

Project Location Map

Not to Scale

## Greene County Historic Courthouse Recorders Office

940 N. Boonville Ave. Springfield, MO 65802



**Greene County Commission: Bob Dixon** Presiding Commissioner Rusty MacLachlan 1st District Commissioner John C Russell 2nd District Commissioner

**Greene County Project Team: Kevin Barnes** Director Resource Management Rob Rigdon Senior Project Manager Franz Williams Director Building Operations

## MEP Engineer:



## **Building Code Data:**

Code Edition: Construction Type: IIB (Existing) Use Groups: Gross Building Area: 4,367 sq ft. (Renovation Area)

2018 International Building Code Business: B (No change in occupancy).

Non-Sprinklered

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## **ARCHITECTURAL DRAWINGS**

ADA GUIDELINES & ARCHITECTURAL INFORMATION DEMO PLANS, FLOOR PLANS, RCP & FINISH

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## **MECHANICAL DRAWINGS**

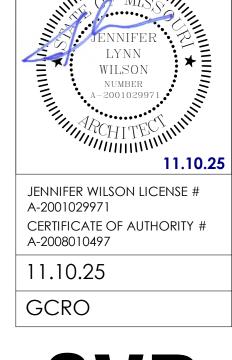
MEP DEMOLITION PLANS

## **PLUMBING DRAWINGS**

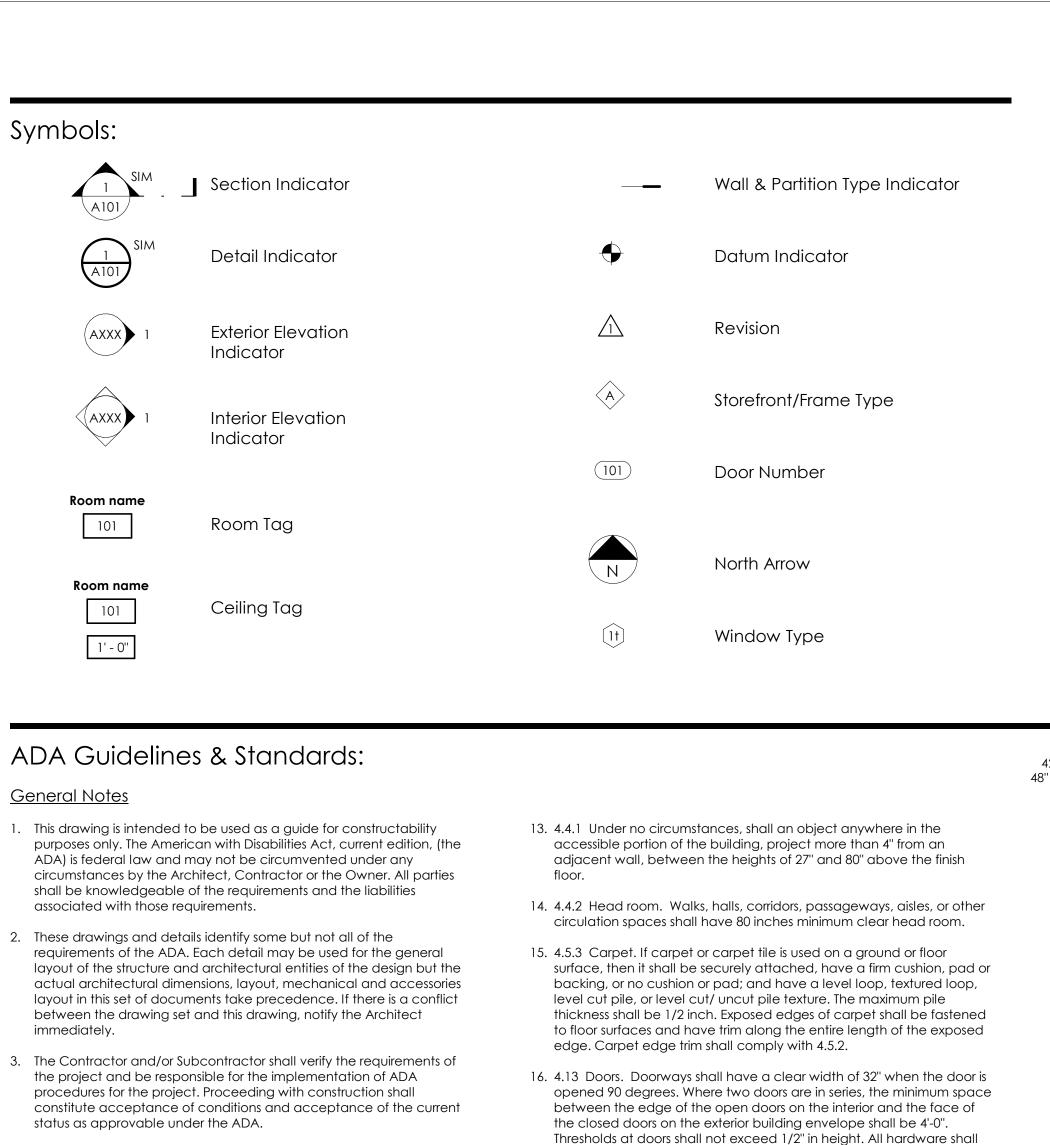
PLUMBING IMPROVMENT PLANS PLUMBING SPECIFICATIONS

## **ELECTRICAL DRAWINGS**

ELECTRICAL IMPROVMENT PLANS E201 ELECTRICAL DETAILS ELECTRCIAL SPECIFICATIONS







have levers, push-type mechanisms or u-shaped handles. If a closer is

used, then the sweep period of the closer shall be adjusted so that

seconas to move to a point 3 inches from the latch, measured to the

leading edge of the door. The maximum force for pushing or pulling

open a door shall be as follows; fire doors shall have the minimum

Interior hinged doors - 5lbf. Automatic doors shall comply with

17. 4.17 The height of the water closet in an accessible stall shall be 17

inches to 19 inches, measured to the top of the toilet seat from the

movement.

opening force allowable by the appropriate administrative facility.

ansi/bhma a156.10-1985. Such doors shall not open to back check

faster than 3 seconds and shall require no more than 15 lb to stop door

finish floor. Toilet paper dispensers that do not allow continuous delivery

or controlled delivery are not allowed. In standard stalls there shall be

a minimum toe clearance of 9" between the floor and the bottom of

the partition on the entry side and at least one side for mobility. Urinals

shall be at a maximum of 17" above the finished floor to the top of the

be insulated or otherwise configured to protect against contact. There

front lip of the bowl. Hot water and drain pipes under lavatories shall

18. 4.32 Fixed or built-in seating and tables. Knee clearance shall be at

least 27" high, 30" wide and 19" deep. The tops of counters and tables

that are accessible shall be between 28" and 34" above finished floor.

1-1/4"-2"

Children's lavatory.

 $\sim 1-1/2$ " min.

34"-36"

42" max.

<sub>ի</sub> 12" max.<sub>`</sub>

Floor Clearance at Plumbing Fixtures

Drinking

Fountain.

28 CFR Ch. 1 & ICC A117.1-2009

11" min. 6" max.

Children's toilet.

shall be no sharp or abrasive surfaces under lavatories.

Top of gripping surface of

max. vertically above stair

nosings, ramp surfaces and

**Handrail Clearance & Height** 

ICC A117.1-2009, Figure 505.7

8" min.

walking surfaces.

handrail shall be 34" min. & 38"

from an open position of 70 degrees, the door will take at least 3

4. The Contractor and/or Sub-contractor shall verify the most restrictive

5. Refer to the civil drawings for ADA standards that take place outside

6. All building entrances and means of egress shall be accessible and

7. 4.1.3.10.b Where more than one drinking fountain or water cooler is

8. 4.1.3.12 If fixed or built-in storage facilities such as cabinets, shelves,

9. 4.1.3.14 If emergency warning systems are provided, then they shall

include both audible alarms and visual alarms complying with 4.28.

10. 4.1.3.16 Building signs which designate permanent rooms and spaces

shall comply with 4.30.1, 4.30.2, 4.30.5 and 4.30.6. other signs which

provide direction to or information about functional spaces of the

11. 4.3.7 An accessible route with a running slope greater than 1:20 is a

12. 4.5.2 Changes in levels along an accessible route shall comply with

4.5.2. If an accessible route has changes in level greater than 1/2", then a curb ramp, ramp, elevator or platform lift shall be provided that

complies with 4.7, 4.8, 4.10, or 4.11. (An accessible route does not

**Accessory Mounting Heights for Accessibility** 

28 CFR Ch. 1 & ICC A117.1-2009

Fire extinguisher cabinet.

ramp and shall comply with 4.8. Nowhere shall the cross slope of an

building shall comply with 4.30.1, 4.30.2, 4.30.3 and 4.30.5.

provided on a floor, 50% of those provided shall comply with 4.15 and

closets, and drawers are provided in accessible spaces, at least one of

Additional storage may be provided outside of the dimensions required

each type provided shall contain storage space complying with 4.25.

most restrictive rules shall apply.

the building envelope.

by 4.25.

conform to 4.1.3 of the ADA.

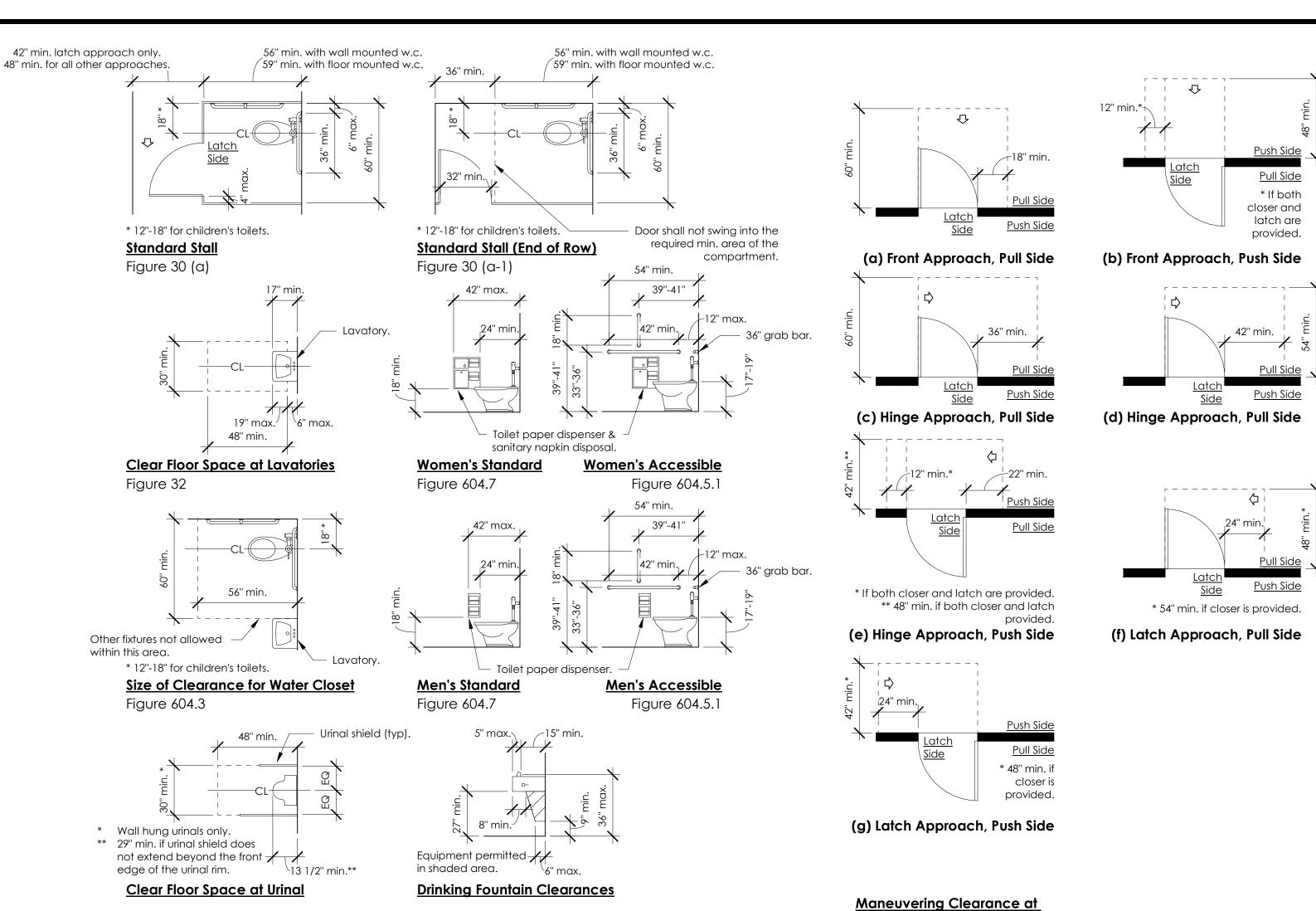
shall be on an accessible route.

accessible route exceed 1:50.

include stairs, steps or escalators.)

guidelines for a specific project. If local rules are more restrictive, the





Mirror. –

Hand dryer.

Hand towel.

Sanitary napkin dispenser.
Toilet seat cover dispenser.

Waste.

Trash can.

Paper towel dispenser.

Manual Swinging Doors

ICC A117.1-2009, Figure 404.2.3.2

Lever-type door handle.

Convenience wall outlet.

Thermostat.

- Fire alarm.



WILSON

JENNIFER WILSON LICENSE #

CERTIFICATE OF AUTHORITY #

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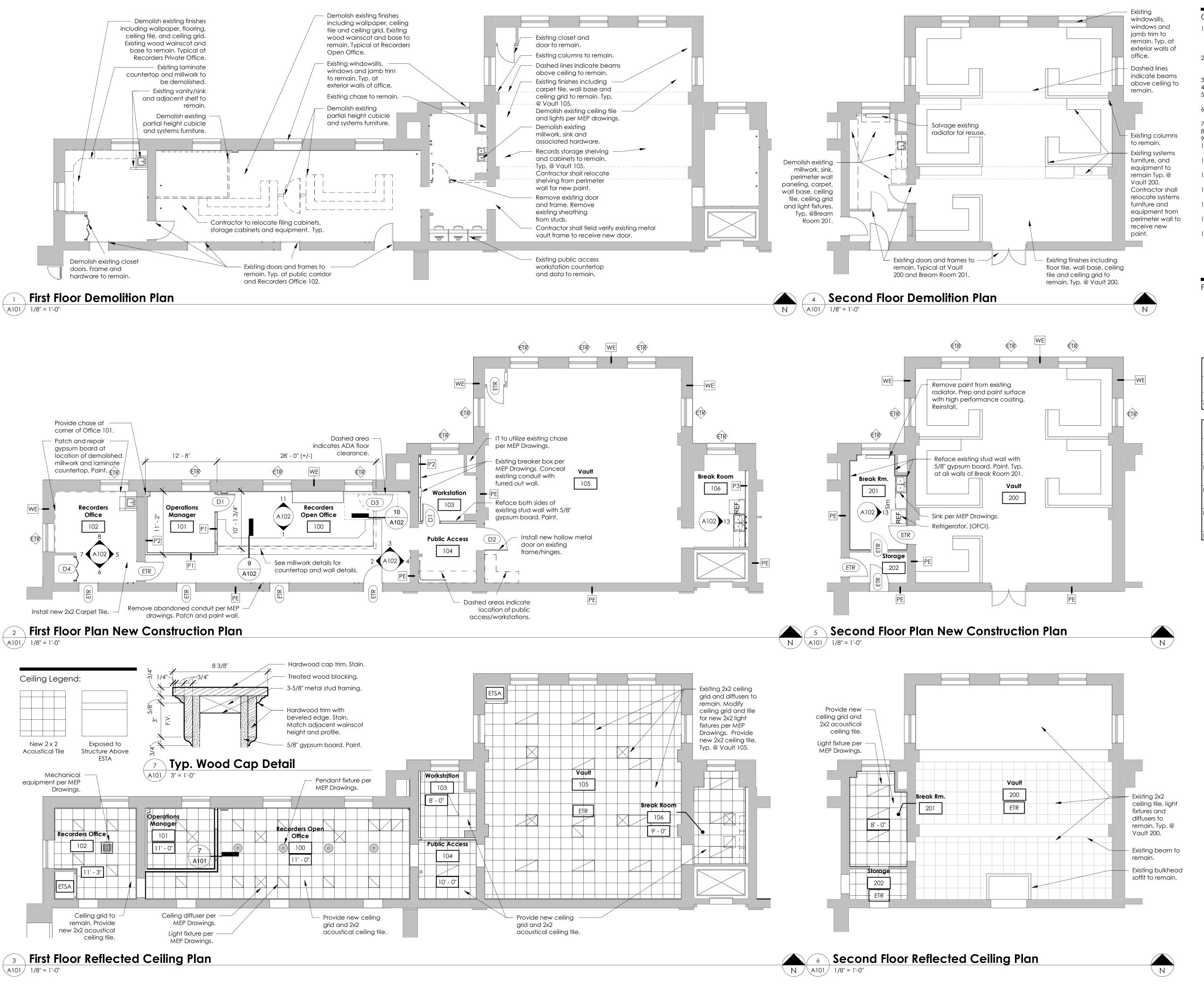
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11.10.25





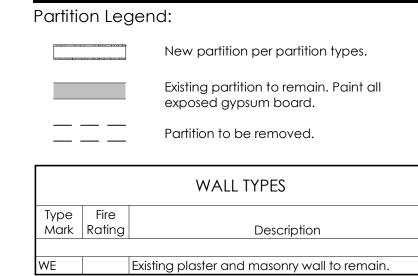
## General Notes:

- Contractor is responsible for field verifying existing conditions and providing any demolition required to accommodate new construction Notify architect if existing conditions deviate from plans.
- Protect existing construction and finishes to remain. Patch and repair all adjacent surfaces to appear consistent following construction.
- 3. Ceiling heights are measured from adjacent finish floor.
- 4. See MEP drawings for lighting and HVAC information.5. Dimensions are to face of stud, face of brick, slab edge or centerline of structure (U.N.O.).
- 6. Provide 18" clear min. on the pull side of the latch side of each door (U.N.O.).

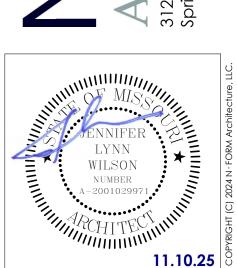
  7. Provide 4" at ignib of door and adjacent wall (U.N.O.).
- 7. Provide 4" at jamb of door and adjacent wall (U.N.O.).8. All millwork shall be fabricated per AWI standards.
- 9. All new trim shall match existing trim profile and size.10. Provide grommets at computer workstations. Verify exact
- locations with Owner, prior to installation.

  11. Architect shall select from manufacturer's full range of standard colors and stains at solid surface and wood finishes.
- 12. Patch and prep all existing surfaces as required and install finishes per manufacture's written instructions.
- 13. Manufacturer's listed are Basis of Design: Contractor shall provide Basis of Design or an Approved Equal.
- 14. Contractor shall relocate furniture and equipment prior to
- demolition and construction.

  15. Provide flooring transition strips as recommended by flooring manufacturer.
- 16. All wood veneer panels and hardwood trim shall be fire treated with a polyurethane flame retardant clear coat that meets or exceeds a "Class A" finish when applied per manufacturers recommendations. Basis of Design: Flamecheck FIF Clear Coat.



		PARTITION TYPES
Type Mark	Fire Rating	Description
P1		(1) layer of 5/8" gypsum board both sides of 3-5/8 metal studs @ 16" O.C. Align top of partition with adjacent wood wainscot.
P2		(1) layer of 5/8" gypsum board one side of 3-5/8" metal studs @ 16" O.C. Terminate partition 6" about adjacent ceiling.
P3		(1) layer of 5/8" gypsum board one side of 6" metostuds @ 16" O.C. Terminate partition 6" above adjacent ceiling.
PE		Existing hollow clay tile and plaster wall to remain



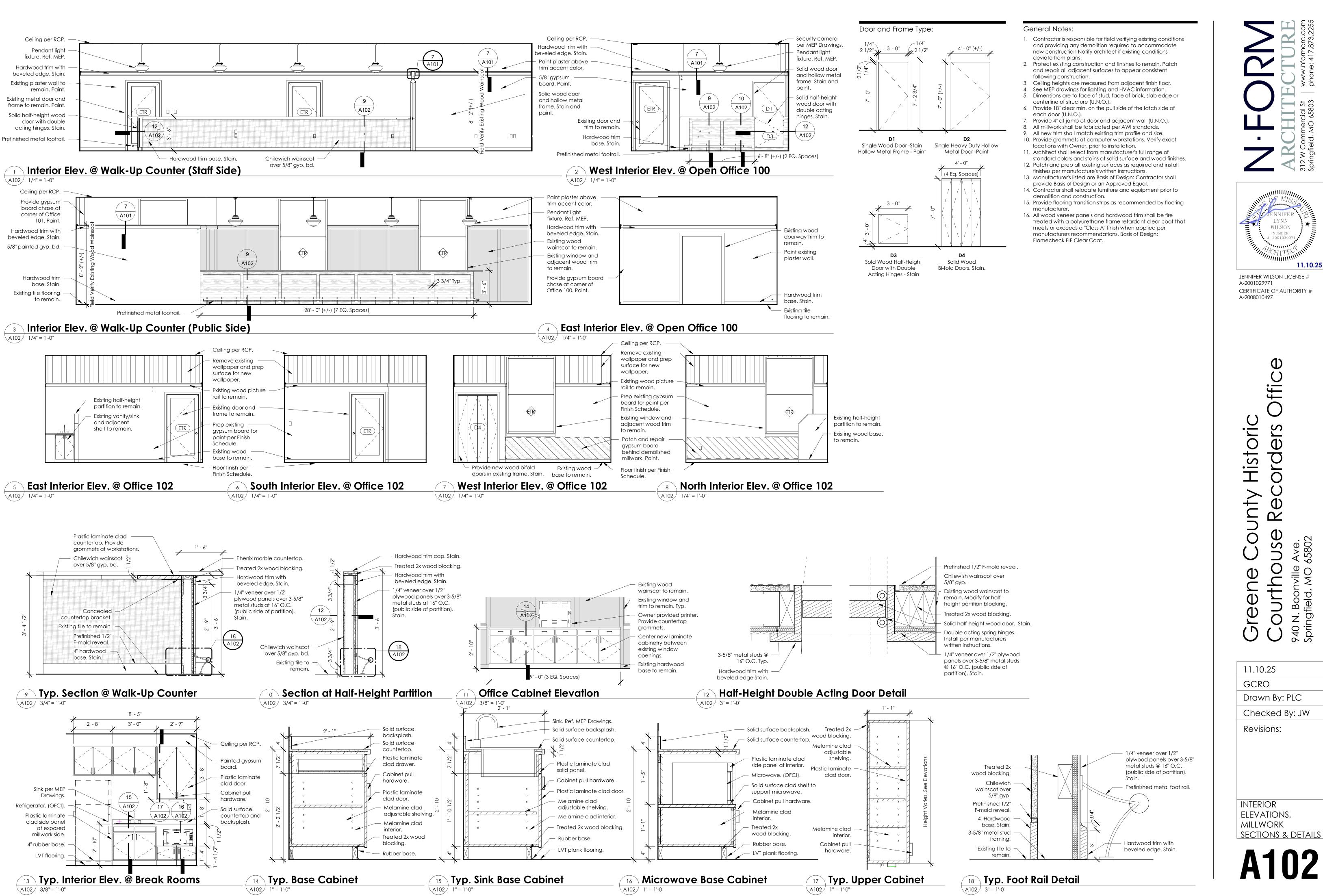
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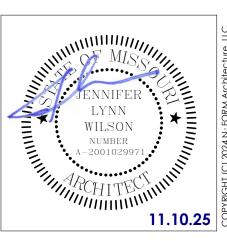
## Freene County Historic Courthouse Recorders Office

11.10.25
GCRO
Drawn By: PLC/JAB
Checked By: JW
Revisions:

DEMO PLANS,
FLOOR PLANS, RCP
& FINISH SCHEDULE

A101



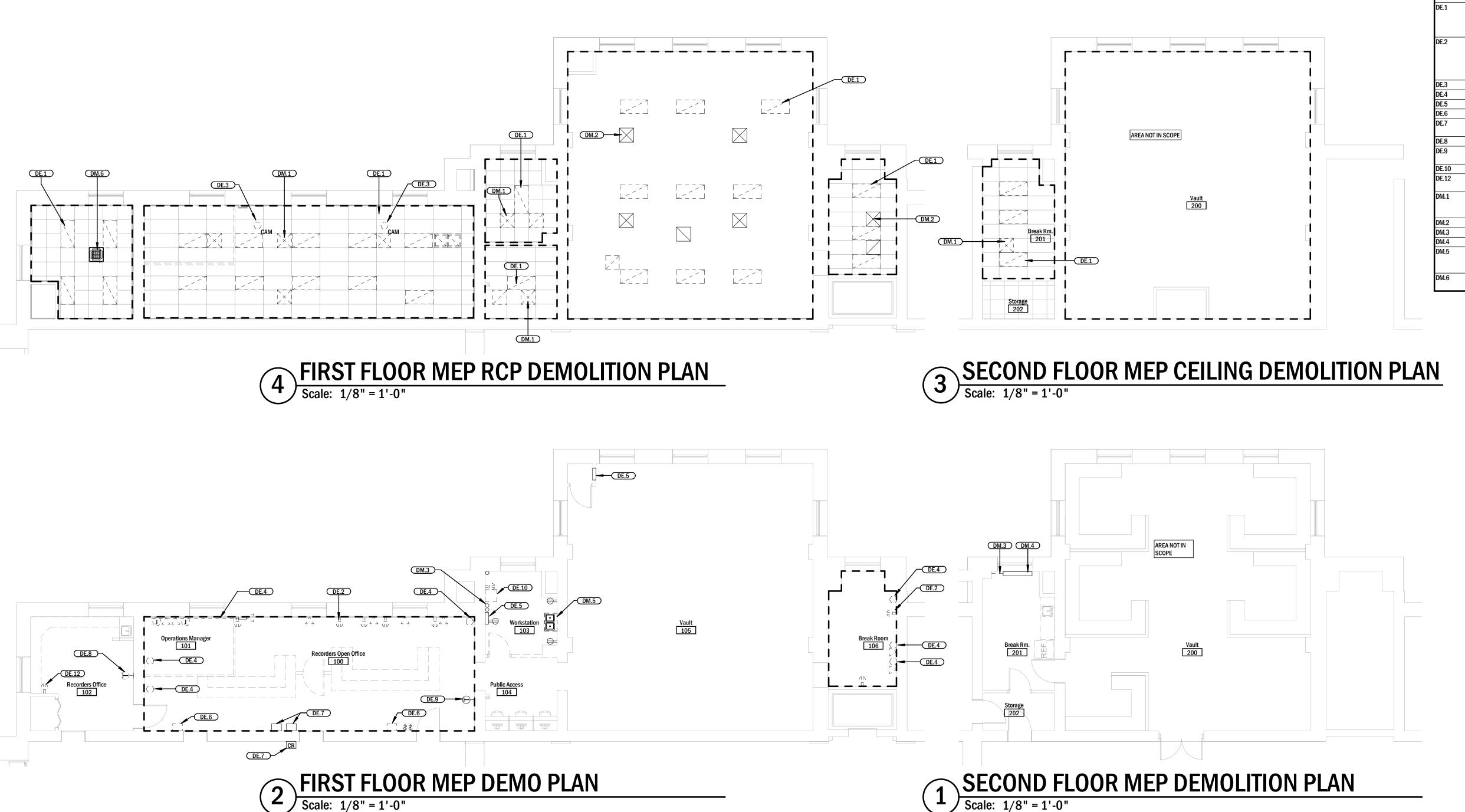


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## $\Delta$ NS

11.10.25 GCRO Drawn By: PLC Checked By: JW Revisions:

INTERIOR ELEVATIONS, MILLWORK



## **NOTES TO BIDDERS**

THIS PLAN SET AND ASSOCIATED SPECIFICATIONS AND ADDENDA, CONSTITUTE THE BIDDING AND CONSTRUCTION PLAN SET. BIDDING FROM PLAN SETS THAT DO NOT INCLUDE ALL ELEMENTS OF THE CONSTRUCTION DOCUMENTS, IS DONE AT THE RISK OF THE BIDDER. IT IS ASSUMED THAT ALL BIDDERS, BY SUBMITTING A BID, ARE FAMILIAR WITH ALL ASPECTS OF THE PROJECT AND HAVE REVIEWED THE COMPLETE PLAN SET.

BY SUBMITTING A BID THE GENERAL CONTRACTOR IS INDICATING THAT THEY ARE FAMILIAR WITH ALL ELEMENTS OF THE PROJECT REQUIRED FOR COMPLETION OF THE PROJECT AND ARE WHOLLY FAMILIAR WITH THE SYSTEMS SPECIFIED IN THIS PLAN SET AND SPECIFICATIONS. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR PROVIDING A <u>COMPLETE/FUNCTIONAL</u> PROJECT. NO EXTRAS WILL BE PAID FOR NEGLECTING TO PROVIDE ALL UTILITY CONNECTIONS AND ACCESSORIES FOR PROJECT TO BE COMPLETELY OPERATIONAL. (EXAMPLE: CONTRACTOR SHALL PROVIDE GAS PIPING AND VENT AND INTAKE PIPING TO A WATER HEATER IF A GAS WATER HEATER WAS SPECIFIED/BID.) IN NO CASE SHALL THE CONTRACTOR PROVIDE OR EXCLUDE PROJECT COMPONENTS THAT WOULD RENDER THE PROJECT IN CONFLICT WITH CODE REQUIREMENTS, INCOMPLETE OR NON-FUNCTIONAL IN ANY WAY, IF THE CONTRACTOR REQUIRES ADDITIONAL INFORMATION OR CLARIFICATION FOR AREAS IN WHICH THEY BELIEVE INSUFFICIENT INFORMATION IS PROVIDED. REQUEST FOR THAT INFORMATION FROM THE DESIGN TEAM SHALL BE SUBMITTED PRIOR TO

## **GENERAL DEMOLITION NOTES**

INFORMATION ON THESE DRAWINGS REPRESENTS INFORMATION FROM OLD DRAWINGS AND LIMITED SITE INSPECTIONS. CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS PRIOR TO SUBMITTING BID. NO EXTRAS SHALL BE PAID DUE TO UNANTICIPATED CONDITIONS.

CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CORING, PATCH, AND REPAIR OF ALL WALL AND FLOOR SYSTEM AS REQUIRED DUE TO NEW CONSTRUCTION. MAINTAIN ALL FIRE RATINGS. WHERE DEMOLISHED DEVICES ARE PART OF A CIRCUIT THAT IS THRU-WIRED, OR HAS ADDITIONAL DEVICES ON THE CIRCUIT THAT ARE TO REMAIN UNCHANGED, THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING THE INTEGRITY OF THE EXISTING CIRCUIT. ANY ADDITIONAL CONDUIT, CONDUCTOR, BOXES, ETC NEEDED TO MODIFY THE EXISTING CIRCUIT TO MAINTAIN THE INTEGRIT

FOR ALL EXISTING FIXTURES, EQUIPMENT, ETC. SHOWN TO BE REMOVED, THE OWNER SHALL HAVE THE FIRST RIGHT OF REFUSAL.

ARE THE RESPONSIBILITY OF THIS CONTRACTOR AND SHALL BE INCLUDED IN BID.

CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVAL OF ALL ELECTRICAL DEVICES, CONDUIT, AND WIRING IN ALL DEMOLISHED WALLS WHETHER SPECIFICALLY INDICATED OR NOT.

REMOVE AND REPLACE DEVICES AS REQUIRED DUE TO NEW WALL OR CEILING FINISHES.

## **KEYNOTES**

REMOVE LIGHT FIXTURES IN THIS AREA UNLESS NOTED OTHERWISE. CONTRACTOR SHALL RECONNECT ANY LIGHT FIXTURES OUTSIDE OF THIS SCOPE TO THE NEAREST 20A CIRCUIT. HOMERUNS TO BE MAINTAINED FOR CONNECTION TO NEW LIGHTING SERVING SAME AREA. REFERENCE LIGHTING IMPROVEMENT PLAN.

REMOVE EXISTING ELECTRICAL DEVICES IN THIS AREA UNLESS NOTED OTHERWISE. REMOVE ASSOCIATED WIRE AND CONDUIT BACK TO EXISTING PANEL OR REMAINING CIRCUITS. CONTRACTOR SHALL RECONNECT ANY DEVICE OUTSIDE OF THIS SCOPE TO THE NEAREST 20A CIRCUIT. WHERE WALLS ARE NOT DEMOLISHED PATCH WALLS AND PREPARE FOR NEW WALL FINISHES SHOWN ON ARCHITECTURAL PLANS.

REMOVE AND PRESERVE SECURITY DEVICE FOR RESINSTALLATION IN NEW CEILING. REMOVE WIRE RACEWAY.

EXISTING PANEL TO REMAIN.

REMOVE EMPTY BOX AND WIREMOLD

EXISTING CARD READER TO REMAIN. PRESERVE ASSOCIATED BOXES AND WIRING. REMOVE WIREMOLD AND REPLACE WITH EMT CONDUIT. THERMOSTAT TO BE RELOCATED. REFERENCE FIRST FLOOR ELECTRICAL IMPROVEMENT PLAN.

THERMOSTAT TO REMAIN. REMOVE AND REPLACE THERMOSTAT AND BOX IN SAME LOCATION FOR NEW FINISHES. REMOVE WIREMOLD AND REPLACE WITH EMT.

REMOVE ELECTICAL CABINET AND CONNECTED CONDUITS REMOVE RECEPTACLE AND ASSOCIATED WIRING AND CONDUIT. PATCH WALL AND PREPARE

FOR NEW WALL FINISH AS SHOWN ON ARCHITECTURAL PLANS. GRILLS AND DIFFUSERS TO BE REMOVED AND PRESERVED IN CEILING TO BE DEMOLISHED. GILLES AND DIFFUSERS TO BE CLEANED AND MADE LIKE NEW FOR INSTALLATION IN NEW CEILING. RECONNECT TO PREVIOUS DUCTS AND HVAC SYSTEM

EXISTING GRILLES AND DIFFUSERS IN THIS AREA TO REMAIN. REMOVE ABANDONED HYDRONIC PIPING. PATCH FLOOR PENETRATIONS. RADIATOR TO REMAIN IN PLACE. REMOVE SINK. REMOVE WASTE TO SANITARY LINE LOCATED ABOVE CEILING IN FLOOR BELOW

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PALMER NUMBER

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2013039894

E-2013013378

940 N. Boonville Ave. Springfield, MO 65802

11.07.2025 GCRO Drawn By: AJW Checked By: BRP Revisions: MEP DEMOLITION PLANS

	PLUMBING FIXTURE SCHEDULE								
MARK	IARK DESCRIPTION MANUFACTURER MODEL OPTIONS AND ACCESSORIES PIPING CONNECTION								NOTES
IVIARIA	DESCRIPTION	WANUFACTURER	WIODEL	OPTIONS AND ACCESSORIES	COLD	НОТ	WASTE	VENT	NUIES
	DOUBLE COMPARTMENT STAINLESS STEEL SINK	ELKAY	DLR332210	TYPE 302 STAINLESS STEEL, 18 GAUGE, LK-6K-H SATIN FINISH, FACUET CENTERS TO MATCH FAUCET, TRAP AND TAILPIECE, 3.5" DRAIN			2"	1.5"	2,3
	SINK FAUCET	DELTA	9159-DST	ADA COMPLIANT, CHROME, SUPPLIES AND STOPS, 9.5" GOOSENECK SWING SPOUT WITH PULLDOWN SPOUT, SINGLE HANDLE, ESCUTCHEON	0.5"	0.5"			2

1. REFER TO ARCHITECTURAL DRAWINGS FOR MOUNTING HEIGHT

2. PROVIDE ACCESSORIES TO SUPPORT FIXTURE AS RECOMMENDED BY MANUFACTURER 3. SINK FAUCET HOLE OPENINGS SHALL MATCH FAUCET.

4. INSTALL ACCESSORIES AS RECOMMENDED BY MANUFACTURER FOR ADA COMPLIANCE.

MAT: MATERIAL

MI: MALLEABLE IRON

PE: HIGH DENSITY POLYETHYLENE

5. INSTALL FIXTURE OVER FINAL WALL FINISH INCLUDING FRP OR TILE AS SPECIFIED BY ARCHITECT SO THAT FINISH CAN RUN CONTINUOUSLY BEHIND FIXTURE.

WE: WELDED

WF: WELDED AND FLANGED

WSF: WROUGHT STEEL FITTINGS WCF: WROUGHT CAST FITTINGS

WALL FINISH INCLUDING FRP OR TILE AS S	SPECIFIED BY ARCHITECT S	O THAT FINISH CAN RUN CONTINUOUSLY	BEHIND FIXTURE.				Ġ	inťerpre
	Р	IPING MATERIAL	SCHEDUL	E.				
	PIPING		TEST PAR	AMETERS	FITT	TING	LABEL	COLOR
TYPE	SIZE	MATERIAL	PRESSURE	TIME	MATERIAL	TYPE	BACKGROUND	TEXT
DOMESTIC COLD WATER ABOVE GRADE	2" AND SMALLER	PEX TUBING	150 PSI	1 HR	PEX	CR	GREEN	WHITE
DOMESTIC HOT WATER ABOVE GRADE	2" AND SMALLER	PEX TUBING	150 PSI	1 HR	PEX	CR	GREEN	WHITE
DWV PIPING ABOVE GRADE	ALL	SCHEDULE 40 DWV PVC	5 PSI	1 HR	DWV	SW	BLACK	WHITE
ROOF DRAIN PIPING ABOVE GRADE	ALL	SCHEDULE 40 DWV PVC	5 PSI	1 HR	DWV	SW	BLACK	WHITE
ABBREVIATIONS: BF: BUTT FUSION	ABBREVIATIONS: NH: NO HUB		l l					
BZ: BRAZED CI: CAST IRON CR: CRIMPED	RS: RESIN SOCKET SL: SOLDERED SW: SOLVENT WELD							
DWV: DRAINAGE WASTE AND VENT FSFL: FORGED STEEL FLANGES	TH: THREADED WC: WROUGHT COPPER							

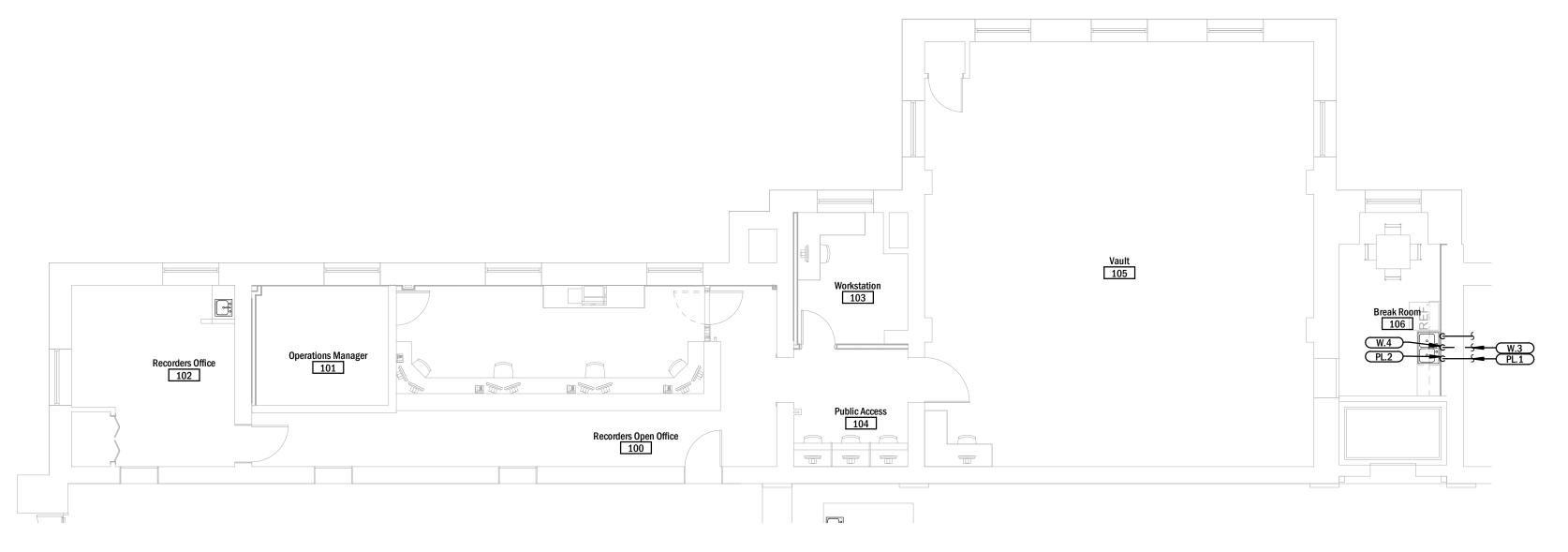
## **NOTES TO BIDDERS**

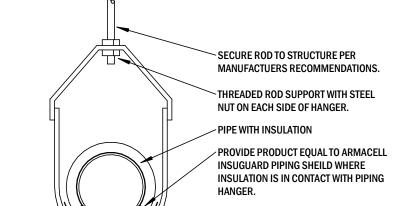
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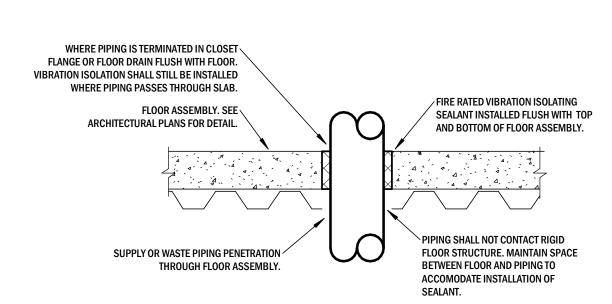
	KEYNOTES
PL.1	0.5" COLD WATER AND 0.5" HOT WATER TO NEARBY PIPING SUPPLYING RESTROOM. CONTRACTOR TO FIELD VEIRFY LOCATION.
PL.2	0.5" HOT AND COLD WATER TO SINK.
W.1	EXTEND 2" WASTE TO EXISTING SANITARY WASTE PLUMBING SERVING NEARBY RESTROOM. CONTRACTOR TO FIELD VERIFY LOCATION.
W.2	2" WASTE UP TO SINK
W.3	1.5" VENT TO EXISTING VENT SYSTEM SERVING NEARBY RESTROOM GROUP. CONTRACTOR TO FIELD VERIFY LOCATION.
W.4	1.5" VENT DOWN TO SINK

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## 4 CLEVIS PIPE HANGER DETAIL Scale: NTS



PIPING FLOOR PENETRATION DETAIL
Scale: NTS

FIRST FLOOR PLUMBING IMPROVEMENT PLAN

Scale: 1/8" = 1'-0" W.2 W.1

(	1	FIRST FLOOR WASTE IMPROVEMENT PLAN
( .	L /	Scale: 1/8" = 1'-0"

PLUMBING SYMBOLS — – — DOMESTIC COLD WATER — — — DOMESTIC HOT WATER — — — DOMESTIC HOT WATER RETURN ──W ── | WASTE PIPING — — — VENT PIPING —— D —— DRAIN G NATURAL GAS/PROPANE — F — FIRE SERVICE RD—— PRIMARY ROOF DRAIN —— A —— COMPRESSED AIR — 02 — OXYGEN ---- N20 ---- NITROUS OXIDE — SHUTOFF VALVE ROOF PIPING SUPPORT ‡+S SHOCK ABSORBER M WATER METER PRESSURE REGULATOR FLOW CONTROL VALVE ⊢HB HOSE BIBB RHB RECESSED HOSE BIBB 
 ₩H
 WALL HYDRANT
 FFCO | FLUSH FLOOR CLEANOUT FLUSH GRADE CLEANOUT || CO | WALL CLEANOUT ELBOW UP WITH SHUTOFF VALVE —+Ō+— TEE UP WITH SHUTOFF VALVE TEE DOWN WITH SHUTOFF VALVE FDA 2" FLOOR DRAIN, TYPE & SIZE RDA4" ROOF DRAIN, TYPE & SIZE INDICATES CONNECTION TO EXISTING SYSTEMS DIMENSIONS NEXT TO ANY SYMBOL OR FIXTURE INDICATES MOUNTING HEIGHT TO CENTERLINE OF DEVICE FFC0 FINISEHD FLOOR CLEANOUT FGCO FINISHED GRADE CLEANOUT
FWCO FINISHED WALL CLEANOUT FINISHED GRADE CLEANOUT CW COLD WATER
HW HOT WATER VENT W WASTE WH WATER HEATER

## building solutions 1201 South Campbell / Springfield, MO 65807 417.631.4895 / www.interpresbuild.com Re Greene

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2013039894

E-2013013378

11.07.2025 GCRO Drawn By: AJW Checked By: BRP Revisions: PLUMBING **IMPROVMENT** PLANS

# 3.1. INSTALL PIPING TO PERMIT VALVE SERVICING.

## SECTION 22000 - PLUMBING SPECIFICATIONS

1.1. PLUMBING CONTRACTOR SHALL FURNISH AND INSTALL ALL PLUMBING PIPING WHERE REQUIRED, COMPLETE AS CALLED FOR OR INDICATED ON THE PLANS AND SPECIFICATIONS ACCORDING TO ALL LOCAL CODES, WITH THESE PLANS AS A MINIMUM REQUIREMENT.

- 2.1. GENERAL CONTRACTOR HEREINAFTER ABBREVIATED G/C SHALL MEAN THE PERSON OR COMPANY AND THEIR SUBCONTRACTORS WHO ENTER INTO CONTRACT WITH THE OWNER TO PERFORM THE GENERAL DIVISION WORK.
- 2.2. PLUMBING CONTRACTOR HEREINAFTER ABBREVIATED P/C SHALL MEAN THE PERSON OR COMPANY AND THEIR SUBCONTRACTORS WHO ENTER INTO CONTRACT WITH THE G/C TO PERFORM THE MECHANICAL DIVISION WORK.
- 2.3. EQUIPMENT AND/OR MATERIALS MANUFACTURER HEIREINAFTER ABBREVIATED E/M SHALL MEAN THE MANUFACTURER OR EQUIPMENT OR MATERIALS SPECIFIED OR REFERRED TO.
- 2.4. CONTRACTOR SHALL VERIFY SITE UTILITIES AND SANITARY INVERT ELEVATIONS PRIOR TO ANY WORK.
- 2.5. ALL PLUMBING INSTALLATIONS SHALL CONFORM WITH THE LOCAL PLUMBING CODE AS MENTIONED AT THE CODE/PROJECT DATA AND SUBSEQUENT AMENDMENTS THERETO EXCEPT WHEREIN THE SAME IS IN CONFLICT WITH EXISTING REGULATIONS AND THE AUTHORITY HAVING JURISDICTION.
- 2.6. PIPING LAYOUTS ARE DIAGRAMMATIC AND INTEND TO SHOW GENERAL ARRANGEMENT, SIZE AND CAPACITY, ALL OFFSETS ARE NOT NECESSARILY SHOWN. CONTRACTOR SHALL ARRANGE AND COORDINATE THE WORK, FURNISH NECESSARY OFFSETS, VALVES VENTS AND FITTINGS TO AVOID CONFLICTS WITH OTHER MECHANICAL AND ELECTRICAL SERVICES AND WITH STRUCTURAL AND ARCHITECTURAL ELEMENTS.
- 2.7. LOCATIONS OF FOLIPMENT PIPING, AND OTHER MECHANICAL WORK ARE INDICATED DIAGRAMMATICALLY BY PLUMBING DRAWINGS. DETERMINE EXACT LOCATIONS ON JOB, SUBJECT TO STRUCTURAL CONDITIONS, WORK OF OTHER CONTRACTORS, ACCESS REQUIREMENTS FOR INSTALLATION AND MAINTENANCE, AND TO APPROVAL OF
- 2.8. IT IS THE RESPONSIBILITY OF THE PLUMBING CONTRACTOR TO REVIEW THE PLUMBING PLANS TO BECOME FAMILIAR WITH THE FULL SCOPE OF WORK
- 2.9. DO NOT SCALE PLUMBING. MECHANICAL AND ELECTRICAL DRAWINGS FOR DIMENSIONS. ACCURATELY LAY OUT WORK FROM DIMENSIONS INDICATED ON ARCHITECTURAL DRAWINGS UNLESS SUCH IS FOUND IN ERROR
- 2.10. FINAL ACCEPTANCE OF WORK SHALL BE SUBJECT TO THE CONDITION THAT ALL SYSTEMS, EQUIPMENT, APPARATUS, ADJUSTMENT OF SYSTEMS AND CONTROL EQUIPMENT AND ALL REQUIRED PROGRAMMING INSTALLED UNDER
- 2.11. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL WORK AS REQUIRED BY PHASING OF CONSTRUCTION FOR INTENDED USE BY THE OWNER AS APPLICABLE.
- 2.12. THE INTENT OF THESE SPECIFICATIONS IS TO ALLOW AMPLE OPPORTUNITY FOR P/CTO USE HIS INGENUITY AND ABILITIES TO PERFORM THE WORK TO HIS AND THE OWNER'S BEST ADVANTAGE, AND TO PERMIT MAXIMUM COMPETITION IN RIDDING ON STANDARDS OF MATERIALS AND FOLIRMENT REQUIRED
- 2.13. MATERIAL AND EQUIPMENT INSTALLED UNDER THIS CONTRACT SHALL BE FIRST CLASS QUALITY, NEW, UNUSED,
- 2.14. ALL MATERIAL INSTALLED IN A RETURN AIR PLENUM SHALL BE NONCOMBUSTIBLE OR HAVE A FLAME SPREAD INDEX OF NOT MORE THAN 25 AND A SMOKE DEVELOPMENT INDEX OF NOT MORE THAN 50. THIS INCLUDES ALL PLASTICS, PLUMBING PIPING AND OTHER MATERIALS PER THE INTERNATIONAL MECHANICAL CODE.

## COMMON INSTALLATION REQUIREMENTS

- 3.2. INSTALL FITTINGS FOR CHANGES IN DIRECTION AND BRANCH CONNECTIONS.
- 3.3. INSTALL PIPING TO ALLOW APPLICATION OF INSULATION.
- 3.4. SELECT SYSTEM COMPONENTS WITH PRESSURE RATING EQUAL TO OR GREATER THAN SYSTEM OPERATING
- 3.5. INSTALL EQUIPMENT TO ALLOW MAXIMUM POSSIBLE HEADROOM UNLESS SPECIFIC MOUNTING HEIGHTS ARE
- 3.6. INSTALL EQUIPMENT LEVEL AND PLUMB, PARALLEL AND PERPENDICULAR TO OTHER BUILDING SYSTEMS AND COMPONENTS IN EXPOSED INTERIOR SPACES, UNLESS OTHERWISE INDICATED.
- 3.7. INSTALL PLUMBING EQUIPMENT TO FACILITATE SERVICE, MAINTENANCE, AND REPAIR OR REPLACEMENT OF COMPONENTS. CONNECT EQUIPMENT FOR EASE OF DISCONNECTING, WITH MINIMUM
- 3.8. INSTALL EQUIPMENT TO ALLOW RIGHT OF WAY FOR PIPING INSTALLED AT REQUIRED SLOPE.

- 3.9. DAMAGE AND TOUCHUP: REPAIR MARRED AND DAMAGED FACTORY-PAINTED FINISHES WITH MATERIALS AND
- PIPING SYSTEMS TESTING:
- PIPING SHALL BE TESTED IN ACCORDANCE WITH ASTM TESTING REQUIREMENTS FOR MATERIAL LISTED IN PIPING MATERIAL SCHEDULE AND IN ACCORDANCE WITH ALL REQUIREMENTS OF LOCAL JURISDICTION. TEST PRESSURE SHALL BE 50 PSI ABOVE SYSTEM OPERATING PRESSURE AND SHALL BE HELD FOR A DURATION OF 4-HOURS. LEAKS AND LOSS IN TEST PRESSURE CONSTITUTE DEFECTS THAT MUST BE REPAIRED OR REPLACED.

## 5. PAINTING OF EQUIPMENT AND PIPING

- EQUIPMENT AND MATERIALS EXPOSED TO INTERIOR DRY ENVIRONMENT SHALL HAVE A MINIMUM OF ONE (1) PRIMER AND ONE (1) FINISH COAT, EQUIPMENT AND MATERIALS MOUNTED IN EXTERIOR LOCATION SHALL HAVE A MINIMUM OF ONE (1) PRIMER AND TWO (2) FINISH COATS WITH TOTAL THICKNESS OF AT LEAST 5 MILS. FINISH COAT COLORS IN FINISH AREAS SHALL BE AS SELECTED BY A/E.
- 6.1. METAL LABELS FOR EQUIPMENT; MATERIAL AND THICKNESS BRASS-0.032", STAINLESS STEEL-0.025", ALUMINUM-0.032". LABELS SHALL HAVE PREDRILLED OR STAMPED HOLES FOR ATTACHMENT. LENGTH AND WIDTH MAY VARY FOR REQUIRED LABEL CONTENT BUT NOT LESS THAN 2.5"X0.75". MINIMUM LETTER SIZE NOT LESS THAN 0.5". ATTACH TO EQUIPMENT BY FASTENERS OR ADHESIVE BUT LABEL SHALL NOT COMPROMISE THE PERATION OF LABELED EQUIPMENT.
- PLASTIC LABELS SHALL FOLLOW SAME GUIDELINES AS METAL LABELS BUT SHALL BE PLASTIC WITH MECHANICAL ENGRAVING AND BE MINIMUM OF 1/16" THIICK. LABELS SHALL BE WHITE WITH BLACK LETTERING AND SHALL WITHSTAND TEMPERATURES UP TO 160° F.
- 6.3. LABEL CONTENT: INCLUDE EQUIPMENTS DRAWING DESIGNATION OR UNIQUE EQUIPMENT NUMBER.
- 7.1. LABELS SHALL BE PREPRINTED, COLOR CODED, WITH LETTERING INDICATING SERVICE AND FLOW DIRECTION. LABELS SHALL BE PRINTED PLASTIC WITH CONTACT-TYPE, PERMANENT ADHESIVE BACKING. LABEL TEXT SHALL BE
- 8.1. P/C WARRANTS TO OWNER AND ARCHITECT THE QUALITY OF MATERIALS, EQUIPMENT, WORKMANSHIP, AND OPERATION OF EQUIPMENT PROVIDED UNDER THIS SPECIFICATION DIVISION FOR A PERIOD OF ONE (1) YEAR FROM
- 8.2. WHERE MANUFACTURERS' WARRANTIES EXPIRE DURING THE ONE (1) YEAR WARRANTY PERIOD. ONE (1) YEAR WARRANTY PERIOD IS DEFINED AS YEAR AFTER DATE OF SUBSTANTIAL COMPLETION, P/C SHALL INCLUDE PROVISIONS FOR EXTENDING WARRANTY FOR THE FULL ONE (1) YEAR PERIOD AND SHALL COST FOR WARRANTY

AND AFTER DATE OF SUBSTANTIAL COMPLETION OF BUILDING AND ACCEPTANCE OF MECHANICAL SYSTEMS BY

- P/C WARRANTS TO OWNER AND ARCHITECT THAT ON RECEIPT OF WRITTEN NOTICE FROM EITHER OF THEM WITHIN ONE (1) YEAR WARRANTY PERIOD FOLLOWING DATE OF ACCEPTANCE. ALL DEFECTS THAT HAVE APPEARED IN MATERIALS AND/OR WORKMANSHIP SHALL BE PROMPTLY CORRECTED TO CONDITION REQUIRED BY CONTRACT
- 8.4. THE ABOVE WARRANTY SHALL NOT SUPERSEDE ANY SEPARATELY STATED WARRANTY OR OTHER REQUIREMENTS BY
- IF THE ARCHITECT'S SPECIFICATION INCLUDES A WARRANTY THAT EXCEEDS THE ABOVE WARRANTY REQUIREMENTS, THE ARCHITECT'S WARRANTY SHALL TAKE PRECEDENCE.

- 1.1. CONNECT TO THE CITY WATER MAIN AS REQUIRED AND APPROVED BY THE CITY AND WHERE APPLICABLE VERIFY
- 1.2. METER TO BE ADEQUATE SIZE FOR DEMAND INDICATED ON THE DRAWINGS.
- 1.3. PIPING SHALL BE AS NOTED IN PIPING MATERIAL SCHEDULE
- 1.4. IF ALLOWED LOCALLY, CONTRACTOR SHALL HAVE OPTION TO PROVIDE ALTERNATE PRICING FOR PEX PIPING AS MANUFACTURED AND TESTED ACCORDING TO NATIONAL CONSENSUS STANDARDS: ASTM F 876, F 877, AWWA C904 AND CSA B137.5. MAY BE USED. NO JOINTS UNDER SLAB. PIPES AND PIPE FITTINGS, INCLUDING VALVES AND FAUCETS, SHALL HAVE NO LEAD CONTENT.

PEX CONNECTIONS SHALL BE PER THE TWO APPROVED STANDARD SPECIFICATIONS FOR PEX

CONNECTIONS: ASTM F 1807 AND ASTM F 1960. BOTH REFERENCE MECHANICAL INSERT FITTINGS. THI CRIMP FITTINGS SPECIFIED IN ASTM F1807 ARE THE MOST WIDELY USED. PEX SHALL NOT BE JOINTED BY SOLVENT CEMENT OR HEAT FUSION METHODS.

- SOLDERED JOINTS SHALL BE DONE IN ACCORDANCE WITH ASTM B 828 WITH A LEAD EREE SOLDER THAT CONFORMS WITH ASTM B 32 AND FLUX THAT CONFORMS WITH ASTM B 813. LEAD FREE SHALL MEAN A CHEMICAL
- COMPOSITION EQUAL TO OR LESS THAN 0.2 PERCENT LEAD.
- 1.6. PIPES PASSING THROUGH CONCRETE OR OTHER CORROSIVE MATERIALS SHALL BE PROTECTED FROM EXTERNAL FROM LIME OR ACID OF CONCRETE OR OTHER CORROSIVE MATERIAL. SHEATHING OR WRAPPING SHALL ALLOW FOR EXPANSION AND CONTRACTION OF PIPING TO PREVENT ANY RUBBING ACTION. MINIMUM WALL THICKNESS OF
- 2.1. WATER PIPING TO BE RUN ON WARM SIDE OF EXTERIOR WALLS, WHEN NOT IN SLAB. 2.2. INSULATE ALL HOT AND COLD WATER AND ROOF DRAIN PIPING.
- 2.3. INSULATE ALL HOT AND COLD WATER PIPING IN ACCORDANCE TO THE VALUES LISTED BELOW.
- 2.4. INSULATION SHALL BE ARMSTRONG AP ARMAFLEX ELASTOMERIC PIPE INSULATION WITH MINUS 50 DEG F TO PLUS 220 DEG F OPERATING TEMPERATURE RANGE AND AVERAGE THERMAL CONDUCTIVITY NOT EXCEED 0.22 BTU/HR AT 75 DEG F MEAN TEMPERATURE. TO GREATEST EXTENT POSSIBLE APPLY INSULATION WITHOUT LONGITUDINAL JOINT BY SLIPPING INSULATION OVER PIPING. SEAL ALL SEAMS AND BUTT JOINTS WITH ARMSTRONG 520ADHESIVE, THICKNESS SHALL BE PER MANUFACTURER'S RECOMMENDATIONS USING A MAXIMUM SEVERITY OF 90 DEG FAND 80 PERCENT RA. INSULATION SHALL BE INSTALLED WITH THE FOLLOWING THICKNESS.
- DOMESTIC COLD WATER 1.25" OR SMALLER: 0.5" DOMESTIC COLD WATER 1.5" OR GREATER: 1' DOMESTIC HOT WATER 1.25" OR SMALLER: 11
- DOMESTIC HOT WATER 1.5" OR GREATER: 1.5' OTHER PIPING TYPES 1.25" OR SMALLER: 0.5"
- OTHER PIPING TYPES 1" OR GREATER: 1" 2.5. EXPANSION JOINTS, LOOPS, ANCHORS, AND GUIDES:
- PROVIDE FOR PROPER CONTROL OF EXPANSION AND CONTRACTION OF PIPING SYSTEMS BY MEANS OF EXPANSION LOOPS, EXPANSION JOINTS, OR BALL JOINTS. PIPING FROM MAINS TO EQUIPMENT, BRANCHES, AND RISERS SHALL BE PROVIDED WITH SWING, SWIVEL JOINTS, OR OFF SETS TO RELIEVE STRESSES DUE TO EXPANSION OR CONTRACTION OF PIPING.
- PIPING SHALL BE ASTM D 2665 SCHEDULE 40 PVC PLASTIC WITH FITTINGS INSTALLED AS RECOMMENDED BY THE
- CONTENT OF 550 G/L OR LESS WHEN CALCULATED ACCORDING TO 40 CFR 59, SUBPART D (EPA METHOD

USE PVC SOLVENT CEMENT THAT HAS A VOC CONTENT OF 510 G/L OR LESS WHEN CALCULATED

ACCORDING TO 40 CFR 59 SURPART D (FPA METHOD 24) LISE ADHESIVE PRIMER THAT HAS A VOC

- ALL WASTE AND VENT PIPING ABOVE GRADE IN A RETURN AIR PLENUM SPACE SHALL BE HUBBLESS CAST-IRON
- 3.3. CONNECT TO THE CITY SEWER AS REQUIRED AND APPROVED BY LOCAL AUTHORITY.
- 4.1. WHERE SHOWN ON THE DRAWINGS, OR AS REQUIRED, SHALL BE ANGLE PATTERN WITH BUILT-IN LIFT TYPE CHECK
- VALVES:

## 5.1. PLUMBING CONTRACTORS SHALL FURNISH ALL VALVES OF ONE MANUFACTURER, FIGURE NUMBER AND TYPE THROUGHOUT THE ENTIRE INSTALLATION OF THE WORK, UNLESS OTHERWISE SPECIFIED. THE FOLLOWING

NUMBERS ARE FROM THE NIBCO CATALOG. VALVES OF REPUTABLE MANUFACTURERS, SUCH AS CRANE CO., WATTS REGULATOR CO., AND WALWORTH CO. WILL BE ACCEPTABLE ALTERNATIVES, WHERE SHOWN TO BE EQUAL TO THOSE SPECIFIED. INSTALL GATE VALVES AT EACH EQUIPMENT CONNECTION.

## 6.0. PROVIDE UNIONS AT EACH EQUIPMENT CONNECTION, PROVIDE PROPER DIELECTRIC UNIONS WHERE CONNECTIONS ARE MADE BETWEEN MATERIALS OF DISSIMILAR METALS.

7.1. PROVIDE CLEANOUTS FULL SIZE OF SOIL PIPE UP TO AND INCLUDING 4-INCH ID. PROVIDE CLEANOUTS AT BASE OF STACKS, END OF SEWER MAIN, AND AT ELBOWS OVER 45 DEGREES AND IN ANY HORIZONTAL RUN OF PIPING EXCEEDING 100 FEET AT 50-FOOT INTERVALS. BLOCK OUT FLOOR PRIOR TO POURING OF CONCRETE AND THEN LEVEL CLEANOUT AFTER POUR IS SET. REMOVE FORMS. AND GROUT LEVEL. INSTALL CLEANOUTS SO THEY ARE ACCESSIBLE BY EXTENDING THEM THROUGH WALLS, FLOORS, AND ABOVE OR TO OUTSIDE OF BUILDING, AS

REQUIRED. CLEANOUTS SHALL BE AS FOLLOWS:

WALL TYPE FINISHED AREAS: J.R. SMITH NO. 4532 CAST IRON CLEANOUT "T" WITH CLEANOUT PLUG AND STAINLESS STEEL ACCESS COVER.

VERIFY FLOOR MATERIALS USED FROM ARCHITECTURAL PLANS.

- WALL TYPE UNFINISHED AREAS: J.R. SMITH NO. 4512 CAST IRON CLEANOUT "T" WITH COUNTERSUNK PLUG. FLOOR TYPE HARD FLOORING AREAS: J.R. SMITH 4023 WITH ROUND CHROME PLATED SCORIATED COVER. FLOOR TYPE CARPET AREAS: J.R. SMITH 4023-X WITH NICKEL BRONZE TOP AND CARPET CLAMP. EOUIVALENT CLEANOUTS BY WADE, WATTS, ZURN, JOSAM OR JONESPEC WILL BE ACCEPTABLE.
- 8. WATER HAMMER ARRESTORS: (SHOCK ABSORBERS)
- 8.1. MANUFACTURERS: 8.1.1. AMTROL. JOSAM. MIFAB. SIOUX CHIEF. JAY R SMITH, WATTS, ZURN, TYLER
- 8.2. SIZED AND INSTALLED PER MANUFACTURER INSTRUCTIONS. REGARDLESS IF SHOWN ON THE PLANS OR NOT EACH

- 9.1. MANUFACTURERS: 9.1.1. AO SMITH, BRADFORD WHITE, LOCHINVAR, STATE, PVI INDUSTRIES, RINNAI, TAKAGI, EEMAX.
- 9.2. PROVIDE WATER HEATERS AS SPECIFIED AND AS INDICATED ON CONSTRUCTION DRAWINGS. WATER HEATERS SHALL MEET ASHRAE 90A-1 980 AND SHALL BE ASME RATED. GAS WATER HEATERS SHALL BE CSA CERTIFIED. ELECTRIC WATER HEATERS SHALL BE UL LISTED.

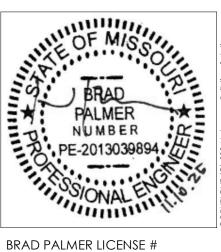
## 10. SINKS

- 10.1. MANUFACTURERS:
- 10.1.1. ELKAY, JUST
- 11. ELECTRIC WATER COOLERS 11.0.1. MANUFACTURERS:
- 11.0.2. ELKAY, HALSEY TAYLOR, HAWS, OTIS
- FAUCETS 12.1. MANUFACTURERS:
- 12.1.1. CHICAGO, DELTA, AMERICAN STANDARD, MOEN
- 1. INFORMATION ON THESE DRAWINGS REPRESENTS INFORMATION FROM OLD DRAWINGS AND LIMITED SITE
- 2. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CORING, PATCH, AND REPAIR OF ALL WALL AND FLOOR SYSTEM AS
- REQUIRED DUE TO NEW CONSTRUCTION, MAINTAIN ALL FIRE RATINGS.
- 3. FOR ALL EXISTING FIXTURES, EQUIPMENT, ETC. SHOWN TO BE REMOVED, THE OWNER SHALL HAVE THE FIRST RIGHT OF

4. WHERE WASTE AND VENT PIPING IS SHOWN TO BE REMOVED. PIPING SHALL BE DEMOLISHED TO BELOW GRADE,

INSPECTIONS. CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS PRIOR TO SUBMITTING BID. NO EXTRAS SHALL

CAPPED BELOW GRADE AND CONCRETE SLAB SHALL BE PATCHED AND REPAIRED TO MATCH EXISTING FINISH. 5. WHERE SUPPLY PIPING IS BEING DEMOLISHED, PIPING SHALL BE REMOVED BACK TO NEAREST MAIN AND CAPPED WITH MATERIAL MATCHING THAT OF EXISTING PIPING. PATCH ALL INSULATION WITH SAME INSULATION TYPE USED ON



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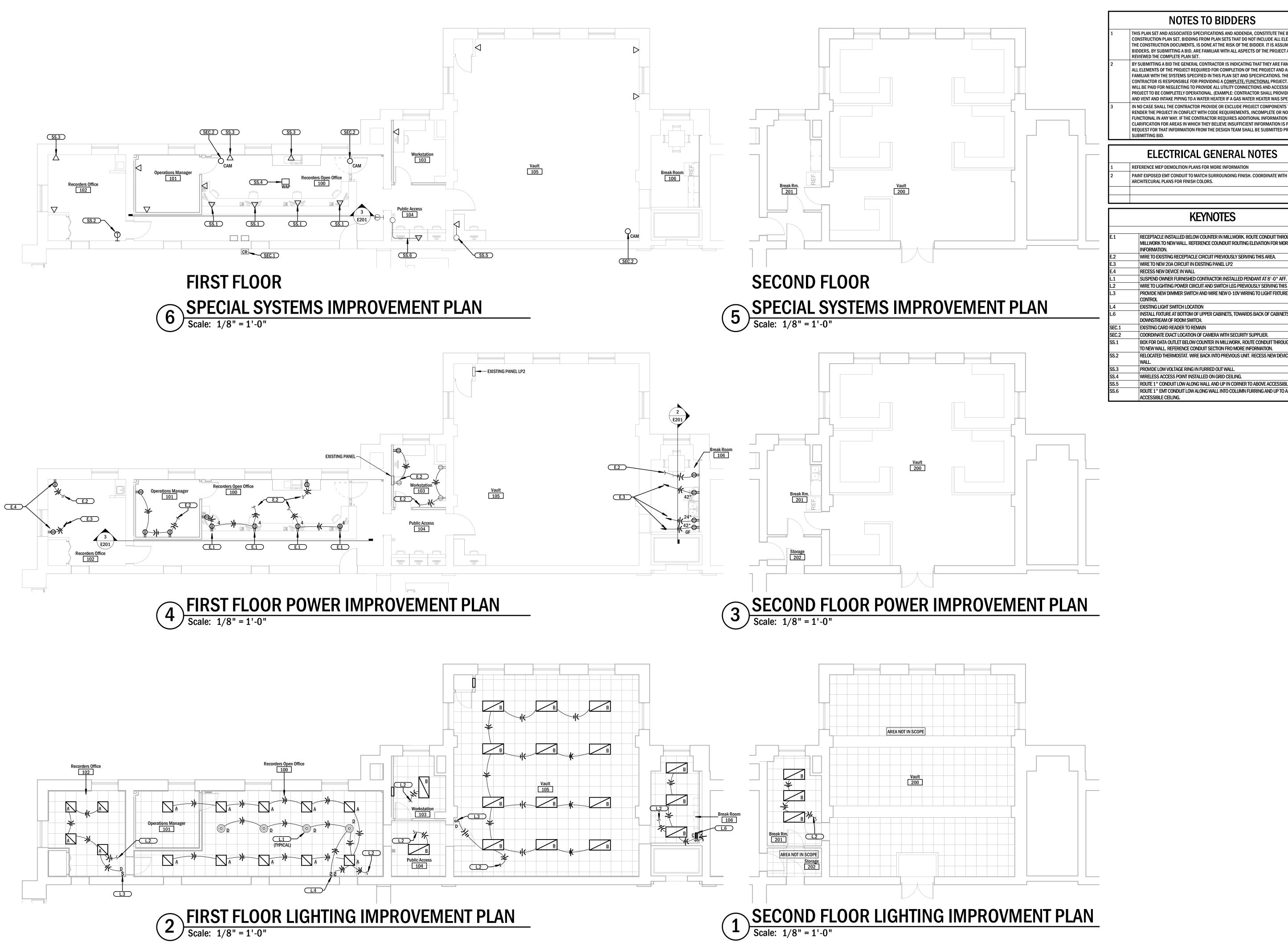
11.07.2025 GCRO

Drawn By: AJW

Checked By: BRP

Revisions:

PLUMBING **SPECIFICATIONS** 



## **NOTES TO BIDDERS**

THIS PLAN SET AND ASSOCIATED SPECIFICATIONS AND ADDENDA, CONSTITUTE THE BIDDING AND CONSTRUCTION PLAN SET. BIDDING FROM PLAN SETS THAT DO NOT INCLUDE ALL ELEMENTS OF THE CONSTRUCTION DOCUMENTS, IS DONE AT THE RISK OF THE BIDDER. IT IS ASSUMED THAT ALL BIDDERS, BY SUBMITTING A BID, ARE FAMILIAR WITH ALL ASPECTS OF THE PROJECT AND HAVE REVIEWED THE COMPLETE PLAN SET.

BY SUBMITTING A BID THE GENERAL CONTRACTOR IS INDICATING THAT THEY ARE FAMILIAR WITH ALL ELEMENTS OF THE PROJECT REQUIRED FOR COMPLETION OF THE PROJECT AND ARE WHOLLY FAMILIAR WITH THE SYSTEMS SPECIFIED IN THIS PLAN SET AND SPECIFICATIONS. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR PROVIDING A COMPLETE / FUNCTIONAL PROJECT. NO EXTRAS WILL BE PAID FOR NEGLECTING TO PROVIDE ALL UTILITY CONNECTIONS AND ACCESSORIES FOR PROJECT TO BE COMPLETELY OPERATIONAL. (EXAMPLE: CONTRACTOR SHALL PROVIDE GAS PIPING FUNCTIONAL IN ANY WAY. IF THE CONTRACTOR REQUIRES ADDITIONAL INFORMATION OR CLARIFICATION FOR AREAS IN WHICH THEY BELIEVE INSUFFICIENT INFORMATION IS PROVIDED, REQUEST FOR THAT INFORMATION FROM THE DESIGN TEAM SHALL BE SUBMITTED PRIOR TO

## **ELECTRICAL GENERAL NOTES**

REFERENCE MEP DEMOLITION PLANS FOR MORE INFORMATION PAINT EXPOSED EMT CONDUIT TO MATCH SURROUNDING FINISH. COORDINATE WITH

## **KEYNOTES**

RECEPTACLE INSTALLED BELOW COUNTER IN MILLWORK. ROUTE CONDUIT THROUGH MILLWORK TO NEW WALL. REFERENCE COUNDUIT ROUTING ELEVATION FOR MORE WIRE TO EXISTING RECEPTACLE CIRCUIT PREVIOUSLY SERVING THIS AREA.

WIRE TO LIGHTING POWER CIRCUIT AND SWITCH LEG PREVIOUSLY SERVING THIS AREA. PROVIDE NEW DIMMER SWITCH AND WIRE NEW 0-10V WIRING TO LIGHT FIXTURES FOR OUTPU

INSTALL FIXTURE AT BOTTOM OF UPPER CABINETS, TOWARDS BACK OF CABINETS. WIRE DOWNSTREAM OF ROOM SWITCH. EXISTING CARD READER TO REMAIN

COORDINATE EXACT LOCATION OF CAMERA WITH SECURITY SUPPLIER. BOX FOR DATA OUTLET BELOW COUNTER IN MILLWORK. ROUTE CONDUIT THROUGH MILLWOR TO NEW WALL. REFERENCE CONDUIT SECTION FRO MORE INFORMATION.

RELOCATED THERMOSTAT. WIRE BACK INTO PREVIOUS UNIT. RECESS NEW DEVICE IN EXISTING PROVIDE LOW VOLTAGE RING IN FURRED OUT WALL

ROUTE 1" CONDUIT LOW ALONG WALL AND UP IN CORNER TO ABOVE ACCESSIBLE CEILING. ROUTE 1" EMT CONDUIT LOW ALONG WALL INTO COLUMN FURRING AND UP TO ABOVE

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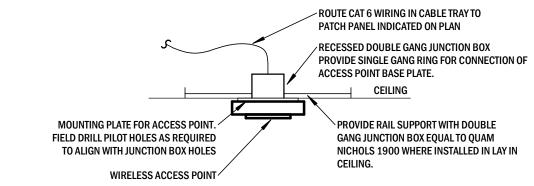
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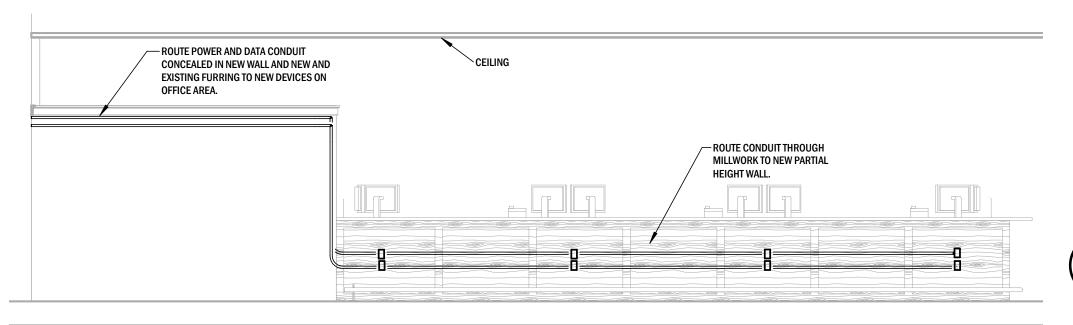
Revisions:

ELECTRICAL **IMPROVMENT** PLANS

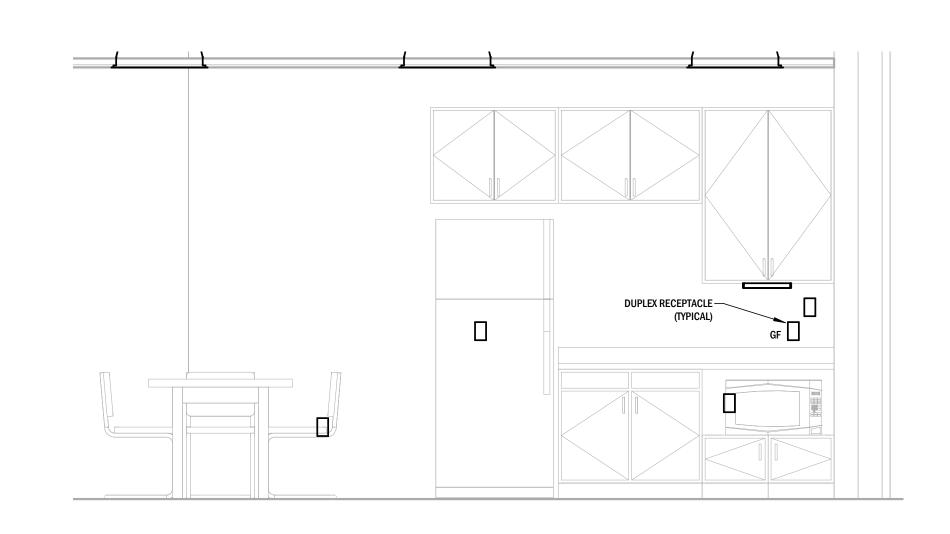
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## WIRELESS ACCESS POINT DETAIL Scale: NTS

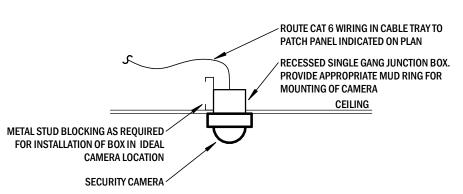


## MILLWORK ELECTRICAL ELEVATION Scale: 1/4" = 1' 0"

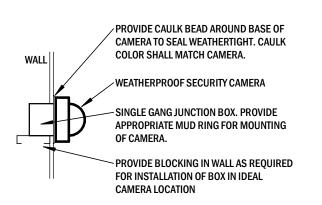


## FIRST FLOOR BREAK ROOM ELECTICAL ELEVATION Scale: 1/2" = 1'-0"

						LIGHT FIXTU	RE SC	HED	ULE	•						
MARK	MANUFACTURER		С	CATALOG NUMBER		FIXTURE DESCRIPTION	MOUNTING	COLOR	TYPE	LAMPS COLOR TEMP	 CRI	FIXTURE LUMENS	FIXTURE WATTAGE	VOLTAGE	EQUIVALENT	NOTES
Α	COOPER	22CGTS-I	22CGTS-L3C3			K LIT FLAT PANEL, ND OUTPUT SELECTABLE	REC	WHITE	LED	3500K	 80	4700	41	UNV	AC,WI,SI,CU	-
В	COOPER	24CGTS-I	24CGTS-L3C3			K LIT FLAT PANEL, ND OUTPUT SELECTABLE	REC	WHITE	LED	3500K	 80	6400	53	UNV	AC,WI,SI,CU	-
С	WILLIAMS	1SF-4-L24/835-AF12125-DRV-UNV		UNDERC	ABINET LIGHT	SUR	WHITE	LED	3500K	 80	1200	29	UNV		-	
D	VISA	CP4517-	CP4517-L35H(H)-MVOLT-COLOR-24		OFCI DEC	CORATIVE PENDANT	PEN		LED	3500K	 80	4800	38	UNV		-
ABBREV AC: AC CO: CC CU: CL FP: FC SI: SI SL: SL	ALL REMOTE HEAD V VIATIONS: CUITY LIGHTING PRO DOPER LIGHTING PR JRRENT LIGHTING DCAL POINT GNIFY JRE LIGHTS ILLIAMS	DUCTS	ABBRET CFL: CRI: MTG: REC: SUR: GND:	ANS.  VIATIONS:  COMPACT FLUORESCENT COLOR RENDERING INDEX MOUNTING RECESSED SURFACE GROUND EQUIVALENT	ABBRE MFG: QTY: FLR: INC: HID: UNV:	EVIATIONS:  MANUFACTURER  QUANTITY  FLUORESCENT  INCANDESCENT  HIGH INTENSITY DISCHARGE  UNIVERSAL										
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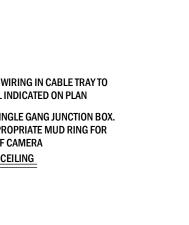
## **CEILING MOUNT**

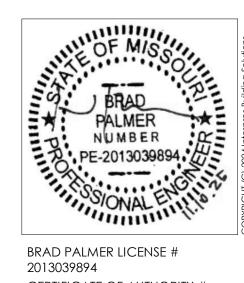


## **WALL MOUNT**

## SECURITY CAMERA DETAIL

	ELECTRICAL SYMBOLS							
	FOR LIGHT SWITCH TYPES SEE LIGHTING CONTROL SCHEDULE.							
<b>⊕</b>	120V, 20A DUPLEX RECEPTACLE							
	DEVICE MOUNTED IN FLOOR BOX. REFERENCE SPECIFICATIONS							
NEMA#	DEVICE MOUNTED IN BOX AT CEILING OR IN STRUCTURE							
NEMA#	VOLTAGE AND AMPERAGE CORRESPONDING TO NEMA NUMBER SHOWN							
<sup>AC</sup> <b>←</b>	DEVICE INSTALLED ABOVE COUNTER							
GF ←	GROUND FAULT CIRCUIT INTERRUPTER RECEPTACLE							
WP=	WEATHER PROOF WHILE IN USE COVER AND GROUND FAULT CIRCUIT INTERRUPTER RECEPTACLE							
™	TAMPER PROOF RECEPTACLE							
4€	120, 20A QUADPLEX RECEPTACLE							
٩	120, 20A DUPLEX RECEPTACLE WITH USB CHARGING							
$\nabla$	DATA DEVICE							
	CONCEALED SERVICE FLOOR BOX WITH DEVICE SHOWN							
s	SURFACE SERVICE FLOOR BOX WITH DEVICE SHOWN							
P	FIRE RATED POKE THROUGH, SURFACE SERVICE FLOOR BOX WITH DEVICE SHOWN							
¤	FIRE ALARM VISUAL STROBE							
$\Box$	FIRE ALARM AUDIBLE VISUAL SPEAKER STROBE							
FAA	REMOTE FIRE ALARM ANNUNCIATOR							
FACP	MAIN FIRE ALARM PANEL							
	MAGNETIC DOOR HOLD OPEN							
F	FIRE ALARM MANUAL PULL STATION							
	SMOKE DETECTOR							
O <sup>+</sup>	HEAT DETECTOR							
ODSD	DUCT SMOKE DETECTOR							
9	OCCUPANCY SENSOR LIGHTING CONTROL POWER PACK							
	ROUGH-IN FOR WALL MOUNT THERMOSTAT. COORDINATE WITH MECHANICAL DRAWINGS							
	DISCONNECT SWITCH							
	TIMESWITCH. SEE SCHEDULE FOR SPECIFICATIONS.							
P	PHOTOCELL							
	LIGHTING CONTACTOR							
	EMERGENCY LIGHT. WALL MOUNTED WHEN SHOWN TOUCHING WALL							
0	PENDANT LIGHT FIXTURE. SIZES VARY							
$\bigcirc$	RECESSED CAN LIGHT							
Щ	SURFACE MOUNT OR SUSPENDED LINEAR FIXTURE							
	RECESSED LINEAR FIXTURE							
NL	INDICATES NIGHT LIGHT FIXTURE							
— ОНЕ —	OVERHEAD ELECTRICAL CONDUCTOR							
— UGE —	UNDERGROUND ELECTRICAL CONDUCTOR							
- COMM -	COMMUNICATIONS CONDUIT/CABLING							
*	HOMERUN, NEW RACEWAY AND WIRING TO DESIGNATED PANEL. PROVIDE QUANTITY AND SIZE OF WIRING AS REQUIRED FOR CIRCUIT BREAKER AND DESIGNATED IN PANEL SCHEDULE.							
4	NEW RACEWAY AND WIRING FOR ELECTRICAL DEVICE TERMINATED AS NOTED. PROVIDE QUANTITY AND SIZE OF WIRING AS REQUIRED FOR CONNECTED ELECTRICAL DEVICE AND OCPD.							
ABBREVIA	TIONS							
60"	DIMENSIONS NEXT TO ANY SYMBOL OR FIXTURE INDICATES MOUNTING HEIGHT TO CENTERLINE OF DEVICE							
AC AFF	ABOVE COUNTER ABOVE FINISHED FLOOR							
AFG	ABOVE FINISHED FLOOR ABOVE FINISHED GRADE							
ASC	AVAILABLE SHORT CIRCUIT CURRENT  CROWN FAULT CURRENT INTERPRIENTED							
GFCI OFCI	GROUND FAULT CURRENT INTERRUPTER OWNER FURNISHED CONTRACTOR INSTALLED							





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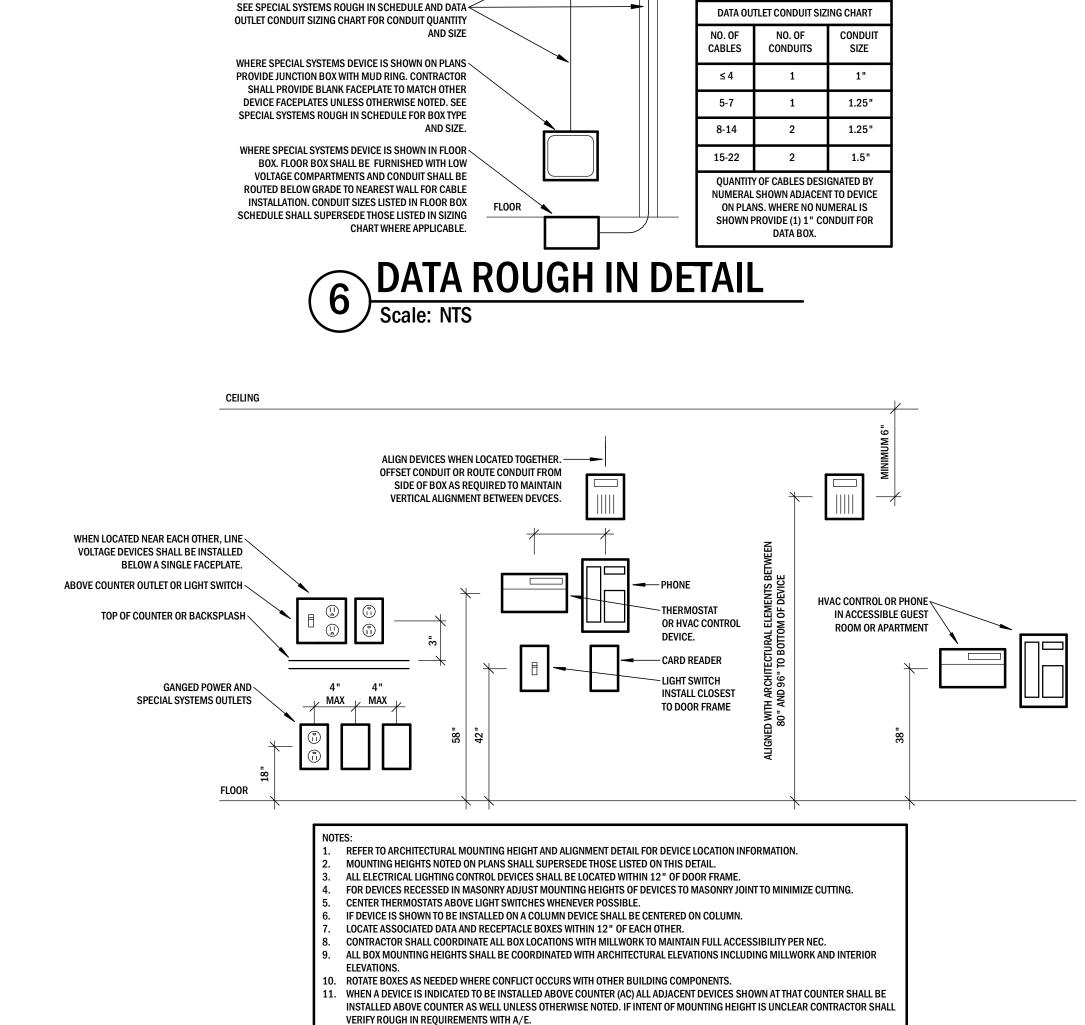
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11.07.2025 GCRO Drawn By: AJW Checked By: BRP Revisions:

ELECTRICAL DETAILS



12. COORDINATE ALL ROUGH IN REQUIREMENTS FOR HVAC CONTROLS, SPECIAL SYSTEMS DEVICES, FIRE ALARM DEVICES AND ALL OTHE DEVICES WITH OTHER TRADES PROVIDING DEVICES AS APPLICABLE TO VERIFY BOX, SIZE LOCATION AND ORIENTATION.

ELECTRICAL DEVICE HEIGHT DETAIL

CEILING JUNCTION BOX FOR CEILING MOUNTED ~

FOR CONDUIT TERMINATION LOCATION

TERMINATION LOCATION.

DEVICES. SEE SPECIAL SYSTEMS ROUGH IN SCHEDULE

TERMINATE CONDUIT WITH DEBURRED END. IN OPEN -AREAS CONDUIT SHALL BE EXTENDED TO LOCATION THAT IS CONCEALED ABOVE ACCESSIBLE CEILING. SEE SPECIAL SYSTEMS ROUGH IN SCHEDULE FOR CONDUIT

## SECTION 26000 - ELECTRICAL SPECIFICATIONS

## A - GENERAL

- 1.1. THE CONTRACTOR SHALL FURNISH ALL MATERIAL, LABOR AND EQUIPMENT NECESSARY TO COMPLETELY 1.2. THE ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR INSTALLATION OF A COMPLETE AND FUNCTIONAL SYSTEM IN ACCORDANCE WITH THE INTENT OF THE PLANS. WHETHER OR NOT EVERY ELEMENT THEREOF IS SPECIFICALLY CALLED OUT. PROVIDE ALL HARDWARE AND ACCESSORIESCHORLETE ELECTRICAL
- 1.3. CONTRACTORS SHALL INSPECT THE JOB SITE AND REVIEW THE PLANS. ANY DEVIATIONS, ERRORS OR OMISSIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO BIDDING. REQUESTS FOR ADDITIONAL FUNDS FOR EXTRA WORK WILL NOT BE HONORED WITHOUT PRIOR WRITTEN APPROVAL FROM THE
- 1.4. THE ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR ANY AND ALL ADDITIONAL OR SPECIAL REQUIREMENTS
- THEIR SCOPE OF WORK, THIS INCLUDES ADDITIONAL COSTS FOR BOTH MATERIAL AND LABOR 1.5. ELECTRICAL CONTRACTOR SHALL PROVIDE A ROUGH-IN CONDUIT FOR CABLE SERVICE AS INDICATED ON
- DRAWINGS. WHERE NOT INDICATED ON DRAWINGS CLARIFY WITH ENGINEER PRIOR TO BID. 1.6. ELECTRICAL CONTRACTOR TO COORDINATE WITH THE INTERIOR DESIGNER, GC AND ARCHITECT FOR PLACEMENT OF ALL WIRING DEVICE BOXES (SWITCH, RECEPTACLE, TELEPHONE/COMMUNICATION) PRIOR TO INSTALLATION OF ROUGH-IN. IT IS THE E/C'S RESPONSIBILITY TO CONFIRM WITH THE INTERIOR DESIGNER,
- 1.7. ALL ITEMS EXPOSED TO THE EXTERIOR ARE TO BE PAINTED TO MATCH ADJACENT MATERIALS. IT IS THE CONTRACTORS RESPONSIBILITY TO INCLUDE THIS IN THERE BID.

G.C. AND ARCHITECT FOR FINAL LAYOUT

1.8. ALL WIRING/CABLEING INSTALLED IN A RETURN AIR PLENUM NOT INSTALLED IN CONDUIT SHALL BE CMP(PLENUM) RATED PER NEC.

- ALL EQUIPMENT, WIRING AND THE ENTIRE INSTALLATION SHALL BE IN ACCORDANCE WITH THE APPLICABLE PROVISIONS OF THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE (N.E.C.). A.S.H.A. REQUIREMENTS. LIFE SAFETY CODE AND ALL APPLICABLE LOCAL AND STATE ORDINANCES.
- 2.2. THE CONTRACTOR SHALL PAY ALL INSPECTION FEES AND PURCHASE ALL PERMITS REQUIRED FOR THIS WORK. 3. LOCATION OF EQUIPMENT:
- 3.1. THE CONTRACTOR SHALL NOTE THAT THE ELECTRICAL DRAWINGS ARE INTENDED TO INDICATE ONLY THE EXTENT DIAGRAMMATICALLY, GENERAL CHARACTER AND LOCATION OF THE WORK, WORK INTENDED, BUT HAVING MINOR DETAIL OBVIOUSLY OMITTED, SHALL BE FURNISHED AND INSTALLED COMPLETE BY THIS
- 3.2. THE CONTRACTOR SHALL VISIT THE SITE OF THE WORK AND THOROUGHLY REVIEW ALL DRAWINGS, SPECIFICATIONS AND POSSIBLE ADDENDA PRIOR TO BIDDING ON THE WORK. NO EXTRAS TO HIS CONTRACTOR WILL BE ALLOWED FOR FAILURE TO COMPLY WITH THIS REQUIREMENT
- 4.1. VERIFY FINAL LOCATIONS FOR ROUGH-INS WITH SHOP DRAWINGS, FIELD MEASUREMENTS AND WITH THE REQUIREMENTS OF THE THE ACTUAL EQUIPMENT TO BE CONNECTED PRIOR TO ROUGH-IN.
- 4.2. REFER TO EQUIPMENT SPECIFICATIONS IN ALL SPECIFICATION DIVISIONS FOR ROUGH-IN REQUIREMENTS. 5. INSTALLATION:
- ALL EQUIPMENT AND MATERIALS SHALL BE INSTALLED IN A NEAT AND FIRST CLASS MANNER, LEVEL AND PLUMB AND SECURELY SUPPORTED. THE ENTIRE INSTALLATION AND MANNER OF INSTALLATION SHALL MEET THE COMPLETE SATISFACTION OF THE OWNER'S REPRESENTATIVE OR IT SHALL BE REMOVED AND REWORKED
- 5.2. ALL WIRING SHALL BE IN CONDUIT. MC CABLE SHALL BE ALLOWED WHERE A NEW DEVICE IS INDICATED ON PLANS TO BE INSTALLED IN AN EXISTING WALL. THE USE OF BX, NM, OR PREMANUFACTURED CABLE
- 5.3. ALUMINUM WIRE SHALL NOT BE PERMITTED FOR BRANCH CIRCUIT WIRING. 5.4. COORDINATE CONNECTION OF ELECTRICAL SYSTEMS WITH UTILITIES AS INDICATED ON THE DRAWINGS.
- 6.1. ALL CUTTING AND PATCHING REQUIRED FOR INSTALLATION OF ELECTRICAL WORK SHALL BE THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR.
- 6.2. NO ADDITIONAL COMPENSATION WILL BE AUTHORIZED FOR CUTTING AND PATCHING WORK THAT IS NECESSITATED BY ILL-TIMED, DEFECTIVE, OR NON-COMFORMING INSTALLATIONS.
- 6.3. CONTRACTOR SHALL VERIFY TRANSFORMER LOCATION AND METERING SCHEME WITH LOCAL UTILITY PRIOR TO
- 7.1. REFER TO THE CONDITIONS OF THE CONTRACT (GENERAL AND SUPPLEMENTARY) AND DIVISION 10000,
- 7.2. IN ADDITION TO THE REQUIREMENTS OF DIVISION 10000 THE FOLLOWING APPLIES TO THE SUBMITTALS OF
- NO ELECTRICAL FOLIPMENT SHALL BE INSTALLED IN THE PROJECT LINTIL SUBMITTALS HAVE BEEN SUBMITTALS OF CUT SHEET AND TECHNICAL DATA SHALL BE MADE ON THE FOLLOWING ITEMS: LIGHTING EQUIPMENT, PANELS, WIRING DEVICES, DISCONNECT SWITCHES, MOTOR STARTERS, TRANSFORMERS.

- ALL SUBMITTALS SHALL BE ORIGINALS, COPIES OF CUT SHEETS ARE NOT ACCEPTABLE.
- 8. IDENTIFICATION NAME PLATES:
- 8.0. FURNISH AND INSTALL NAMEPLATES ON ALL ITEMS OF ELECTRICAL EQUIPMENT. NAMEPLATES SHALL BE WADE FROM WHITE ENGRAVING STOCK WITH BLACK LETTERS AND BLACK FOUR EDGE BEVEL. WORDING SHALL SUITABLY DESCRIBE ITEMS AND NAMEPLATES SHALL BE ATTACHED USING PROPER SIZE AND TYPE STAINLESS STEEL BOLTS. GLUE ON, TAPE ON, OR TAPE TYPE NAMEPLATES ARE NOT ACCEPTABLE.
- 8.1. AVAILABLE FAULT CURRENT
- IT IS THE ELECTRICAL CONTRACTORS RESPONSIBILITY TO FIELD VERIFY THE FAULT CURRENT ASSUMPTIONS LISTED ON THE DRAWINGS MATCH WHAT WAS INSTALLED IN THE FIELD AND COORDINATE WITH THE ENGINEER OF RECORD WHERE SOMETHING DEVIATES FROM THOSE ASSUMPTIONS PRIOR TO LABELING THE EQUIPMENT. DEVIATIONS INCLUDE BUT ARE NOT LIMITED TO TRANSFORMER
- ASSUMPTIONS, CONDUIT TYPE, CONDUCTOR LENGTH, CONDUCTOR SIZE, CONDUCTOR TYPE, ETC... SERVICE EQUIPMENT SHALL BE LEGIBLY MARKED WITH THE MAXIMUM AVAILABLE FAULT CURRENT AS NOTED ON THE DRAWINGS AND REQUIRED BY NEC. THE FIELD MARKINGS SHALL INCLUDE THE DATE THE
- SUFFICIENT DURABILITY TO WITHSTAND THE ENVIRONMENT INVOLVED.
- 9.0. GUARANTEE ALL ELECTRICAL SYSTEM MATERIALS AND WORKMANSHIP TO BE FREE FROM DEFECTS FOR A PERIOD OF TIME OF ONE (1) YEAR FROM THE DATE OF FINAL ACCEPTANCE AND PROPERLY CORRECT LATENT DEFECTS ARISING WITHIN THIS PERIOD UPON NOTIFICATION BY THE OWNER'S REPRESENTATIVE WITHOUT ADDITIONAL COMPENSATION.

- 10.0 REGULARLY REMOVE REFLISE AND DEBRIS ACCUMULATING FROM FLECTRICAL CONSTRUCTION AND PRIOR TO ACCEPTANCE OF THIS WORK, LEAVE THE PREMISES BROOM CLEAN INSOFAR AS AFFECTED BY ELECTRICAL
- 10.0. CLEAN ALL LIGHT FIXTURES, LAMPS AND LENSES AND PANELBOARD INTERIORS PRIOR TO FINAL ACCEPTANCE. 11. TEST AND ADJUSTMENT:
- 11.0. FURNISH ALL LABOR, INSTRUMENTS AND OTHER SERVICES REQUIRED FOR COMPLETE AND SATISFACTORY TEST AND ADJUSTMENT OF ELECTRICAL SYSTEMS AND RELATED WORK FURNISHED AND INSTALLED BY

11.0.1. CHECK ALL MOTORS AND ROTATING EQUIPMENT FOR PROPER ROTATION.

CHECK ALL FUSES AND OVERLOADS FOR PROPER SIZING. CHECKING OF ALL ELECTRICAL POWER AND CONTROL WIRING, INTERLOCKS, ETC. RELATED TO MECHANICAL INSTALLATIONS TO DETERMINE THAT ALL WIRING IS CORRE 11.0.5. ALL EQUIPMENT FURNISHED BY THIS CONTRACTOR WHICH TEST PROVE TO BE DEFECTIVE OR OPERATING IMPROPERLY SHALL BE REMEDIED BY THIS CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.

## RACEWAYS

- CONTRACTOR SHALL HAVE OPTION TO PROVIDE ALTERNATE PRICING FOR INSTALLATION OF MC CABLE IN LIEU OF EMT. SEE DETAIL FOR MC CABLE INSTALLATION REQUIREMENTS. INSTALLATION OF MC SHALL COMPLY WITH ALL APPLICABLE CODE REQUIREMENTS.
- 1.2. INSTALLATION
- EXTENT OF RACEWAY WORK IS INDICATED DIAGRAMMATICALLY ON THE DRAWINGS AND IN THE WHEN THE SIZE IS NOT INDICATED ON PLANS, CONDUIT SHALL BE SIZED FOR CONDUCTORS IN
- ACCORDANCE WITH TABLES 3(A)(B)(C), CHAPTER 9 OF THE N.E.C. THE ROUTING AND METHOD OF INSTALLATION OF ALL CONDUITS SHALL BE CO-ORDINATED SO AS NOT TO INTERFERE WITH OTHER EQUIPMENT INSTALLATIONS AND SHALL MEET WITH THE COMPLETE SATISFACTION OF THE OWNER'S REPRESENTATIVE.
- TYPES OF RACEWAYS SPECIFIED IN THIS SECTION INCLUDE THE FOLLOWING:
- ELECTRICAL METALLIC TUBING (EMT); MINIMUM TRADE SIZE 0.5" FLEXIBLE METAL CONDUIT: MINIMUM TRADE SIZE 0.5" LIQUID-TIGHT FLEXIBLE METAL CONDUIT (SEALTIGHT): MINIMUM TRADE SIZE 0.5". RIGID METAL CONDUIT: MINIMUM TRADE SIZE 0.5"
- RIGID NONMETALLIC CONDUIT (PVC) SCHEDULE 40: MINIMUM TRADE SIZE 0.5" 1.2.6. ALL LOW VOLTAGE WIRING THAT IS NOT PLENUM RATED SHALL BE INSTALLED IN CONDUIT.
- FITTINGS FOR EMT SHALL BE SET SCREW OR COMPRESSION TYPE WITH FACTORY INSTALLED INSULATED THROAT CONNECTORS. DIE CAST OR POT METAL FITTINGS ARE NOT ACCEPTABLE.
- FITTINGS FOR FLEXIBLE CONDUIT SHALL BE STEEL OR CAST IRON. FITTINGS FOR PVC SHALL BE SCHEDULE 40 GLUE-ON TYPE.

- ALL CONDUITS SHALL BE INSTALLED CONCEALED, EXCEPT IN EQUIPMENT ROOM, CHASES OR AS INDICATED ON THE DRAWINGS. ALL CONDUITS, EXPOSED AND CONCEALED SHALL BE RUN PARALLEL AND PERPENDICULAR TO BUILDING LINES AND SHALL BE GROUPED TOGETHER AS MUCH AS POSSIBLE A SEPARATE GROUNDING CONDUCTOR SHALL BE INSTALLED IN ALL RUNS. WHERE SIZES LARGER THAN #12 AWG ARE REQUIRED BY THE NEC. THE CONDUCTOR SHALL BE SIZED AS INDICATED IN THE N.E.C. ALL
- 1.3.3. MECHANICALLY FASTEN TOGETHER METAL CONDUITS, ENCLOSURES AND RACEWAYS FOR CONDUCTORS

- TO FORM A CONTINUOUS FUFCTRICAL CONDUCTOR, CONNECT TO FUFCTRICAL ROXES, FITTINGS AND CABINETS TO PROVIDE ELECTRICAL CONTINUITY AND FIRM MECHANICAL ASSEMBLY. INSTALL EXPANSION FITTINGS IN RACEWAYS EVERY 2001 LINEAR RUN OR WHEREVER STRUCTURAL EXPANSION JOINTS ARE CROSSED. PROVIDE NYLON PULL CORD IN ALL EMPTY CONDUITS.
- CONDUIT INSTALLATION:
- USE RIGID METAL CONDUIT FOR ALL WEATHER EXPOSED WORK. FOR ALL STUB-UPS IN KITCHEN AREA, FOR ALL ROOF PENETRATIONS THROUGH PATE PLUGS AND FOR FREEZER/COOLER PENETRATIONS USE EMT FOR ALL INTERIOR CONCEALED AND FOR EXPOSED WORK NOT SUBJECT TO MECHANICAL USE SCHEDULE 40 PVC FOR ALL UNDERGROUND WORK OR WORK INSTALLED IN CONCRETE. USE RIGID
- SHALL BE EXPOSED ABOVE GRADE. USE FLEXIBLE METAL CONDUIT FROM OUTLET BOXES TO RECESSED LIGHTING FIXTURE AND FINAL 24" OF CONNECTION TO ITEMS SUBJECT TO MOVEMENT OR VIBRATION. USE LIQUID-TIGHT FLEXIBLE CONDUIT FOR FINAL 24" CONNECTION TO ITEMS WHERE SUBJECTED TO ONE FAULT CURRENT CALCULATIONS WERE PERFORMED (DATE ON ENGINEERING SEAL) AND BE OF
  - MOIST OR HUMID ATMOSPHERE WHERE CONDENSATE CAN BE EXPECTED TO ACCUMULATE. CORROSIVE ATMOSPHERE.
    - SUBJECTED TO WATER SPRAY OR DRIPPING OIL, WATER OR GREASE. FINAL CONNECTION TO ROTATING OR VIBRATING EQUIPMENT.
    - CUT CONDUITS STRAIGHT, PROPERLY REAM AND CUT THREADS FOR HEAVY WALL CONDUIT DEEP AND FIELD BEND CONDUIT WITH BENDERS DESIGNED FOR THE PURPOSE SO AS NOT TO DISTORT NOR VARY

METAL CONDUIT AT STUB-UP LOCATIONS. TRANSITION TO RIGID CONDUIT BEFORE STUB-UP. NO PVC

## CONDUCTORS 2.1. ALUMINUM FEEDERS:

- WHERE ALLOWED BY LOCAL ALITHORITIES CONTRACTOR SHALL HAVE OPTION TO PROVIDE ALTERNATE PRICING FOR ALUMINUM FEEDERS FROM UTILITY TRANSFORMER TO MAIN DISTRIBUTION PANEL. CONTRACTOR SHALL REVISE FEEDER SIZE ACCORDINGLY TO ACCOMMODATE ADDITIONAL VOLTAGE DROP AND ALUMINUM FEEDER RATED AMPACITIES.
- CONDUCTOR SIZES SHALL BE AS INDICATED IN PANEL SCHEDULE. GROUNDING CONDUCTORS SHALL BE SIZED IN ACCORDANCE WITH NEC TABLE 250.122.
- ALL WIRE SHALL BE COPPER WITH THHN INSULATION. THE USE OF ARMORED, BX, NM OR ANY MANUFACTURED CABLE ASSEMBLY (EXCEPT MC) SHALL NOT BE INCORPORATED INTO THE WORK. ALL WIRING SHALL BE IN CONDUIT. COLOR CODING OF CONDUCTORS SHALL BE AS FOLLOWS:
- 120/208V SYSTEMS: PHASE A BLACK, PHASE B RED, PHASE C BLUE, NEUTRAL WHITE, GROUND - GREEN. 277/480V SYSTEMS: PHASE A - YELLOW, PHASE B - BROWN, PHASE C - ORANGE, NEUTRAL -
- 2.2.7. AWG #10 AND SMALLER SHALL BE SOLID. AWG #8 AND LARGER SHALL BE STRANDED.
- 2.2.8. ALL LOW VOLTAGE WIRING THAT IS NOT PLENUM RATED SHALL BE INSTALLED IN CONDUIT. 2.3. WIRE CONNECTIONS
- ALL FEEDER AND SUB FEEDER WIRING CONNECTIONS SHALL BE MADE WITH COMPRESSION CONNECTORS BY SOUARE D OR ACCEPTABLE EQUIVALENT. ALL BRANCH WIRING CONNECTION SHALL BE 3M SCOTCH LOCK CONNECTORS OR ACCEPTABLE
- WHERE CABLE CONNECTIONS REQUIRE INSULATION, SCOTCH #33, ELECTRICAL TAPE SHALL BE USED

## 3.1. BOXES AND FITTINGS:

- 3.1.1. EXTENT OF ELECTRICAL BOX AND ASSOCIATED FITTING WORK IS INDICATED BY DRAWINGS AND SCHEDULES.
- 3.2. OUTLET BOXES: CEILING: 4" SOUARE, 2-1/8" DEEP FOR EXPOSED OR FURRED WORK, 3" DEEP FOR BOXES POURED IN CONCRETE, PROVIDE CONCRETE POUR BOXES OF THE TYPE SPECIALLY DESIGNED FOR THE APPLICATION.
- WALL: 4" SOLIARE, 2-1/8" DEEP BOXES: PROVIDE EXTENSION RINGS OR COVERS OF SUFFICIENT DEPTH TO BRING COVERS FLUSH WITH THE FINISHED SURFACE. MASONRY: FOR FLUSH MOUNTED BOXES IN EXPOSED MASONRY OR TILE, PROVIDE COVERS WITH SQUIRE CORNERS ON THE RAISED PORTION AND WITH SUFFICIENT DEPTH TO TRIM OUT FLUSH WITH FINISHED
- EXPOSED AND KITCHEN EQUIPMENT: PROVIDE FS OR FD BOXES WITH SUITABLE WEATHERPROOF
- RAISED PLATFORM FLOOR: WHERE SHOWN IN FLOOR OF RAISED PLATFORM, 9.75 "X6.5" FSC
- RFL4.5-D2G RECESSED FLOOR BOX WITH TWO DOUBLE GANG OPENINGS, INSERT BRACKETS, BLACK DUAL DOOR COVER WITH SOLID COVER. SURFACE SERVICE FLOOR BOX: ROUND BOX WITH STEEL POKE THROUGH CONSTRUCTION. BOX SHALL BE FIRE RATED AND UL LISTED FOR USE IN 1-4 HOUR RATED FLOORS. BOX SHALL BE ADJUSTABLE FOR CONCRETE FLOOR THICKNESS BETWEEN 2.25" AND 7" FLOOR THICKNESS AND SHALL BE EQUIPPED
- WITH (2) 1" EMT CONDUIT ENTRIES MINIMUM. PROVIDE CONCRETE CAP AND UNIVERSAL COVER PROVIDE DEVICE BRACKETS AND COVER PLATE AS REQUIRED TO INSTALL DEVICES SHOWN ON PLANS COVER PLATE SHALL BE BLACK UNLESS OTHERWISE NOTED. CONCEALED SERVICE FLOOR BOX FOR CONCRETE FLOORS: STEEL, RECTANGULAR BOX WITH FOUR CONDUIT ENTRY SIZE UP TO 1.25". PROVIDE DEVICE BRACKETS AS REQUIRED TO INSTALL DEVICES SHOWN ON PLANS, BOX SHALL BE DESIGNED FOR FEED THROUGH TUNNELING TO ADJACENT. COMPARTMENTS. PROVIDE COVER ASSEMBLY WITH FLANGED COVER FOR USE IN TILE OR CARPETED

- INSTALLATION. COVER SHALL BE EQUIPPED WITH INSERT IN LID TO ALLOW FOR CARPET OR TILE CUTOUTS TO MATCH FINISHED FLOOR, PROVIDE BLACK COVER UNLESS OTHERWISE NOTED. CONCEALED SERVICE FLOOR BOX FOR WOOD FRAMED FLOORS: RECTANGULAR BOX WITH TWO COMPARTMENT, SHALLOW STAMPED STEEL CONSTRUCTION, MAXIMUM BOX DEPTH SHALL BE 2.75" WITH CONDUIT ENTRY SIZE UP TO 1.25". PROVIDE DEVICE BRACKETS AS REQUIRED TO INSTALL DEVICES SHOWN ON PLANS. PROVIDE COVER ASSEMBLY WITH FLANGED COVER FOR USE IN TILE OR CARPETED INSTALLATION. COVER SHALL BE EQUIPPED WITH INSERT IN LID TO ALLOW FOR CARPET OR TILE CUTOUTS TO MATCH FINISHED FLOOR. PROVIDE BLACK COVER UNLESS OTHERWISE NOTED. WHERE DEVICES SHOWN ON PLAN CANNOT BE INSTALLED IN SINGLE BOX, PROVIDE ADDITIONAL BOXES AS REQUIRED TO
- 3.3. PULL AND JUNCTION BOXES: PROVIDE BOXES WHERE REQUIRED TO FACILITATE THE PULLING OF WIRES OR CABLES. BOXES SHALL BE
- IN ACCORDANCE WITH ARTICLE 370 OF THE NEC.

ACCEPT INSTALLATION OF SPECIFIED DEVICES.

- 3.4. ACCESSORIES: PROVIDE CORROSION-RESISTANT KNOCKOUT CLOSURES, CONDUIT LOCKNUTS AND MALLEABLE IRON
- CONDUIT BUSHINGS, OFFSET CONNECTORS, OF TYPES AND SIZES, TO SUIT RESPECTIVE INSTALLATION
- 3.5. INSTALLATION OF BOXES AND FITTINGS: POSITION RECESSED OUTLET BOXES ACCURATELY TO ALLOW FOR SURFACE FINISH THICKNESS.
- FASTEN ELECTRICAL BOXES FIRMLY AND RIGIDLY TO SUBSTRATES OR STRUCTURAL SURFACES TO WHICH ATTACHED OR SOLIDLY EMBED ELECTRICAL BOXES IN CONCRETE OR MASONRY.
- IN GENERAL THE VARIOUS OUTLETS ARE TO BE LOCATED AT THE FOLLOWING HEIGHTS ABOVE FINISHED

FLOOR TO THE CENTER LINE OF BOX, UNLESS NOTED OTHERWISE AT AN INDIVIDUAL OUTLET ON THE

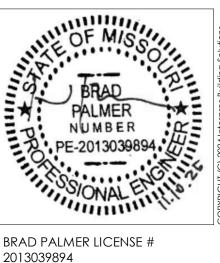
- WALL SWITCHES: 48" AFF
- RECEPTACLES: 18" AFF DATA/VOICE OUTLETS: 18" AFF OUTLETS ABOVE COUNTERS: 6" ABOVE BACKSPLASH
- OUTLET MOUNTING HEIGHTS INDICATED ON THE DRAWINGS AT THE OUTLETS TAKE PRECEDENCE. REFER TO DRAWINGS FOR DETAILS OF OTHER EQUIPMENT MOUNTING HEIGHTS. MOUNTING HEIGHTS FOR FLUSH OUTLETS IN BLOCK WALLS MAY BE CHANGED FOR INSTALLATION. CONSULT OWNER'S
  - ALL RECEPTACLES INSTALLED IN A KITCHEN OR RESTROOM OR FOR USE BY A WATER COOLER IN A COMMERCIAL FACILITY SHALL BE PROVIDED WITH GFCI PROTECTION REGARDLESS IF NOTED ON THE
- ALL RECEPTACLES INSTALLED IN A KITCHEN OR RESTROOM OF A NON-COMMERCIAL FACILITY SHALL BE PROVIDED WITH GECL PROTECTION AS REQUIRED BY NEC REGARDLESS IF NOTED ON THE PLANS.
- 4.1. GENERAL: FOR EACH ELECTRICAL CONNECTION INDICATED PROVIDE COMPLETE ASSEMBLY OF MATERIALS, INCLUDING BUT NOT NECESSARILY LIMITED TO, PRESSURE CONNECTORS, TERMINALS (LUGS), ELECTRICAL OTHER ITEMS AND ACCESSORIES AS NEEDED TO COMPETE SPLICES AND TERMINATIONS OF TYPES INDICATED.
- THE EXTENT OF WIRING DEVICE WORK IS INDICATED BY THE DRAWINGS AND SCHEDULES.
- 5.2. ACCEPTABLE MANUFACTURERS: 5.2.1. HUBBELL, INTERMATIC, GENERAL ELECTRIC, LEVITON, COOPER WIRING DEVICES
- 5.3. FABRICATED WIRING DEVICES:
- SWITCHES SHALL BE 20 AMP, 120/277 VOLT RATED, HUBBELL #1221 IVORY OR WHITE DIMMER SWITCHES SHALL BE LEVITON #IP SERIES - IVORY OR WHITE. SLIDE DIMMER SWITCH WITH
- ON/OFFICEAUDEON 10V OR LINE VOLTAGE COMPATIBILITY AS REQUIRED FOR CONNECTED RECEPTACLES SHALL BE 20 AMP, 125 VOLT RATED, HUBBELL #5362 - IVORY OR WHITE. FOR OTHER
- USB RECEPTACLES SHALL BE 20 AMP, 125 VOLT RATED, HUBBELL #USB20X2 COLOR TO MATCH OTHER DEVICES. FOR OTHER APPLICATIONS REFER TO THE DRAWINGS.
- PROVIDE SMOOTH FINISH PLATES FOR ALL DEVICES WITH APPROPRIATE MOUNTING ARRANGEMENTS FOR GALIGED DEVICES, FOR TELEPHONE AND COMPUTER/AMX AND MICROPHONE OUTLETS, PROVIDE BUSHED HOLE COVER PLATE. PLATES SHALL BE IVORY, WHITE OR STAINLESS STEEL. ELECTRONIC TIMER SWITCHES SHALL BE INTERMATIC E1235 15,30,45,60,120 MINUTE TIMER WITH 120V RATING, 1800W MAXIMUM WATTAGE AND COLOR TO MATCH OTHER DEVICES.

- 6.1. ACCEPTABLE MANUFACTURERS:
- 6.1.1. SQUARE D, SIEMENS, GENERAL ELECTRIC, CUTLER HAMMER
- PROVIDE DEAD FRONT SAFFTY CONSTRUCTED. FACTORY ASSEMBLED CIRCUIT BREAKER TYPE PANEL BOARDS IN SIZES AND RATINGS AS INDICATED, FOLIIP WITH PANEL BOARD UNIT DEVICE, OF TYPES. RATINGS AND CHARACTERISTICS INDICATED. BUSS STRUCTURE AND MAIN LUGS OF MAIN BREAKER SHALL HAVE CURRENT RATINGS AS SHOWN ON THE PANEL BOARD SCHEDULE. BUS BAR CONNECTION BUSSING SHALL BE SUCH THAT ANY THREE ADJACENT SINGLE-POLE BREAKERS ARE INDIVIDUALLY CONNECTED TO EACH OF THE THREE DIFFERENT PHASES IN SUCH A MANNER THAT TWO OR THREE-POLE

- BREAKERS CAN BE INSTALLED AT ANY LOCATION, ALL CURRENT CARRYING PARTS OF THE BUSS ASSEMBLY SHALL BE PLATED COPPER WITH CONDUCTIVITY OF NOT LESS THAN 98%. PANEL BOARD ENCLOSURE: PROVIDE GALVANIZED SHEET STEEL CABINET TYPE ENCLOSURES IN SIZES AND NEMA TYPES AS INDICATED. CODE GALIGE MINIMUM 16-GALIGE THICKNESS. CONSTRUCT WITH MULTIPLE KNOCKOUTS AND WIRING GUTTERS. PROVIDE FRONTS WITH ADJUSTABLE TRIM CLAMPS, AND DOORS WITH FLUSH LOCKS AND KEYS. ALL PANEL BOARD ENCLOSURES SHALL BE KEYED ALIKE, WITH CONCEALED PIANO DOOR HINGES. EOUIP WITH INTERIOR CIRCUIT DIRECTOR FRAME AND CARD WITH
- CLEAR PLASTIC COVERING. PROVIDE BAKED GRAY ENAMEL FINISH OVER A RUST INHIBITOR COATING. PROVIDE ENCLOSURES FABRICATED BY SAME MANUFACTURER AS PANEL BOARDS. WHEN PANEL SCHEDULE INDICATES "MCB". PANEL SHALL BE EQUIPPED WITH MAIN CIRCUIT BREAKER. CIRCUIT BREAKER RATING SHALL BE EQUAL TO THE RATING OF THE PANEL UNLESS OTHERWISE NOTED. PROVIDE AVAILABLE SHORT CIRCUIT CURRENT ON ENGRAVED PLASTIC LABEL AFFIXED TO FRONT OF
- 6.3. ALL NEW AND EXISTING PANELS AFFECTED BY THE WORK OF THIS PROJECT SHALL BE PROVIDED WITH A TYPED

- 7.1.1. HANDLE LIGHTING FIXTURES CAREFULLY TO PREVENT DAMAGE, BREAKING AND SCORING. DO NOT INSTALL DAMAGED FIXTURES OR COMPONENTS, REPLACE WITH NEW. STORE LIGHTING FIXTURES IN A CLEAN DRY PLACE. PROTECT FROM WEATHER, DIRT, DEBRIS, WATER, CONSTRUCTION DEBRIS AND PHYSICAL DAMAGE.
- SHIP FIXTURES FACTORY ASSEMBLED WITH PARTS REQUIRED FOR A COMPLETE INSTALLATION. FLUORESCENT BALLAST SHALL BE CLASS P. LOW ENERGY RAPID START SOUND RATED A. PROVIDE HID LAMP BALLAST CAPABLE OF OPERATING LAMP TYPES WITH RATINGS INDICATED, REACTOR TYPE, HIGH POWER FACTOR CORE AND COIL ASSEMBLY. ENCAPSULATED IN NON MELT RESIN. PROVIDE FLUORESCENT LAMPS OF TYPES INDICATED.
- PROVIDE HID LAMPS IN WATTAGES AND TYPES INDICATED. PROVIDE INCANDESCENT LAMPS IN THE SIZES AND RATED FOR 130 VOLTS AND WITH WATTAGE AS PROVIDE FIXTURES AND/OR FIXTURE OUTLET BOXES WITH HANGERS TO PROPERLY SUPPORT FIXTURE
- INSTALL FLUSH MOUNTED FIXTURES TO ELIMINATE LIGHT LEAKAGE BETWEEN FRAME AND FINISHED 7.1.11. AT DATE OF SUBSTANTIAL COMPLETION REPLACE LAMPS IN ALL FIXTURES WHICH ARE OBSERVED TO BE INOPERATIVE OR NOTICEABLE DIMMED AFTER CONTRACTORS USE AS JUDGED BY THE OWNER'S

- INFORMATION ON THESE DRAWINGS REPRESENTS INFORMATION FROM OLD DRAWINGS AND LIMITED SITE INSPECTIONS. CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS PRIOR TO SUBMITTING BID. NO EXTRAS SHALL BE PAID DUE TO UNANTICIPATED CONDITIONS.
- CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CORING, PATCH, AND REPAIR OF ALL WALL AND FLOOR SYSTEM AS REQUIRED DUE TO NEW CONSTRUCTION. MAINTAIN ALL FIRE RATINGS. FOR ALL EXISTING FIXTURES, RECEPTACLES, WIRING, EQUIPMENT, ETC. SHOWN TO BE REMOVED, THE OWNER
- SHALL HAVE THE FIRST RIGHT OF REFUSAL. CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVAL OF ALL ELECTRICAL DEVICES AND WIRING IN ALL
- WHERE DEMOLISHED DEVICES ARE PART OF A CIRCUIT THAT IS THRU-WIRED, OR HAS ADDITIONAL DEVICES ON THE  $\textbf{CIRCUIT THAT ARE TO REMAIN UNCHANGED, THE CONTRACTOR \ IS \ RESPONSIBLE FOR \ MAINTAINING THE \ INTEGRITY}$ OF THE EXISTING CIRCUIT, ANY ADDITIONAL CONDUIT, CONDUCTOR, BOXES, ETC NEEDED TO MODIFY THE EXISTING CIRCUIT TO MAINTAIN THE INTEGRITY ARE THE RESPONSIBILITY OF THIS CONTRACTOR AND SHALL BE INCLUDED IN
- 6. REMOVE CONDUIT IN ALL DEMOLISHED WALLS.
- 7. REMOVE ANY UNUSED CONDUCTORS, CONDUIT, AND WIRING IN DEMOLISHED WALLS LOCATED WITHIN THE AREA OF CONSTRUCTION. REMOVE ALL UNUSED WIRING. CONDUIT CAN BE ABANDONED IN PLACE WHERE IT WILL REMAIN
- 8. REMOVE AND REPLACE DEVICES AS REQUIRED DUE TO NEW WALL OR CEILING FINISHES
- 9. WHEN A FIXTURE, DEVICE OR PIECE OF EQUIPMENT IS NOTED FOR REMOVAL ALONG WITH ASSOCIATED WIRING OR ASSOCIATED WIRING AND CONDUIT. CONTRACTOR SHALL REMOVE WIRING AND CONDUIT BACK TO NEAREST JUNCTION BOX SO THAT NO CONDUIT OR WIRING IS EXPOSED IN OCCUPIED AREA. WIRING SHALL BE DISCONNECTED UPSTREAM OF REMOVED FIXTURE, DEVICE OR PIECE OF EQUIPMENT SO THAT WIRING TERMINATION CANNOT BE ACCIDENTALLY ENERGIZED.



2013039894 CERTIFICATE OF AUTHORITY # E-2013013378



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11.07.2025 Drawn By: AJW

Checked By: BRP

Revisions:

ELECTRCIAL **SPECIFICATIONS**