IS POSSIBLE WITHIN SAFE STRUCTURAL LIMITS, ON EACH HORIZONTAL SECTION OF A TRAPEZE CONDUCTORS WITH ADHESIVE WRAP LABELS WITHIN 2 IN. OF THE CONDUCTOR HANGER. PRIOR TO SELECTING THE HORIZONTAL MEMBER, ALL TRADES, TO AVOID MARRING SURFACES OF THE WORK. DAMAGES SHALL BE REPAIRED AT MECHANICAL AND ELECTRICAL, SHALL COORDINATE ACTUAL NUMBER OF PIPES, CONDUITS, ETC., SUCH THAT FINAL SELECTION RESULTS IN A NEATLY GROUPED, DISCIPLINED AND ACCESSIBLE INSTALLATION.

WIRING INSTALLATION

EXCEPT FOR SUCH ITEMS AS ARE NORMALLY WIRED AT THEIR POINT OF MANUFACTURE AND SO DELIVERED - AND UNLESS SPECIFICALLY NOTED TO THE CONTRARY HEREIN - THE ELECTRICAL TRADE SHALL DO ALL ELECTRICAL WIRING WHEN THE EQUIPMENT WILL BE READY. THE OWNER SHALL BE NOTIFIED AS FAR OF EVERY CHARACTER. IT IS THE INTENT OF THESE SPECIFICATIONS AND IN ADVANCE AS POSSIBLE, OF THE DATE THE VARIOUS ITEMS OF EQUIPMENT WILL DRAWINGS THAT ALL SYSTEMS AND EQUIPMENT SHALL BE PROVIDED WITH ALL NECESSARY UTILITY CONNECTIONS, COMPLETED TO ALLOW SAFE AND PROPER OPERATION OF SAID SYSTEMS. WHEN IT IS NECESSARY FOR TRADES THE WORK OF THIS TRADE INCLUDES ROUGH-IN FOR AND FINAL CONNECTION AND PERFORMING WORK COVERED BY THIS DIVISION TO MAKE FINAL CONNECTIONS TO ITEMS OF EQUIPMENT BEING FURNISHED BY OTHERS, OR BY OTHER TRADES UNDER OTHER DIVISIONS, ALL SUCH WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE REQUIREMENTS OF THIS DIVISION AND ALL MATERIALS USED SHALL BE AS SPECIFIED HEREIN.

N.E.C. ARE INCLUDED IN THE WORK OF THIS DIVISION. DO ALL ROUGHING-IN AND MINIMUM WIRE SIZE FOR BRANCH CIRCUITS SHALL BE #12 AWG, EXCEPT THAT HOMERUNS LONGER THAN 100 FT. LENGTH FROM THE PANEL TO THE CIRCUIT'S ELECTRICAL LOAD CENTER SHALL BE #10 AWG MINIMUM. WHERE RUNS EXCEED 150', CONTRACTOR MUST ENSURE WIRE SIZE BEING UTILIZED DOES NOT CREATE A VOLTAGE DROP GREATER THAN 3%. REQUEST PROPER WIRE SIZE PRIOR TO THOROUGHLY CLEAN ALL FIXTURES, SWITCHES, OTHER DEVICES, PANELBOARDS, INSTALLATION IF A 3% VOLTAGE DROP MAY OCCUR FOR ANY BRANCH CIRCUIT. AND EQUIPMENT PROVIDED OR CONNECTED IN THIS CONTRACT. ALL SURFACES WHERE MORE THAN THREE CURRENT CARRYING CONDUCTORS ARE ENCLOSED IN SHALL BE PROPERLY POLISHED AND SHALL BE FREE OF PAINT AND ALL OTHER THE SAME RACEWAY, CONDUCTORS ARE TO BE DERATED PER N.E.C. AND WIRE DIRT OR DEBRIS. TOUCHUP OR COMPLETELY REFINISH ALL EQUIPMENT PARTITIONS, ROOFS, AND FLOORS. SLEEVES SHALL EXTEND THROUGH FLOORS, SIZE INCREASED AS REQUIRED. WHERE THE INCREASED CONDUCTOR SIZE WALLS AND PARTITIONS AND SHALL BE CUT FLUSH WITH EACH SURFACE UNLESS REQUIRES, INCREASE THE RACEWAY SIZE AS WELL. FOR CONTROL WIRING, USE CONSTRUCTION. PROPERLY PROTECT THE FRONTS OF ALL PANELBOARDS, #14 AWG MINIMUM. FOR FIXTURE WIRING, AS PERMITTED BY N.E.C., USE #18 AWG SWITCHBOARDS AND SIMILAR EQUIPMENT TO PREVENT MARRING AND OTHER RESTORED AFTER PENETRATION. SLEEVES IN CONCRETE AND MASONRY WALLS, MINIMUM. FOR SIGNAL AND COMMUNICATIONS SYSTEMS USE WIRE SIZE AS SPECIFICALLY REQUIRED BY THE SYSTEM SUPPLIER.

MAKE CONNECTIONS TO TERMINALS USING PRESSURE TYPE CONNECTORS. SOLDERED JOINTS ARE PROHIBITED. ALL JOINTS IN CONDUCTORS SHALL BE FROM 22 U.S. GAUGE GALVANIZED STEEL. FLOOR SLEEVES SHALL EXTEND THREE MADE AT AN ACCESSIBLE LOCATION WITHIN A BOX BY TWISTING THE BARE INCHES ABOVE FINISHED FLOOR UNLESS OTHERWISE NOTED. SPACE BETWEEN CONDUCTOR ENDS TOGETHER AND APPLYING A WIRE CONNECTOR IN ALL SIZES UP TO THE MAXIMUM CAPACITY OF THE CONNECTOR. JOINTS SHALL BE TAPED PACKING AND CAULKED WITH WATERPROOF COMPOUND AS APPROVED. WHERE WITH AN APPROVED ELECTRICAL TAPE. SPLICES FOR CONDUCTORS LARGER CONDUITS PASS THROUGH WATERPROOFED FLOORS OR WALLS. SLEEVES SHALL THAN #10 AWG SHALL BE MADE WITH AN APPROVED COMPRESSION (SQUEEZE) CONNECTOR INSULATED WITH NOT LESS THAN TWO LAYERS OF ELECTRICAL FILL TAPE TO 1.5 TIMES THE THICKNESS OF INSULATION, FOLLOWED BY TWO (MINIMUM) LAYERS OF HALF-LAPPED ELECTRICAL TAPE FOR MECHANICAL PROTECTION. LOCATE ALL SPLICES IN BOXES OR FITTINGS OF PROPER SIZE PER N.E.C.

IDENTIFY ALL WIRES AND CABLES WITH BRADY ADHESIVE WIRE MARKERS AT EACH BOX, PANEL, AND OUTLET. IDENTIFICATION SHALL, AS A MINIMUM, INDICATE CAPACITY, SPEED, AND OVERALL SATISFACTORY OPERATION. CHECK THAT THE THE PANEL AND CIRCUIT SUPPLYING THE OUTLET. AT THE PANEL END, THE LOAD PROPER OVERLOAD HEATERS HAVE BEEN INSTALLED BY READING THE MOTOR SERVED AND ITS LOCATION SHALL BE INDICATED. PROVIDE A MINIMUM OF 8 IN. RATED CABLE. PROVIDE LOW VOLTAGE CABLE IN CONDUIT IF REQUIRED BY LOCAL SLACK WIRE AT EACH OUTLET FOR MAKING CONNECTION TO THE DEVICE OR TO PROVIDE FOR A FUTURE DEVICE IN THE BOX.

EACH BOX SHALL BE OF PROPER SIZE TO ACCOMMODATE THE DEVICE AND FUNCTION FOR WHICH IT IS SHOWN. BOXES FOR WALL DEVICES SHALL BE COORDINATION WITH BUILDING STRUCTURE AND THE WORK OF OTHER TRADES. FURNISHED COMPLETE WITH PLASTER RING OR TILE RING ACCORDING TO WALL FURNISH ALL REQUIRED BENDS, ELBOWS, FITTINGS, JUNCTION AND PULL BOXES, CONSTRUCTION WHERE REQUIRED. BOXES FOR INSTALLATION IN MASONRY WHETHER OR NOT SPECIFICALLY SHOWN ON DRAWINGS, THAT MAY BE REQUIRED WALLS SHALL BE SPECIAL SQUARE CORNER MASONRY TYPE. BOXES FOR TO SATISFY CODES AND THE STANDARDS OF GOOD PRACTICE. WHERE CONDUITS MOUNTING OF LIGHTING FIXTURES SHALL BE FOUR INCH OCTAGON, EQUIPPED FOR BOTH BRANCH AND FEEDER CIRCUITS ARE RUN CONCEALED. THEY MAY BE WITH 3/8 IN. "NO-BOLT" FIXTURE STUD. BOXES FOR FLOOR OUTLETS SHALL BE RUN OUT OF SQUARE TO THE BUILDING PROVIDING THE SHORTEST POSSIBLE RUN CONCRETE PROOF STEEL BOXES WITH ADJUSTABLE TOPS AND DEVICES AS IS UTILIZED. RACEWAY SIZES ARE BASED ON THE USE OF COPPER CONDUCTORS HEREINAFTER NOTED OR SHOWN. ALL BOXES SHALL BE FURNISHED COMPLETE WITH PROPER COVER AND/OR DEVICE PLATE AND DEVICE. UNLESS OTHERWISE NOTED, PLACE OUTLET BOXES AT THE FOLLOWING HEIGHTS (BOX CENTER TO FINISH FLOOR): WALL SWITCHES 48" AND CONVENIENCE OUTLETS 18" UNLESS NOTED OTHERWISE ON DRAWINGS.

OR BELOW INTERIOR SLABS - GRS. (NOTE: PVC CONDUIT IS PERMITTED OUTSIDE TELEPHONE, ALARM, AND SIGNAL SYSTEM OUTLET BOXES SHALL BE STANDARD OTHERWISE SPECIFIED OR INDICATED ON DRAWINGS, WHERE TWO OR MORE CONDUITS ENTER, BOX SHALL BE 4-11/16 IN. SQUARE MINIMUM WITH SUITABLE

LOCATE ALL OUTLETS AS INDICATED ON DRAWINGS, HOWEVER, AT INSTALLATION CONFORM TO THE FOLLOWING: 1-1/2 IN. - 18 IN. RADIUS; 2 IN. - 24 IN. RADIUS; 2-1/2 INSPECT ARCHITECTURAL DRAWINGS AND LOCATE LOCAL SWITCHES ON THE STRIKE SIDE OF THE DOOR.

SYSTEM GROUNDING

EQUIPMENT, RACEWAY SYSTEMS, WIRING SYSTEM NEUTRALS, RECEPTACLES AND POWER OUTLETS, MOTORS AND MOTORIZED EQUIPMENT, SHALL BE GROUNDED IN ACCORDANCE WITH N.E.C. ARTICLE 250.

GROUND RECEPTACLES AND POWER OUTLETS TO THE CONDUIT SYSTEM WITH A GREEN GROUNDING CONDUCTOR SIZE IN ACCORDANCE WITH N.E.C. AND CONNECTED BETWEEN THE DEVICE GROUNDING SCREW AND THE OUTLET BOX. CONNECTION TO THE BOX MAY BE A "G" CLIP OR BY A 10/24 SCREW THREADED INTO A HOLE IN THE BACK OF THE BOX AND USED FOR NO OTHER PURPOSE. EQUIPMENT CONNECTED TO THE ELECTRICAL SYSTEM SHALL BE GROUNDED WITHIN INSULATED GREEN GROUNDING CONDUCTOR SIZED IN ACCORDANCE WITH N.E.C. AND INSTALLED WITHIN THE RACEWAY. CONDUCTOR SHALL BE CONTINUOUS BETWEEN A GROUNDING SCREW IN THE EQUIPMENT JUNCTION BOX AND A GROUND ATTACHMENT IN THE NEAREST OUTLET BOX IN THE RIGID METALLIC CONDUIT SYSTEM. THIS REQUIREMENT INCLUDES ALL FLEXIBLE CONDUIT.

GENERALLY FOR TELEPHONE AND SUPPLEMENTAL COMMUNICATION SYSTEMS NO 6 AWG CONDUCTOR TO EACH PROTECTOR CABINET, OTHER CABINET, OR DEVICE INSTALLATION SHALL BE CONSIDERED SUFFICIENT, FROM THE SERVICE GROUND (UNLESS INDICATED OTHERWISE).

GROUNDING MATERIAL GROUND-RODS - 1/2" DIA., 10' LONG, COPPERWELD

PANELBOARD INSTALLATION:

SOFT ANNEALED, COPPER WIRE. JOINTS AND CONNECTIONS - MOLDED FUSION WELDING PROCESS USING PROPER

MOLD AND THE NUMBER, SIZE AND TYPE CARTRIDGE FOR THE JOINT OR CONNECTION. WATERPIPE CONNECTION, SILICON BRONZE APPROVED MECHANICAL CONNECTOR DESIGNED FOR THE PIPE AND CABLE TO BE BONDED.

MOUNT PANELBOARDS WITH CENTERLINE AT 5 FT.-6IN. ABOVE FINISH FLOOR, EXCEPT THAT THE HIGHEST BREAKER HANDLE SHALL BE BELOW 6 FT.-5 IN. ABOVE FINISH FLOOR, ARRANGE BREAKERS SO THAT THE BREAKER RATING IS VISIBLE WITH THE PANEL FRONT IN PLACE.

PANEL DIRECTORIES, AS A MINIMUM, SHALL BE TYPEWRITTEN AND INDICATE BREAKER POSITION NUMBER AND EQUIPMENT SERVED. THE PANEL IDENTIFICATION SHALL BE LOCATED ON THE PANEL TRIM AND SHALL CONSIST OF A BLACK LAMINATED PHENOLIC LABEL, SCREW MOUNTED, WITH THE PANEL IDENTIFICATION MATCHING PANEL IDENTIFICATION ON DRAWINGS. LABEL ALL TERMINATION PRIOR TO INSTALLATION OF TRIM.

LIGHTING FIXTURE INSTALLATION

PROVIDE A LIGHTING FIXTURE FOR EACH AND EVERY OUTLET IN ACCORDANCE WITH TYPE DESIGNATION AND FIXTURE SCHEDULE ON THE DRAWINGS. VERIFY THE ARCHITECTURAL FINISHES AND CEILING CONSTRUCTION AND - REGARDLESS OF THE CATALOG NUMBER PREFIXES AND SUFFIXES SHOWN - PROVIDE FIXTURES WITH THE PROPER TRIM, FRAMES, SUPPORTS, AND HANGER AND OTHER MISCELLANEOUS APPURTENANCES TO PROPERLY COORDINATE WITH SAID FINISHES. REINFORCE CEILING CONSTRUCTION AS REQUIRED TO PROPERLY SUPPORT THE WEIGHT OF FIXTURES INSTALLED THEREON.

IMMEDIATELY PRIOR TO FINAL INSPECTION: THOROUGHLY CLEAN ALL FIXTURES INSIDE AND OUT, INCLUDING PLASTICS AND GLASSWARE. ADJUST TRIM TO FIT ADJACENT SURFACES. REPLACE BROKEN OR DAMAGED PARTS. INSTALL NEW LAMPS. ELECTRICALLY AND MECHANICALLY TEST THE SYSTEM FOR PROPER OPERATION.

THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING APPROVAL FROM LOCAL CODE AUTHORITIES AND MAKING ANY REVISIONS DIRECTED BY THEM ON EMERGENCY AND EXIT LIGHTING.

FURNISHED WITH FACTORY FINISHES THAT IS DAMAGED DURING DELIVERY OR DEFACING.

AT ALL TIMES, KEEP THE PREMISES FREE FROM ACCUMULATIONS OF WASTE MATERIALS OR RUBBISH CAUSED BY THE WORK OF THE TRADESMEN DOING ELECTRICAL WORK. AT COMPLETION OF THE WORK, REMOVE ALL RUBBISH, TOOLS, EQUIPMENT, AND SURPLUS MATERIALS. BROOM CLEAN ALL ASSIGNED SPACES PRIOR TO LEAVING THE PREMISES.

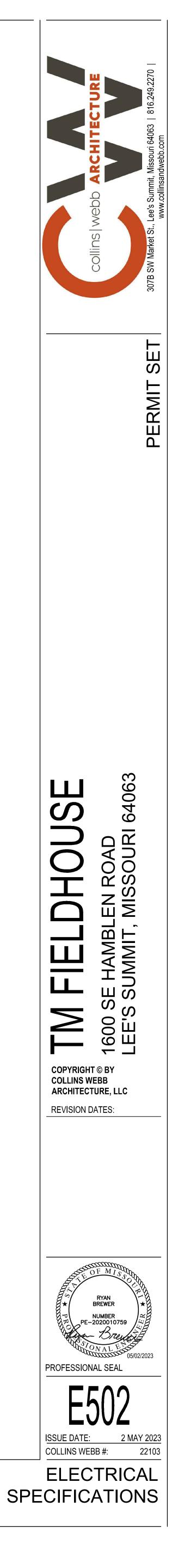
TESTING AND LOAD BALANCING

END OF SECTION 16000

TEST ALL CIRCUITS TO ASSURE THEM TO BE FREE OF GROUNDS AND SHORTS. LIGHT AND TEST EACH LAMP. PROVE AND TEST THE AVAILABLE VOLTAGE ON THE LOAD SIDE OF EACH DISCONNECT. VERIFY PROPER OPERATION OF THE DISCONNECT. VERIFY THE PHASE SEQUENCE, VOLTAGE, AND ROTATION AT EACH MOTOR IN THE PRESENCE OF THE INSTALLER. RUN EACH MOTOR WITH ITS CONTROL AS NEARLY AS POSSIBLE UNDER OPERATING CONDITIONS FOR A SUFFICIENT LENGTH OVER TIME TO DEMONSTRATE CORRECT ALIGNMENT, WIRING NAMEPLATE. ADJUST THE SIZE OF THE OVERLOAD HEATER AS REQUIRED TO MATCH THE MOTOR NAMEPLATE. OPERATE ALL MAIN AND FEEDER SWITCHES AND BREAKERS

THE VARIOUS BRANCH CIRCUITS SERVED FROM THE LIGHTING PANELBOARDS VARY IN LOADING. CAREFULLY BALANCE THE ACTUAL OPERATING LOAD ON EACH PANELBOARD WHEN ALL LOAD IS TURNED ON AND THE SYSTEM IS OPERATING AT 100% DEMAND, THE UNBALANCE SHALL NOT EXCEED 10%. DURING FINAL INSPECTION, FURNISH THE TEST INSTRUMENTS AND QUALIFIED PERSONNEL TO PERFORM COMPLETE TESTING. COSTS OF ALL TESTING, INCLUDING THE INCIDENT COSTS FOR RETESTING OCCASIONED BY DEFECTS AND FAILURES OF THE EQUIPMENT TO MEET THE SPECIFICATIONS, SHALL BE BORNE BY THE CONTRACTOR.

FURNISH AT THE COMPLETION OF THE PROJECT A FINAL INSPECTION CERTIFICATE FROM THE LOCAL INSPECTING AUTHORITY.



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MECHAN	VICAL ABBREVIATIONS
	(ALPHABETICAL BY ABBREVIATION)
ABBREVIATION	LONG FORM
ABV	ABOVE
AC OR ACU	
AHAP	AS HIGH AS POSSIBLE
AHU	AIR-HANDLING UNIT
AUTO	
BLW	BELOW
C	CHILLER
CD	CONDENSATE
CF	
CFM	
СН	
	CHILLED WATER PUMP
CLNG OR CLG	CEILING
CP OR CWP CS	
CR	
CRAC OR CACU	CONDENSER WATER RETURN COMPUTER ROOM AIR-CONDITIONING UNIT
CREF	CHILLER ROOM EXHAUST FAN
CRU	CONDENSATE (STEAM) RETURN UNIT
СТ	COOLING TOWER CELL
СТ	CONDENSATE (STEAM) TRANSFER UNIT
CU	CONDENSING UNIT
DV	CONSTANT VOLUME TERMINAL BOX
DEF	DISHWASER EXHAUST FAN
DMPR	DAMPER
DN	DOWN
EA	EACH
EBH	ELECTRIC BASEBOARD HEATER
EDH	ELECTRIC DUCT-MOUNTED HEATER
EF	EXHAUST FAN
EG	EXHAUST GRILLE
ER	EXHAUST REGISTER
EUH	ELECTRIC UNIT HEATER
EXH	EXHAUST
FD	FIRE DAMPER
FCU	FAN-COIL UNIT
FF	FINAL FILTER
FFCH	FORCED-FLOW CABINET HEATER
FFU	FAN FILTER UNIT
FP	FAN POWERED TERMINAL BOX
GPM	GALLONS PER MINUTE
НС	HEATING COIL
HUM	HUMIDIFIER
HWP OR HP	HEATING WATER PUMP
НХ	HEAT EXCHANGER
KEF	KITCHEN (GREASE HOOD) EXHAUST FAN
KW	KILOWATTS
LD	LINEAR SUPPLY DIFFUSER
MOT	MOTORIZED
MTD	MOUNTED
MUAF	MAKE-UP AIR FAN
MUAHU	MAKE-UP AIR-HANDLING UNIT
OA	OUTSIDE AIR
OAF	OUTSIDE AIR FAN
OPG OR OPNG	OPENING
	/IATIONS ON THIS LIST ARE NECESSARILY USED ON THIS PROJECT

	CONT.		FER TO SPECIFICATIONS SECTIONS 15815 AND 15820 FOR ADDITIONAL IN	
	(ALPHABETICAL BY ABBREVIATION)	SINGLE LINE	DESCRIPTION	DOUBLE LINE
ABBREVIATION	LONG FORM		ROUND ELBOW DOWN	2 3
	PRE-FILTER		ROUND ELBOW UP	9 (
PLNM RA	PLENUM RETURN AIR			
RAF	RETURN AIR FAN	──┤ │ → └╸	OFFSET TO CHANGE ELEVATION (AT 30° WHEN POSSIBLE. ARROW SLOPES DN, U.N.O.)	273
RAG OR RG	RETURN AIR GRILLE			T T
AR OR RR	RETURN AIR REGISTER		ROUND RADIUS ELBOW	
AS	RETURN AIR SILENCER		90° STRAIGHT TEE	
E:	IN REFERENCE TO			
TU A	ROOFTOP UNIT SUPPLY AIR		90° CONICAL TEE	
AF OR SF	SUPPLY AIR FAN			
AG OR SG	SUPPLY AIR GRILLE		45° LATERAL TAP	
AR OR SR	SUPPLY AIR REGISTER			\wedge
AS	SUPPLY AIR SILENCER		45° LATERAL CONICAL TEE	
CHP	SECONDARY CHILLED WATER PUMP		SIZE OR SHAPE TRANSITION	8773
)	SMOKE DAMPER OR DETECTOR			
РСНР			ROUND FLEXIBLE DUCT	
N DEF	THROW AWAY (FILTER TYPE) TRUCK DOCK EXHAUST FAN		RECTANGULAR ELBOW DOWN	
F	TOILET EXHAUST FAN			
RANS	TRANSITION OR TRANSFER		RECTANGULAR ELBOW UP	
/P	TYPICAL	,,	OFFSET TO CHANGE ELEVATION (AT 30° WHERE	
1	UNIT HEATER	───────── ──────	POSSIBLE. ARROW SLOPES DN., U.N.O.)	
10	UNLESS NOTED OTHERWISE			Ţ
-			RECTANGULAR RADIUS ELBOW	
D	VARIABLE FREQUENCY DRIVE VARIABLE VOLUME TERMINAL BOX			<u></u>
		— I	RECTANGULAR ELBOW WITH TURNING VANES	
MR OR TFMR	TRANSFORMER			
OR EX	EXPANSION TANK		SPLIT BRANCH TAKE-OFF WITH SQUARE ELBOW & SPLITTER DAMPER	
	EVIATIONS ON THIS LIST ARE NECESSARILY USED ON THIS PROJECT		SPLIT BRANCH TAKE-OFF WITH RADIUS ELBOW & SPLITTER DAMPER	
			SPLIT BRANCH TAKE-OFF TEE WITH STATIONARY SPLITTER DAMPER	
			BRANCH TAKE-OFF WITH 45° LEAD IN TAP	
			INSULATED/LINED DUCTWORK (U.N.O.)	↓
		- [] -	SQUARE FACED CEILING DIFFUSER 4-WAY DIRECTIONAL THROW (U.N.O.)	
		— — ——————————————————————————————————	ROUND FACED CEILING DIFFUSER	
			CEILING RETURN OR EXHAUST AIR GRILLE OR REGISTER	
			SIDEALL SUPPLY GRILLE OR REGISTER	
			SUPPLY DUCT RISER	
			RETURN, EXHAUST OR OUTSIDE AIR DUCT RISER	
		<u></u>	MANUAL BALANCING DAMPER	
		↓ +•	AUTOMATIC (MOTOR-OPERATED) DAMPER	
			FIRE DAMPER	
			GRAVITY BACKDRAFT DAMPER	
			COMBINATION FIRE AND SMOKE DAMPER WITH SMOKE DETECTOR	
		+•	SMOKE DAMPER (AUTOMATIC) WITH SMOKE DETECTOR	
		S-	DUCT MOUNTED SMOKE DETECTOR	

NOT ALL ABBREVIATIONS ON THIS LIST ARE NECESSARILY USED ON THIS PROJECT

M	IECH.
SYMBOL	
	GATE VALVE
i	BALL VALVE
_ x _	GLOBE VALV
_	BUTTERFLY
; 	PLUG VALVE
	ANGLE VALV
	CHECK VALV
	AUTOMATIC
	AUTOMATIC
4	AUTOMATIC
	AUTOMATIC
	SOLENOID V/
	PRESSURE F
	PRESSURE R
	GAUGE COCI
	PRESSURE G
	THERMOMET
 Y	THERMOMET
•	TEST PLUG
Ē	FLOW METER
	TEMPERATU
P	PRESSURE S
DP	DIFFERENTIA
Ţ	IMMERSION -
	MANUAL AIR
	AUTOMATIC
FS	FLOW SWITC
<u> </u>	ORIFICE
	PIPE SLEEVE
ļ ļ	EXPANSION .
ł	FLEXIBLE PIF
_=	PIPE GUIDE
<u> </u>	ANCHOR
	STRAINER (Y
	STRAINER (B
	UNION
	CONCENTRIC
	ECCENTRIC I
	DIRECTION C
	DIRECTION C
O	THERMOSTA
	HUMIDISTAT
(FSC)	FAN SPEED (
— CS —	CONDENSER
— CR —	CONDENSER
D	CONDENSAT
NUT	ALL ST WIDULS C

	OTH
SYMBOL	
Ð	INDICATES (
•	

EQUIPMENT ABBREVIATION

STANDARD	
DESCRIPTION	
E	
VE	
/ VALVE	
E	
VE	
VE	1
CONTROL VALVE (STRAIGHT THROUGH)	
C CONTROL VALVE (3-WAY)	
CONTROL VALVE (ANGLE)	1
CONTROL VALVE (STRAIGHT THROUGH)	
VALVE	1
REDUCING VALVE]
RELIEF VALVE	
СК	1
GAUGE WITH GAUGE COCK	
TER	
TER WELL	
ER	
URE SENSOR	
SENSOR	
IAL PRESSURE SWITCH	
I THERMOSTAT	
R VENT	/ICES
C AIR VENT	& DE\
CH	NGS,
/E THRU WALL OR FLOOR	VALVES, FITTINGS, & DEVICES
I JOINT	LVES,
IPE JOINT	VAI
Y-TYPE)	1
BASKET TYPE)	1
IC REDUCER	
REDUCER	
OF FLOW	
OF SLOPE	
AT	
Т	
	Q
R WATER RETURN	PIPING
TE DRAIN	

HER SYMBOLS DESCRIPTION

CONNECTION TO EXISTING DUCT OR PIPE

GENERAL EQUIPMENT DESIGNATION KEY:

AHU-R-2 - SCHEDULE DESIGNATION NUMBER.

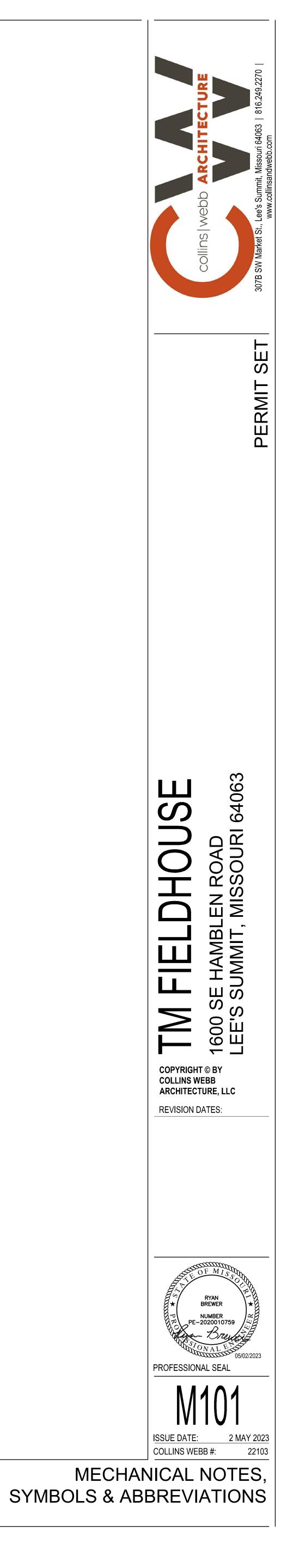
PRIOR TO SUBMITTING BID, VISIT THE SITE AND BECOME FULLY ACQUAINTED WITH THE EXISTING CONDITIONS OF THE PROJECT. REVIEW GENERAL NOTES, SPECIFICATIONS AND ALL OTHER DRAWINGS FOR ADDITIONAL REQUIREMENTS WHICH MAY NOT BE SPECIFICALLY CALLED OUT IN THIS PORTION OF THE CONSTRUCTION DOCUMENTS. NOTIFY ARCHITECT, ENGINEER AND/OR OWNER OF ANY CONFLICTS OR DISCREPANCIES PRIOR TO SUBMISSION OF BID. COORDINATE THE INSTALLATION OF MECHANICAL SYSTEMS WITH OTHER TRADES TO ENSURE A NEAT AND ORDERLY INSTALLATION. DUCTWORK AND PIPING SHALL BE ROUTED TO AVOID CONFLICTS WITH ELECTRICAL PANELS, LIGHTING FIXTURES, ETC. TAKE NECESSARY PRECAUTIONS TO AVOID DAMAGING EXISTING SURFACES AND EQUIPMENT TO REMAIN FOR NEW INSTALLATION DURING WORK. REPAIR ANY DAMAGE CAUSED DURING CONSTRUCTION AT NO COST TO THE OWNER. ALL MECHANICAL EQUIPMENT SHOWN ON THE MECHANICAL PLANS SHALL BE PROVIDED BY THE MECHANICAL CONTRACTOR UNLESS OTHERWISE NOTED. NEW MECHANICAL EQUIPMENT, DUCTWORK AND PIPING IS SHOWN AT APPROXIMATE LOCATIONS. FIELD MEASURE FINAL DUCTWORK AND PIPING LOCATIONS PRIOR TO FABRICATION AND SHALL MAKE ADJUSTMENTS AS REQUIRED TO FIT THE DUCTWORK AND PIPING WITHIN THE AVAILABLE SPACE. FIELD VERIFY FINAL LOCATIONS TO INSTALL EQUIPMENT IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS REGARDING SERVICE CLEARANCE AND PROPER AIRFLOW CLEARANCE AROUND EQUIPMENT. REFER TO ARCHITECTURAL DRAWINGS FOR ALL RELATED CONSTRUCTION DETAILS AS APPLICABLE TO THE HVAC SYSTEM. CHASE AND PENETRATIONS INTENDED FOR DUCTWORK AND PIPING SHALL BE VERIFIED WITH ARCHITECTURAL DRAWINGS PRIOR TO INSTALLATION. COORDINATE LOCATION OF ROOF PENETRATIONS WITH THE EXISTING CONDITIONS AND ARCHITECTURAL DRAWINGS. SEAL ALL PENETRATIONS THROUGH THE BUILDING COMPONENTS IN ACCORDANCE WITH THE CONSTRUCTION SPECIFICATIONS. FIREPROOF ALL PENETRATIONS THROUGH FIRE RATED COMPONENTS IN ACCORDANCE WITH U.L. REQUIREMENTS. COORDINATE THE EXACT MOUNTING SIZE AND FRAME TYPE OF DIFFUSERS, REGISTERS AND GRILLES WITH THE SUPPLIER TO MEET THE CEILING, WALL, AND DUCT INSTALLATION REQUIREMENTS. LOCATION OF CEILING DIFFUSERS, REGISTERS, AND GRILLES SHALL BE ADJUSTED AS REQUIRED TO ACCOMMODATE FINAL CEILING AND LIGHTING LOCATIONS. DUCTWORK CROSSING FIRE RATED WALL OR OTHER FIRE RATED ASSEMBLIES SHALL BE MINIMUM 26 GAUGE SHEET METAL. PROVIDE FIRE AND/OR FIRE/SMOKE DAMPERS IN DUCTWORK AT CEILINGS AND WALLS AS REQUIRED BY BUILDING CODE AUTHORITY HAVING JURISDICTION. FIRE AND FIRE/SMOKE DAMPERS SHALL CONFORM TO NFPA AS APPLICABLE. PROVIDE WALL AND/OR DUCT ACCESS PANELS OR DOORS FOR ACCESS TO ALL FIRE AND/OR FIRE/SMOKE DAMPERS. ACCESS PANEL OR DOOR SHALL BE MINIMUM SIZE OF 6"x6" AND SHALL BE INSTALLED WITH 12" OF DAMPER. PROVIDE A REMOVABLE DUCT SECTION WHERE DUCT SIZE IS TOO SMALL FOR A 6"x6" ACCESS DOOR. THERMOSTATS AND HUMIDISTATS SHALL BE LOCATED AND SET BY MECHANICAL CONTRACTOR AND WIRED IN CONDUIT BY ELECTRICAL CONTRACTOR. VERIFY EXACT LOCATIONS WITH ARCHITECT PRIOR TO INSTALLATION. MOUNTING HEIGHTS SHALL BE 48" AFF TO MEET ADA REQUIREMENTS UNLESS

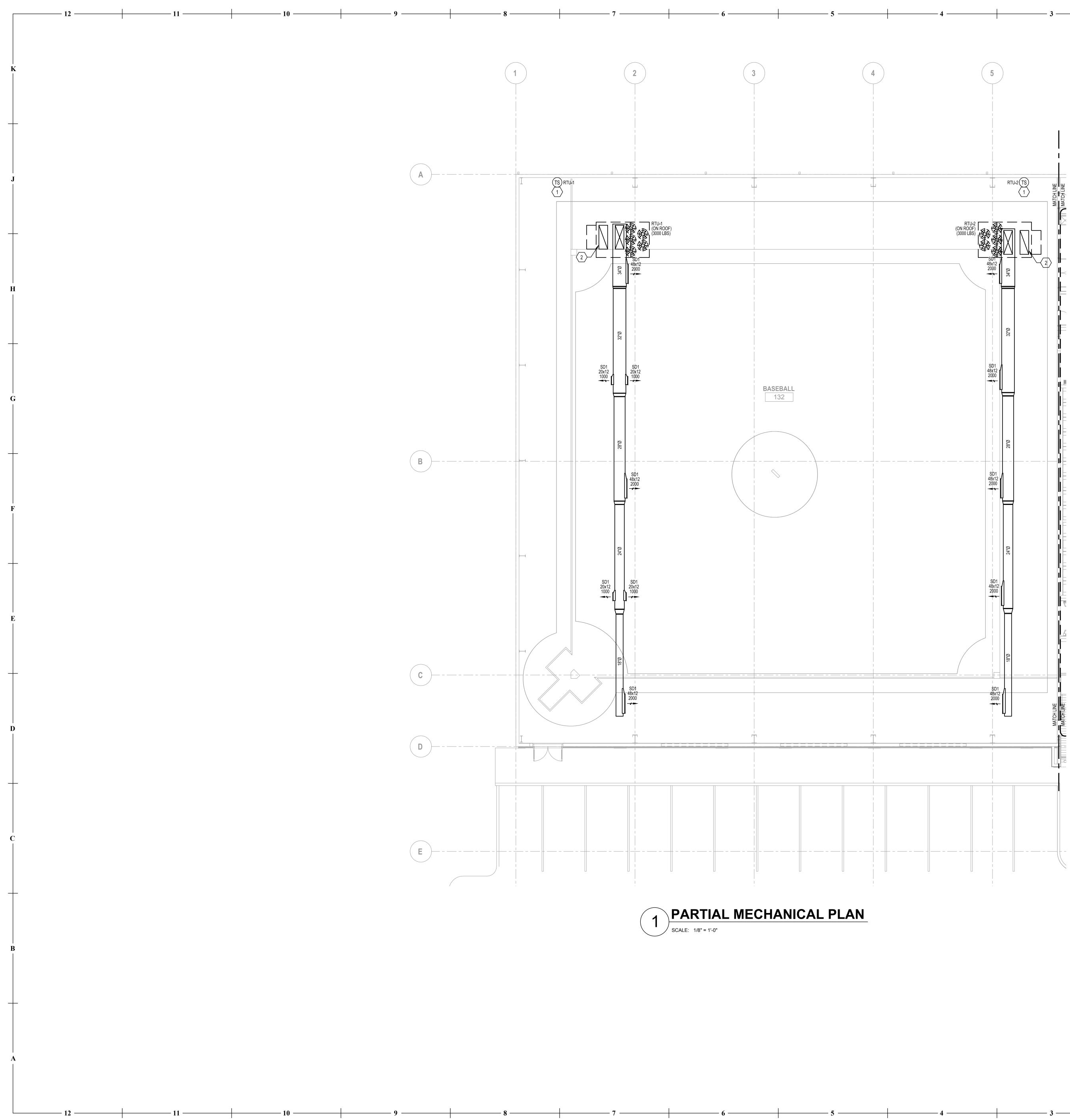
MECHANICAL GENERAL NOTES

- OTHERWISE NOTED ON PLANS. COORDINATE THE LOCATION AND ELEVATION OF WALL-MOUNTED DEVICES WITH ANY WALL MOUNTED ITEMS INDICATED ON THE ARCHITECTURAL DRAWINGS. CONTRACTOR WILL NOT BE REIMBURSED FOR RELOCATION OF ANY WALL-MOUNTED DEVICES CAUSED BY A LACK OF COORDINATION. ALL BRANCH DUCT CONNECTIONS AND TAKE-OFFS TO INDIVIDUAL DIFFUSERS, REGISTERS, AND GRILLES SHALL HAVE A PREFABRICATED 45 DEGREE, HIGH EFFICIENCY. RECTANGULAR/ROUND BRANCH DUCT TAKEOFF FITTING WITH MANUAL BALANCING DAMPER AND LOCKING QUADRANT. BRANCH DUCTWORK TO AIR OUTLETS SHALL BE SAME SIZE AS OUTLET NECK SIZE UNLESS OTHERWISE
- NOTED. RIGID DUCTWORK INSULATION: PROVIDE R-6 MINIMUM INSULATION WRAP ON ALL CONCEALED DUCTWORK. PROVIDE R-6 MINIMUM INTERNAL DUCT LINER ON ALL EXPOSED DUCTWORK. DUCT SIZES ON MECHANICAL PLANS INDICATE CLEAR INSIDE DIMENSIONS, SHEET METAL SIZES SHALL INCREASE ACCORDINGLY. PROVIDE R-12 MINIMUM INSULATION ON ALL DUCTWORK INSTALLED IN UNCONDITIONED SPACES. REFER TO SPECIFICATIONS FOR MORE INFORMATION.
- FLEXIBLE DUCT WORK SHALL BE THERMAFLEX TYPE MKE, FLEXMASTER TYPE 8M, OR APPROVED EQUAL, SHALL BE LISTED UNDER 181 AS CLASS 1 AIR DUCT AND SHALL BE PROVIDED WITH INTEGRAL R-6 MINIMUM FIBERGLASS INSULATION. FLEXIBLE DUCTWORK SHALL NOT EXCEED 5'-0" IN LENGTH AND SHALL BE INSTALLED AND SUPPORT TO AVOID SHARP BENDS AND SAGGING. WALL MOUNTED DIFFUSERS AND GRILLES SHALL BE PROVIDED WITH SUITABLE MOUNTING FRAME TO MATCH WALL CONSTRUCTION. COORDINATE WITH ARCHITECTURAL DRAWINGS.

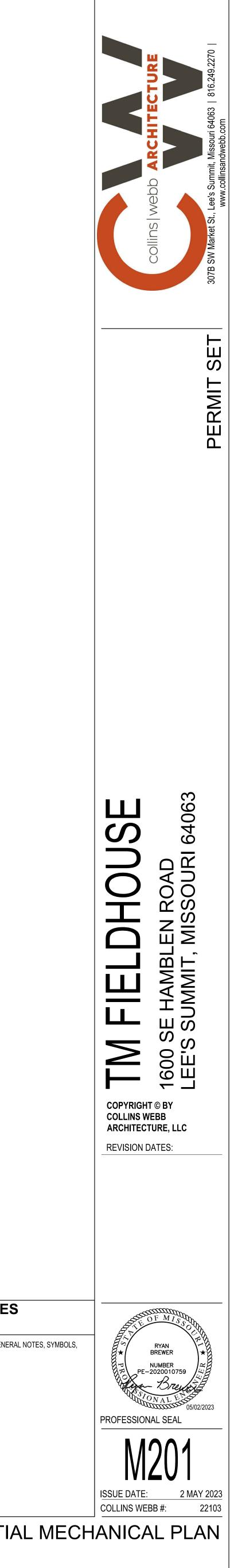
GENERAL MECHANICAL NOTES:

- 1. REFER TO ARCHITECTURAL PLANS FOR RATED WALLS AND PARTITIONS.VERIFY FIRE AND/OR SMOKE DAMPER LOCATIONS AT DUCTS OR OPENINGS PENETRATING THESE WALLS.
- REFER TO ARCHITECTURAL PLANS FOR ROOM NAMES AND NUMBERS. 3. REFER TO ARCHITECTURAL REFLECTED CEILING PLANS FOR EXACT LOCATIONS OF CEILING DIFFUSERS, REGISTERS, AND GRILLES.
- 4. VERIFY LOCATIONS OF THERMOSTATS WITH ARCHITECT AND OWNER PRIOR TO INSTALLATION.
- 5. VERIFY LOCATIONS OF EXPOSED DUCTS WITH ARCHITECT PRIOR TO INSTALLATION. 6. DUCT DIMENSIONS INDICATED ON PLANS ARE FREE AREA DIMENSIONS.
- 7. SUPPLY AND RETURN AIR DUCT SHALL BE INTERNALLY LINED WHERE SPECIFIED. 8. ALL LOUVER SIZES ON MECHANICAL PLANS ARE GIVEN IN FREE AREA REQUIRED. REFER TO ARCHITECTURAL PLANS FOR DIMENSIONS AND LOCATIONS. 9. COORDINATE TERMINAL BOX AND BALANCING DAMPER LOCATIONS CAREFULLY TO INSURE PROPER AND ADEQUATE ACCESS TO FILTERS, MOTORS, CONTROL VALVES, CONTROL PANLES, ETC. PROVIDE ACCESS PANELS AS SPECIFIED WHERE REQUIRED TO ASSURE THIS
- ACCESS. 10. CEILING PLENUM SPACE IS VERY TIGHT. WHERE REQUIRED, DUCTS OR PIPES SHALL BE ROUTED BETWEEN LIGHT FIXTURES AND UP AND OVER OTHER DUCTS OR PIPES USING THE SPACES BETWEEN STRUCTURAL JOISTS OR BEAMS WHERE APPLICABLE. CONTRACTOR SHALL BE RESPONSIBLE FOR CAREFULLY COORDINATING ALL TRADES. EXISTING UNKNOWN CONDITIONS MAY AFFECT EXACT DUCT OR PIPE ROUTING, OR EXISTING CONDITIONS MAY NEED TO BE MODIFIED TO ACCOMMODATE DUCTS AND PIPES.

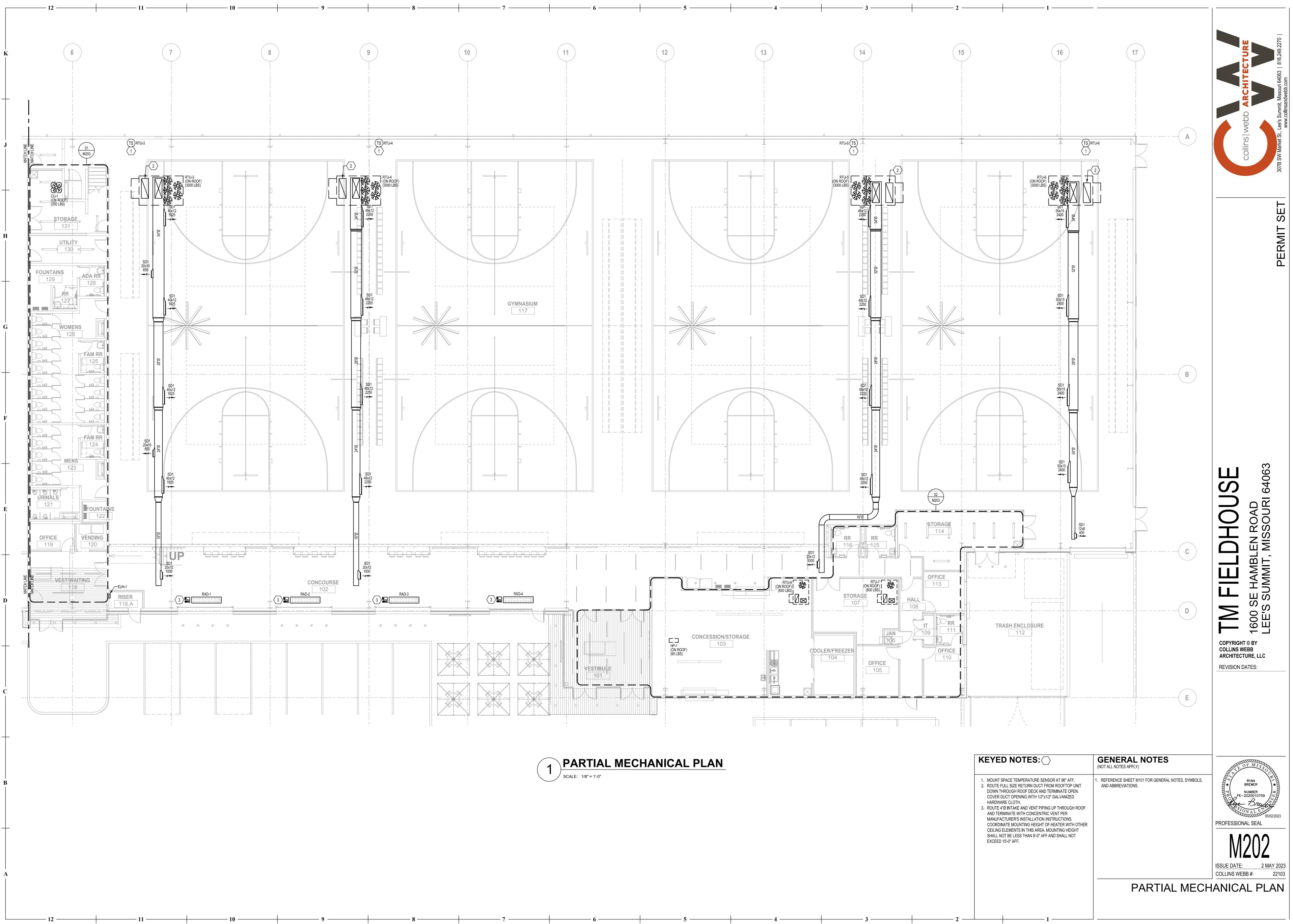


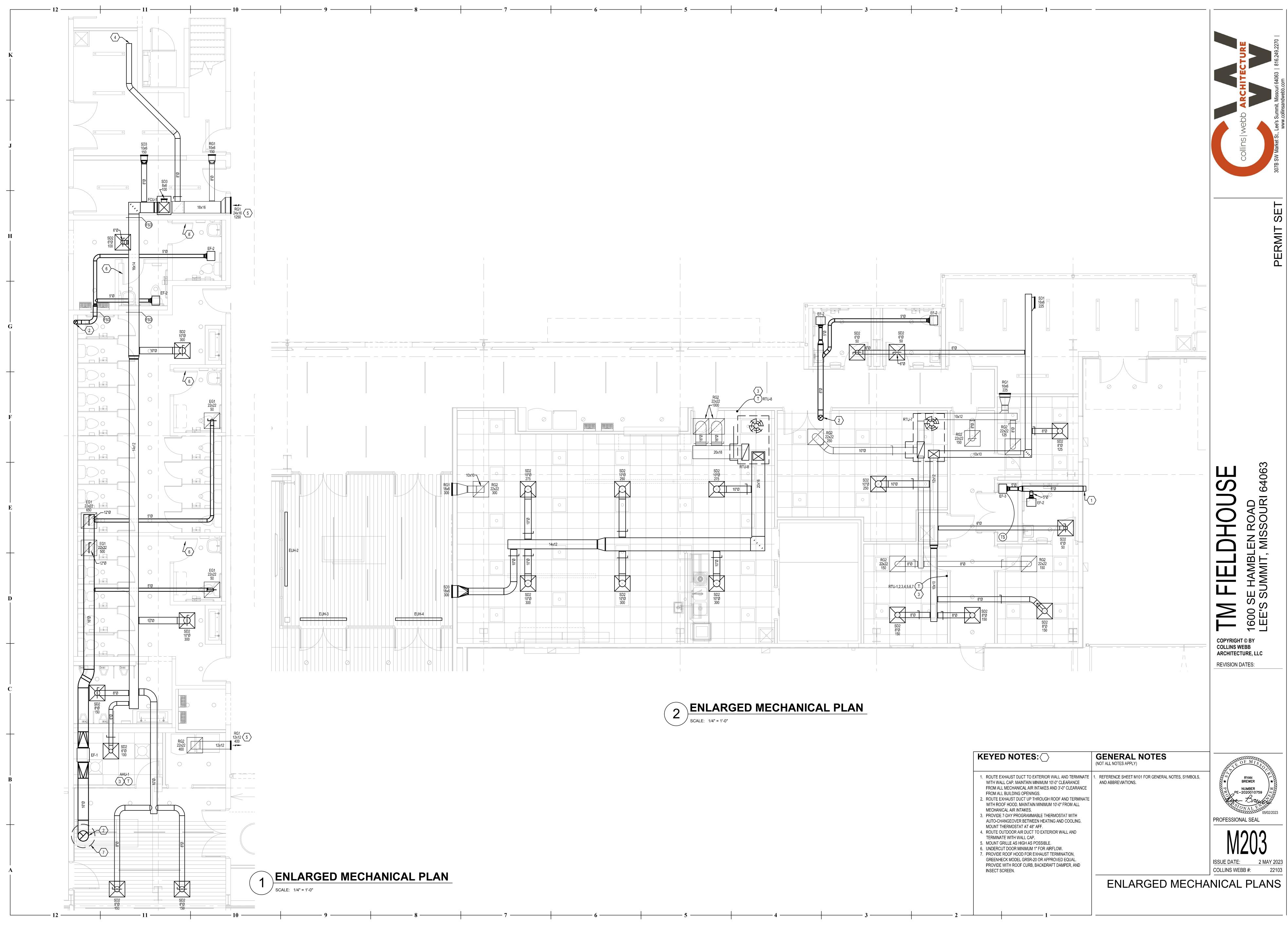


KEYED NOTES:	GENERAL NOTES (NOT ALL NOTES APPLY)
 MOUNT SPACE TEMPERATURE SENSOR AT 96" AFF. ROUTE FULL SIZE RETURN DUCT FROM ROOFTOP UNIT DOWN THROUGH ROOF DECK AND TERMINATE OPEN. COVER DUCT OPENING WITH 1/2"x1/2" GALVANIZED HARDWARE CLOTH. 	1. REFERENCE SHEET M101 FOR GENERAL NO AND ABBREVIATIONS.
	PARTIAL

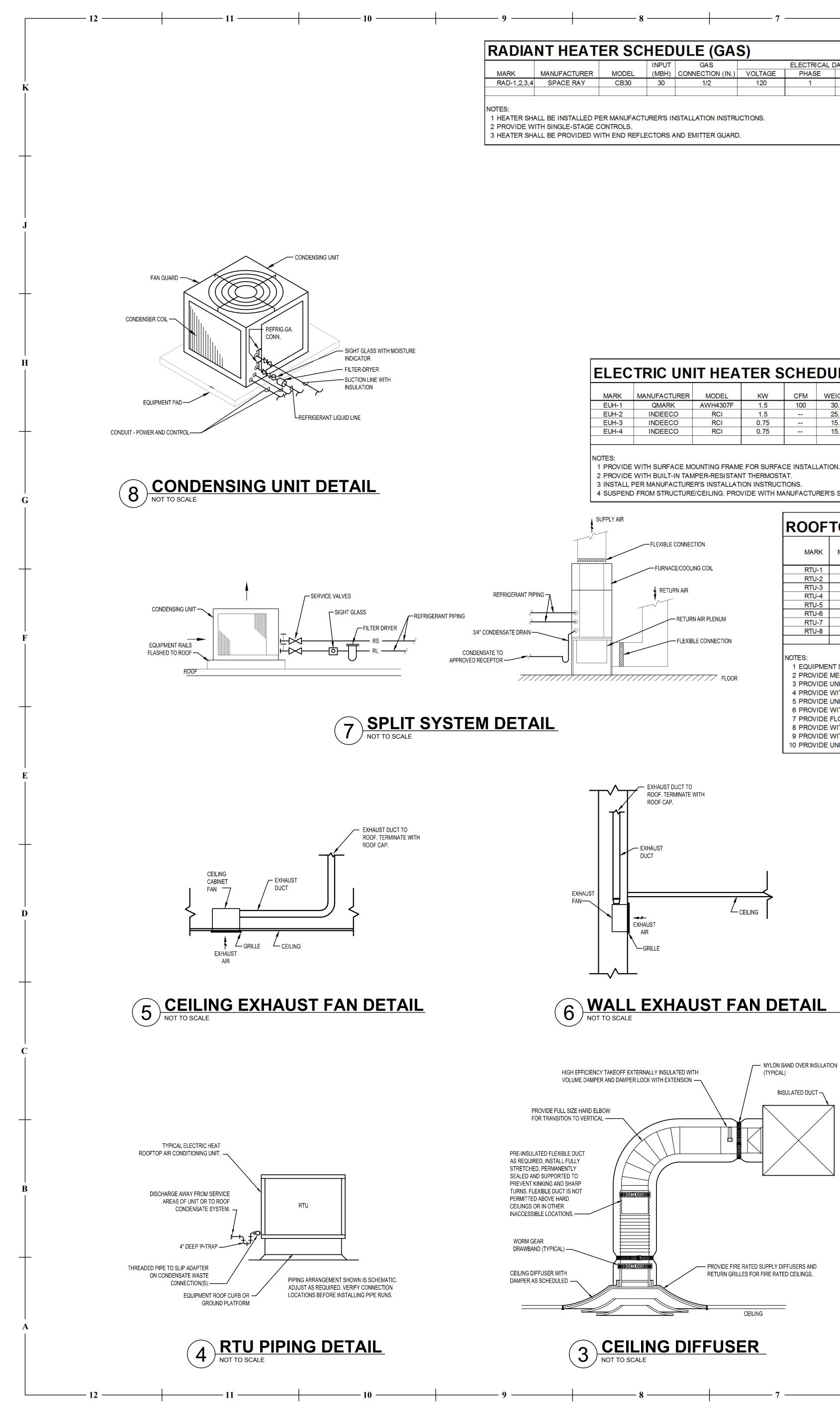


NERAL NOTES, SYMBOLS,





	GENERAL NOTES APPLY)
 ROUTE EXHAUST DUCT TO EXTERIOR WALL AND TERMINATE WITH WALL CAP. MAINTAIN MINIMUM 10'-0" CLEARANCE FROM ALL MECHANICAL AIR INTAKES AND 3'-0" CLEARANCE FROM ALL BUILDING OPENINGS. ROUTE EXHAUST DUCT UP THROUGH ROOF AND TERMINATE WITH ROOF HOOD. MAINTAIN MINIMUM 10'-0" FROM ALL MECHANICAL AIR INTAKES. PROVIDE 7-DAY PROGRAMMABLE THERMOSTAT WITH AUTO-CHANGEOVER BETWEEN HEATING AND COOLING. MOUNT THERMOSTAT AT 48" AFF. ROUTE OUTDOOR AIR DUCT TO EXTERIOR WALL AND TERMINATE WITH WALL CAP. MOUNT GRILLE AS HIGH AS POSSIBLE. UNDERCUT DOOR MINIMUM 1" FOR AIRFLOW. PROVIDE ROOF HOOD FOR EXHAUST TERMINATION, GREENHECK MODEL GRSR-20 OR APPROVED EQUAL. PROVIDE WITH ROOF CURB, BACKDRAFT DAMPER, AND INSECT SCREEN. 	1. REFERENCE SHEET M101 FOR GENER AND ABBREVIATIONS. ENLARGEI



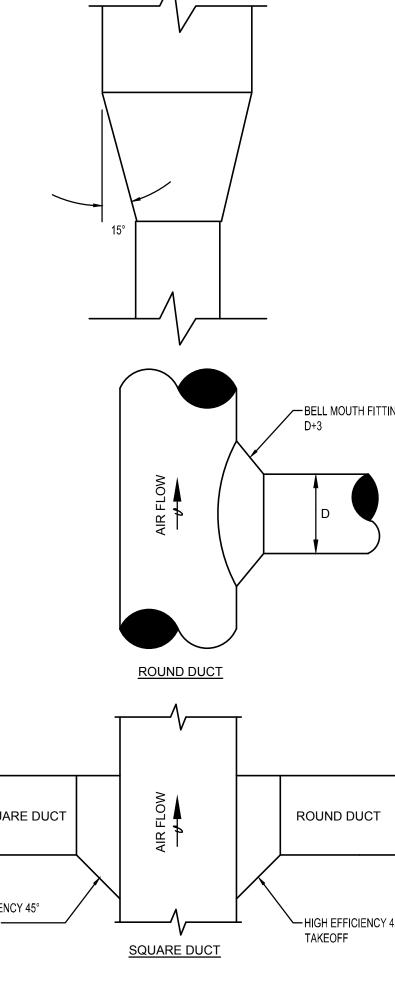
IEAT	EATER SCHEDULE (GAS)										
		INPUT	GAS		ELECTRICAL D	ATA	TUBE	TOTAL			
ACTURER	MODEL	(MBH)	CONNECTION (IN.)	VOLTAGE	PHASE	AMPS	TYPE	LENGH (FT)	NOTES		
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BE F NDAR MENT D FC	PROVIDE Y DRAIN PLATFO DR AN AM	D BY ELE PAN WITI ORM FOR F IBIENT OL	CTRIC/ H FLOA FLOOR JTDOOI	MOUNTING.	CTOR. UNIT SHAL	05°F, 95.5°	DWN UPON AI 'F DB & 75.3°I				JRE AND A	WINTER D	ESIGN TEMP	PERATURE OF	9.3°F.	
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				MA EF	RK MA1 -1 G -2 G	NUFACTUR REENHECH REENHECH REENHECH	< SQ-120- < SP-B9	L MOUNT	VOLUM (CFM) NE 1250 NG 70	(IN) 0.5 0.25	RPM (BELT 1399 DI 700 DI	RIVE /DIRECT) RECT RECT RECT	MOTOR WATTS (HP) (1/2) 21 17	and the state would be stored a	70 15	OTE 1,2 1,3 1,4
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		1.45. 2794 s				NOMINAL			N	IBH					NOTES
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St St <td< td=""><th>FAN COMP</th><td>RESSOR C</td><td></td><td>R FAN TOT, LA (MB</td><td>COC AL SENS. H) (MBH)</td><td>DLING COIL EAT (DB/WB)</td><td>(SEER)</td><td>INPUT (MBH)</td><td>OUTPUT (MBH)</td><td>V/PH/HZ</td><td>MCA</td><td>MOCP</td><td>(LBS)</td><td></td><td></td></td<>	FAN COMP	RESSOR C		R FAN TOT, LA (MB	COC AL SENS. H) (MBH)	DLING COIL EAT (DB/WB)	(SEER)	INPUT (MBH)	OUTPUT (MBH)	V/PH/HZ	MCA	MOCP	(LBS)		
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PUEL WOUTH RITTING * USA			- - - -	MARK EF-1 EF-2 EF-3 NOTES: 1 PROVIDE 2 FAN SHA 3 FAN SHA	MANUFACTU GREENHE GREENHE GREENHE WITH DISCO	JRER MC CK SQ-1 CK SP CK SP-LF ONNECT SW TINUOUSLY I LOCKED WI	DEL M 20-VG -B90 20511-1 ITCH AND DURING O TH RESTR	INLINE CEILING CEILING CEILING BACKDR/ CCUPIED OOM LIGH	VOLUME (CFM) 1250 70 110 AFT DAMPE HOURS. PF TS. PROVID	(IN) RPM 0.5 139 0.25 700 0.25 939 ER. ROVIDE WIT	M (BELT/D 19 DIRI 2 DIRI 2 DIRI 3 DIRI 4 5 DIRI 5 DIRI 5 CIR 5 CI	CEILING	WATTS (HF (1/2) 21 17 ACCESS P	P) VOLTS/PH 120/1 120/1 120/1 ANEL.	H (LBS) NOT 70 1,2 15 1,3
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HIGH EFFICIENCY 45° TAKEOFF	RO	OUND DUCT				NGLE OR UNISTF	RUT	(TYF <u>ULAR DUCT</u>	PICAL)/		<u>⊢</u> <u>P</u> A	RECTANGUL	AR DUCT		
			45°				1	USE THRE	TAL SCREWS N	AY BE OMITTE	D IF HANGER				
<u>TSAND FITTINGS</u> <u>DUCT HANGERS AND SUPPORTS</u>	FS AND		<u>TIN</u> G	i <u>S</u>					<u>ANG</u>	<u>ER</u> S	<u>5 AN</u>	<u>D</u> S	UPP	ORT	5

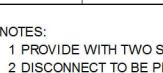
ELEC	LECTRIC UNIT HEATER SCHEDULE														
							ELEC	TRICAL							
MARK	MANUFACTURER	MODEL	KW	CFM	WEIGHT	AMPS	MOCP	PHASE							
EUH-1	QMARK	AWH4307F	1.5	100	30.0	5.4	15	1							
EUH-2	INDEECO	RCI	1.5	-	25.0	5.4	15	1							
EUH-3	INDEECO	RCI	0.75		15.0	3.2	15	1							
EUH-4	INDEECO	RCI	0.75	-	15.0	3.2	15	1							

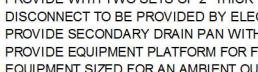
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					2 BA 3 PF 4 BF 5 FF	ECK SIZE S AKED ENAM ROVIDE NEG RANCH DUC RAME TYPE	CK FOR DUCT (CT SIZE SHALL I TO MATCH CO	MATCH CEILIN CONNECTION. BE SAME AS N NSTRUCTION (G/WALL COLOR, O IECK SIZE UNLES DF MOUNTING LOO ROM FACE OF DE	S OTHERWISE CATION, COOR	SHOWN ON DINATE WITH	DRAWINGS. I ARCHITECTUR			
				COND	ENSIN	G UN	IIT SCH	IEDUL	E	MOTOR	COOLING C	APACITY		ELECTRICAL	
			-	MARK CU-1	SERVIC FCU-1		IANUFACTUREF DAIKIN	MODEL DX13SA0484	NOMINAL TONNAGE H 4 4 1/		MB			MOCP	V/PH/HZ NOTES 480/3/60 1,2,3,4,5
				2 DISCONN 3 PROVIDE 4 SIZE AND	EQUIPMENT PL ECT TO BE PRO STARTERS FOF INSTALL REFRI LIQUID LINE FIL	OVIDED BY R ALL MOTO IGERANT LI	ELECTRICAL CO DRS. NES PER THE M	ONTRACTOR.		ATIONS, VERIF	Y WITH EQU	IIPMENT SUPPLI	ER REFRIGE	ERATION LINE	LENGTH AND SIZE.
	ECTRICAL		FAN			CHEE								EL FOT	
CFM WEIGHT AMPS MOCP 100 30.0 5.4 15 25.0 5.4 15 15.0 3.2 15 15.0 3.2 15	PHASE VOLTAG 1 277 1 277 1 277 1 277 1 277 1 277 1 277 1 277	E NOTES 1,2,3 3,4 3,4 3,4 3,4	MARK FCU-1	MANUFACT		L TONNA	VAL SUPPLY		MIN OA HP (CFM) 0.5 150	COOI TH S (MBH) (ME 46.0 38	H EAT BH) (DB/W	HEATIN ELEC B) HEAT (KW) R 15.0	TEMP	ELECTR MCA MOC 69 70	P V/PH/HZ NOTE
INSTALLATION. NS. UFACTURER'S SINGLE-POLE THERMOS			2 DISCONI 3 PROVIDE 4 PROVIDE	NECT TO BE F E SECONDAR E EQUIPMENT	PLATFORM FO	LECTRICAL	CONTRACTOR SWITCH, UNIT	R. SHALL SHUT [DOWN UPON ALA 5°F DB & 75.3°F V			ERATURE AND A	A WINTER D	ESIGN TEMPE	RATURE OF 9.3°F.
	ONDITIONI									1				1	
RTU-1DAIKINDFRTU-2DAIKINDFRTU-3DAIKINDFRTU-4DAIKINDFRTU-5DAIKINDFRTU-6DAIKINDFRTU-7DAIKINDF	MODEL SUPPLY AIR FG3004DH 10000 FG3064DH 1200 FG0604DM 2000	2000 0. 2000 0. 2000 0. 2000 0. 2000 0. 2000 0. 2000 0. 2000 0. 2000 0. 2000 0. 2000 0. 2000 0.	0.7 2 0.7 2 0.7 2 0.7 2 0.7 2 0.7 2 0.7 2 0.7 2 0.7 2 0.7 2 0.7 1	FAN FLA HP 10.6 5 10.6 5 10.6 5 10.6 5 10.6 5 10.6 5 10.6 5 10.6 5 10.6 5 2.5 1.2 2.5 1.2	QTY RLA 2 18.6 2 18.6 2 18.6 2 18.6 2 18.6 2 18.6 2 18.6 2 18.6 1 18.6 1 7.8	QTY 555 555 555 555 555 511	FLA TO FLA (Mil 1.4 283 1.4 283 1.4 283 1.4 283 1.4 283 1.4 283 1.4 283 1.4 283 1.4 283 1.4 283 1.4 283 0.48 35	TAL SENS. BH) (MBH) 3.2 221.4 3.2 221.4 3.2 221.4 3.2 221.4 3.2 221.4 3.2 221.4 3.2 221.4 3.2 221.4 3.2 221.4 3.2 221.4 3.2 221.4 3.2 221.4	DLING COIL EAT EB (DB/WB) (SE 76.9/64.2 9 76.9/64.2 9 76.9/64.2 9 76.9/64.2 9 76.9/64.2 9 76.9/64.2 9 76.9/64.2 9 76.9/64.2 9 76.9/64.2 9 80.9/67.4 (14 77.7/64.8 (14	INPUT ER INPUT (MBH) (MBH) .8 400.0 .8 400.0 .8 400.0 .8 400.0 .8 400.0 .8 400.0 .8 400.0 .8 400.0 .8 400.0 .8 400.0 .8 400.0	NG DATA OUTPUT (MBH) 324.0 324.0 324.0 324.0 324.0 324.0 72.0 92.0	UNIT ELECTRI V/PH/HZ MC/ 480/3/60 70.0 480/3/60 70.0 480/3/60 70.0 480/3/60 70.0 480/3/60 70.0 480/3/60 10.2 480/3/60 13.0	A MOCP 0 80 0 80 0 80 0 80 0 80 0 80 0 80 2 15	WEIGHT (LBS) 3000 3000 3000 3000 3000 3000 600 650	NOTES 1,2,3,4,6,7,8,10 1,2,3,4,6,7,8,10 1,2,3,4,6,7,8,10 1,2,3,4,6,7,8,10 1,2,3,4,6,7,8,10 1,2,3,4,6,7,8,10 1,2,3,4,6,7,8,10 1,2,3,4,6,7,8,10 1,2,3,4,6,7,8,10 1,2,3,4,6,7,8,10
7 PROVIDE FLOAT SWITCH IN DRAIN I 8 PROVIDE WITH POWER EXHAUST. F 9 PROVIDE WITH BAROMETRIC RELIE 10 PROVIDE UNIT WITH HOT GAS REHE	POWER EXHAUST TO B					NG PRESSU	MARK EF-1 EF-2 EF-3 NOTES: 1 PROVID 2 FAN SH 3 FAN SH	MANUFACTU GREENHE GREENHE GREENHE MUTH DISCO ALL RUN CON ALL BE INTER	CK SQ-120-VC CK SP-B90	MOUNTING INLINE CEILING CEILING CEILING AND BACKDRA NG OCCUPIED STROOM LIGH	VOLUME E (CFM) (1250 70 (110 (IN) RPM (BEL 0.5 1399 [] 0.25 700 [] 0.25 939 [] 0.25 939 [] 0.25 939 [] 0.25 939 [] 0.25 939 [] 0.25 939 [] 0.25 939 [] 0.25 939 [] 0.25 939 [] 0.25 939 [] 0.25 939 [] 0.25 939 [] 0.25 939 [] 0.25 939 [] 0.25 939 [] 0.25 [] [] 0.25 [] [] 0.25 [] [] 0.25 [] [] 0.25 [] [] 0.25 [] [] 0.25 [] []	DIRECT DIRECT DIRECT 24" CEILING OLLER FOR	WATTS (HP) (1/2) 21 17 ACCESS PAN	ELECTRICAL WEIGHT (LBS) NOTE 120/1 70 1,2 120/1 15 1,3 120/1 15 1,4 I20/1 15 1,4 IEL. IEL. IEL.
TAIL					BELL MOUTI	'H FITTING =		1,	ROUND E 6 GA. GALV. STEEL BAN			ROOF		JOIST (TYP.) TWIST STRAP (TYP	2 2)
ND OVER INSULATION			AIR FLOW		D					CHEET METAL SELF NG SCREWS LOADS MUST BE HU POINTS (TYPICAL) ROOF OR UPPER FI			DF OR UPPER FL	ISTRUT R STRAP. SEE	
USERS AND CEILINGS.	HIGH EFFICIE TAKEOFF	HARE DUCT			ROUND DU HIGH EFFICI TAKEOFF)	STRU RI		TANGULAR DUCT CULAR TO STRUCTU NOTE: 1. USE THRE, 2. SHEET ME	ADED ROD FOR A	1" MIN →] LL DUCTS LARGER TH Y BE OMITTED IF HAN S UNDER ENTIRE DUC	AN 60" WIDE.	AX) S	HEET METAL SCREWS. EE NOTE 2 (TYP)

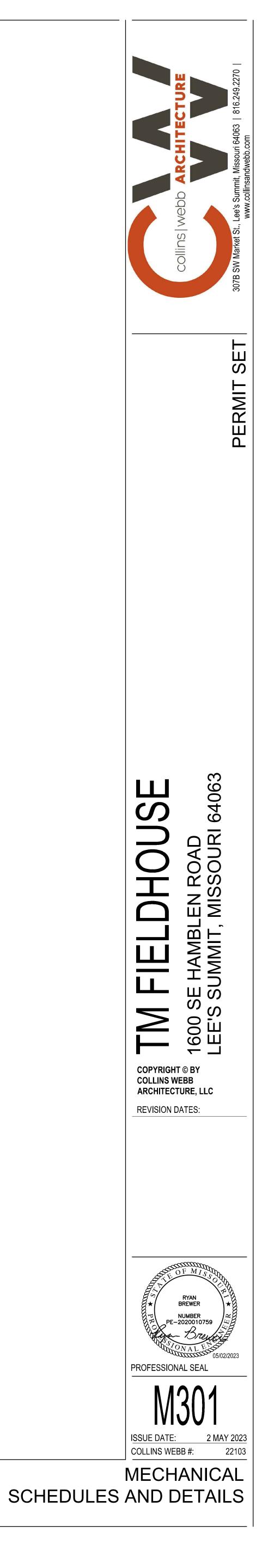


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15000 - BASIC MECHANICAL REQUIREMENTS

DRAWINGS AND GENERAL PROVISIONS OF CONTRACT, INCLUDING GENERAL AND SUPPLEMENTARY CONDITIONS AND ALL OTHER SPECIFICATION SECTIONS, APPLY TO THIS AND THE OTHER SECTIONS OF DIVISION 15.

READ THE SPECIFICATIONS AND REVIEW DRAWINGS FOR ALL DIVISIONS OF WORK AND COORDINATE AND THE WORK OF SUBCONTRACTORS WITH ALL DIVISIONS OF WORK. PROVIDE SUBCONTRACTORS WITH A COMPLETE SET OF BID DOCUMENTS.

SCHEDULE THE COMPLETION AND INSPECTION OF WORK AND THE WORK OF SUBCONTRACTORS WORK TO COMPLY WITH THE SCHEDULE AND THE PROJECT COMPLETION DATE.

VISIT THE SITE PRIOR TO SUBMITTAL OF BID TO DETERMINE CONDITIONS AFFECTING THE WORK. ANY ITEMS WHICH ARE NOT COVERED IN THE BID DOCUMENTS OR ANY PROPOSED SUBSTITUTIONS SHALL BE LISTED SEPARATELY AND QUALIFIED IN THE BID. SUBMITTAL OF BID SHALL SERVE AS EVIDENCE OF KNOWLEDGE OF EXISTING CONDITIONS AND ANY MODIFICATIONS WHICH ARE REQUIRED TO MEET THE INTENT OF THE DRAWINGS AND SPECIFICATIONS. FAILURE TO VISIT THE SITE DOES NOT RELIEVE RESPONSIBILITY IN PERFORMANCE OF WORK.

READ ALL RELEVANT DOCUMENTS, BECOME FAMILIAR WITH THE JOB, SCOPE OF WORK, TYPE OF GENERAL CONSTRUCTION, AND THE ARCHITECTURAL, STRUCTURAL, MECHANICAL THE PROJECT'S HVAC, PLUMBING AND SPRINKLER SERVICE IN OPERATION. IF APPLICABLE, AND ELECTRICAL DRAWINGS AND SPECIFICATIONS. ALSO UNDERSTAND THE PURPOSE FOR SCHEDULE IN WRITING WITH ARCHITECT ONE WEEK PRIOR TO ANY SHUT DOWN OF THE WHICH THESE DOCUMENTS HAVE BEEN PREPARED AND BECOME COGNIZANT OF ALL THE HVAC, PLUMBING OR FIRE PROTECTION SYSTEMS. DETAILS INVOLVED. COORDINATE WORK WITH THAT OF OTHERS. DEFINITIONS:

APPURTENANCE AND SUPPORT. INSTALL - UNLOAD AT THE DELIVERY POINT AT THE SITE AND PERFORM EVERY OPERATION VERIFY SCOPE OF AND THE REMOVAL OF ALL EXISTING FIRE PROTECTION, PLUMBING NECESSARY TO ESTABLISH SECURE MOUNTING AND CORRECT OPERATION AT THE PROPER FIXTURES, PIPING, HVAC UNITS, REFRIGERANT RECAPTURE, EXHAUST FANS, ETC. AND LOCATION IN THE PROJECT PROVIDE - FURNISH AND INSTALL

GENERAL REQUIREMENT

PROVIDE ALL LABOR, MATERIALS, EQUIPMENT, SERVICES, TOOLS, TRANSPORTATION, INCIDENTALS AND DETAILS NECESSARY TO PROVIDE A COMPLETE MECHANICAL SYSTEM AS SHOWN ON THE DRAWINGS, CALLED FOR IN THE SPECIFICATIONS, AND AS REQUIRED BY AND SEALED BELOW OR WITHIN FLOOR OR WALL LEVEL WHEN THEY ARE NOT TO BE JOB CONDITIONS. ALL WORK NOT SPECIFICALLY NOTED AS BEING BY THE OTHERS SHALL REUSED IN THIS PROJECT. ABANDONED PIPING AND/OR DUCTWORK MUST BE REMOVED TO BE PROVIDED. CLOSELY COORDINATE THE ENTIRE INSTALLATION WITH THE ARCHITECT-ENGINEER, AS REQUIRED.

THE DRAWINGS AND SPECIFICATIONS ARE INTENDED TO SUPPLEMENT EACH OTHER AND ANY MATERIAL OR LABOR CALLED FOR IN ONE SHALL BE FURNISHED AND INSTALLED EVEN THOUGH NOT SPECIFICALLY MENTIONED IN BOTH. ANY MATERIAL OR LABOR WHICH IS NEITHER SHOWN ON THE DRAWINGS NOR CALLED FOR IN THE SPECIFICATIONS, BUT WHICH WORK UNDER THIS SPECIFICATION. NO CUTTING OF THE STRUCTURE SHALL BE PERMITTED DIAGRAMS, NAMEPLATES AND LABELS IS OBVIOUSLY NECESSARY TO COMPLETE THE WORK, AND WHICH IS USUALLY INCLUDED IN WITHOUT WRITTEN APPROVAL OF THE STRUCTURAL ENGINEER OR ARCHITECT. WORK OF SIMILAR CHARACTER, SHALL BE FURNISHED AND INSTALLED AS PART OF CONTRACT.

WHERE THE DRAWINGS OR SPECIFICATIONS CALL FOR ITEMS WHICH EXCEED CODES OR THE OWNERS CRITERIA, PROVIDE THE SYSTEM WITH THE MORE STRINGENT REQUIREMENTS AS DESIGNED AND DESCRIBED ON THESE DRAWINGS, UNLESS SPECIFICALLY NOTED OTHERWISE.

ALL MECHANICAL WORK SHALL BE INSTALLED SO AS TO BE READILY ACCESSIBLE FOR OPERATING, SERVICING, MAINTAINING, AND REPAIRING. THIS CONTRACTOR IS RESPONSIBLE FOR PROVIDING SUFFICIENT SERVICE ACCESS TO ALL EQUIPMENT.

ALL WORK SHALL BE PERFORMED IN A NEAT PROFESSIONAL MANNER USING GOOD ENGINEERING PRACTICES.

UNLESS SPECIFICALLY NOTED OTHERWISE, MATERIALS, PRODUCTS, AND EQUIPMENT, INCLUDING ALL COMPONENTS THEREOF, SHALL BE NEW, UNDERWRITERS LABORATORIES LISTED AND LABELED AND SIZED IN CONFORMITY WITH REQUIREMENTS OF STATE AND LOCAL CODES, WHICHEVER IS MORE STRINGENT.

AND LOCAL CODES AND ORDINANCES, SAFETY AND HEALTH CODES, NFPA CODES, ENERGY MASONRY PARTITIONS, THROUGH SUSPENDED CEILINGS, OR FOR CONCEALED VERTICAL CODES AND ALL OTHER APPLICABLE CODES AND REQUIREMENTS. INQUIRE INTO AND PIPING, SLEEVES SHALL BE NO. 22 U.S.G. GALVANIZED STEEL MINIMUM. COMPLY WITH ALL APPLICABLE CODES, ORDINANCES, AND REGULATIONS. INCLUDE ANY CHANGES REQUIRED BY CODES IN THE BID AND IF THESE CHANGES ARE NOT INCLUDED IN HANGERS THE BID, THEY MUST BE QUALIFIED AS A SEPARATE LINE ITEM IN THE BID. AFTER CONTRACT IS ISSUED, NO ADDITIONAL COST DUE TO CODE ISSUES SHALL BE REIMBURSED BY THE OWNER.

LICENSES, PERMITS, COMMISSIONING, INSPECTIONS & FEES

OBTAIN AND PAY FOR ALL LICENSES. PERMITS, COMMISSIONING, INSPECTIONS, AND FEES REQUIRED OR RELATED TO THIS WORK. PROVIDE TO THE OWNER-ARCHITECT A COMMISSIONING PLAN, PRELIMINARY

COMMISSIONING REPORT, FINAL COMMISSIONING REPORT, AND CERTIFICATES OF INSPECTION AND FINAL INSPECTION APPROVAL AT COMPLETION OF PROJECT.

TRADE NAMES, MANUFACTURERS AND SHOP DRAWINGS WHERE TRADE NAMES AND MANUFACTURERS ARE USED ON THE DRAWINGS OR IN THE

SPECIFICATIONS, THE EXACT EQUIPMENT SHALL BE USED AS A MINIMUM FOR THE BASE BID. MANUFACTURERS CONSIDERED AS AN EQUAL OR BETTER IN ALL ASPECTS TO THAT SPECIFIED WILL BE SUBJECT TO APPROVAL IN WRITING BY ARCHITECT-ENGINEER PRIOR TO BID THROUGH SHOP DRAWING SUBMITTAL PROCESS, FOR ACCEPTANCE PRIOR TO INSTALLATION. ANY CHANGES TO ELECTRICAL SERVICE, STRUCTURAL FRAMING, ETC. OR ANY OTHER MODIFICATION THAT IS REQUIRED BY THE USE OF ALTERNATE EQUIPMENT SHALL BE COORDINATED WITH OTHER TRADES AND SHALL INCLUDE ALL COSTS IN BID FOR THE REQUIRED CHANGES. THE USE THE USE OF ANY UNAUTHORIZED EQUIPMENT SHALL BE SUBJECT TO REMOVAL AND REPLACEMENT AT NO EXPENSE TO THE OWNER.

<u>GUARANTEE</u>

GUARANTEE ALL MATERIALS AND WORK PROVIDED UNDER THIS CONTRACT AND MAKE GOOD, REPAIR OR REPLACE AT NO EXPENSE TO THE OWNER, ANY DEFECTIVE WORK, MATERIAL, OR EQUIPMENT WHICH MAY BE DISCOVERED WITHIN A PERIOD OF TWELVE (12) SCHEDULE A MEETING WITH THE OWNER'S REPRESENTATIVE AT THE SITE TO PROVIDE MONTHS FROM THE DATE OF ACCEPTANCE (IN WRITING) OF THE INSTALLATION. EXTENDED DETAILED INFORMATION ON THE OPERATING AND MAINTENANCE OF EQUIPMENT. WARRANTIES ARE AS SPECIFIED WITH INDIVIDUAL EQUIPMENT.

QUALITY ASSURANCE

INDUSTRY STANDARDS AND CODES: UNLESS MODIFIED BY THESE SPECIFICATIONS, THE DESIGN, MANUFACTURER, TESTING AND METHOD OF INSTALLING ALL MATERIALS, APPARATUS AND EQUIPMENT SHALL CONFORM TO THE FOLLOWING:

1. ARI CODE FOR REFRIGERATION APPARATUS 2. ANSI B9.1 SAFETY CODE FOR MECHANICAL REFRIGERATION

3. STANDARDS OF NATIONAL FIRE PROTECTION ASSOCIATION 4. SMACNA

5. ASHRAE

RECORD DRAWINGS

MAINTAIN ONE COPY OF DRAWINGS ON THE JOB SITE TO RECORD DEVIATIONS FROM CONTRACT DRAWINGS, SUCH AS: LOCATION OF CONCEALED PIPING VALVES AND DUCTS,

REVISIONS, ADDENDUMS, AND CHANGE ORDERS, AND SIGNIFICANT DEVIATIONS MADE

CONTRACTOR'S COORDINATION WITH OTHER TRADES.

DISCREPANCIES IN DOCUMENTS

BID PROPOSAL

CUTTING AND PATCHING

THE ARCHITECT.

FOLLOWED BY THE ITEMS ON THE DRAWING NOT SPECIFICALLY INCLUDED IN THE SPECIFICATIONS. AFTER THE LIST HAS BEEN PROCESSED BY THE ARCHITECT, SUBMIT COMPLETE SHOP DRAWINGS AND PRODUCT DATA OF ALL EQUIPMENT. THESE SUBMITTALS SHALL BE SUBMITTED WITHIN THIRTY (30) DAYS AFTER THE PROCESSING DATE OF THE ORIGINAL SUBMITTAL LIST. SUBMISSIONS SHALL BE MADE EARLY ENOUGH IN PROJECT TO ALLOW FOR (10) WORKING DAYS FOR REVIEW BY ARCHITECT-ENGINEER WITHOUT CAUSING DELAYS OR CONFLICTS IN THE PROJECT'S PROGRESS.

NECESSARY BY FIELD CONDITIONS, APPROVED EQUIPMENT SUBSTITUTIONS, AND

AT COMPLETION OF THE PROJECT AND BEFORE FINAL APPROVAL. MAKE ANY FINAL THEREON. A SET OF REPRODUCIBLE DRAWINGS ALONG WITH ONE SET OF BLULINES OF THE MOST RECENT SET OF DRAWINGS WITH TEMPERATURE CONTROL DRAWINGS INCLUDED SHALL BE DELIVERED TO THE ARCHITECT UPON COMPLETION OF THE WORK AND JOB CONDITIONS AS THEY EXIST PRIOR TO FINAL ACCEPTANCE OF THE PROJECT.

GENERAL LOCATION AND INTENT OF THE MECHANICAL SYSTEMS. WHERE DRAWINGS, EXISTING SITE CONDITIONS, SPECIFICATIONS OR OTHER TRADES CONFLICT OR ARE UNCLEAR, ADVISE THE ARCHITECT-ENGINEER IN WRITING, OF VARIATIONS TO CONTRAC DOCUMENTS PRIOR TO SUBMISSION OF BID. OTHERWISE, ARCHITECT-ENGINEER'S INTERPRETATION OF CONTRACT DOCUMENTS OR CONDITIONS SHALL BE FINAL WITH NO ADDITIONAL COMPENSATION PERMITTED.

PHASING REQUIREMENTS INCLUDE IN BID ALL NECESSARY SERVICE REQUIRED TO KEEP THE OPERATING PHASE OF

COORDINATE THE DEMOLITION OF EXISTING WORK AND THE DEMOLITION PROVIDED BY FURNISH - PURCHASE AND DELIVER TO PROJECT SITE COMPLETE WITH EVERY NECESSARY OTHER. COORDINATE ANY EXISTING EQUIPMENT REQUIRED TO BE LEFT INTACT.

> ASSOCIATED ROOF CURBS NOT TO BE REUSED ON THIS PROJECT. UNLESS SPECIFICALLY NOTED OTHERWISE. VERIFY ALL PRESUMED ABANDONED EQUIPMENT, PIPES, DUCTWORK, AND EQUIPMENT PRIOR TO REMOVAL. ROOF CURBS SHALL BE REMOVED AND THE ROOF PATCHED. ALL EXTRANEOUS ITEMS IN THE SPACE OR ON THE ROOF NOT APPLICABLE TO THE NEW WORK MUST BE REMOVED AND ROOF/WALL/FLOOR PATCHED/REPAIRED TO MATCH EXISTING STRUCTURE. EXISTING ABANDONED PIPES, DUCTS, OR EQUIPMENT IN THE FLOOR, EMBEDDED IN CONCRETE, OR OTHERWISE INACCESSIBLE ARE TO BE CUT OFF POINT OF ORIGIN. CONFIRM THE EXTENT OF DEMOLITION PRIOR TO BID AND INCLUDE IN

PERFORM ALL CUTTING AND PATCHING AS REQUIRED FOR THE INSTALLATION OF THE PATCHING SHALL BE OF THE SAME WORKMANSHIP, MATERIAL AND FINISH AND SHALL MATCH ACCURATELY ALL SURROUNDING CONSTRUCTION IN A MANNER SATISFACTORY TO

EXISTING UTILITIES, ETC, THAT ARE DAMAGED DURING THE CONSTRUCTION PERIOD. WHETHER OR NOT DUE TO NEGLIGENCE SHALL BE REPAIRED OR REPLACED AND LEFT IN A CONDITION SUITABLE TO THE ARCHITECT.

PROVIDE SLEEVES TO PROTECT EQUIPMENT OR FACILITIES IN THE INSTALLATION. EACH SLEEVE SHALL EXTEND THROUGH ITS RESPECTIVE FLOOR, WALL OR PARTITION AND SHALL BE CUT FLUSH WITH EACH SURFACE EXCEPT SLEEVES THAT PENETRATE THE FLOOR, WHICH SHALL EXTEND 2" ABOVE THE FLOOR. COORDINATE THROUGH THE ARCHITECT ANY CORE DRILLING OR CUTTING OF OPENINGS IN MASONRY FLOORS OR WALLS.

ALL SLEEVES AND OPENINGS THROUGH FIRE RATED WALLS AND/OR FLOORS SHALL BE FIRE SEALED WITH CALCIUM SILICATE, SILICONE "RTV" FOAM, "3M" FIRE RATED SEALANTS OR EQUAL, SO AS TO RETAIN THEIR FIRE RATING.

SLEEVES IN BEARING AND MASONRY WALLS, FLOORS, AND PARTITIONS SHALL BE ALL WORK SHALL CONFORM TO THE OWNER'S CRITERIA, THE STATE'S, COUNTY'S, CITY'S STANDARD WEIGHT STEEL PIPE FINISHED WITH SMOOTH EDGES. FOR OTHER THAN

> HANGERS SHALL INCLUDE ALL MISCELLANEOUS STEEL SUCH AS ANGLE IRON, BANDS, C-CLAMPS WITH RETAINING CLIPS, CHANNELS, HANGER RODS, ETC., NECESSARY FOR THE INSTALLATION OF WORK.

> HANGERS SHALL BE FASTENED TO BUILDING STEEL, CONCRETE, OR MASONRY, BUT NOT TO PIPING. HANGING FROM METAL DECK IS NOT PERMITTED. HANGERS MUST BE ATTACHED TO UPPER CHORD OF BAR JOIST. WHERE INTERFERENCES OCCUR. AND IN ORDER TO SUPPORT DUCTWORK OR PIPING, INSTALL TRAPEZE TYPE HANGERS OR SUPPORTS WHICH SHALL BE LOCATED WHERE THEY DO NOT INTERFERE WITH ACCESS TO FIRE DAMPERS, VALVES, AND OTHER EQUIPMENT. HANGER TYPES AND INSTALLATION METHODS ARE ALSO SUBJECT TO LANDLORD CRITERIA.

> HANGERS FOR ALL INSULATED PIPING SHALL BE SIZED AND INSTALLED FOR THE OUTER DIAMETER OF INSULATION. INSTALL 6" LONG SPLIT CIRCLE GALVANIZED SADDLE BETWEEN THE HANGER AND THE PIPE INSULATION.

HANGERS AND PIPING OF DISSIMILAR METALS SHALL BE DI-ELECTRICALLY SEPARATED. PROVIDE SWAY AND SEISMIC BRACING WHERE REQUIRED BY CODE.

PROTECT MATERIALS, APPARATUS AND EQUIPMENT FROM DAMAGE, MOISTURE, DIRT, DEBRIS AND WORK OF OTHER TRADES.

OPERATION MANUALS AND INSTRUCTIONS PROVIDE OPERATING AND MAINTENANCE INSTRUCTIONS AT THE COMPLETION OF THE

PROJECT. SUBMIT THREE HARD BOUND COPIES TO ARCHITECT.

SUBMIT WITHIN THIRTY (30) DAYS AFTER THE DATE OF NOTICE TO PROCEED AND BEFORE PURCHASING ANY MATERIALS OR EQUIPMENT, SUBMIT TO THE ARCHITECT FOR REVIEW, A COMPLETE LIST, IN SIX (6) COPIES, OF ALL MATERIALS INCORPORATED IN THE WORK. THIS LISTING SHALL BE ARRANGED BY THE ORDER OF OCCURRENCE IN THE SPECIFICATIONS,

ALL SUBMITTALS SHALL BE COMPLETE AND SHALL BE IN THREE-RING, LOOSE -LEAF BINDERS, NO CONSIDERATION WILL BE GIVEN TO PARTIAL SUBMITTALS, UNLESS NOTED OTHERWISE BY ARCHITECT. EACH ITEM SHALL HAVE A COVER PAGE STATING PROJECT, SPECIFICATION AND PARAGRAPH REFERENCE NUMBER, OR DRAWING REFERENCE NUMBER, AND SCHEDULED EQUIPMENT IDENTIFICATION NUMBER, IF APPLICABLE.

CORRECTIONS TO DRAWINGS AND CERTIFY THE ACCURACY OF EACH PRINT BY SIGNATURE THE REVIEW OF SUBMITTALS DOES NOT RELIEVE RESPONSIBILITY OF SHOP DRAWING ERRORS IN DETAILS, SIZES, QUANTITIES, WIRING DIAGRAM ARRANGEMENTS AND DIMENSIONS WHICH DEVIATE FROM THE SPECIFICATIONS, CONTRACT DRAWINGS AND/OR

IF APPARATUS OR MATERIALS ARE SUBSTITUTED FOR THOSE SPECIFIED UNDER THIS SECTION, AND SUCH SUBSTITUTIONS NECESSITATE CHANGES IN OR ADDITIONAL CONNECTIONS, PIPING SUPPORTS OR CONSTRUCTIONS, SAME SHALL BE PROVIDE AT NO DRAWINGS (PLANS, SPECIFICATIONS, AND DETAILS) ARE DIAGRAMMATIC AND INDICATE THE ADDITIONAL COST TO THE OWNER. ASSUME COST AND ENTIRE RESPONSIBILITY THEREOF. ARCHITECT'S PERMISSION TO MAKE SUCH SUBSTITUTION SHALL NOT RELIEVE FULL RESPONSIBILITY FOR WORK.

> TEST AND BALANCE REPORT: SUBMIT AT FINAL INSPECTION OPERATION AND MAINTENANCE MANUALS REQUIRED IN THE SECTION, OPERATION AND MAINTENANCE MANUALS. MANUALS: SUBMIT COPIES IN COMPLIANCE WITH SECTION, OPERATION AND MAINTENANCE MANUALS.

15400 - HEATING VENTILATION AND & AIR CONDITIONING

ALL MATERIALS AND EQUIPMENT SHALL BE NEW, SYSTEMS SHALL FUNCTION CORRECTLY AS A WHOLE, AND IN ALL ITS PARTS, UP TO THE SPECIFIED CAPACITY. SYSTEMS OR DEVICES FAILING TO MEET PERFORMANCE REQUIREMENTS SHALL BE REPLACED, ALTERED OR REPAIRED AS REQUIRED TO BRING PERFORMANCE UP TO SPECIFIED REQUIREMENTS. WORK DAMAGED OR MARRED BY SUCH REPLACEMENTS, ALTERATIONS, OR REPAIRS SHALL BE RESTORED TO PRIOR CONDITIONS, AT NO ADDITIONAL COST TO THE OWNER. WHERE MULTIPLE ITEMS OF EQUIPMENT OR MATERIALS ARE REQUIRED, THEY SHALL BE THE PRODUCT OF A SINGLE MANUFACTURER. BEFORE ORDERING EQUIPMENT, THE PHYSICAL DIMENSIONS SHALL BE CHECKED TO VERIFY FIT IN SPACES ALLOTTED ON THE DRAWINGS. INSERTS, PIPE SLEEVES, AND SUPPORTS OF AIR CONDITIONING EQUIPMENT SHALL BE PROVIDED AS SPECIFIED. WHERE SUCH ITEMS ARE TO BE SET OR EMBEDDED IN CONCRETE, MASONRY OR SIMILAR WORK, THE ITEMS SHALL BE FURNISHED AT THE PROPER TIME FOR SETTING OR EMBEDMENT SO AS TO CAUSE NO DELAY. DUCTWORK AND EQUIPMENT ASSEMBLIES SHOWN ON THE DRAWINGS ARE DIAGRAMMATIC. ADDITIONAL DUCTWORK AND APPURTENANCES REQUIRED FOR PROPER OPERATION OF EQUIPMENT SHALL BE PROVIDED BY THE CONTRACTOR AT NO ADDITIONAL COST.

UFACTURER'S NAMES AND CATALOG NUMBEF SPECIFIC REFERENCES HAVE BEEN MADE TO ONE OR MORE MANUFACTURER'S NAMES AND <u>HVAC/HYDRONIC PIPIN</u> MODEL OR CATALOG NUMBERS. THIS DOES NOT INDICATE THAT THE MATERIAL AND

EQUIPMENT SPECIFIED IS NECESSARILY AN "OFF THE SHELF" ITEM; REQUIREMENTS FOR SPECIFIC FINISHES, MATERIALS OR OTHER MODIFICATIONS MAY INTRODUCE VARIANCES FROM MANUFACTURER'S STANDARDS. ASCERTAIN THAT SUCH MODIFICATIONS ARE FULLY ON DRAWINGS. CONDENSATE DRAIN PIPING SHALL BE INSTALLED WITH TRAP AT THE COIL CONSIDERED.

EACH MAJOR COMPONENT OF EQUIPMENT SHALL HAVE THE MANUFACTURER'S NAME, ADDRESS AND CATALOG NUMBER ON A PLATE SECURELY AFFIXED IN A CONSPICUOUS PLACE. THE NAMEPLATE OF A DISTRIBUTING AGENT WILL NOT BE ACCEPTED. ALL PIECES OF EQUIPMENT, VALVES, STARTERS, DISCONNECTS, AND ALL PNEUMATIC AND ELECTRIC CONTROL INSTRUMENTS AND APPARATUS SHALL BE IDENTIFIED WITH 1/16" THICK BLACK LAMINATED PLASTIC NAMEPLATES, WITH 3/16" HIGH WHITE LAMINATED LETTERS. SIMILAR AND LIKE EQUIPMENT SHALL BE DESIGNATED WITH NUMERICAL SUFFIX (EXAMPLE: THERMOSTAT, T-1). THE NAMEPLATE IDENTIFICATIONS SHALL COINCIDE WITH ITEMS APPEARING ON DIAGRAMS. PROVIDE A LABEL FOR THE MECHANICAL SYSTEM STATING: (NAME, ADDRESS AND PHONE NUMBER OF CONTRACTOR). LETTERS SHALL BE 1/4" HIGH AND LOCATED IN A CONSPICUOUS PLACE NEAR THE HVAC EQUIPMENT.

EXECUTION

INSTALLATION AND WORKMANSHI THE WORK SHALL BE PERFORMED BY QUALIFIED MECHANICS. ALL MATERIALS, APPARATUS AND EQUIPMENT SHALL BE INSTALLED IN NEAT, WORKMANLIKE MANNER, MATERIALS, DEVICES OR EQUIPMENT WHICH. IN THE OPINION OF THE ARCHITECT-ENGINEER. IS IMPROPERLY INSTALLED SHALL BE REMOVED AND REINSTALLED IN AN APPROVED MANNER 30-36 ADHESIVE. ALL JOINTS, SEAMS AND BREAKS IN THE VAPOR BARRIER SHALL BE AT NO ADDITIONAL COST TO THE OWNER. THE WORK SHALL BE COORDINATED WITH THE SEALED WITH FOSTER'S 35-00, REINFORCED WITH 4 INCH WIDE GLASS FABRIC. WORK OF OTHER TRADES. WHERE THE WORK IS DEPENDENT UPON WORK OF OTHER TRADES OR WORK ALREADY IN PLACE, SUCH OTHER WORK AND WORK IN PLACE SHALL BE TERMINAL HEAT TRANSFER UNITS EXAMINED AND SHALL BE IN PROPER CONDITION AND STATE OF COMPLETION BEFORE CONTINUING THE INSTALLATION. THE INSTALLATION OF WORK SHALL, IN GENERAL, BE AS HIGH AS POSSIBLE AND LOCATED IN ACCORDANCE WITH THE DRAWINGS. DUCTWORK INDICATED SHALL BE FOLLOWED AS ACCURATELY AS POSSIBLE. ANY NECESSARY DEVIATIONS SHALL BE CALLED TO THE ATTENTION OF THE ARCHITECT-ENGINEER. PROVIDE DRAWINGS SHOWING PROPOSED CHANGES. APPROVAL IS REQUIRED BEFORE CHANGES SHALL TAKE EFFECT.

CUTTING AND PATCHING LAYOUT OPENINGS FOR CUTTING BY OTHER TRADES AS REQUIRED. CUTTING OF STEEL. CONCRETE OR ANY OTHER STRUCTURAL PART MUST BE APPROVED IN WRITING BY ARCHITECT-ENGINEER PRIOR TO CUTTING.

DO NOT CUT OR PENETRATE WATERPROOFED SURFACES, OR WATERPROOFING MEMBRANES, WITHOUT FIRST MAKING ARRANGEMENTS FOR REPAIR BY A METHOD APPROVED BY ARCHITECT-ENGINEER.

PROVIDE ALL NECESSARY FLASHING AND COUNTERFLASHING TO MAINTAIN THE WATERPROOFING INTEGRITY OF THIS BUILDING AS REQUIRED BY THE INSTALLATION OR REMOVAL OF PIPES, DUCTS, LOUVERS, CONDUIT, AND EQUIPMENT. PROVIDE EQUIPMENT CURBS AND DUNNAGE STEEL AS REQUIRED.

ELECTRICAL WORK POWER WIRING FROM PANELS TO MOTOR CONTROLLERS AND FROM CONTROLLERS TO MOTORS IS SPECIFIED IN DIVISION 16. MOTOR STARTERS NOT SPECIFIED TO BE FURNISHED WITH THE MOTORS FROM THE FACTORY ARE SPECIFIED IN DIVISION 16. SUBMIT WIRING DIAGRAMS FOR APPROVAL AND FURNISH APPROVED DIAGRAMS TO THE ELECTRICAL CONTRACTOR FOR COORDINATION. ELECTRICAL CONTROL WIRING FOR CONNECTION OF TEMPERATURE CONTROLLERS, PUSH BUTTONS, INTERLOCKS IN MOTOR CONTROLLERS, AND LIKE ITEMS IS SPECIFIED IN THE CONTROL SECTION(S) IN THIS DIVISION. FURNISH ALL EQUIPMENT WITH COMPLETE INTERNAL CONTROL WIRING. ELECTRICAL WORK SPECIFIED IN THIS DIVISION SHALL CONFORM TO APPLICABLE PROVISIONS OF DIVISION 16. ALL CONTROL WIRING SHALL BE IN CONDUIT. PROVIDE MOTORS CONFORMING TO CHARACTERISTICS SHOWN ON ELECTRICAL DRAWINGS.

ACCESS DOORS (ACCESS PANELS) PROVIDE ACCESS REQUIRED FOR MAINTENANCE, ADJUSTMENT, REMOVAL AND REPAIR OF YEARS ON COMPRESSOR. VALVES, CONTROLS, DAMPERS, EQUIPMENT AND LIKE ITEMS. PROVIDE ACCESS DOORS (ACCESS PANELS) CONFORMING TO REQUIREMENTS OF DIVISION 8 SPECIFICATIONS. PANELS SHALL BE LOCATED TO MAKE ALL ITEMS EASILY ACCESSIBLE.

REFER TO GENERAL CONDITIONS FOR CLEAN-UP. CLEAN ALL MATERIALS AND EQUIPMENT OF DIRT, DUST, PAINT, SPOTS AND STAINS, SOIL MARKS AND OTHER FOREIGN MATTER.

GIVE NOTICE TO THE ARCHITECT-ENGINEER THAT THE WORK IS READY FOR FINAL INSPECTION.

1. SUBMIT TEST AND BALANCE REPORT AND COMPLETE REQUIREMENTS AS NOTED. 2. SUBMIT LETTER FROM CONTROL MANUFACTURER CERTIFYING THAT CONTROLS HAVE BE CONSTRUCTED OF A CONVOLUTED COPPER INNER TUBE AND STEEL OUTER TUBE WITH FROM CARTONS WHERE IT MAY HAVE BEEN SHIPPED IN A COMPRESSED STATE. USE THE BEEN CHECKED FOR OPERATION AND CALIBRATION, AND THAT THE SYSTEM IS OPERATING AS INTENDED.

AND ASSIST WITH FINAL INSPECTION.

RUCTION OF OWNER'S OPERATING PERSONNE INCLUDE THE COST OF THE SERVICES OF QUALIFIED INSTRUCTOR(S) TO INSTRUCT THE OWNER'S OPERATING PERSONNEL IN THE OPERATION, ADJUSTMENT, CARE AND MAINTENANCE OF ALL HVAC EQUIPMENT AND SYSTEMS. INSTRUCTION SHALL BE PERFORMED AT A TIME APPROVED BY THE OWNER AND AFTER ALL HVAC EQUIPMENT ANI SYSTEMS ARE INSTALLED, COMPLETE, ADJUSTED AND OPERATING TO SPECIFIED REQUIREMENTS. NOTIFY THE ARCHITECT-ENGINEER WHEN INSTRUCTIONS WILL BE GIVEN QUALIFICATIONS OF INSTRUCTORS SHALL BE SUBJECT TO APPROVAL OF THE OWNER AN EQUIPMENT MANUFACTURER. ADDITIONAL REQUIREMENTS CONCERNING OPERATION AN MAINTENANCE OF MECHANICAL EQUIPMENT AND SYSTEMS MAY BE SPECIFIED IN OTHER SECTIONS. TWO COPIES OF ACKNOWLEDGMENT OF ALL REQUIRED INSTRUCTIONS TO OWNER'S OPERATING PERSONNEL. SIGNED BY THE OWNER OR HIS AUTHORIZED REPRESENTATIVE, SHALL BE SUBMITTED TO THE ARCHITECT-ENGINEER PRIOR TO SUBMITTING APPLICATION FOR FINAL PAYMENT. AN ADDITIONAL COPY OF THIS ACKNOWLEDGMENT IS REQUIRED IN EACH COPY OF OPERATION AND MAINTENANCE

OPERATION AND MAINTENANCE MANUALS

FURNISH THREE COPIES OF COMPLETE OPERATION AND MAINTENANCE MANUALS TO THE ARCHITECT-ENGINEER, FOR APPROVAL AND FOR THE OWNER, ON ALL EQUIPMENT AND SYSTEMS. THE MANUALS SHALL BE BOUND IN HARD-BACK, THREE RING LOOSE-LEAF BINDERS. MANUALS SHALL CONTAIN A TITLE SHEET WITH JOB NAME, AND THE NAMES, ADDRESSES AND PHONE NUMBERS OF THE CONTRACTOR, SUBCONTRACTOR, CONTROL SUBCONTRACTOR, RELATED CONTRACTORS AND MATERIAL AND EQUIPMENT SUPPLIERS

A COPY OF ACKNOWLEDGMENT OF INSTRUCTION TO THE OWNER'S OPERATING PERSONNEL IN THE OPERATION OF ALL MECHANICAL EQUIPMENT AND SYSTEMS, SIGNED BY THE OWNER OR HIS AUTHORIZED REPRESENTATIVE. TYPEWRITTEN OPERATING INSTRUCTIONS FOR THE OWNER'S PERSONNEL DESCRIBING HOW TO STOP AND START EACH PIECE OF EQUIPMENT; HOW TO SET THE TEMPERATURE CONTROL SYSTEM FOR NORMAL OPERATION AND NORMAL RESTARTING PROCEDURES, CAUTION AND WARNING NOTICES. APPROVED SHOP DRAWINGS, PRODUCT DATA AND PARTS AND MAINTENANCE BOOKLET FOR EACH ITEM OF MATERIAL AND EQUIPMENT FURNISHED UNDER DIVISION 15000. RECORD DRAWINGS OF ALL SYSTEMS INCLUDING ELECTRICAL AND CONTROL

DIAGRAMS. TEST AND BALANCE REPORT. COPIES OF CERTIFICATES OF INSPECTION. GUARANTEES, INCLUDING EXTENDED GUARANTEES.

DELIVER THE MANUALS TO THE OWNER PRIOR TO SUBMITTING APPLICATION FOR FINAL PAYMENT

PROVIDE CONDENSATE DRAINS FOR ALL AIR CONDITIONING UNITS AND PIPE AS DENOTED CONNECTION AND SHALL HAVE A MINIMUM SEAL DEPTH EQUAL TO THE RESPECTIVE AIR HANDLING UNIT FAN STATIC PRESSURE. DEPTH SHALL BE A MINIMUM OF 2".

HVAC INSULATION

LOW PRESSURE DUCTWORK INSULATION EXTERNAL INSULATION SHALL BE R-6 MINIMUM SCHULLER TYPE SMALLLITE, FSK SPIN-GL OR APPROVED EQUAL WITH AN EMBOSSED ALUMINUM FOIL FACING. INTERNAL INSULATION SHALL BE R-6 MINIMUM LINER WITH A COATED AIR SIDE SURFACE TO PREVENT EROSION. APPLY ADHESIVES AND FASTENERS PER SMACNA AND THE MANUFACTURER. ALL TRANSVERSE EDGES TO BE COATED WITH ADHESIVE. ALL CONCEALED DUCTWORK SHA HAVE EXTERNAL INSULATION, UNCONCEALED DUCTWORK SHALL BE INTERNALLY LINED. DUCTWORK INSTALLED IN UNCONDITIONED SPACES SHALL BE R-12 MINIMUM SCHULLER TYPE SMALLLITE, FSK SPIN-GLAS OR APPROVED EQUAL WITH AN EMBOSSED ALUMINUM FOIL FACING.

ALL AIR SUPPLY DIFFUSERS BACKS AND NECKS, SHALL BE INSULATED WITH R-6 MINIMUM MANVILLE R-SERIES SMALLITE, OR APPROVED EQUAL FIBERGLASS BLANKET INSULATION.

ADHESIVES, MASTIC, SEALANTS ADHESIVE SHALL BE FOSTER'S 85-20. STUDWELD PINS SHALL BE SEALED WITH FOSTER'S

INSTALL AIR CONDITIONING UNITS OF THE CAPACITIES INDICATED, COMPLETE WITH GAS-FIRED HEATING SYSTEM. WHERE INDICATED ON THE DRAWINGS. UNIT SHALL BE CONSTRUCTED IN ACCORDANCE WITH APPLICABLE ASME AND ANSI CODES AND SHALL BE LISTED BY UNDERWRITER'S LABORATORIES. UNIT SHALL BE RATED IN ACCORDANCE WITH THE LATEST ARI STANDARD 21. WHERE SPECIFIED OPERATING CONDITIONS ARE OTHER THAN ARI STANDARD CONDITIONS, CAPACITIES SHALL BE INTERPOLATED FROM ARI CONDITIONS

UNITS SHALL BE TRANE, LENNOX, AAON OR APPROVED EQUAL.

EXHAUST FANS

INSTALL DIRECT DRIVE CENTRIFUGAL INLINE EXHAUST FAN BY GREENHECK OR APPROVED EQUAL WITH GALVANIZED STEEL HOUSING, BACKWARD INCLINED ALUMINUM WHEEL, ACCESS PANELS, INTEGRAL DUCT CONNECTION FLANGES, BALL BEARING MOTORS, AND CORROSION RESISTANT FASTENERS. FAN SHALL COME INSTALLED WITH NEMA-1 TOGGLE SWITCH, MOUNTED AND WIRED. SOLID STATE SPEED CONTROLLER SHIPPED LOOSE AND PSC MOTOR.

WATER SOURCE HEAT PUMPS

INSTALL WATER SOURCE HEAT PUMP OF CAPACITIES INDICATED MANUFACTURED BY FLORIDA HEAT PUMP, MCQUAY OR AN APPROVED EQUAL. FACTORY ASSEMBLED AND RATED ACCORDING TO ARI-ISO13526-1. GALVANIZED-STEEL CASING WITH ACCESS PANEL FOR MAINTENANCE AND FILTER REPLACEMENT, KNOCKOUTS FOR ELECTRICAL AND PIPING CONNECTIONS. FLANGED DUCT CONNECTIONS AND CABINET INSULATION OF 1/2" THICK. MULTI DENSITY, COATED GLASS FIBER. THE UNIT SHALL BE DESIGNED TO OPERATE WITH ENTERING FLUID TEMPERATURES BETWEEN 50°F AND 100°F IN COOLING AND BETWEEN 50°F AND 80°F IN HEATING.

THE UNITS SHALL BE WARRANTED BY THE MANUFACTURER AGAINST DEFECTS IN MATERIALS AND WORKMANSHIP FOR A PERIOD OF ONE (1) YEAR ON ALL PARTS AND FIVE (

REFRIGERATION CIRCUITS SHALL UTILIZE R-410A. THE UNIT SHALL CONTAIN SEALED REFRIGERANT CIRCUITS INCLUDING HERMETIC COMPRESSORS, THERMAL EXPANSION VALVE METERING DEVICES, REFRIGERANT DRIER, FINED TUBE AIR-TO-REFRIGERANT HEAT EXCHANGERS, REFRIGERANT REVERSING VALVES AND SERVICE PORTS. COMPRESSORS SHALL BE HIGH EFFICIENCY, DESIGNED FOR HEAT PUMP DUTY, INTERNALLY SPRING ISOLATED (EXCEPT FOR SCROLL TYPE COMPRESSORS) FOR MAXIMUM SOUND ATTENUATION AND MOUNTED ON RUBBER VIBRATION ISOLATORS. COMPRESSOR MOTORS SHALL BE EQUIPPED WITH OVERLOAD PROTECTION. THE FINNED TUBE COIL SHALL BE CONSTRUCTED OF LANCED ALUMINUM FINS NOT EXCEEDING 14 FINS PER INCH. COILS SHALL HAVE A BAKED POLYESTER ENAMEL COATING FOR PROTECTION AGAINST MOST AIRBORNE CHEMICALS. THE COAXIAL WATER-TO-REFRIGERANT HEAT EXCHANGERS SHALL

A DESIGNED REFRIGERANT WORKING PRESSURE OF 450 PSIG AND A DESIGNED WATER SIDE WORKING PRESSURE OF NO LESS THAN 400 PSIG. FURNISH NECESSARY MECHANICS TO OPERATE SYSTEM, MAKE NECESSARY ADJUSTMENTS UNITS 6 TONS AND LARGER: THE FANS SHALL BE BELT DRIVEN FORWARD CURVE TYPE

	FROM THE UNIT WITHOUT DISCONNECTING THE SUPPLY AIR DUCTWORK FOR SERVICING OF FAN MOTORS. MOTORS SHALL BE PERMANENTLY LUBRICATED AND HAVE THERMAL OVERLOAD PROTECTION.	EXTEND STRAIGHT AWAY FROM CONNECTORS FOR A FEW INCHES PRIOR TO INITIATING ANY BEND. MAKE CONNECTIONS OF FLEXIBLE DUCT TO RIGID DUCT OR TERMINALS AS FOLLOWS:		
D 1. D	UNITS SMALLER THAN 6 TONS: THE FAN SHALL BE DIRECT DRIVE CENTRIFUGAL FORWARD CURVED TYPE WITH A DYNAMICALLY BALANCED WHEEL. FAN HOUSE SHALL BE REMOVABLE FROM UNIT WITHOUT DISCONNECTING THE SUPPLY AIR DUCTWORK FOR SERVICING OF FAN MOTOR. THE MOTOR SHALL BE THREE SPEED PSC TYPE AND BE PERMANENTLY LUBRICATED AND HAVE THERMAL OVERLOAD PROTECTION.	 APPLY FOSTER'S 30-02 SEALANT TO THE INSIDE OF THE FLEXIBLE DUCT TO DEPTH OF 3 INCHES. SLIDE THE FLEXIBLE DUCT OVER THE CONNECTOR AND WRAP WITH MINIMUM OF TWO REVOLUTIONS OF REINFORCED FOIL DUCT TAPE STARTING ABOUT 2 INCHES BACK FROM END OF FLEXIBLE DUCT AND SEALING OVERLAP WITH LAST WRAP. PLACE A CLAMP OR STRAP OVER THE TAPED END AND SECURE FIRMLY. 	 	7
ID	DUCTWORK, LOW PRESSURE, GALVANIZED STEEL	 REPAIR ALL DAMAGE TO VAPOR BARRIER WITH FOSTER'S 35-00 REINFORCED WITH 4 INCH WIDE GLASS FABRIC AND A SECOND COAT OF FOSTER'S 35-00. 		
	QUALITY ASSURANCE DUCTS SHALL BE CONSTRUCTED AND INSTALLED IN ACCORDANCE WITH "HVAC DUCT	AIR DISTRIBUTION DEVICES		
	CONSTRUCTION STANDARDS" PUBLISHED BY THE SHEET METAL AND AIR CONDITIONING CONTRACTORS NATIONAL ASSOCIATION, INC. (SMACNA) JOB CONDITIONS	DESCRIPTION AIR DISTRIBUTION DEVICES SHALL BE PROVIDED TO DELIVER THE INDICATED VOLUME OF SUPPLY AIR WITHOUT EXCEEDING THE NC RATING AS FOLLOWS: EMPLOYEE, AND CUSTOMER, AREAS: NC-30.	_	-
	INSPECT THE DRAWINGS AND VERIFY EXISTING CONDITIONS IN THE FIELD. REPORT CONFLICTS BEFORE STARTING FABRICATION.	DIFFUSERS. GRILLES AND REGISTERS		
Ξ	DUCT MATERIAL WEIGHTS AND GAGES SHALL BE IN ACCORDANCE WITH TABLE I OF "HVAC DUCT CONSTRUCTION STANDARDS" PUBLISHED BY SMACNA. DUCT MATERIAL SHALL BE GALVANIZED STEEL.	MANUFACTURER SHALL BE TITUS OR APPROVED EQUIVALENT. FOR MODEL NUMBERS AND TYPES SEE AIR DISTRIBUTION SCHEDULE ON DRAWING. DIFFUSERS, GRILLES, AND REGISTERS SHALL BE OF THE SURFACE, FLUSH, OR LAY-IN MOUNTING CORRESPONDING TO THE CEILING IN WHICH THEY ARE LOCATED. THE FINISH OF THE DIFFUSERS, GRILLE, OR REGISTER FACE PANEL SHALL BE BAKED ENAMEL, OFF WHITE COLOR. WHERE MOUNTING SCREWS ARE REQUIRED IN AIR DISTRIBUTION DEVICES, THEY SHALL BE FINISHED TO] J	ſ
	<u>SPLITTER DAMPERS</u> SPLITTERS SHALL BE 18 GAGE GALVANIZED STEEL WITH HORIZONTAL AND VERTICAL DIMENSIONS SUFFICIENT TO CLOSE OFF AIR TO BRANCH. PROVIDE VENTLOK NO. 607 END BEARINGS AND VENTLOK NO. 690 DAMPER ASSEMBLY.	MATCH THE ADJACENT SURFACE OF THE DEVICES. SUPPLY AND RETURN GRILLES AND REGISTERS WHICH ARE SURFACE MOUNTED SHALL BE PROVIDED WITH SPONGE RUBBER GASKETED FRAMES TO PREVENT SMUDGING.		
	VOLUME DAMPERS VOLUME DAMPERS SHALL BE 18 GAGE STEEL; SINGLE BLADE UP TO 8" X 8", OPPOSED BLADE ON ALL DUCTS OVER 8" X 8". PROVIDE VENTLOK NO. 607 END BEARINGS AND VENTLOK NO. 641 SELF-LOCKING REGULATOR. DAMPER RODS SHALL BE 1/2" SQUARE BARS WITH BLADES SECURELY RIVETED TO BAR.	DRAINABLE LOUVERS MANUFACTURER SHALL BE RUSKIN OR APPROVED EQUAL. FOR MODEL NUMBER AND TYPE SEE DRAWING. LOUVER FINISH SHALL BE SANDSTONE COLORED BAKED ENAMEL CONTAINING 50% KYNAR RESINS. LOUVER SHALL INCLUDE GASKETED BACKDRAFT DAMPERS WITH ADJUSTABLE WEIGHTS OR SPRINGS TO PREVENT OUTWARD AIR FLOW. ADJUST AS DIRECTED BY OWNER OR AUTHORITY HAVING JURISDICTION.	_	_
	<u>TURNING VANES</u> SQUARE AND RECTANGULAR ELBOWS SHALL CONTAIN TITUS NO. AG-225 TURNING VANES. HANGERS	INSTALLATION INSTALL WHERE SHOWN ON DRAWINGS. DIFFUSERS, REGISTERS AND FITTINGS SHALL BE SECURELY ATTACHED TO FINISH SURFACES, OR STRUCTURAL MEMBERS BEHIND FINISH SURFACES. LAY-IN DIFFUSERS MOUNTED IN ACOUSTICAL TILE CEILINGS SHALL BE RIGIDLY		
	IN ACCORDANCE WITH CHAPTER IV OF SMACNA.	MOUNTED, ABOVE THE FACE PANEL, TO THE CEILING SUSPENSION SYSTEM. DRAINABLE LOUVERS SHALL BE INSTALLED AS RECOMMENDED BY MANUFACTURER.	E	I
) -	FLEXIBLE CONNECTIONS FLEXIBLE CONNECTIONS SHALL BE PROVIDED FOR EACH AIR HANDLING DEVICE TO PREVENT TRANSMISSION OF VIBRATIONS. MAKE FLEXIBLE CONNECTION A MINIMUM OF 4 INCHES WIDE OF VENTGLAS AS MADE BY VENTFABRICS, INC.	<u>CONTROLS, ELECTRIC</u> <u>DESCRIPTION</u> THE WORK CONSISTS OF INSTALLING CONTROLS FOR THE HVAC SYSTEM.		
	INSTALLATION GENERAL: SPLIT, DIVIDE OR TURN DUCTS AS NECESSARY TO AVOID OBSTRUCTIONS AND, IN SUCH CASES, PROVIDE AIR STREAM DEFLECTORS AND INCREASE SIZE OF DUCT TO AN EQUIVALENT AREA.	ELECTRICAL ELECTRICAL WORK AND MATERIALS ASSOCIATED WITH THE CONTROL SYSTEM SHALL BE INSTALLED AS WORK OF THIS SECTION BUT IN ACCORDANCE WITH DIVISION 16. POWER WIRING IS SPECIFIED UNDER DIVISION 16 AND SHOWN ON ELECTRICAL DRAWINGS.	_	
AS ON	SPLITTERS: RIGIDLY ATTACH SPLITTERS TO PIVOT ROD AND OPERATING LINKAGE. SET DAMPER ASSEMBLY ON RAISED INSULATED BASE ON INSULATED DUCTWORK. VOLUME	ELECTRICAL CONTROL WIRING CONDUIT AND FITTINGS ASSOCIATED WITH THE SPACE TEMPERATURE AND HUMIDITY CONTROL INCLUDING INTERLOCKING WITH MOTOR CONTROLLERS, CONTROL ACCESSORIES AND APPURTENANCES ARE TO BE PROVIDED		
L	DAMPERS: SUPPLY AND MAKE-UP AIR DUCTWORK IN CONCEALED SPACES. SET REGULATOR ON RAISED BASE ON INSULATED DUCTWORK. MARK END OF DAMPER ROD TO SHOW DAMPER POSITION.	UNDER THIS SECTION. CONTROL WIRING SHALL BE IN CONDUIT IF REQUIRED BY LOCAL AUTHORITY HAVING JURISDICTION.		
	FLEXIBLE CONNECTIONS: SECURE FLEXIBLE CONNECTIONS TO DUCT AND UNIT WITH GALVANIZED STEEL STRAPS HOLDING THE MATERIAL IN FORMED GALVANIZED STEEL CHANNELS. TEST TO ENSURE PROPER INSTALLATION.	ELECTRIC ROOM THERMOSTATS THERMOSTAT SHALL BE AS SPECIFIED IN THE DRAWINGS, THERMOSTATS FOR WATER SOURCE HEAT PUMPS SHALL HAVE AUTOMATIC HEATING/COOLING CHANGEOVER AND SHALL E PROVIDED WITH A LOCKABLE COVER.		۲ F
	PLUGS: PROVIDE SQUARE HEAD TYPE TEST PLUGS AS REQUIRED FOR INSERTION OF TEST APPARATUS. PROVIDE A RING AND A REMOVABLE INSULATION PLUG WHERE DUCTS ARE INSULATED.	<u>SMOKE DETECTOR</u> SMOKE DETECTOR SHALL BE FURNISHED AND WIRED BY ELECTRICAL CONTRACTOR AND INSTALLED BY MECHANICAL CONTRACTOR AS SHOWN IN THE DRAWINGS. WIRING AND REMOTE ALARM INDICATOR FOR DUCT MOUNTED SMOKE DETECTOR SHALL BE BY		
	PAINTING: PAINT INTERIOR OF DUCTWORK FLAT BLACK WHERE VISIBLE THROUGH GRILLES AND REGISTERS.	ELECTRICAL CONTRACTOR. SMOKE DETECTOR SHALL BE POWERED AS SPECIFIED IN DRAWINGS.	_	
	SEALING: DUCTWORK SHALL BE SEALED IN ACCORDANCE WITH SMACNA "SEAL CLASS B".	TESTING, ADJUSTING AND BALANCING		
Ē	<u>CORRECTIONS</u> REMOVE ALL DUCTWORK FOUND TO VIBRATE, CHATTER OR PULSATE AND REPLACE WITH NEW DUCTWORK.	TESTING, ADJUSTING AND BALANCING OF ALL WORK SHALL BE MADE BY AN INDEPENDENT CONTRACTOR, WHO IS A CURRENTLY LICENSED ASSOCIATED AIR BALANCING COUNCIL (AABC) OR NATIONAL ENVIRONMENTAL BALANCING BUREAU (NEBB) BALANCING CONTRACTOR, NO OTHER BALANCE REPORTS WILL BE REVIEWED OR ACCEPTED. ALL		
1	DUCTWORK, LOW PRESSURE, FLEXIBLE	BALANCING WORK MUST BE COMPLETE AND DONE IN ACCORDANCE WITH THE MOST RECENT STANDARDS OF THEIR SOCIETY AND AS A MINIMUM SHALL INCLUDE THE	F	r
	DESCRIPTION PROVIDE WHERE INDICATED ON THE DRAWINGS AND SPECIFIED HEREIN, FACTORY FABRICATED AND PRE INSULATED FLEXIBLE DUCTS.	INFORMATION AS SHOWN IN THE AIR BALANCE REVIEW CHECKLIST BELOW. PAYMENT OF ALL COSTS FOR TESTING AND BALANCING SHALL BE INCLUDED IN THE BID.		
D	QUALITY ASSURANCE FLEXIBLE DUCTS, INCLUDING INSULATION AND SEALANTS, SHALL CONFORM TO THE REQUIREMENTS OF NFPA 90A AND UL STANDARD 181 FOR CLASS 1 DUCTS. PERFORMANCE DATA SHALL BE BASED ON TEST PERFORMED IN ACCORDANCE WITH AIR DIFFUSION COUNCIL FLEXIBLE AIR DUCT TEST CODE FD72.	TESTING, ADJUSTING AND BALANCING REPORT MUST BE COMPLETE AND TURNED OVER TO TENANT'S PROJECT MANAGER ONE (1) WEEK PRIOR TO MERCHANDISING DATE. VERIFY THAT ALL EQUIPMENT AND SYSTEMS ARE COMPLETE AND OPERATIONAL ONE WEEK PRIOR TO FINAL BALANCING. IF ALL SYSTEMS ARE NOT OPERATIONAL AT THE TIME OF THE SCHEDULED BALANCING, ADDITIONAL TESTING AND BALANCING, INCLUDING ALL LABOR, TRAVEL EXPENSES, MEALS, HOTEL COSTS, ETC SHALL BE PERFORMED AT NO ADDITIONAL COST TO THE OWNER.		
	LOW PRESSURE FLEXIBLE DUCTWORK LOW PRESSURE FLEXIBLE DUCTWORK SHALL CONSIST OF CORROSION RESISTANT SPRING STEEL HELIX BONDED TO A GLASS REINFORCED NEOPRENE SLEEVE INSULATED WITH A MINIMUM OF 1 INCH THICK, 1 POUND DENSITY FIBERGLASS INSULATION WHICH IS IN TURN COVERED WITH AN OUTER VAPOR BARRIER OF FIBER REINFORCED FOIL-SCRIM-KRAFT LAMINATE. INSULATION SHALL HAVE A THERMAL CONDUCTIVITY (K) NO GREATER THAN 0.25	PRESENT FOR AIR BALANCE TO VERIFY ACCESSIBILITY TO ALL DEVICES, VERIFY ALL OPERATING SEQUENCES AND INSTALL NEW FILTERS IN ALL UNITS JUST PRIOR TO THE AIR BALANCE. ALLOW TWO DAYS ON SITE FOR BALANCING. THE COMPLETE AIR BALANCE SHALL TAKE PLACE WITH OUTSIDE AIR DAMPERS IN MINIMUM POSITION, EXCEPT AS NOTED OTHERWISE. INSTALL A NEW SET OF FILTERS ONE DAY PRIOR TO TURNOVER.		
	AT 75 DEGREES F. DUCT FOR LOW VELOCITY SYSTEM CONNECTORS SHALL HAVE A WORKING PRESSURE OF NOT LESS THAN 1-1/2 INCHES OF WATER GAGE AND A MAXIMUM OPERATING TEMPERATURE OF NOT LESS THAN 250 DEGREES F. DUCT CONNECTORS	BALANCE AIR AND WATER QUANTITIES TO WITHIN +/- 10% OF THAT INDICATED ON THE DRAWINGS. ANY REQUIRED CHANGES IN SHEAVES, BELTS OR PULLEYS NEEDED TO ACHIEVE SPECIFIED FLOW RATES SHALL BE PERFORMED WITH NO ADDITIONAL COST TO THE OWNER. ALL CONTROL SEQUENCES SHALL BE TESTED (INTERLOCKED EQUIPMENT,	E	2
.S G	WHERE FLEXIBLE DUCTS CONNECT TO LOW PRESSURE DUCTS TO FORM RUNOUTS TO INDIVIDUAL OUTLETS, PLENUMS OR LOW PRESSURE TERMINALS, PROVIDE FACTORY FABRICATED FITTINGS COMPLETE WITH MANUAL BALANCING DAMPERS HAVING LOCKING	SMOKE DETECTORS, SMOKE EVACUATION, ECONOMIZER, ETC.) AND OPERATING STATUS RECORDED IN THE REPORT.		
ł	QUADRANTS. WHERE LOW PRESSURE DUCTS ARE INTERNALLY INSULATED THE CONNECTOR SHALL BE FURNISHED WITH AIR EXTENSION TO PROJECT THROUGH AND	SEVEN (7) COPIES OF THE BALANCE REPORT SHALL BE SUBMITTED FOR APPROVAL.		
(5)	PROTECT THE INSULATION. FOR CONNECTION TO EQUIPMENT, AUXILIARY SLEEVES SHALL BE PROVIDED TO ALLOW AT LEAST 2 INCHES OF SURFACE FOR CLAMPING OF FLEXIBLE DUCTWORK. SLEEVES SHALL BE SCREWED OR BOLTED TO EQUIPMENT LIP FRAME.	PERFORM ALL APPLICABLE TESTING AND BALANCING FUNCTIONS REQUIRED FOR THE SYSTEM DESIGNED ON THESE DRAWINGS. ALL SYSTEMS UNABLE TO BE COMPLETELY BALANCED AT THE TIME OF ORIGINAL BALANCE MUST BE BALANCED IN FUTURE AT NO ADDITIONAL EXPENSE TO THE OWNER. RECHECK ANY ITEMS THAT OWNER DEEMS		_
	<u>CLAMPS</u> PROVIDE GALVANIZED SPRING STEEL CLAMPS OR PANDUIT STRAPS AT CONNECTIONS TO DUCT FITTINGS OR DEVICES.	NECESSARY AT NO ADDITIONAL COST TO OWNER. THE BALANCE REPORT SHALL BE ON THE AABC NATIONAL STANDARD REPORT FORMS OR		
T	MANUFACTURER FLEXIBLE DUCTWORK AND COMPONENTS SHALL BE AS MANUFACTURED BY GENERAL ENVIRONMENTAL CORPORATION OR APPROVED EQUAL.	THE NEBB CERTIFIED REPORT FORMS AS PUBLISHED IN THEIR MOST CURRENT EDITIONS.	D)

INSTALL DUCT CONNECTORS TO LOW PRESSURE DUCTS USING MANUFACTURER'S

TEMPLATE FOR ALL HOLES AND SECURE THE CONNECTOR WITH SHEET METAL SCREWS

HAVING FIRST APPLIED FOSTER'S 30-02 DUCT SEALANT TO THE ADJOINING SURFACES. DO

NOT PRESSURIZE THE SYSTEM FOR 48 HOURS. STRETCH NEW DUCT WHEN REMOVING IT

MINIMUM LENGTH OF FLEXIBLE DUCT REQUIRED TO MAKE THE SPECIFIC CONNECTION

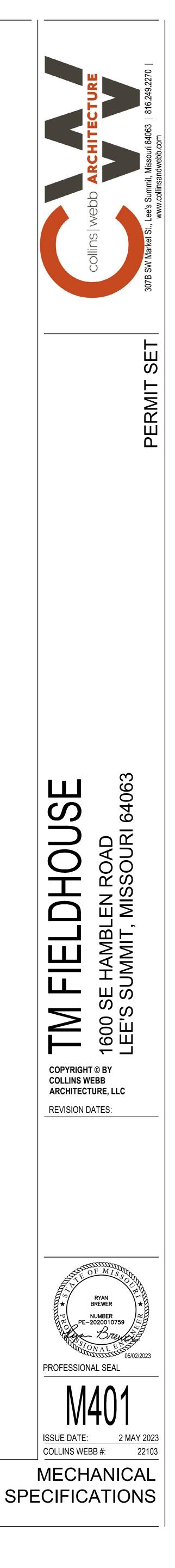
EQUAL TO (1) TIMES THE INSIDE DIAMETER OF THE DUCT. SUPPORT HORIZONTAL DUCT

RUNS AS DETAILED IN THE CONSTRUCTION DOCUMENTS. ALLOW THE FLEXIBLE DUCT TO

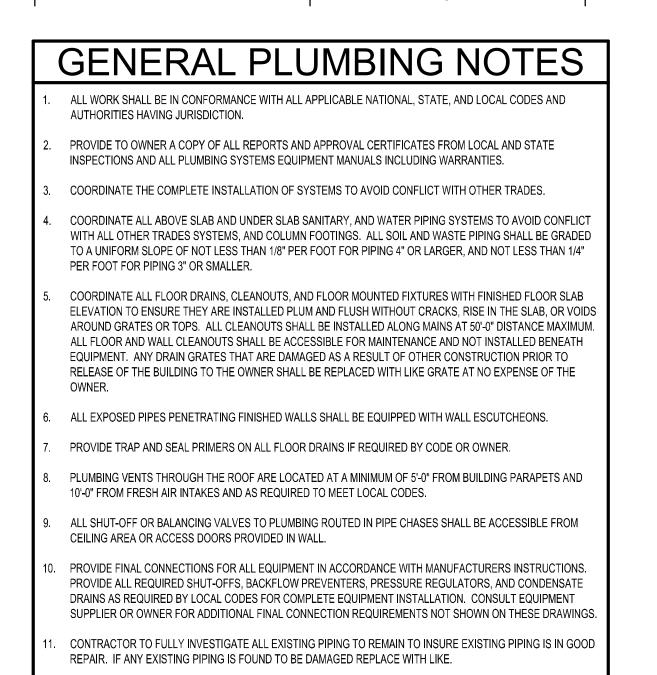
UNLESS SPECIFICALLY NOTED OTHERWISE ON THE DRAWINGS. THE MAXIMUM DEVELOPED

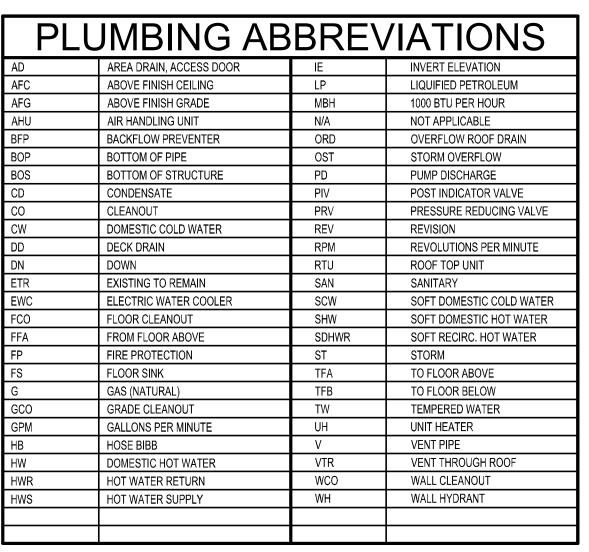
LENGTH OF FLEX DUCT IS 5'-0". AVOID SHARP BENDS, USE A MINIMUM INSIDE BEND RADIUS

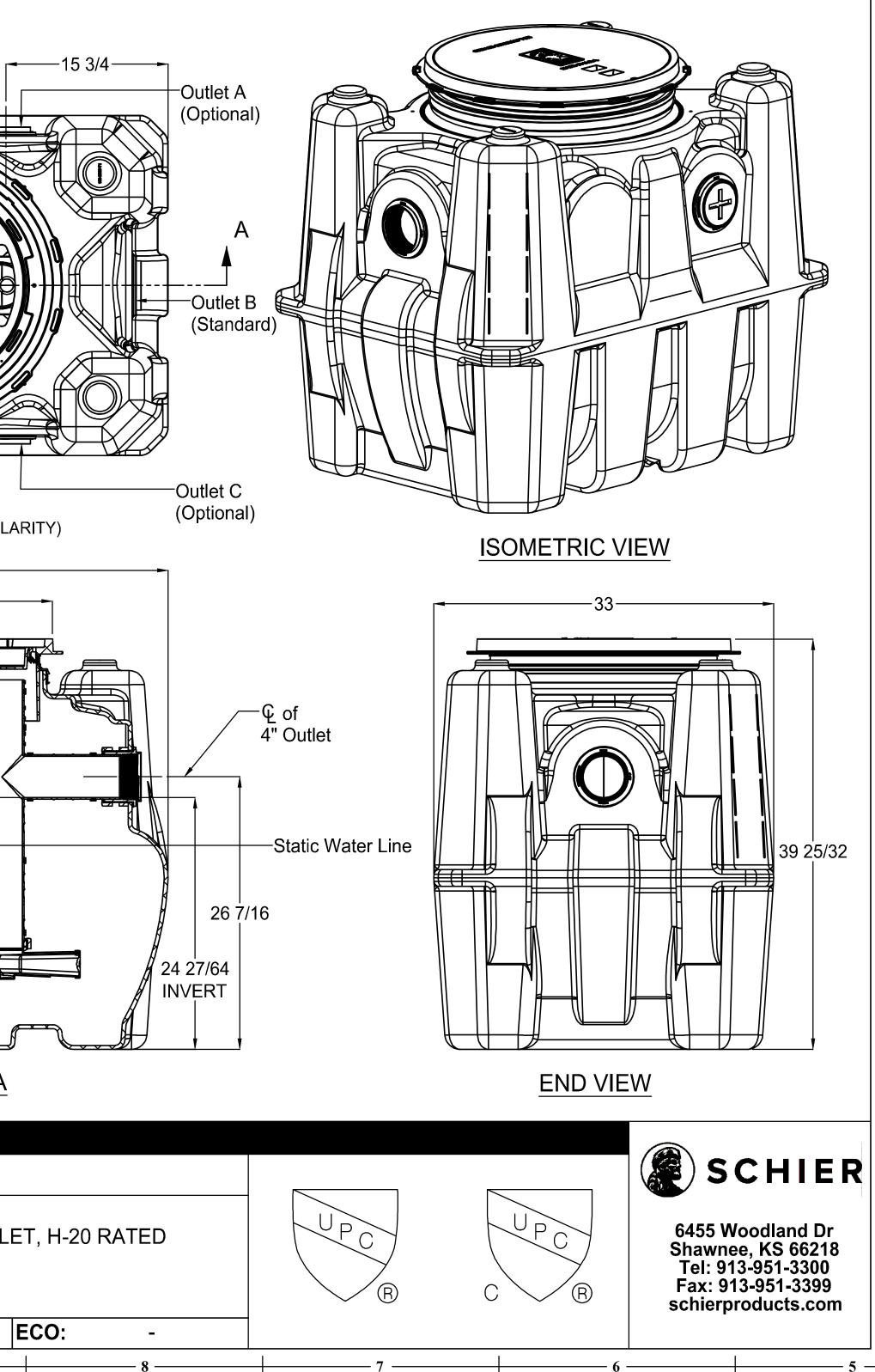
WITH DYNAMICALLY BALANCED WHEEL(S). THE FAN HOUSINGS SHALL BE REMOVABLE



SPECIFICATIONS Notes: 4" FPT inlet/outlet with 4" plain end adapters, single inlet and triple outlet. Unit weight - w/ cast iron covers: 190 lbs. (For wet weight add 1,043 lbs.) Maximum operating temperature: 150° F continuous Capacities - Liquid: 125 gal. Grease: 861 lbs. (118 gal.) @75 GPM Solids: 31 gal. For gravity drainage applications only. Do not use for pressure applications. Cover placement allows full access to tank for proper maintenance. Vent not required unless per local code. Inlet-Engineered inlet and outlet diffusers with inspection ports are removable to inspect / clean piping. 10. Integral air relief / Anti-siphon / Sampling access. 11. Adjustable cover adapter provides up to 4" of additional height. 12. Designed for below-grade, above-grade, indoor and outdoor installations. 13. Safety Star®, access restrictor built into cover adapter, prevents accidental entry to tank Safety Star® (450 lb rating). **TOP VIEW** Adjustable Adapter with----(COVER REMOVED FOR CLARITY) H-20 rated cast iron cover -Ø24 33/64 TYP-----ENGINEER SPECIFICATION GUIDE Schier Great Basin[™] grease interceptor model # GB-75 shall be lifetime guaranteed and made in USA of seamless, rotationallymolded polyethylene with minimum 3/8" uniform wall thickness. Interceptor shall be furnished for above or below-grade installation with adjustable cover adapter, Safety Star® access 13 3/8 restrictor built into each cover adapter, and three outlet options. Interceptor shall be certified to ASME A112.14.3 (Type D) and CSA B481.1. Interceptor flow rate shall be 75 GPM. Interceptor grease capacity shall be 861 lbs. Cover shall provide water/gas-tight seal and have minimum 16,000 lbs. load capacity. Çof CERTIFIED PERFORMANCE 4" Inlet—/ Great Basin[™] hydromechanical grease interceptors are third party performance-tested and listed by IAPMO to ASME #A112.14.3 and CSA B481.1 grease 26 7/16 interceptor standards and greatly exceed requirements for grease separation and storage. They are compliant to the Uniform Plumbing Code and the International Plumbing Code. **SECTION A-A** Type D certification does not require a flow control **PART NUMBER:** 4045-007-02 **MODEL NUMBER: DESCRIPTION: GB-75** GB-75 GREASE INTERCEPTOR 75 GPM, 4" INLET/OUTLET, H-20 RATED CAST IRON COVER PROPRIETARY AND CONFIDENTIAL THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF **SCHIER PRODUCTS.** ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF **SCHIER PRODUCTS** IS REV: DWG BY: C. BUSENITZ DATE: 4/14/2022 -PROHIBITED.







BRE∖	/IATIONS
IE	INVERT ELEVATION
LP	LIQUIFIED PETROLEUM
MBH	1000 BTU PER HOUR
N/A	NOT APPLICABLE
ORD	OVERFLOW ROOF DRAIN
OST	STORM OVERFLOW
PD	PUMP DISCHARGE
PIV	POST INDICATOR VALVE
PRV	PRESSURE REDUCING VALVE
REV	REVISION
RPM	REVOLUTIONS PER MINUTE
RTU	ROOF TOP UNIT
SAN	SANITARY
SCW	SOFT DOMESTIC COLD WATER
SHW	SOFT DOMESTIC HOT WATER
SDHWR	SOFT RECIRC. HOT WATER
ST	STORM
TFA	TO FLOOR ABOVE
TFB	TO FLOOR BELOW
TW	TEMPERED WATER
UH	UNIT HEATER
V	VENT PIPE
VTR	VENT THROUGH ROOF
WCO	WALL CLEANOUT
WH	WALL HYDRANT

SYMBOL		J J I IV SYMBOL	
	GATE VALVE		FLOOR DRAIN / AREA DRAIN
	CHECK VALVE		FLOOR SINK
	PRESSURE		
<u>×</u> ⊡	SOLENOID VALVE	(Ô) RD (Ô) ORD	ROOF DRAIN OVERFLOW ROOF DRAIN
	GLOBE VALVE (STRAIGHT PATTERN)		HOT WATER RECIRCULATION PUMP
-6-	BUTTERFLY VALVE		
- 6 -	BALL VALVE		PLUMBING VEVT THRU ROOF
	GAS COCK		POINT OF CONNECTION (CONNECT NEW TO EXISTING)
− ¢ −	PLUG VALVE		
O FCO	FLOOR CLEAN OUT		PLUMBING EQUIPMENT DESIGNATION
wco	WALL CLEAN OUT	$\begin{pmatrix} x \\ x \end{pmatrix}$	PLUMBING RISER OR DETAIL DESIGNATION
co	CLEAN OUT		SANITARY SEWER PIPING
-+	HOSE BIBB	ST	STORM SEWER PIPING
-#	FREEZE PROOF WALL HYDRANT	V	VENT PIPING
-+)	ELBOW DOWN	CW	COLD WATER PIPING
-+0	ELBOW UP	— <u> </u>	HOT WATER PIPING
-+0+	TEE UP		HOT WATER RECIRCULATING PIPING
- 1:31-	TEE DOWN	HWR FW	FILTERED WATER PIPING
+++-	STRAINER	G	GAS PIPING
+++	UNION	G	CONDENSATE PIPING
]	САР		COMPRESSED AIR PIPING

PLUMBING FIXTURE MINIMUM CONNECTION SCHEDULE

DESIGNATION	FIXTURE	C.W.	H.W.	DRAIN	VENT
WC	WATER CLOSET	1"	-	4"	2"
UR	URINAL	3/4"	-	2"	2"
LAV.	LAVATORY	1/2"	1/2"	2"	2"
EWC/DF	ELECTRIC WATER COOLER/DRINKING FOUNTAIN	1/2"	-	2"	2"
MB/SS	MOP BASIN/SERVICE SINK	1/2"	1/2"	3"	2"
SH/BT	SHOWER/BATHTUB	1/2"	1/2"	2"	2"
SK	SINK	1/2"	1/2"	2"	2"

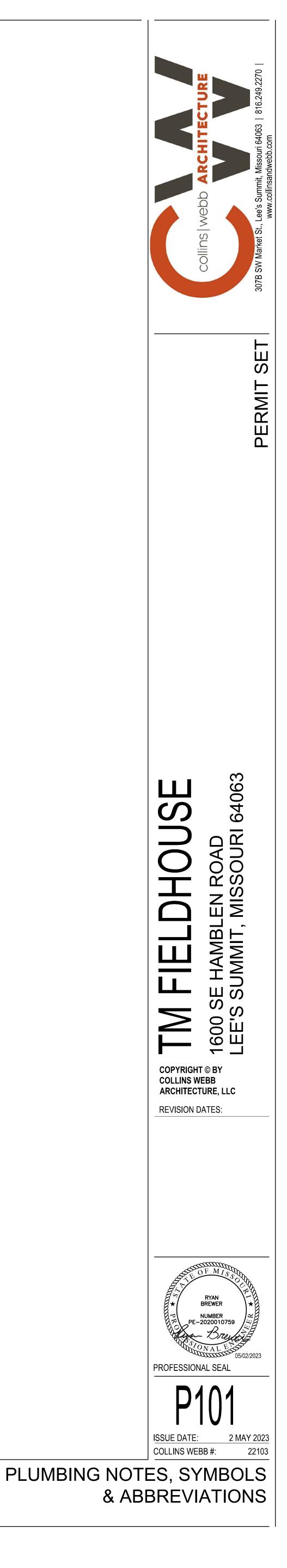
GENERAL NOTES:

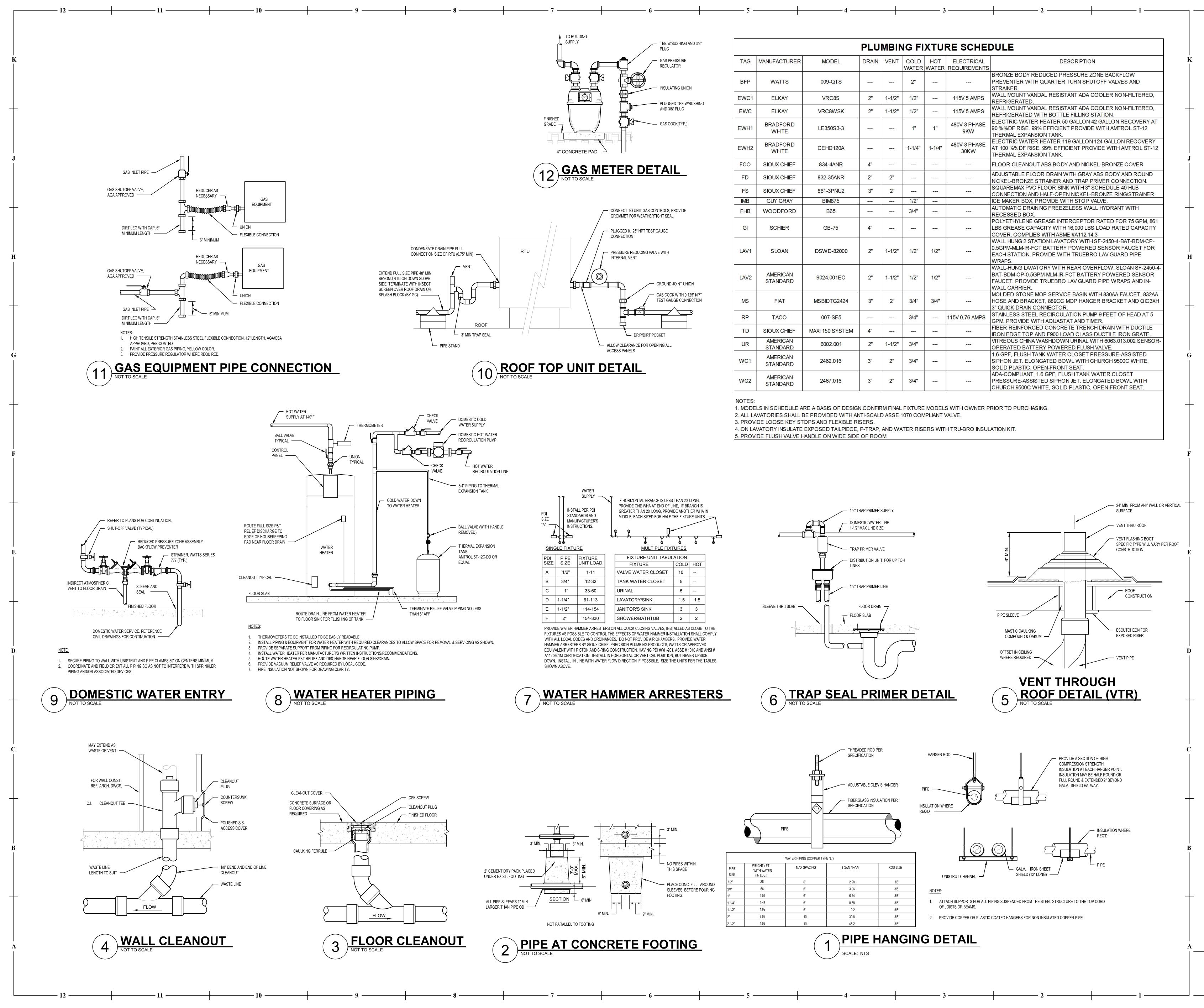
PITCH ALL DRAINAGE PIPING 3" AND LARGER AT 1/8" PER FOOT MINIMUM UNLESS OTHERWISE NOTED. PITCH ALL DRAINAGE PIPING 2-1/2" AND SMALLER AT 1/4" PER FOOT.

ALL UNDERGROUND DRAINAGE PIPING SHALL BE A MINIMUM OF 2" IN SIZE.

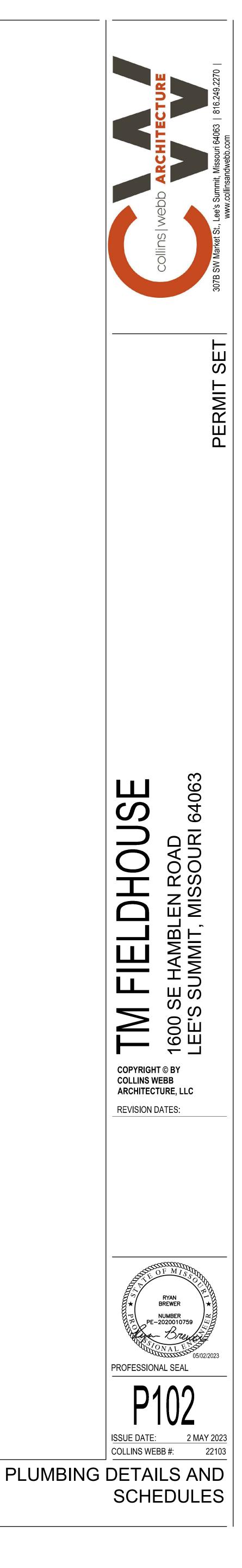
PROVIDE TRAP PRIMER UNITS FOR ALL FLOOR DRAINS.

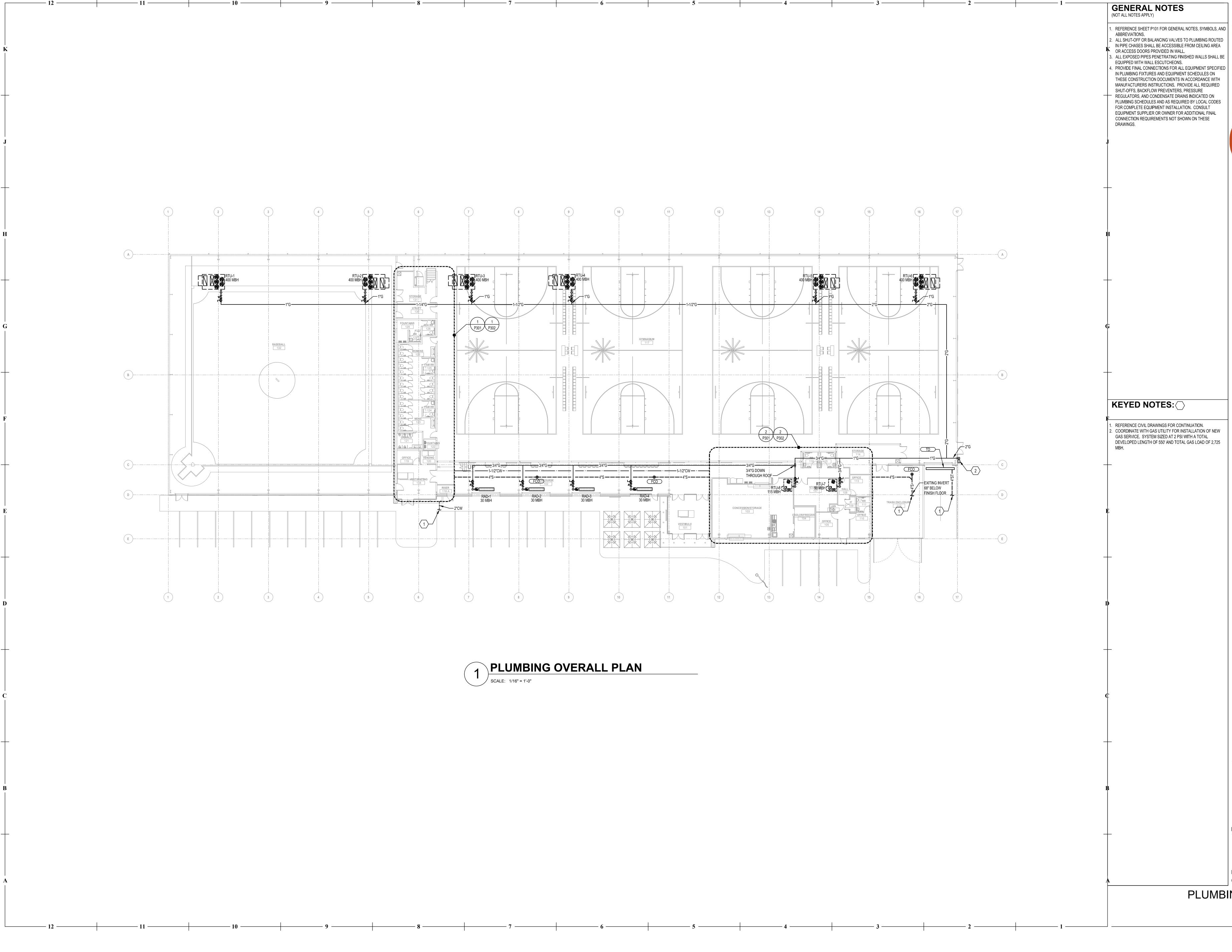
VERIFY/COORDINATE LOCATIONS OF ALL FIXTURES, DRAIN, ETC. WITH ARCHITECT PRIOR TO ROUGH-IN.





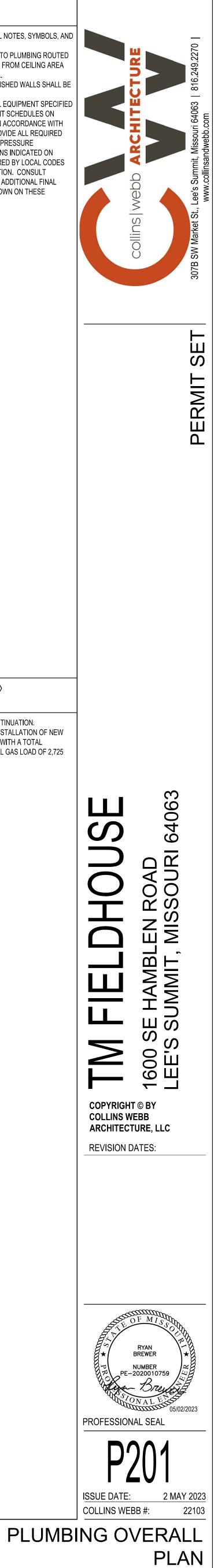
)-QTS			2"			BRONZE BODY REDUCED PRESSURE ZONE BACKFLOW PREVENTER WITH QUARTER TURN SHUTOFF VALVES AND STRAINER.
C8S	2"	1-1/2"	1/2"		115V 5 AMPS	WALL MOUNT VANDAL RESISTANT ADA COOLER NON-FILTEF REFRIGERATED.
8WSK	2"	1-1/2"	1/2"		115V 5 AMPS	WALL MOUNT VANDAL RESISTANT ADA COOLER NON-FILTER REFRIGERATED WITH BOTTLE FILLING STATION.
5083-3			1"	1"	480V 3 PHASE 9KW	ELECTRIC WATER HEATER 50 GALLON 42 GALLON RECOVER 90 %%DF RISE. 99% EFFICIENT PROVIDE WITH AMTROL ST-1 THERMAL EXPANSION TANK.
ID120A			1-1/4"	1-1/4"	480V 3 PHASE 30KW	ELECTRIC WATER HEATER 119 GALLON 124 GALLON RECOV AT 100 %%DF RISE. 99% EFFICIENT PROVIDE WITH AMTROL THERMAL EXPANSION TANK.
-4ANR	4"					FLOOR CLEANOUT ABS BODY AND NICKEL-BRONZE COVER
35ANR	2"	2"				ADJUSTABLE FLOOR DRAIN WITH GRAY ABS BODY AND ROUNICKEL-BRONZE STRAINER AND TRAP PRIMER CONNECTION
3PNU2	3"	2"				SQUAREMAX PVC FLOOR SINK WITH 3" SCHEDULE 40 HUB CONNECTION AND HALF-OPEN NICKEL-BRONZE RING/STRAI
M875			1/2"			ICE MAKER BOX, PROVIDE WITH STOP VALVE.
005			2/4			AUTOMATIC DRAINING FREEZELESS WALL HYDRANT WITH
365			3/4"			RECESSED BOX.
						POLYETHYLENE GREASE INTERCEPTOR RATED FOR 75 GPI
B-75	4"					LBS GREASE CAPACITY WITH 16,000 LBS LOAD RATED CAPA
						COVER. COMPLIES WITH ASME #A112.14.3
D-82000	2"	1-1/2"	1/2"	1/2"		WALL HUNG 2 STATION LAVATORY WITH SF-2450-4-BAT-BDM
						0.5GPM-MLM-IR-FCT BATTERY POWERED SENSOR FAUCET
						EACH STATION. PROVIDE WITH TRUEBRO LAV GUARD PIPE WRAPS.
						WRAPS. WALL-HUNG LAVATORY WITH REAR OVERFLOW. SLOAN SF-
						BAT-BDM-CP-0.5GPM-MLM-IR-FCT BATTERY POWERED SENS
.001EC	2"	1-1/2"	1/2"	1/2"		FAUCET. PROVIDE TRUEBRO LAV GUARD PIPE WRAPS AND
						WALL CARRIER.
						MOLDED STONE MOP SERVICE BASIN WITH 830AA FAUCET,
DTG2424	3"	2"	3/4"	3/4"		HOSE AND BRACKET, 889CC MOP HANGER BRACKET AND Q
						3" QUICK DRAIN CONNECTOR.
7-SF5			3/4"		115V 0.76 AMPS	STAINLESS STEEL RECIRCULATION PUMP 9 FEET OF HEAD A
						GPM. PROVIDE WITH AQUASTAT AND TIMER.
0 SYSTEM	<mark>4</mark> "					FIBER REINFORCED CONCRETE TRENCH DRAIN WITH DUCT
						VITREOUS CHINA WASHDOWN URINAL WITH 6063.013.002 SE
02.001	2"	1-1/2"	3/4"			OPERATED BATTERY POWERED FLUSH VALVE.
						1.6 GPF, FLUSH TANK WATER CLOSET PRESSURE-ASSISTED
2.016	3"	2"	3/4"			SIPHON JET. ELONGATED BOWL WITH CHURCH 9500C WHIT
						SOLID PLASTIC, OPEN-FRONT SEAT.
						ADA-COMPLIANT, 1.6 GPF, FLUSH TANK WATER CLOSET
7.016	3"	2"	3/4"			PRESSURE-ASSISTED SIPHON JET. ELONGATED BOWL WITH
	ļ					CHURCH 9500C WHITE, SOLID PLASTIC, OPEN-FRONT SEAT.
				MODE		
S OF DESIGI						RIOR TO PURCHASING.
		LUNDE 1				

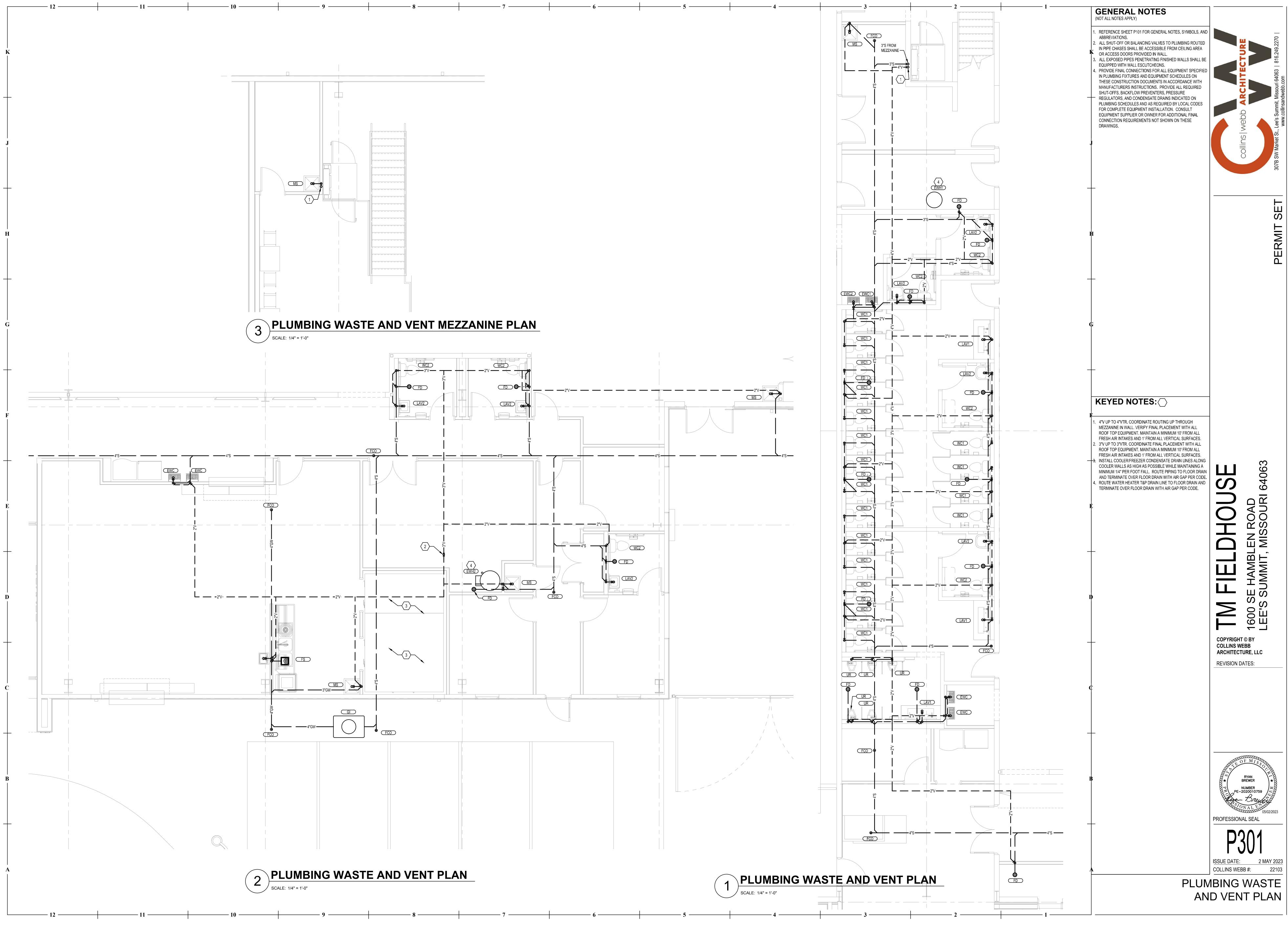


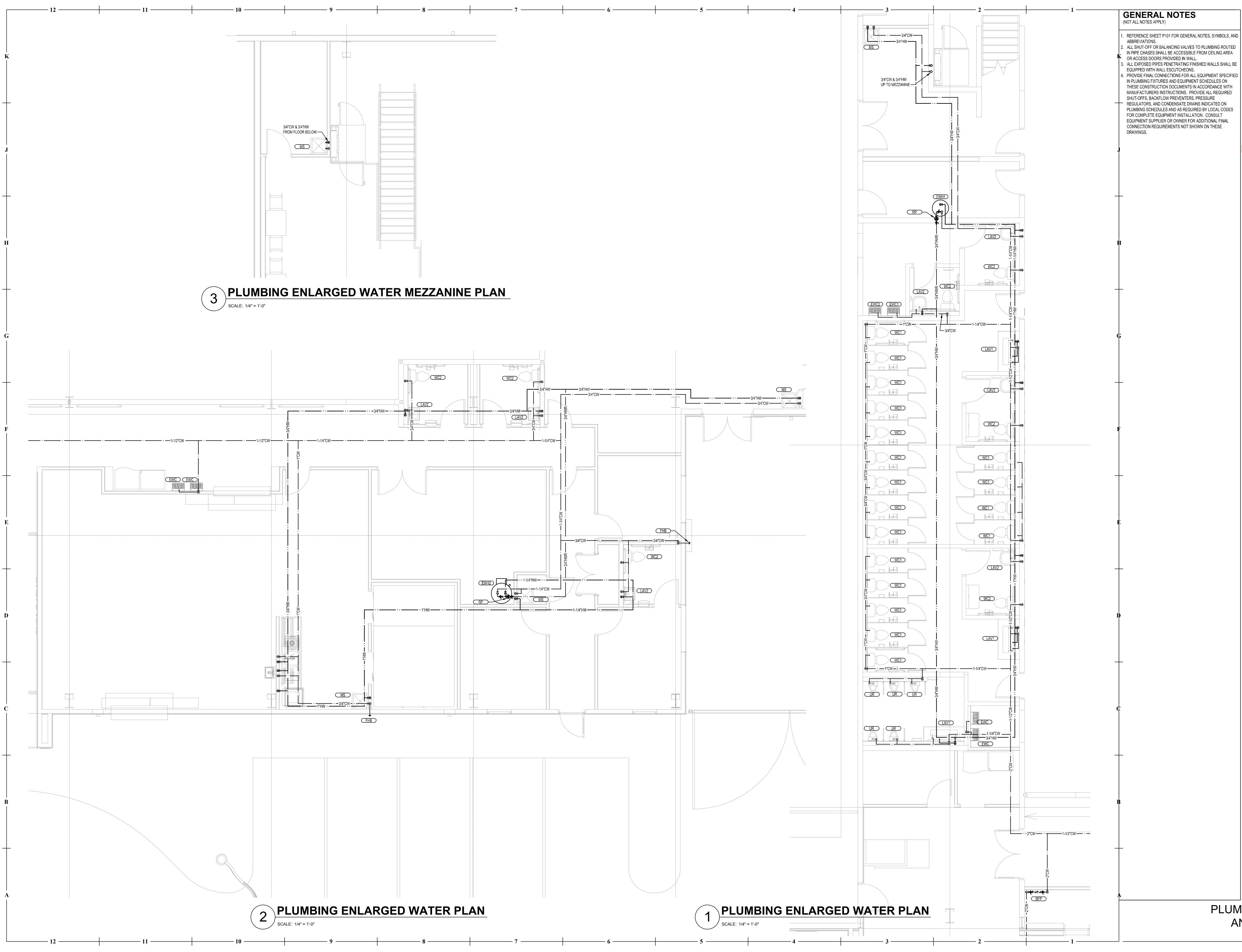


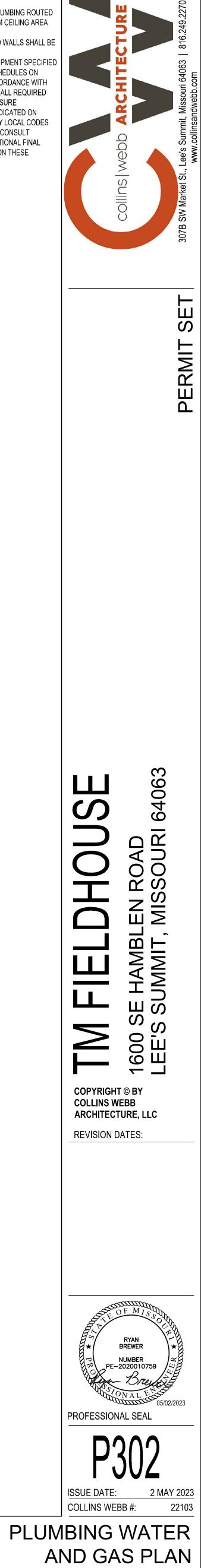
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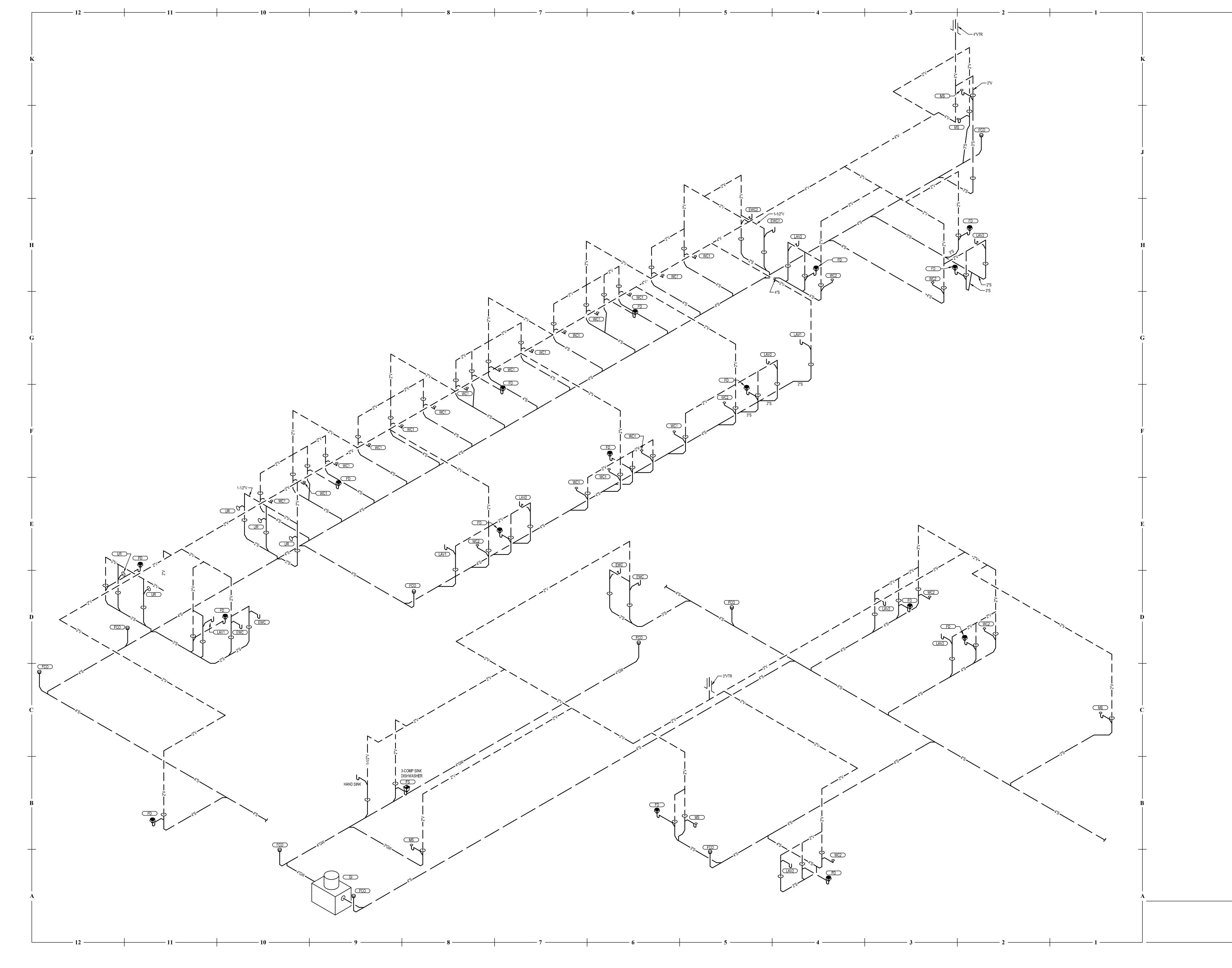
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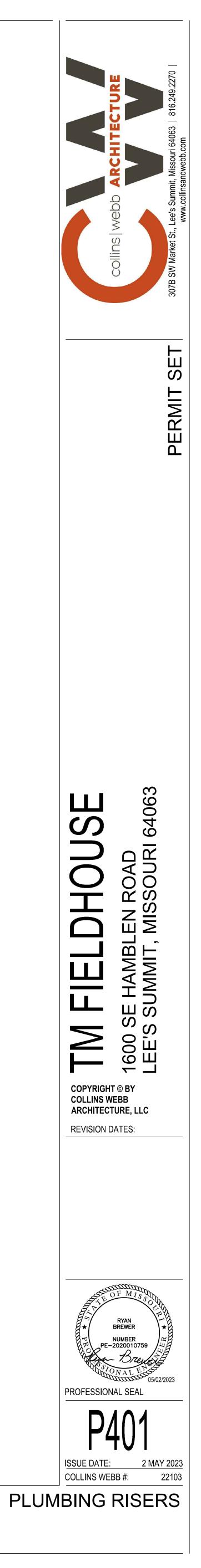


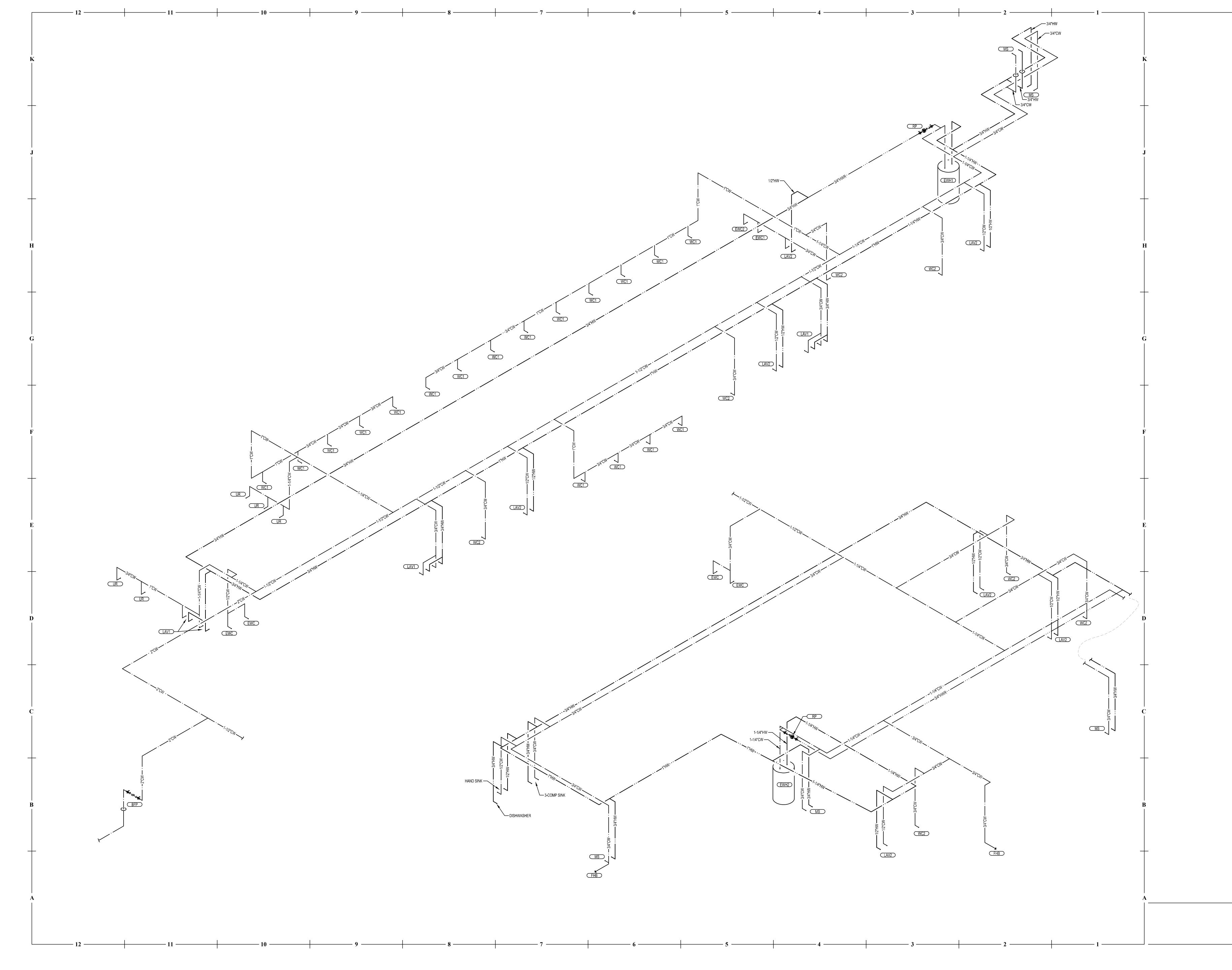


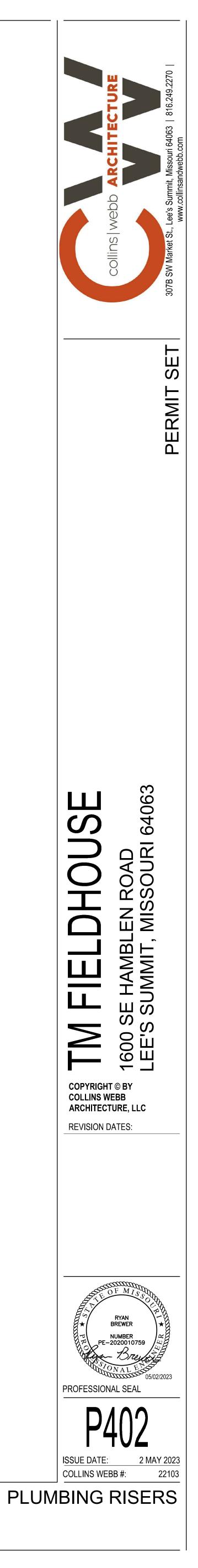


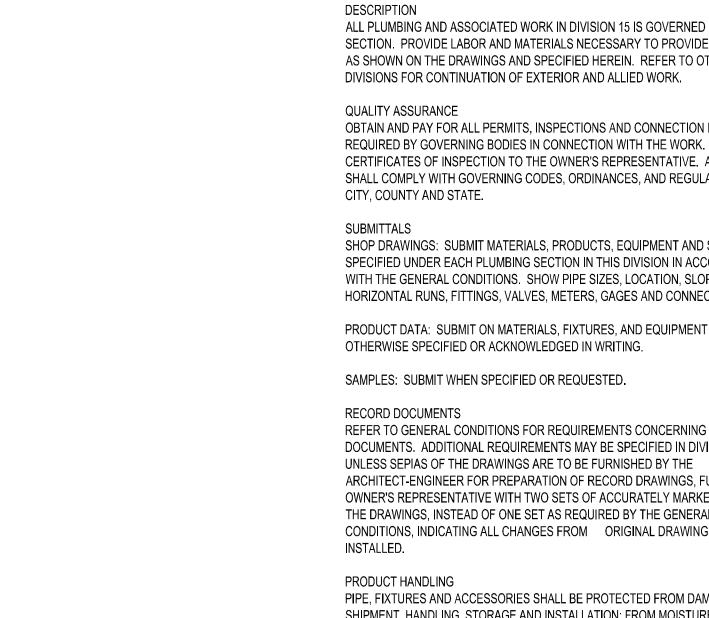












THE LOCATION OF PLUMBING PIPING SHALL BE COORDINATED TO ENS LOCATIONS. MAKE NECESSARY HORIZONTAL OR VERTICAL OFFSETS WITH PIPE SPACE. FITTINGS TO INSTALL THE SYSTEM IN THE AVAILABLE SPACE. CONCEAL OR INSTALL TIGHT TO STRUCTURE (IF EXPOSED) UNLESS OTHERWISE NOTED.

THE APPROVAL OF THE OWNER'S REPRESENTATIVE.

WHERE DRAIN OR WATER CONNECTIONS NECESSARY TO THE OPERATION OF FIXTURES OR EQUIPMENT ARE NOT SPECIFICALLY SHOWN ON DIAGRAMS, EXTEND NECESSARY BRANCHES TO THE CLOSEST INDICATED BRANCH OR MAIN, AT NO ADDITIONAL COST TO THE OWNER.

EACH FIXTURE, EQUIPMENT DRAIN OR FLOOR DRAIN SHALL BE SEPARATELY TRAPPED UNLESS OTHERWISE INDICATED OR SPECIFIED.

PLUMBING PIPING AND EQUIPMENT SHALL NOT BE FIELD PAINTED, OR PRIMED BEYOND THE DEGREE OF APPLICATION FROM THE FACTORY SOURCE, OR EXCEPT AS REQUIRED BY APPLICABLE CODES AND AUTHORITIES HAVING JURISDICATION.

WATERPROOFING DO NOT CUT OR PENETRATE WATERPROOFED SURFACES OR WATERPROOFING MEMBRANES WITHOUT FIRST MAKING ARRANGEMENTS FOR REPAIR BY A METHOD ESCUTCHEONS APPROVED BY THE OWNER'S REPRESENTATIVE.

ACCESS DOORS INSTALL AS REQUIRED FOR MAINTENANCE, ADJUSTMENT, REMOVAL AND REPAIR OF VALVES, EQUIPMENT AND LIKE ITEMS. DOORS SHALL BE CONVENIENTLY LOCATED AND OF SUFFICIENT SIZE.

9	8		7		6	5
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15400 - PLUMBING WORK DESCRIPTION ALL PLUMBING AND ASSOCIATED WORK IN DIVIS SECTION. PROVIDE LABOR AND MATERIALS NEO AS SHOWN ON THE DRAWINGS AND SPECIFIED F	CESSARY TO PROVIDE THE WORK	PIPING PROVISIONS FOR FIX SECTIONS OR FURNISHED B' ROUGH IN LOCATIONS SHALI NECESSARY PLUMBING SER AND MAKE ALL FINAL CONNE	BY THE OWNER LL BE DETERMINED FOR SE RVICES, ACCESSIBLE VALVE		CONNECTION TO EQU	INT BRASS UNIONS OR FLANGES ON EACH PIPING IPMENT. UNIONS BETWEEN COPPER AND STEEL PIPING CON
DIVISIONS FOR CONTINUATION OF EXTERIOR AN QUALITY ASSURANCE OBTAIN AND PAY FOR ALL PERMITS, INSPECTION REQUIRED BY GOVERNING BODIES IN CONNECT CERTIFICATES OF INSPECTION TO THE OWNER'S SHALL COMPLY WITH GOVERNING CODES, ORDI	NS AND CONNECTION FEES ION WITH THE WORK. DELIVER S REPRESENTATIVE. ALL WORK	PLUMBING OPERATION AND DESCRIPTION FURNISH TWO COPIES OF CO TO THE OWNER'S REPRESEN PLUMBING EQUIPMENT AND	OMPLETE OPERATION AND NTATIVE, FOR APPROVAL A SPECIALTIES. THE MANUA	AND FOR THE OWNER, ON	AND SHALL BE PROVID EQUIPMENT WATER SI	THE REQUIREMENTS OF THE REFERENCED PLUMBIN DED FOR HOSE BIBBS, FLUSHOMETERS AND ANY FIX UPPLY HAVING A THREADED OUTLET.
CITY, COUNTY AND STATE. SUBMITTALS SHOP DRAWINGS: SUBMIT MATERIALS, PRODUC SPECIFIED UNDER EACH PLUMBING SECTION IN WITH THE GENERAL CONDITIONS. SHOW PIPE S HORIZONTAL RUNS, FITTINGS, VALVES, METERS	THIS DIVISION IN ACCORDANCE IZES, LOCATION, SLOPES OF	HARD-BACK, THREE-RING LC MANUAL CONTENTS TITLE SHEET WITH JOB NAMI NUMBERS OF THE CONTRAC RELATED CONTRACTOR AND INDEX OF CONTENTS	IE, AND THE NAMES, ADDR CTOR, SUBCONTRACTOR, C	CONTROL SUBCONTRACTOR,	SPECIFICATIONS CLEANOUTS CLEANOUTS ON NO-HI CLEANOUTS ON CAST	L COMPLY WITH ROOFING MANUFACTURER'S WRITT UB PIPE SHALL BE STANDARD NO-HUB FITTINGS. IRON HUB AND SPIGOT PIPING, SHALL BE CADMIUM TURERS: ZURN, JOSAM OR JONESPEC.
PRODUCT DATA: SUBMIT ON MATERIALS, FIXTUR OTHERWISE SPECIFIED OR ACKNOWLEDGED IN SAMPLES: SUBMIT WHEN SPECIFIED OP PEOLE	WRITING.	TYPEWRITTEN OPERATING II		WNER'S PERSONNEL UIPMENT, AND CAUTION AND	TRAP PRIMERS PROVIDE WHERE INDI	CATED ON DRAWINGS. PRECISION PRODUCTS WITH
SAMPLES: SUBMIT WHEN SPECIFIED OR REQUE RECORD DOCUMENTS REFER TO GENERAL CONDITIONS FOR REQUIRE DOCUMENTS. ADDITIONAL REQUIREMENTS MAY UNLESS SEPIAS OF THE DRAWINGS ARE TO BE F ARCHITECT-ENGINEER FOR PREPARATION OF R OWNER'S REPRESENTATIVE WITH TWO SETS OF THE DRAWINGS, INSTEAD OF ONE SET AS REQU CONDITIONS, INDICATING ALL CHANGES FROM INSTALLED.	MENTS CONCERNING RECORD ' BE SPECIFIED IN DIVISION 1. FURNISHED BY THE ECORD DRAWINGS, FURNISH FACCURATELY MARKED COPIES OF IRED BY THE GENERAL	APPROVED SHOP DRAWINGS BOOKLET FOR EACH ITEM OF COPIES OF CERTIFICATES OF GUARANTEES, INCLUDING EX DELIVERY DELIVER THE MANUALS TO T SUBMITTING APPLICATION FO	OF PLUMBING, EQUIPMENT OF INSPECTION, WHERE INS EXTENDED GUARANTEES. THE OWNER'S REPRESENT	SPECIFIED IN DIVISION 15. SPECTION IS REQUIRED.	 SET SLEEVE BEF PROVIDE CLEAR AND INSULATION CONTRACTION. INSULATION SHA CAULK BETWEEI PREFABRICATED 	E 1/4 INCH BEYOND FINISHED SURFACE. FORE POURING CONCRETE. ANCE BETWEEN SLEEVE AND PIPE OR BETWEEN SLI N TO ALLOW FOR PIPE MOVEMENT DUE TO EXPANSIO ALL PASS CONTINUOUS THROUGH THE SLEEVE. N SLEEVE AND PIPE OR SLEEVE AND INSULATION. D, PRE-INSULATED, "PIPE SHIELDS" WILL BE ACCEPTA
PRODUCT HANDLING PIPE, FIXTURES AND ACCESSORIES SHALL BE PF SHIPMENT, HANDLING, STORAGE AND INSTALLA DEBRIS. PIPE, CLEANOUT AND FLOOR DRAIN OP PLUGGED WITH TEST PLUGS UNTIL FINAL CONNI	TION: FROM MOISTURE, DIRT AND PENINGS SHALL BE TEMPORARILY	PLUMBING PIPING DESCRIPTION FURNISH AND INSTALL PLUM SPECIFIED.	<i>I</i> BING PIPING WHERE SHO	WN ON DRAWINGS AND AS	FIRE RESISTIVE 6. ESCUTCHEONS: ESCUTCHEON P 7. WATER HAMMER	SING THROUGH FLOORS, EXTERIOR WALLS, FIRE WA WALLS AND PARTIITONS. FIT AROUND INSULATION WHERE PRESENT. PROVID LATES WHERE PIPE SLEEVES EXTEND ABOVE FLOOF R ARRESTERS: INSTALL WHERE SHOWN ON DRAWING STALL WHERE SHOWN ON DRAWINGS AND AT BASE (
GUARANTEE AND SERVICE REFER TO GENERAL CONDITIONS FOR GUARANT GUARANTEES ARE CALLED FOR, FURNISH THRE OPERATION AND MAINTENANCE MANUALS.		2. CAST IRON SOIL PIPE A	SANITARY PIPE AND FITTIN AND FITTINGS, SERVICE W AND FITTINGS, EXTRA HEA 3.	EIGHT: ASTM A 74.	CODES AND FOF CONTRACTOR'S	DE ADDITIONAL CLEANOUTS WHERE REQUIRED BY LO R CONVENIENCE OF TESTING AND ERECTION AT OPTION. DVERS SHALL BE FLUSH WITH ADJOINING ARCHITECT
GENERAL PLUMBING SYSTEMS SHALL BE PROVIDED COMP ANY PART THEREOF FAIL TO MEET PERFORMAN REPLACEMENTS, ALTERATIONS OR REPAIRS, AS REPRESENTATIVE, SHALL BE MADE TO BRING PE REQUIREMENTS AND ALL BUILDING CONSTRUCT MARRED BY SUCH REPLACEMENTS, ALTERATION RESTORED TO PRIOR CONDITION, AT NO ADDITION	CE REQUIREMENTS, NECESSARY REQUIRED BY THE OWNER'S ERFORMANCE UP TO SPECIFIED TON AND FINISHES DAMAGED OR NS OR REPAIRS SHALL BE	 MALLEABLE IRON FITTI PIPE THREADS: ANSI B NIPPLES, PIPE (THREAI COPPER WATER TUBE: 	TINGS, 150 LB.: ASTM A 197. 32.1. NDED): FED SPEC. WW-N-35 E: ASTM B 88. ND BRONZE SOLDER-JOINT ND WROUGHT COPPER ALL	51. T PRESSURE FITTINGS: ANSI	POSITION.	LE LOCATION. E INSTALLED WITH THE STEMS BELOW THE HORIZON INION BONNET. RISING STEM
WHERE MULTIPLE ITEMS OF EQUIPMENT OR MA SHALL BE THE PRODUCT OF A SINGLE MANUFAC INSERTS, PIPE SLEEVES, HANGERS, SUPPORTS, ANCHORAGE OF PLUMBING SHALL BE PROVIDED SUCH ITEMS ARE TO BE SET OR EMBEDDED IN O	TERIALS ARE REQUIRED THEY CTURER. FIXTURES, TRIM DRAINS AND D AS SPECIFIED HEREIN. WHERE		EC. QQ-L-201. / B 152. TEEL COUPLING AND GASK	/ING JURISDICTION SOLID	3 INCH AND SMALLER: 1. SCREWED: ITT G 2. SOLDER JOINT: I VALVES, BALL (MAY BE NIBCO #T580; TWO PIE	
WORK, THE ITEMS SHALL BE FURNISHED AND LA FOR THE SETTING OR EMBEDMENT THEREOF SC WORK.	YOUT MADE AT THE PROPER TIME	JOINTS AND CONNECTIONS			STEM.	TEFLON DISC. UNION BONNET
MANUFACTURER'S NAMES AND CATALOG NUMBI SPECIFIED REFERENCES HAVE BEEN MADE TO C NAMES AND MODEL OR CATALOG NUMBERS. TH INDICATE THAT THE MATERIAL AND EQUIPMENT ITEM. REQUIREMENTS FOR SPECIFIC FINISHES, I MODIFICATIONS MAY INTRODUCE VARIANCES FF STANDARDS. MODIFICATIONS SHALL BE FULLY C	DNE OR MORE MANUFACTURER'S IIS DOES NOT NECESSARILY SPECIFIED IS AN "OFF THE SHELF" MATERIAL OR OTHER ROM MANUFACTURERS'	 CAST IRON, HUB AND S LEAD NOT LESS THAN CAST IRON, NO-HUB: N STEEL SHIELD IN CON AND SMALLER, 6 CLAM BETWEEN LEAD AND B WIPED JOINTS 3/8" THIS 	IJUNCTION WITH 4 STAINLE /IPS FOR 5" AND LARGER. BRASS: FERRULES OR SOLI ICK AND 3/4" EACH SIDE OF	KED. CORRUGATED 304 STAINLESS ESS STEEL CLAMPS FOR 4" DERING NIPPLES WITH	 SCREWED: ITT G SOLDER JOINT: I VALVES, CHECK 125# HORIZONTAL: SCREWED: ITT G 	GRINELL #3240 OR APPROVED EQUAL. ITT GRINELL #3240 SJ OR APPROVED EQUAL. REMOVABLE REGRINDABLE DISC A. 3 INCH AND SM. GRINELL #3300 OR APPROVED EQUAL. ITT GRINELL #3300 SJ OR APPROVED EQUAL.
CHARTS AND TAGS IN AREAS HAVING VALVES, PROVIDE SINGLE LINI GLASS AND MOUNTED ON EQUIPMENT ROOM W/ NAME, NUMBER DESIGNATION AND LOCATION OF	ALL. THE DIAGRAMS SHALL GIVE F VALVE.	CUTTING AND BURRS. 5. SOLDERED JOINTS: 95- PLUMBING TRAP SEALS 6. BETWEEN COPPER AND UNION.	THREE THREADS EXPOSE I-5 TIN-ANTIMONY SOLDER. IS ON INLET SIDE ONLY. ID FERROUS MATERIALS: IN	ED MAXIMUM. . SLIP JOINTS: USE FOR NSULATING DIELECTRIC	APPROVED EQUAL. PF HOSE BIBBS A. SEE FI BRONZE COCKS. TWO	VERTICAL: D SOLDER JOINT INSTALLATION, SAME AS SECTION A ROVIDE ADAPTERS FOR SOLDER JOINT CONNECTION IXTURE SCHEDULE ON DRAWINGS. B. PLUG COCKS, D (2) INCH AND SMALLER SHALL BE CRANE NO, 250 O
VALVES SHALL BE IDENTIFIED WITH 1/16 INCH TH NAMEPLATES WITH 3/16 INCH HIGH BLACK LAMIN IDENTIFICATION SHALL COINCIDE WITH ITEMS AF NAMEPLATES TO VALVES WITH NON-CORROSIVE	IATED LETTERS. THE NAMEPLATE PPEARING ON DIAGRAMS. ATTACH		ASKET.	BD, ALLOY STEEL WITH HEX	APPROVED EQUAL. INSTALLATION INSTALL VALVES WHEI	RE SHOWN ON DRAWINGS.
ACCESS DOORS PROVIDE ACCESS DOORS AS INDICATED AND SF	PECIFIED IN DRAWINGS	 ASSEMBLY FOR HUBLE MANUFACTURER. CHANGES IN PIPE SIZE 		DUCERS, INCREASERS OR	PLUMBING HANGERS	
INSTALLATION AND WORKMANSHIP THE WORK SHALL BE INSTALLED IN ACCORDANC RECOMMENDATIONS. ANY MATERIAL, APPARATI OPINION OF THE OWNER'S REPRESENTATIVE, IS BE REMOVED AND REINSTALLED IN AN APPROVE COST TO THE OWNER.	US OR EQUIPMENT WHICH, IN THE IMPROPERLY INSTALLED SHALL	INSTALLATION BEFORE INSTALLING PIPE IN CLEANED INSIDE AND MADE PROPERLY ALIGN AND INSTA	EFREE OF OIL, DIRT, AND F ALL IN NEAT ARRANGEMEN	M, THE PIPE SHALL BE OREIGN MATTER. NT, TRUE TO THE LINES OF	HANGERS CAPABLE O	ORTS OR GALVANIZED STEEL PIPE SHALL BE GRINNELL, M
THE LOCATION OF PLUMBING PIPING SHALL BE (COORDINATED TO ENSURE THAT IT	THE BUILDING. PITCH LINE A	I A CONSTANT SLOPE FOR	R PROPER DRAINAGE.	HANGERS FOR CAST I	RON PIPE SHALL BE GRINNELL, MODEL NO. 260 OR

CLEARS OPENINGS AND STRUCTURAL MEMBERS; THAT PIPING INDICATED AS EXCEPT AS NOTED OTHERWISE ON DRAWINGS, PIPING SHALL BE HELD AS HIGH AS APPROVED EQUAL. CONCEALED CAN BE PROPERLY CONCEALED IN WALLS OR PARTITIONS AND THAT POSSIBLE, BETWEEN STRUCTURES AND THROUGH JOIST WEBBING, WITH DUE IT DOES NOT INTERFERE WITH LIGHTS, DUCTWORK OR EQUIPMENT HAVING FIXED REGARD TO CONFLICTS WITH OTHER SYSTEMS AND THEIR REQUIREMENTS FOR

VERTICAL AND HORIZONTAL LINES. DEFLECTION SHALL NOT EXCEED ONE PIPING SHALL BE EXPOSED IN FINISHED AREAS ONLY WHERE INDICATED OR WITH DEGREE. WHEN NECESSARY TO ACHIEVE THIS ALIGNMENT PROVIDE ADDITIONAL HANGERS OR BRACING.

APPLY LUBRICANT TO SCREW JOINT MALE THREADS.

METAL TO BE SOLDERED SHALL BE CLEANED AND FLUXED AS SUITABLE FOR THE SOLDER USED.

NOTCHING OF COPPER TUBING OR PLASTIC PIPING FOR CONNECTIONS WILL NOT STRAP HANGERS: NOT PERMITTED. BE PERMITTED.

PLUMBING SPECIALITES

PIPE SLEEVES SCHEDULE 40 BLACK STEEL, GALVANIZED 26 GAGE STEEL, PROVIDE FOR ALL PIPES THROUGH WALLS AND FLOORS.

PROVIDE FOR ALL PIPING THROUGH WALLS, FLOORS AND CEILING WERE PIPING IS APPROVED EQUAL. EXPOSED TO VIEW IN FINISHED AREA. ESCUTCHEONS SHALL BE CHROMIUM PLATED, TWO PIECE, HINGED WITH SET SCREW.

PPER AND STEEL PIPING CONNECTION VALVES AND SPEC

THE REFERENCED PLUMBING CODE FERROUS PIPING FLUSHOMETERS AND ANY FIXTURE OR DIAMETER OF PIPE EADED OUTLET.

ING MANUFACTURER'S WRITTEN

NDARD NO-HUB FITTINGS. PIPING, SHALL BE CADMIUM PLATED. 6" AND 8" 1 OR JONESPEC.

PRECISION PRODUCTS WITH

- SHED SURFACE.
- RETE. /E AND PIPE OR BETWEEN SLEEVE MOVEMENT DUE TO EXPANSION AND
- THROUGH THE SLEEVE. R SLEEVE AND INSULATION. E SHIELDS" WILL BE ACCEPTABLE S, EXTERIOR WALLS, FIRE WALLS AND
- ION WHERE PRESENT. PROVIDE DEEP
- EEVES EXTEND ABOVE FLOORS.
- . WHERE SHOWN ON DRAWINGS. ON DRAWINGS AND AT BASE OF ALL OUTS WHERE REQUIRED BY LOCAL STING AND ERECTION AT
- I WITH ADJOINING ARCHITECTURAL

E STEMS BELOW THE HORIZONTAL

E VALVES UP TO 2"): 2" AND SMALLER ITH SCREEWED ENDS, CHROME PORT, 400 PSI, BLOW OUT PROOF

ABLE DISC A. 3 INCH AND SMALLER,

ALLATION, SAME AS SECTION A OR R SOLDER JOINT CONNECTION. 2.05 DRAWINGS. B. PLUG COCKS, 125# R SHALL BE CRANE NO. 250 OR

PIPE SHALL BE GRINNELL, MODEL

RINNELL, MODEL NO. 260 OR

HANGERS FOR COPPER TUBING SHALL BE GRINNELL, MODEL NO. 97 C OR APPROVED EQUAL.

PIPING, INCLUDING NO-HUB PIPING, SHALL BE INSTALLED STRAIGHT AND TRUE TO TRAPEZE HANGERS OF A TYPE APPROVED BY THE OWNER'S REPRESENTATIVE MAY BE USED WHERE PIPES ARE DESIGNED TO RUN PARALLEL AT THE SAME ELEVATION.

> PROVIDE ISOLATION HANGER WITH PROTECTIVE SHIELD, GRINNELL, MODEL NO. 300 103 OR APPROVED EQUAL, FOR ALL INSULATED PIPING. AT HANGER POINTS, PROVIDE 6 INCH LONG SECTION OF 1/2 INCH THICK CALCIUM SILICATE SECTIONAL PIPE INSULATION WITH FACTORY LONGITUDINAL LAP. SEAL BUTT JOINTS WITH INSULATING CEMENT.

RISER CLAMPS: PROVIDE RISER CLAMPS FOR VERTICAL PIPING AT EACH LEVEL, GRINNELL MODEL NO. 261

INSERTS: IN CONCRETE, GRINNELL MODEL NO. 285 OR APPROVED EQUAL, HAVING ADJUSTMENT FROM 3/4 INCH THROUGH 1-1/4 INCH. IN METAL DECKS READHEAD SD1 OR APPROVED EQUAL. POWDER PROPELLED PERMITTED IN NEW CONSTRUCTION WHERE TYPE AND LOCATION ARE APPROVED PRIOR TO INSTALLATION. IN EXISTING CONSTRUCTION, START SLUGIN NO. 6800 SERIES OR

SIDE BEAM CLAMPS: PROVIDE WHEN SUPPORTING FROM STRUCTURAL STEEL MEMBERS, GRINNELL, MODEL 225 OR APPROVED EQUAL.

OTHER SUPPORTS: OBTAIN OWNER'S REPRENTATIVE APPROVAL FOR OTHER METHODS OF SUPPORT.

DRAIN SHALL BE INSTALLED WHERE SHOWN ON THE DRAWINGS; ACCESSIBLE AND AND SPECIFIED. LOCATED TO SUIT EQUIPMENT APPROVED FOR INSTALLATION. WHERE FLUSH VALVES ARE SPECIFIED WITH FIXTURES, THE SUPPLY TO THE VALVE IN EACH ROOM SHALL BE AT THE SAME HEIGHT FOR THE TYPE OF FIXTURE AND THE VALVE RELIEF VALVE DISCHARGE SHALL BE COPPER WATER TUBE, TYPE M. SHALL BE SET IN PLACE SO THAT THE CENTER LINE OF THE VALVE DISCHARGE IS DIRECTLY ABOVE THE CENTER LINE OF FIXTURE STUD. BENDING OF NIPPLE BETWEEN THE VALVE AND THE STUD TO ACHIEVE CONNECTION WILL NOT BE PERMITTED.

FROM DAMAGE.

1/2" THROUGH 1-1 2" THROUGH 3" 4" THROUGH 5" 6" AND LARGER CAST IRON PIPING DIAMETER OF PIPE

2" AND 3" 4" AND 5" 10" THROUGH 15"

RISER CLAMPS

DESCRIPTION CONDUCT ALL TESTS AFTER PIPING IS INSTALLED AND BEFORE PIPING IS CONCEALED OR COVERED.

SYSTEMS SHALL REMAIN UNDER TEST FOR SUFFICIENT LENGTH OF TIME TO PROVE TIGHTNESS THEREOF AND FOR ADEQUATE OBSERVATION BY THE ARCHITECT-ENGINEER.

MATERIALS OTHER THAN THOSE SPECIFIED FOR JOINING WILL NOT BE PERMITTED IN THE PIPING SYSTEMS FOR THE PURPOSE OF STOPPING LEAKS. ALL LEAKS DISCLOSED BY THE TESTING PROCEDURES SHALL BE REPAIRED AND

TESTING REPEATED UNTIL THE SYSTEM IS PROVEN TIGHT.

HAVING JURISDICTION.

SUBMITTALS STERILIZATION: PROVIDE A DATED LETTER TO THE ARCHITECT-ENGINEER'S REPRESENTATIVE STATING THAT PIPING SYSTEM HAS BEEN STERILIZED AND FLUSHED AS SPECIFIED.

PIPING TEST OF ONE HOUR.

SANITARY PIPING, PREVIOUS TO CONNECTION OF FIXTURES, SHALL BE FILLED WITH WATER TO THE TOP OF THE SYSTEM AND PROVEN TIGHT. WHEN TESTING THE SYSTEM BY SECTIONS THE MINIMUM HEIGHT OF THE WATER COLUMN SHALL BE 10 FEET. EXAMINE ALL JOINTS FOR LEAKS.

30 MINUTES. STERILIZATION

WATER.

MANUFACTURER PIPING

SUPPORTS

FIXTURES PLUMBING DRAINS

FURNISH WITH SEEPAGE FLANGE WHERE INSTALLED WITH PANS OR FLASHING, FURNISH CLAMPING RING. ALL DRAINS SHALL BE OF THE SAME MANUFACTURER.

FURNISH FLOOR DRAINS WITH PRIMER CONNECTIONS WHERE INDICATED ON THE OVERSIZED PIPE INSULATION OR MOLDED FITTINGS. COAT WITH TWO, 1/8 INCH DRAWINGS. IN LIEU OF CAST-IN PRIMER CONNECTIONS ON THE DRAIN BODY, A TEE BETWEEN THE DRAIN BODY AND THE TRAP, TO RECEIVE THE PRIMER DISCHARGE WILL BE ACCEPTABLE.

PROVIDE FLOOR DRAINS WITH 4 INCH DEEP SEAL TRAPS.

INSTALLATION

PROVIDE ALL DRAINS AS SCHEDULED ON DRAWINGS OR APPROVED EQUAL

SPACING OF HANGERS PROVIDE HANGER AT EACH CHANGE OF DIRECTION.
SPACE HANGERS AND SUPPORTS TO PREVENT SAGGING AND REDUCE STRAIN (VALVES AND SPECIALTIES WITH SPACING NO GREATER AND ROD NO SMALLER THAN SHOWN ON THE FOLLOWING TABLE. HANGERS SHALL ALLOW FOR EXPANSION AND CONTRACTION.
FERROUS PIPING AND COPPER TUBING:DIAMETER OF PIPEMAXIMUM SPACINGROD SIZE1/2" THROUGH 1-1/2"6 FT.3/8"2" THROUGH 3"10 FT.1/2"4" THROUGH 5"12 FT.5/8"6" AND LARGER16 FT.3/4" D.CAST IRON PIPING:10 FT.10 FT.
DIAMETER OF PIPE MAXIMUM SPACING ROD SIZE 2" AND 3" EACH JOINT 3/8" 4" AND 5" EACH JOINT 1/2" 6" AND 8" EACH JOINT 3/4" 10" THROUGH 15" EACH JOINT 3/4" (TWO HANGERS)

AND INSERTS WHERE THE INSTALLATION OF ESCUTCHEON PLATES IS REQUIRED. TESTING OF PLUMBING PIPING

PROVIDE ALL NECESSARY TEMPORARY PIPING CLOSURES.

PROVIDE ALL TESTING EQUIPMENT, MATERIALS AND SUPPLIES.

TESTING REQUIREMENTS ARE MINIMUM AND ARE NOT INTENDED TO BE LIMITING WHERE ADDITIONAL TESTING METHODS ARE REQUIRED BY THE AUTHORITY

DOMESTIC HOT AND COLD WATER PIPING SHALL BE FILLED, THEN TESTED TO A HYDROSTATIC PRESSURE OF 150 PSIG. MAINTAIN TEST PRESSURE FOR A MINIMUM

OF 200 PSIG. MAINTAIN TEST PRESSURE FOR A MINIMUM OF TWO HOURS.

GAS PIPING SHALL BE TESTED WITH NITROGEN TO 50 PSIG, PRESSURE SHALL BE MEASURED WITH A MANOMETER. MAINTAIN TEST PRESSURE FOR A MINIMUM OF

AFTER TESTS ARE COMPLETED ALL WATER SUPPLY SYSTEMS SHALL BE FILLED WITH A SOLUTION CONTAINING 100 PPM OF AVAILABLE CHLORINE AND ALLOWED TO STAND FOR A PERIOD TO TWO HOURS BEFORE BEING FLUSHED WITH CLEAN

PLUMBING, FIXTURES, TRIM AND DRAINS

MANUFACTURER SHALL BE AS SCHEDULED OR BY APPROVED EQUAL.

AREAS SHALL BE BRASS, CHROMIUM PLATED.

PROVIDE ALL BRACKETS, PLATES, ANCHORS AND FASTENING DEVICES REQUIRED FOR ANCHORING THE FIXTURES RIGIDLY IN PLACE. RISERS TO SHOWER HEADS SHALL BE ANCHORED TO THE WALL CONSTRUCTION TO PREVENT MOVEMENT.

PROVIDE PLUMBING FIXTURES AS SCHEDULED ON DRAWINGS, AMERICAN STANDARD, KOHLER, ELJER OR APPROVED EQUAL.

CHROME PLATED PIPING REQUIRING THE USE OF WRENCH SHALL BE PROTECTED

BOLT WATER CLOSET CARRIER TO FLOOR.

GAS PIPING

DUCE STRAIN ON SHALL COMPLY WITH THE REQUIREMENTS OF NFPA NO. 54 AND THE LOCAL GAS COMPANY.

PIPE SHALL BE SCHEDULE 40 BLACK STEEL PIPE WITH MALLEABLE FITTINGS

INSTALLATION PIPING SHALL COMPLY WITH THE REQUIREMENTS OF NFPA NO. 54 AND THE LOCAL GAS COMPANY.

INSTALL GAS SHUT-OFF AND GAS MANIFOLDS AS INDICATED OR REQUIRED.

DOMESTIC HOT AND COLD WATER

DESCRIPTION THE WORK INCLUDES FURNISHING AND INSTALLING HOT AND COLD WATER PIPING AS SHOWN ON THE DRAWINGS AND SPECIFIED HEREIN.

HOT AND COLD WATER PIPING SHALL BE COPPER WATER TUBE HARD TEMPER, INSTALL AT EACH LEVEL BELOW THE FLOOR. SUSPEND FROM TWO HANGER RODS TYPE "L" WITH WROUGHT SOLDER FITTINGS ABOVE FLOOR AND SOFT TEMPER TYPE "K" WITH WROUGHT SOLDER FITTINGS BELOW GRADE.

GATE VALVES SPECIFIED IN SECTION, PLUMBING VALVES .

INSTALLATION NOTCHING OF PIPE FOR CONNECTION NOT PERMITTED.

WHERE POSSIBILITY OF BACKFLOW FROM THE DRAIN TO THE SUPPLY FITTING

EXISTS, INSTALL VACUUM BREAKERS. NOT MORE THAN ONE LAVATORY, SINK, OR SIMILAR FIXTURE SHALL BE SUPPLIED

BY A 1/2 INCH BRANCH. LINEAR DIMENSIONS NOT TO EXCEED 5 FEET.

MAKE CONNECTION TO EQUIPMENT AND FIXTURES INDICATED ON THE DRAWINGS OR SPECIFIED HEREIN.

HOT WATER BRANCH CONNECTIONS TO DISTRIBUTION MAINS SHALL BE TOP TAKE-OFF, SWING JOINT TYPE.

ALL PIPING INSTALLED BELOW GROUND SHALL RECEIVE TWO COATS OF KOPPERS NO. 50 OR APPROVED EQUAL

PLUMBING INSULATION

DESCRIPTION INSULATION SHALL NOT BE INSTALLED UNTIL TESTING PROCEDURES HAVE BEEN COMPLIED WITH AND ALL SURFACES HAVE BEEN CLEANED AND FREE OF DIRT, GREASE AND COMPLETELY DRIED.

MATERIALS SHALL COMPLY WITH UL 723, FLAME SPREAD RATING, HOT SURFACE TEST PERFORMANCE, AND SMOKE DEVELOPED RATING.

SUBMITTALS SAMPLES AND MANUFACTURER'S PRODUCT DATA: SUBMIT SAMPLES OF INSULATION AND ADHESIVE AND PRODUCT DATA LISTING RECOMMENDATIONS FOR USE AND COMPLIANCE WITH NFPA 90.

INSULATION

INSULATION FOR HOT AND COLD WATER PIPING, SHALL BE SECTIONAL GLASS FIBER AS MANUFACTURED BY OWENS CORNING FIBERGLASS TYPE ASJ/SSLII OR NEW FIRE STANDPIPE SYSTEM SHALL BE TESTED TO A HYDROSTATIC PRESSURE APPROVED EQUAL, WITH FACTORY APPLIED, ALL PURPOSE, FIRE RETARDANT JACKET.

> INSULATION FOR EXPOSED HOT AND COLD WATER PIPING SHALL BE SECTIONAL GLASS FIBER AS MANUFACTURED BY OWENS CORNING FIBERGLASS TYPE ASJ/SSLII OR APPROVED EQUAL, WITH FACTORY APPLIED, .016 EMBOSSED ALUMINUM JACKET.

ADHESIVE SHALL BE BENJAMIN FOSTER 30-36, OR APPROVED EQUAL, WHITE INSULATION LAGGING ADHESIVE.

VAPOR BARRIER MASTIC SHALL BE BENJAMIN FOSTER NO. 82-07, WHITE, OR APPROVED EQUAL.

INSTALLATION HOT AND COLD WATER PIPING: SHALL BE INSULATED WITH 1/2 INCH THICK GLASS

FIBER INSULATION HAVING A FACTORY APPLIED, ALL PURPOSE, FIRE RETARDANT JACKET WITH A MINIMUM R-4.0 PER INCH. CONCEALED AND EXPOSED PIPING SHALL HAVE THE INSULATION APPLIED WITH SIDE AND END JOINTS BUTTED PIPING TO SERVE FIXTURES AND EQUIPMENT AND EXPOSED TO VIEW IN FINISHED TIGHTLY. SEAL JACKET LEGS AND BUTT JOINT STRIPS WITH ADHESIVE.

> INSULATE FITTINGS FOR PIPING UP TO 3 INCHES IPS WITH MOLDED GLASS FIBER. INSULATE FITTINGS FOR PIPING LARGER THAN 3 INCHES WITH MOLDED FITTINGS OR SEGMENTED SECTIONS, WIRED IN PLACE TO THE SAME THICKNESS AS ADJACENT INSULATION. EXPOSED INSULATED PIPING AND FITTINGS SHALL BE JACKETED WITH 6 OUNCE CANVAS PIPING INCLUDING THE FITTING CHANGE FROM HORIZONTAL TO VERTICAL. CONCEALED AND EXPOSED PIPING SHALL HAVE THE INSULATION APPLIED WITH SIDE AND END JOINTS BUTTED TIGHTLY. SEAL OFF ENDS OF INSULATION WITH VAPOR BARRIER MASTIC AT EACH FITTING AND AT 21 FOOT INTERVALS ON CONTINUOUS RUNS.

INSTALL THE FACTORY APPLIED FIRE RETARDANT JACKET VAPOR BARRIER SO THAT IT WILL LAP SMOOTHLY AND SECURELY AT THE LONGITUDINAL LAP AND ADHERE IT WITH VAPOR BARRIER MASTIC. ADHERE 3 INCH WIDE BUTT STRIPS X SMOOTHLY OVER ALL END JOINTS WITH THE VAPOR BARRIER MASTIC TO ASSURE A CONTINUOUS VAPOR BARRIER - NO STAPLES ALLOWED. INSULATE DRAIN BODIES AND FITTINGS WITH METERED SEGMENTS OF PIPE INSULATION, COATS OF VAPOR BARRIER MASTIC REINFORCED WITH GLASS FABRIC EXTENDING 2 INCHES ONTO ADJACENT PIPES. EXPOSED INSULATED PIPING AND FITTINGS SHALL BE JACKETED WITH 8 OUNCE CANVAS. TERMINATE INSULATION NEATLY AT CLEANOUTS ON STORM AND COLD DRAIN PIPING, DO NOT COVER CLEANOUTS.

DOMESTIC WATER HEATING

DESCRIPTION

PROVIDE DOMESTIC WATER HEATING EQUIPMENT WHERE SHOWN ON DRAWINGS

DISCHARGE PIPE

INSTALLATION WATER HEATER SHALL BE INSTALLED WHERE SHOWN ON THE DRAWINGS.

DISCHARGE PIPE SHALL HAVE TERMINATING END CUT AT 45 DEGREE ANGLE.

TERMINATE RELIEF VALVE DRAIN AS SHOWN ON THE DRAWINGS.

