

Interior Improvements for

Athletico  
Lees Summit

Missouri

Interior Improvement Package

Demolition Reference Notes

- D.01** Remove existing metal stud . drywall finished walls, partitions, and related assemblies (dimensions noted to top of units aff and centerline of units horizontally unless noted otherwise)
- D.02** Patch and repair as required all walls scheduled to remain following removal of adjacent partitions . casework, fixtures
- D.03** Cap lines and other abandoned elements behind/below new finished walls or floors as may apply

Reference Notes

- 01 General**
- 1.01** All furnishings and equipment provided by Tenant and installed by GC except as specifically indicated
- 1.02** Patient tables . coordinate location and spacing with Tenant
- 1.03** Provide dedicated outlet for treadmill and future treadmill . coordinate location with Tenant . refer MEP
- 1.04** New Hi-Lo drinking fountain
- 1.05** Fire sprinkler and fire alarm modifications to be submitted as a deferred submittal under separate cover
- 1.06** Rear door key to be placed in building lock-box
- 06 Wood . Plastics**
- 6.01** All millwork and cabinetry construction to 'AWI Custom Flush Overlay' standards . exterior finishes plastic laminate as selected . interior finishes white melamine
- 6.02** 3/4" plywood or mdf substrate unless noted otherwise
- 6.03** Adjustable shelf
- 6.04** Toe space
- 6.05** 5mm holes . 32 mm on center
- 6.06** Wire pull with brushed nickel finish
- 6.07** 6" height drawer unit
- 6.08** Plastic laminate finish counter top with hardwood edge . typical 1 1/2" face height . 3/4" eased corner . provide 3" grommets where shown
- 6.09** [2] 2x6 blocking
- 6.10** 2x blocking . provide all locations where permanent installations mount [fire retardant treated]
- 6.11** 1/4" back panel over 1x mounting cleats
- 6.12** 3/4" x 1 1/2" rounded wood edge . plastic laminate on all exposed surfaces . typ at all countertops in reception . treatment . staff
- 6.13** Provide angled supports at 5-0 oc max under wall mounted tops . color to match laminate tops . provide 3" grommets at each bracket as shown
- 6.14** Provide 1/2" fire retardant plywood backing 2-0 high by length of ballet bar . center at 42" aff . verify location and extents with Tenant
- 6.15** Provide 1/2" fire retardant plywood backing 2-0 wide by 8-0 high for theraband tree . verify location with Tenant
- 6.16** Provide 1/2" fire retardant plywood backing 2-0 wide by 4-0 high for pulley . verify location with Tenant
- 6.17** Provide 1/2" fire retardant plywood backing 2-0 wide by 2-0 high for television . verify location with Tenant
- 6.18** Provide break metal wall cap to match storefront at wall mullion interface . paint satin black alkyd enamel . hold back 1/4" from mullion and caulk
- 6.19** 2-0 x 3-0 . 3/4" plywood for IT Cabinet . above door
- 6.20** Provide 4" radius at all exposed countertop corners

- 08 Doors . Windows**
- 8.01** New and existing doors . refer Door . Hardware Schedule
- 8.02** Provide 'Grabber Solar Shades' *Phifer Sheer Weave* . 1% *Opacity* . *Standard Clutch Drive* . *Charcoal Gray* at existing storefront openings . coordinate locations with Tenant
- 10 Specialties**
- 10.01** 2A10BC fire extinguisher on bracket . verify final location with Fire Inspector
- 10.02** Address numbers shall be Arabic numerals or alphabet letters. Numbers shall be a minimum of 4 inches high with a minimum stroke width of 0.5 inch
- 10.03** Provide coat-hooks . coordinate type and location with Tenant
- 10.04** Provide cork on vertical surface from top of desk to bottom of transaction top . refer Finish Schedule
- 10.05** Provide cork on vertical surface from countertop to bottom of upper cabinets . refer Finish Schedule
- 10.06** Provide 3-0 high mirror for entire length of ballet bar mounted with bottom at 4" aff . directly above provide round red oak handrail mounted to 1x4 red oak backboard with brass handrail supports . stain with 'Minwax 241 Fruitwood' . directly above provide 3-0 high mirror for entire length of ballet bar . top of upper mirror should be nominally 6-7 1/2" aff
- 10.07** Occupant load sign . 'TOTAL OCCUPANT LOAD . 25 OCCUPANTS'

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Sheet Index

- Architectural**
- A1** Floor Plan . Reflected Ceiling Plan
- A2** Schedules . Interior Elevations . Details

- Mechanical**
- M1** HVAC Plan
- M2** Plumbing Plan

- Electrical**
- E1** Electrical Lighting Plan
- E2** Electrical Power Plan
- E3** Electrical Specifications

Project Description

Project scope includes limited demolition to existing framed partitions, new framed partitions, drywall, limited electrical systems, doors and hardware, and related elements.

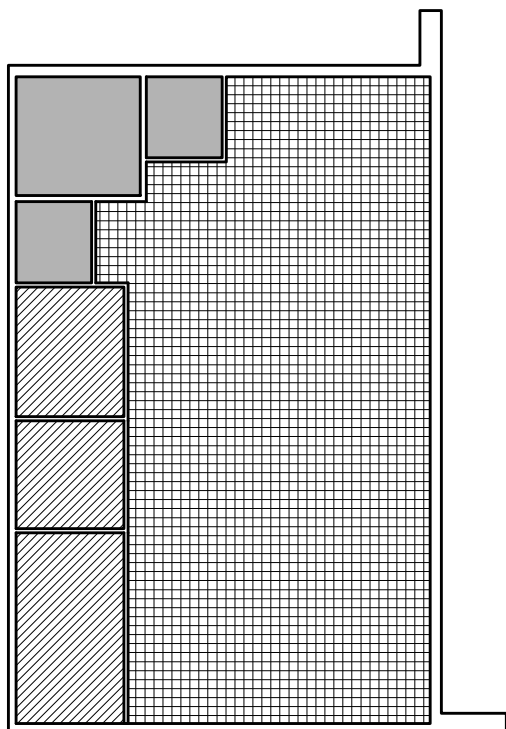
Existing building construction is comprised of concrete floor slabs . steel building frame . exterior brick and plaster systems. interior metal stud partitions . membrane roofing

General Notes

- 1** All construction and installations shall meet the requirements of applicable Codes and Ordinances
- 2** Contractor and subcontractors to field verify all dimensions and conditions prior to fabrications and installations
- 3** All material shall be new and unused unless indicated otherwise; construction, installations, fit, and finishes shall exhibit first class workmanship
- 4** Drawings indicate design intent only: operations, methods, and installations sole responsibility of General and Sub Contractors
- 5** Unless noted or indicated otherwise dimensions are to face of finished wall and other vertical elements
- 6** Subcontractors shall visit project site, acquaint themselves with and verify existing conditions prior to fabrication and/or installation of any work . notify Architect immediately of any discrepancies discovered
- 7** Do not scale drawings . perform layouts from dimensions only . notify Architect immediately of any discrepancies discovered
- 8** Unless indicated otherwise, new wall construction not specifically dimensioned aligns with existing construction
- 9** Each trade responsible for protecting existing work in place from damage and responsible for repairing to original condition any affected materials and/or installations
- 10** Subcontractors shall coordinate their work with that of other trades
- 11** Subcontractors shall remove daily from premises trash, waste, and debris generated from their work
- 12** All work shall conform with latest published safety standards as established by OSHA and ANSI
- 13** Procedure with work constitutes acceptance of existing conditions . substrates
- 14** Premises shall be left fully cleaned and ready for Owner acceptance at completion of work
- 15** All materials and assemblies to be installed in strict accordance with manufacturer requirements and industry standards unless specifically indicated otherwise

Project Code Data

- Building Code**
- 2018 . International Building Code
- Electrical Code**
- 2017 . National Electrical Code
- Mechanical Code**
- 2018 . International Mechanical Code
- Fire Protection**
- 2018 . International Fire Code
- Plumbing Code**
- 2018 . International Plumbing Code
- Accessibility**
- Americans with Disabilities Act Accessibility Guidelines
- 2010 Accessible and Usable Buildings
- Use Group**
- 'B' Business . Section 304
- Gross Tenant Area**
- 2,153 gross square feet
- [calculated to exterior face of perimeter walls and centerline of demising walls]
- Construction Type**
- II-B . Section 605.2 . Table 601
- Occupant Load** Table 1004.5
- | Area Standards                 |                |
|--------------------------------|----------------|
| Accessory Areas                | 1 occ / 300 sf |
| Business Areas                 | 1 occ / 150 sf |
| Institutional Outpatient Areas | 1 occ / 100 sf |
- Area Allocations [net sf]**
- |                                |                  |
|--------------------------------|------------------|
| Accessory Areas                | 231 sf = 1 occ   |
| Business Areas                 | 396 sf = 2 occ   |
| Institutional Outpatient Areas | 1619 sf = 16 occ |
| Total                          | 19 occupants     |



**Egress Width**

0.20" per occupant Table 1005.3.2

	Required	Provided
19 occ x 0.20" =	4" (1 exits)	
72.00" (2 exits)		

Finish Schedule

confirm all finish selections and extents with Tenant . provided and installed by General Contractor unless noted otherwise

- Base**
- vin** 4" high vinyl [cove at carpet . straight at rubber / vinyl / ceramic]
- Floors**
- vct** vinyl composition tile [by tenant]
- cpt.a** 'Armstrong Imperial Texture Standard Excelon' . 12x12 52523 *Animal Crackers*
- cpt.b** 'Armstrong Imperial Texture Standard Excelon' . 12x12 52523 *Animal Crackers*
- Walls**
- pnt.a** eggshell latex paint [open clinic area]
- pnt.b** eggshell latex paint [interior rooms]
- pnt.c** eggshell latex paint [accent wall]
- pnt.d** eggshell latex paint [accent wall]
- pnt.e** eggshell latex paint [accent wall]
- pnt.f** eggshell latex paint [accent wall]
- mt** 'Formica M4511 Decometal Aluminum Crush' . install over primer [not paint] . fully adhere with 'Hybond HY-80' . install per manufacturers recommendations

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- Ceilings**
- sat** suspended acoustical tile . white [existing]
- Casework**
- cntr** countertops
- cab.b** base cabinets . reception desk face
- crk** cork

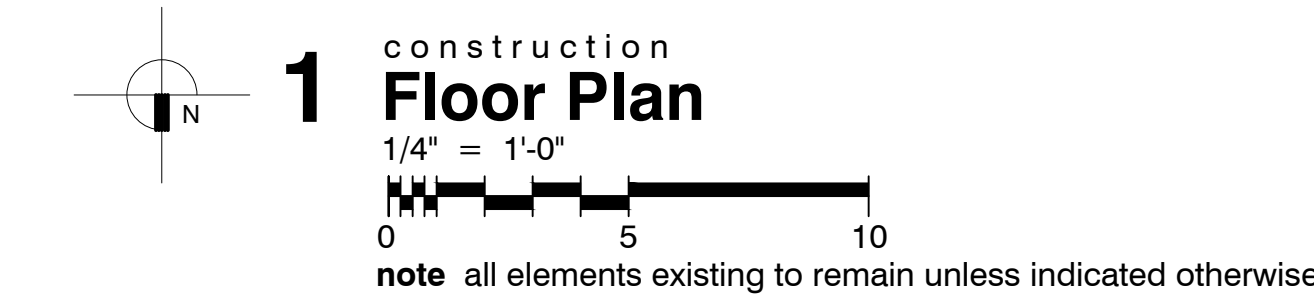
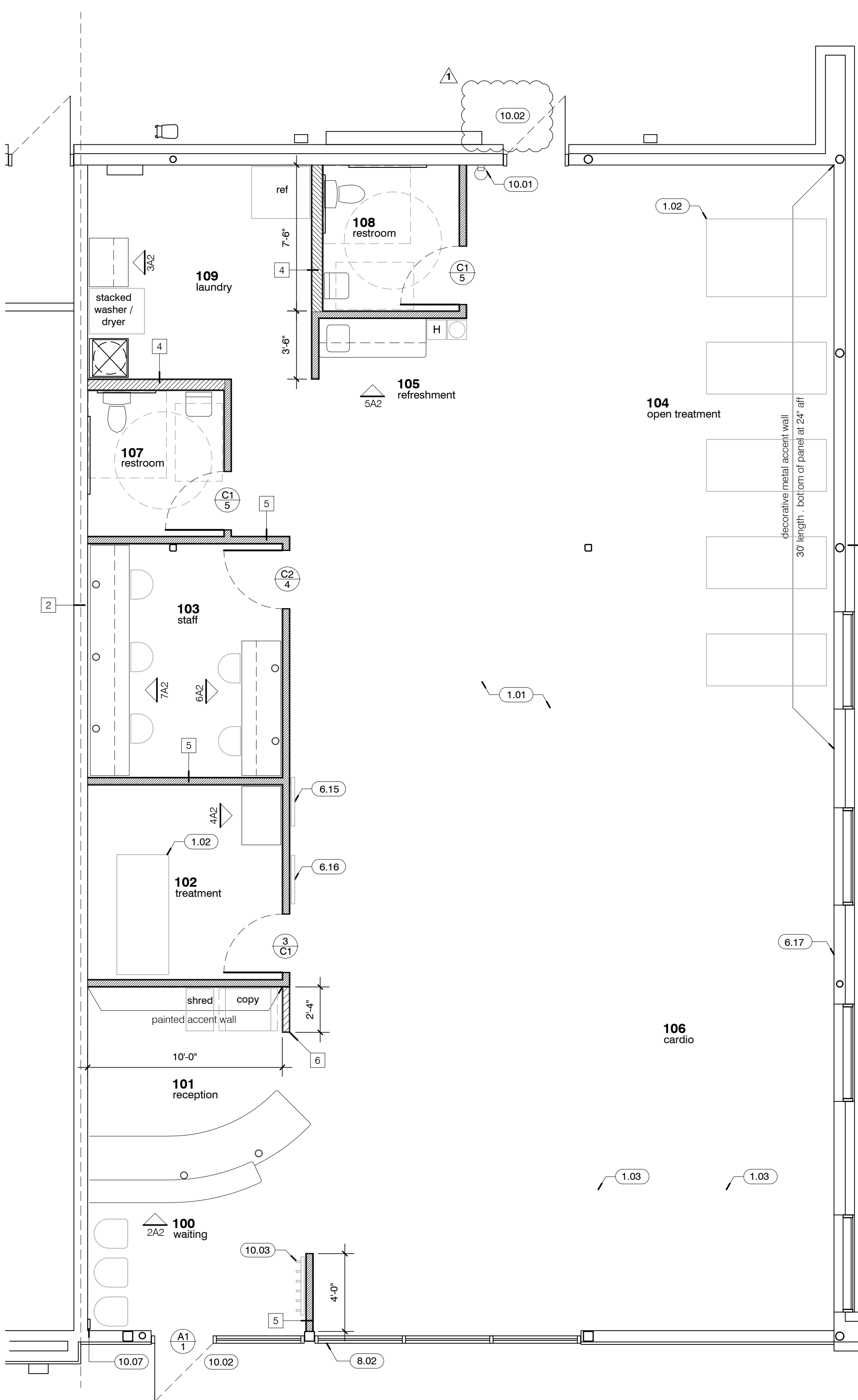
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Symbols

- existing construction to remain
- new metal stud partitions
- demolition
- new door and frame
- door . hardware indicator
- reference notes
- wall . partition type

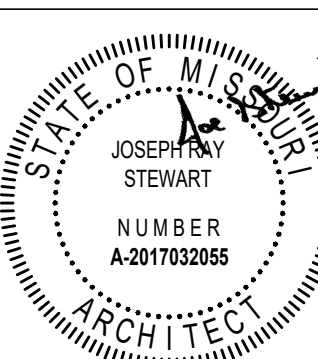


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Drawings and/or Specifications are original proprietary work and property of the Architect intended for the specifically titled project. Use of items contained herein without consent of Architect for titled or other projects is prohibited. Drawings illustrate best information available to Architect. Field verification of actual elements, conditions, and dimensions is required.



signed 11 March 2021

Project Number 21-112.32

ADA Compliance  
Certification

To best of my professional knowledge, the facility as indicated is in compliance with the Americans with Disabilities Act, including the current ADA Title III Design Guidelines.

Joseph Ray Stewart  
Missouri Architect A-2017032055

Revisions

15 March 2021

City Comments

interior improvements for

Athletico

159 SW Hwy 150  
Lee's Summit . Missouri










s h e e t  
A1

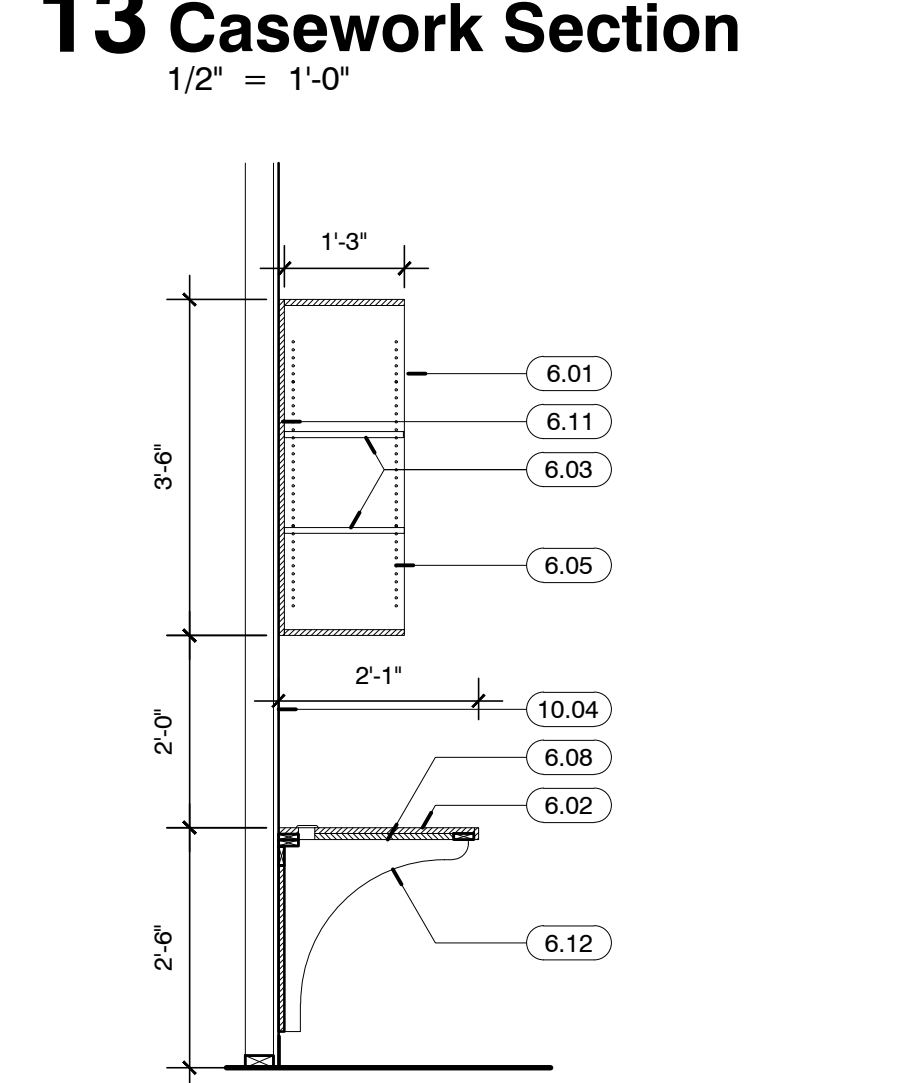
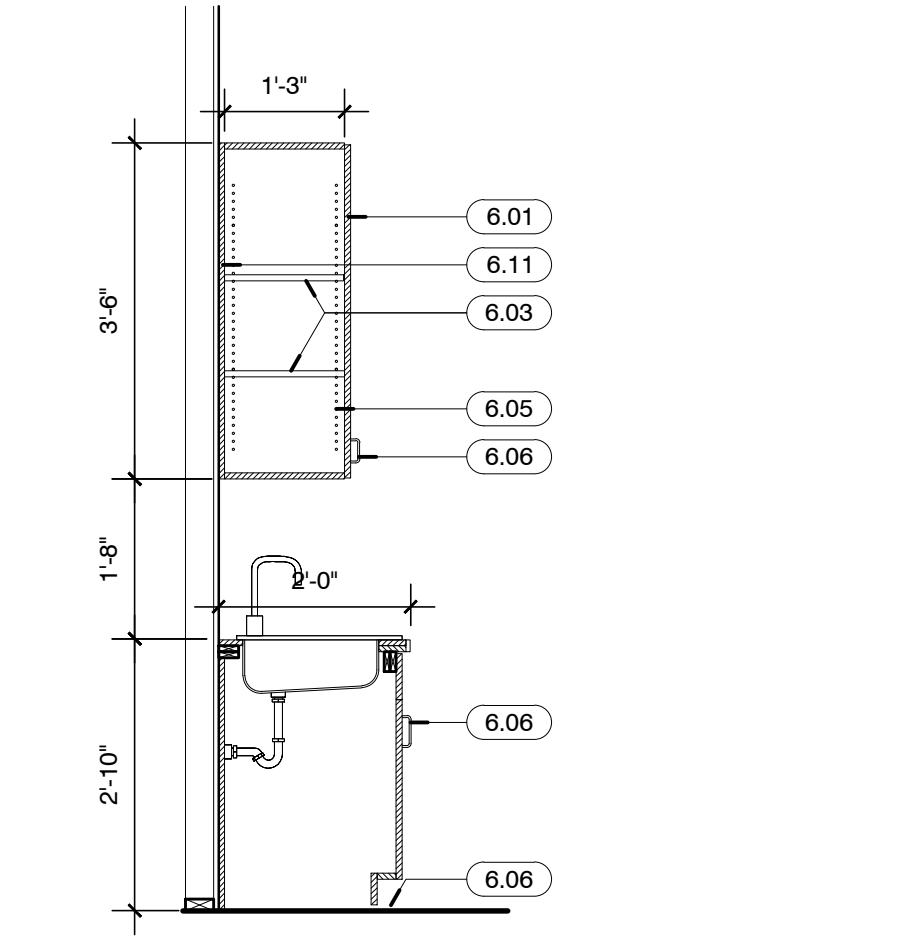
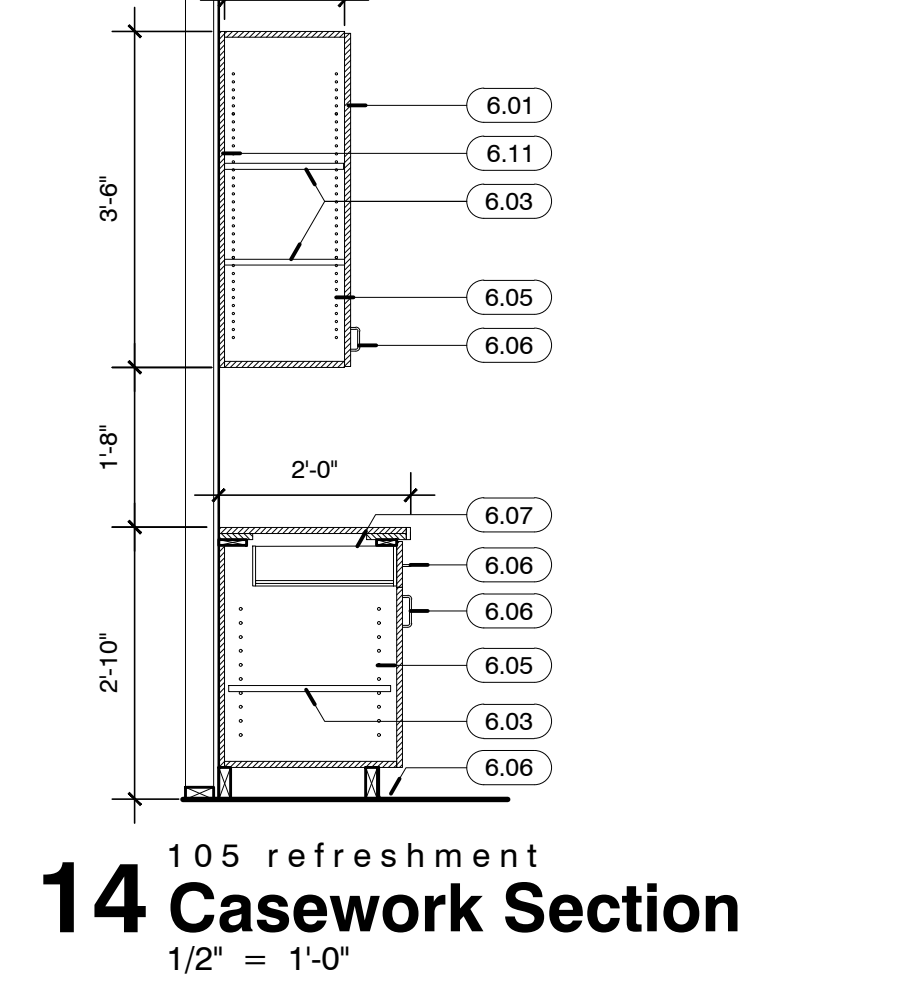
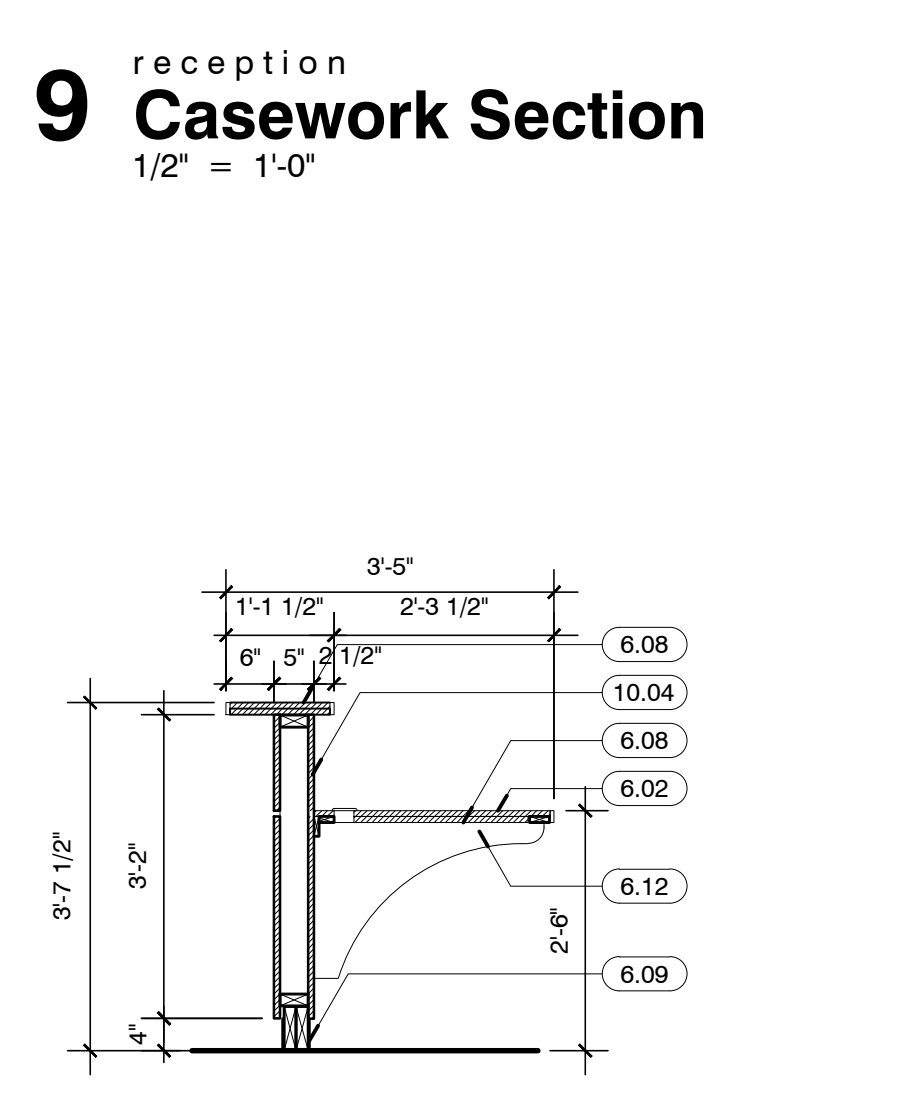
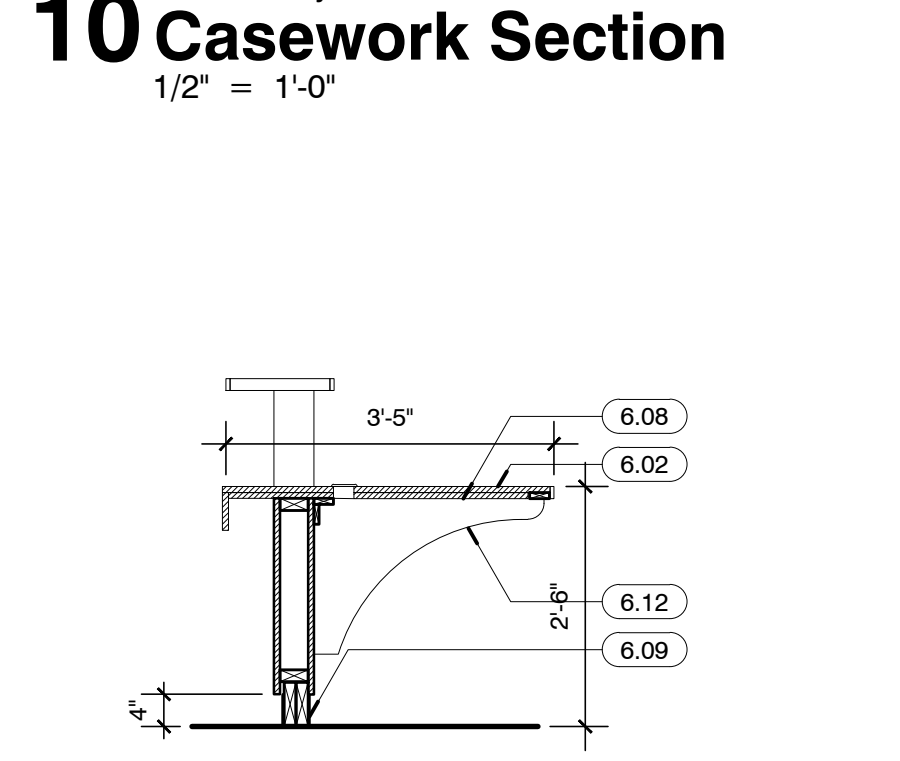
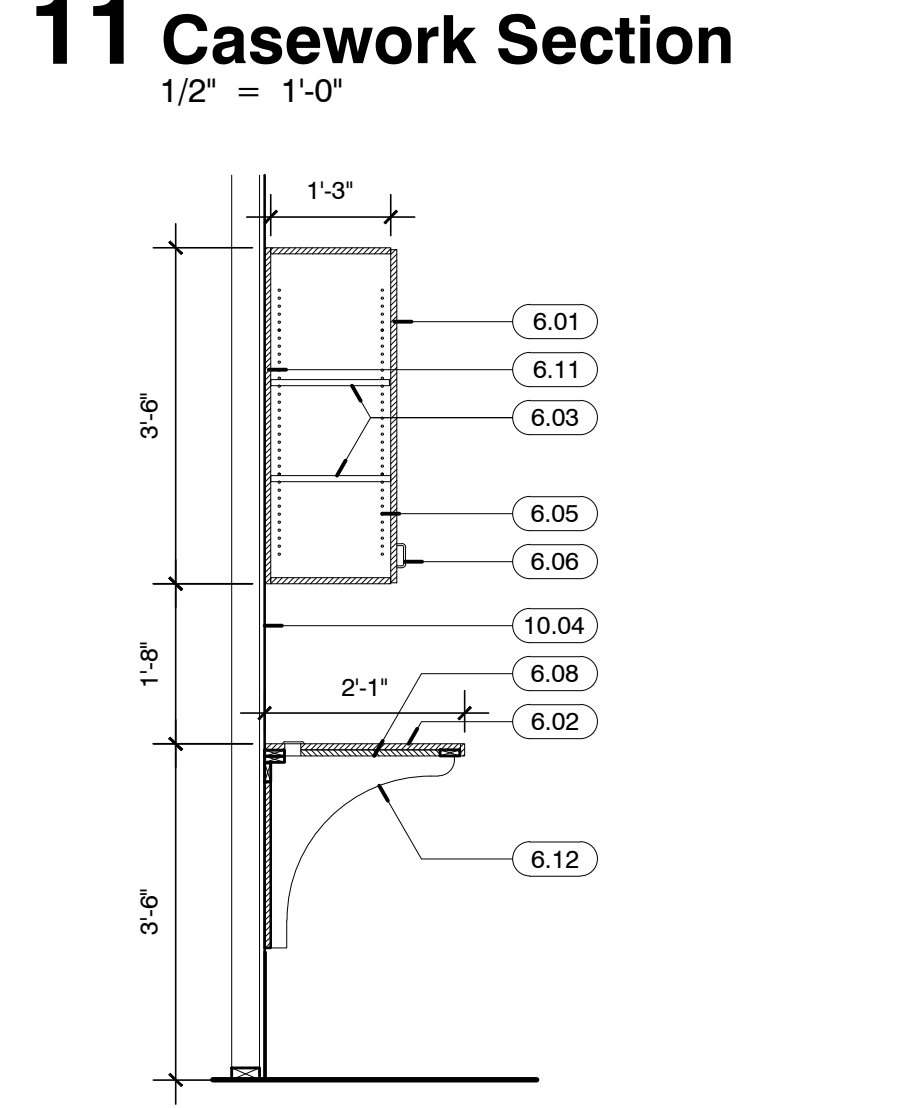
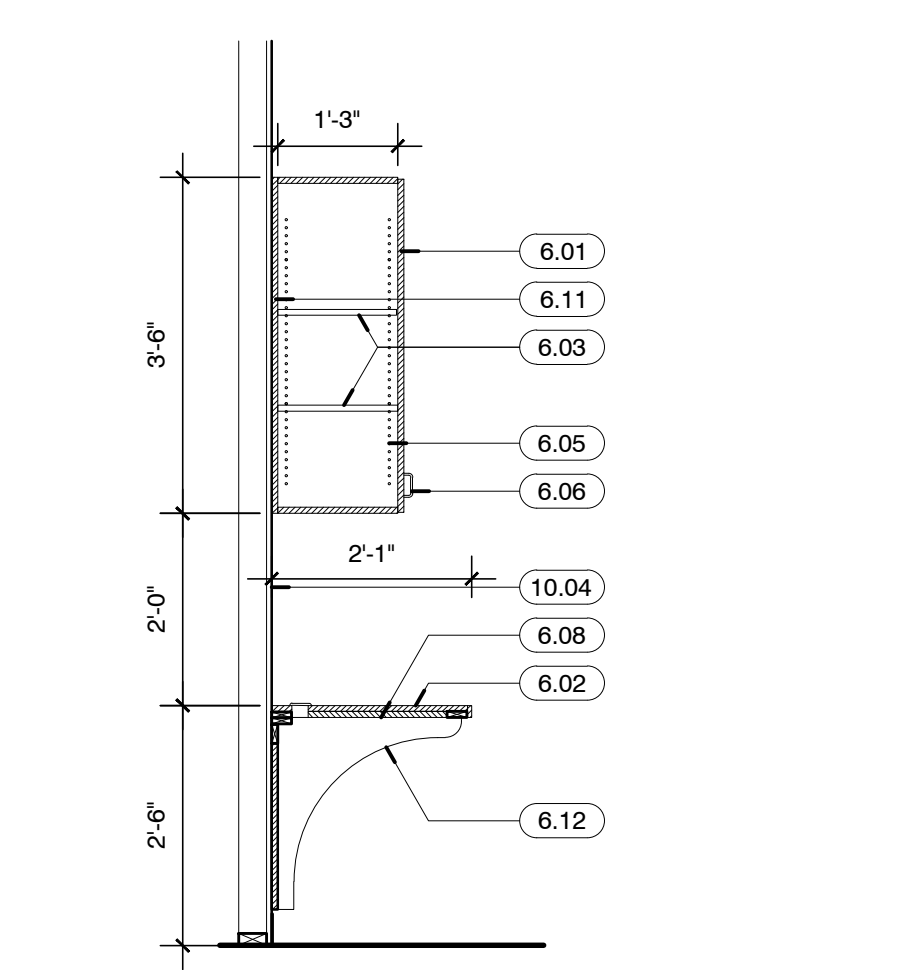
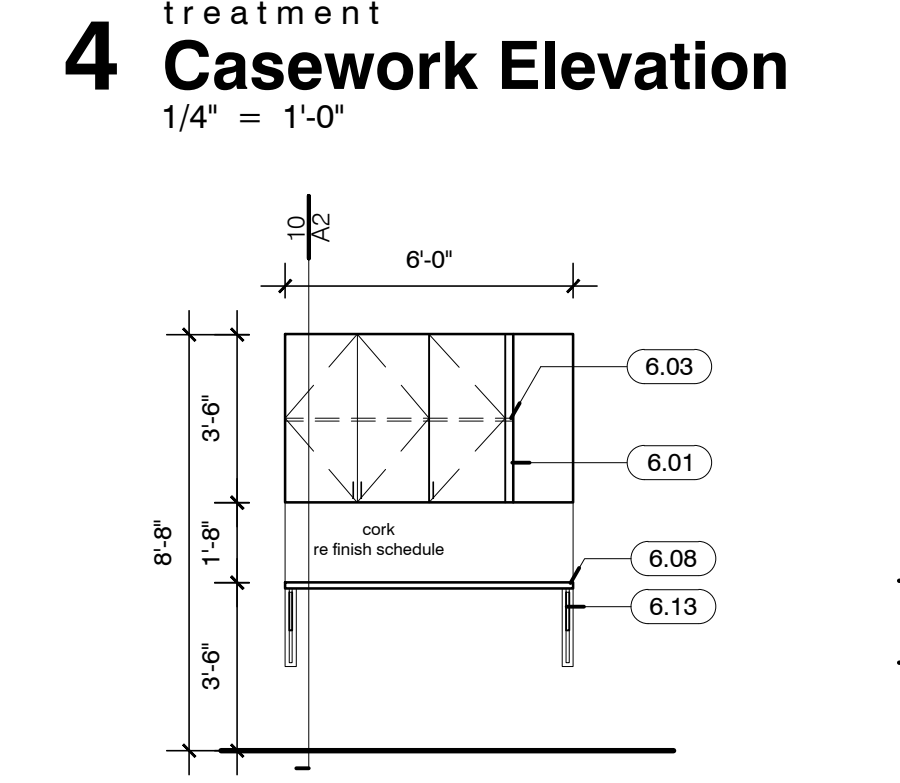
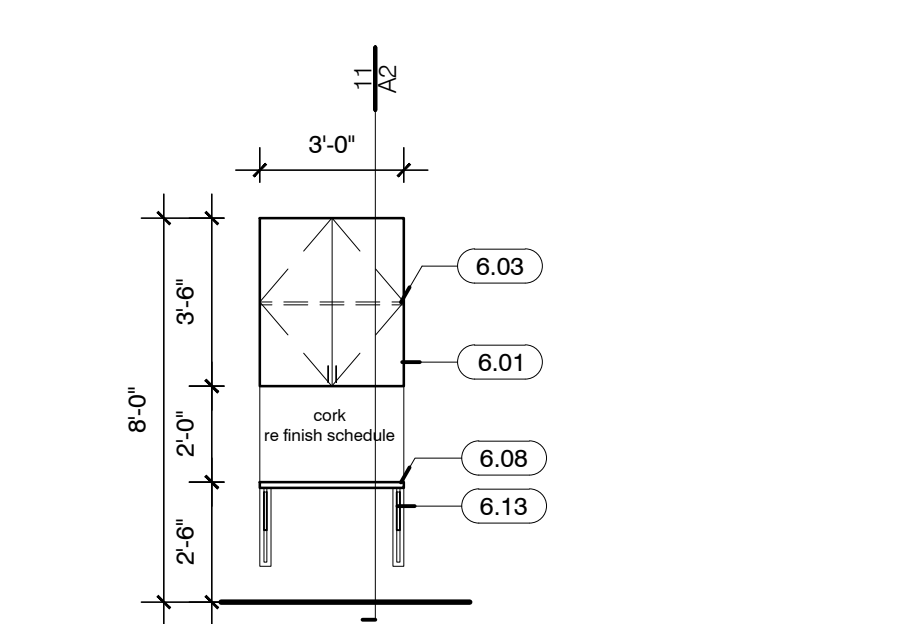
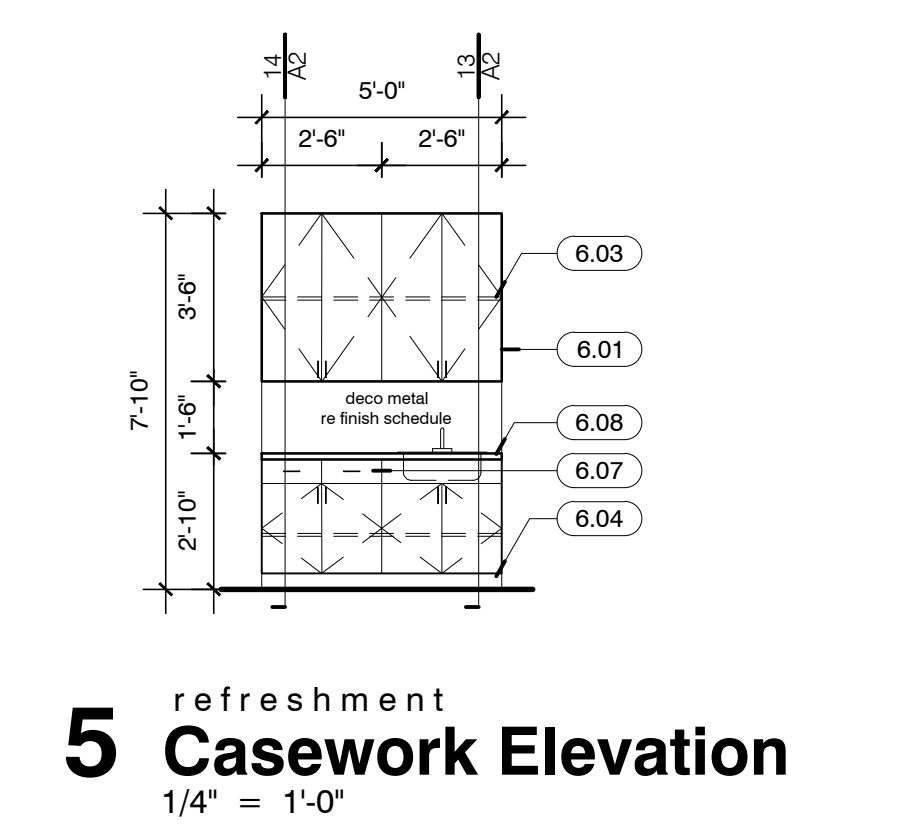
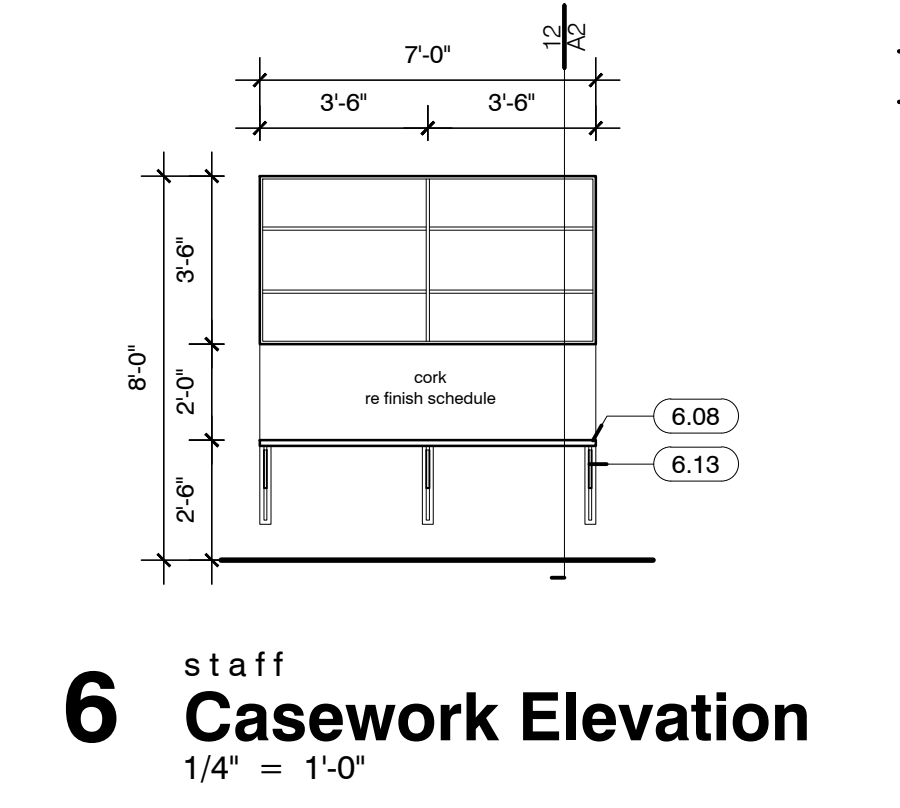
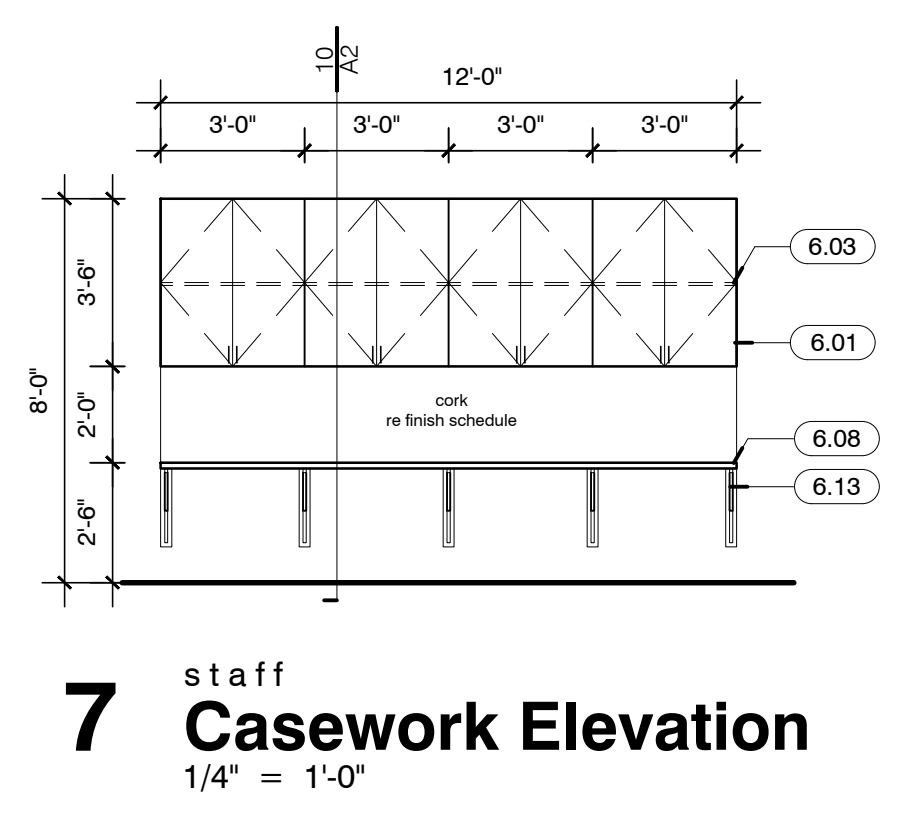
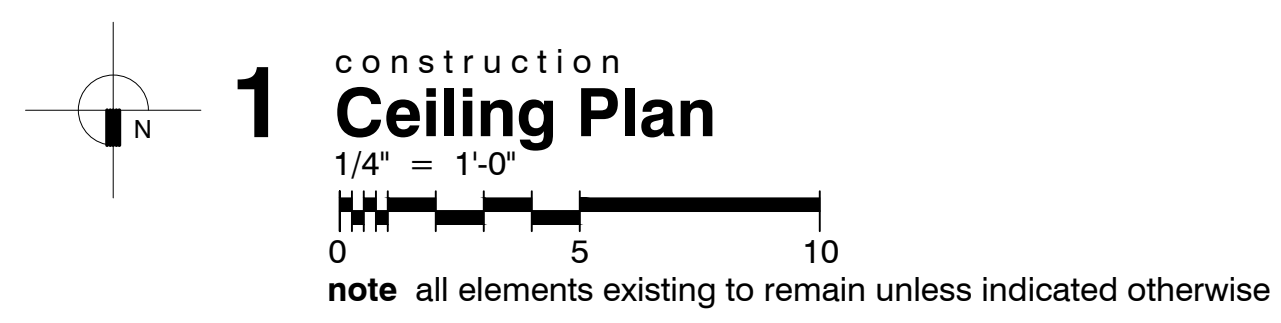
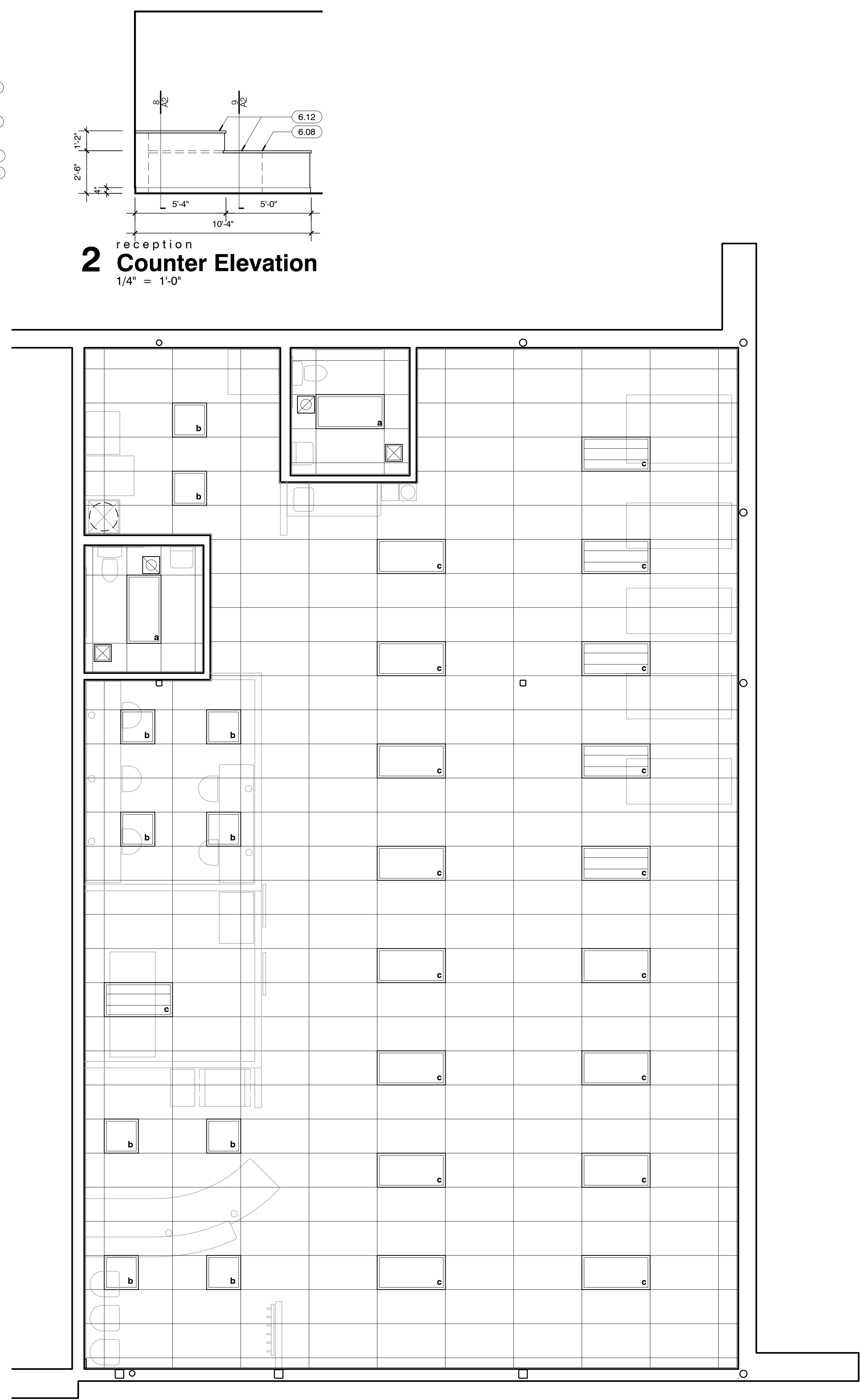
Project Information &  
Floor Plan

permit . bid  
11 March 2021



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- 10 **Specialties**  
10.01 Commercial grade fire extinguisher on bracket . verify final location with Fire Inspector  
10.02 Provide new 6" tall white vinyl self adhesive address numbering above storefront entrance  
10.03 Provide coat hooks . coordinate type and location with Tenant  
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- Symbols**
-  Metalux 24' x 48' 18 cell parabolic troffer with T-8 5000k lamps . refer MEP . tenant provided
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-  Focal Point Luna Series FLU-24-B-2-120-SB-WH with T-8 5000k lamps . refer MEP . tenant provided
-  emergency light with battery back up . refer MEP
-  emergency . exit light with battery back up . refer MEP
-  suspended acoustical tile system . landlord provided
-  exhaust fan . refer MEP
-  HVAC supply grille . refer MEP
-  HVAC return grille . refer MEP





GENERAL NOTES:

1. PRIOR TO SUBMITTING BID, VISIT THE JOB SITE AND BECOME FULLY ACQUAINTED WITH THE EXISTING CONDITIONS OF THE PROJECT. REVIEW GENERAL NOTES, SPECIFICATIONS AND OTHER DISCIPLINE'S DRAWINGS FOR ADDITIONAL REQUIREMENTS THAT MAY NOT BE SPECIFICALLY CALLED OUT IN THIS PORTION OF THE CONSTRUCTION DOCUMENTS. NOTIFY ARCHITECT, TENANT AND ENGINEER OF ANY DISCREPANCIES PRIOR TO SUBMISSION OF BID.
2. EXISTING CONDITIONS WERE TAKEN FROM AS BUILT DRAWINGS AND SITE VISITS AND MAY NOT REFLECT EXACT "AS-BUILT" CONDITIONS. COORDINATE DEMOLITION WORK AND NEW WORK WITH EXISTING CONDITIONS AND OTHER TRADES PRIOR TO CONSTRUCTION.
3. REFER TO ARCHITECTURAL DRAWINGS FOR RELATED CONSTRUCTION DETAILS AS APPLICABLE TO THE PLUMBING SYSTEMS. VERIFY CHASE AND PENETRATION LOCATIONS SHOWN ON THE ARCHITECTURAL DRAWINGS THAT ARE INTENDED FOR PIPING MEET REQUIREMENTS.
4. INSTALL PIPING PARALLEL TO BUILDING LINES, UNLESS NOTED OTHERWISE.
5. COORDINATE LOCATION OF EQUIPMENT AND SUPPORTS WITH LOCATION OF ACCESS PANELS/DOORS TO ENABLE SERVICE OF EQUIPMENT. IF NO ACCESS PANEL IS SHOWN, PROVIDE ACCESS PANEL IN SIZE REQUIRED FOR MAINTENANCE OF EQUIPMENT. COORDINATE EXACT LOCATION WITH ARCHITECT PRIOR TO INSTALLATION.
6. SEAL PENETRATIONS THROUGH BUILDING COMPONENTS IN ACCORDANCE WITH LOCAL CODES. FIREPROOF PENETRATIONS THROUGH FIRE RATED COMPONENTS IN ACCORDANCE WITH U.L. REQUIREMENTS.

PLAN NOTES:

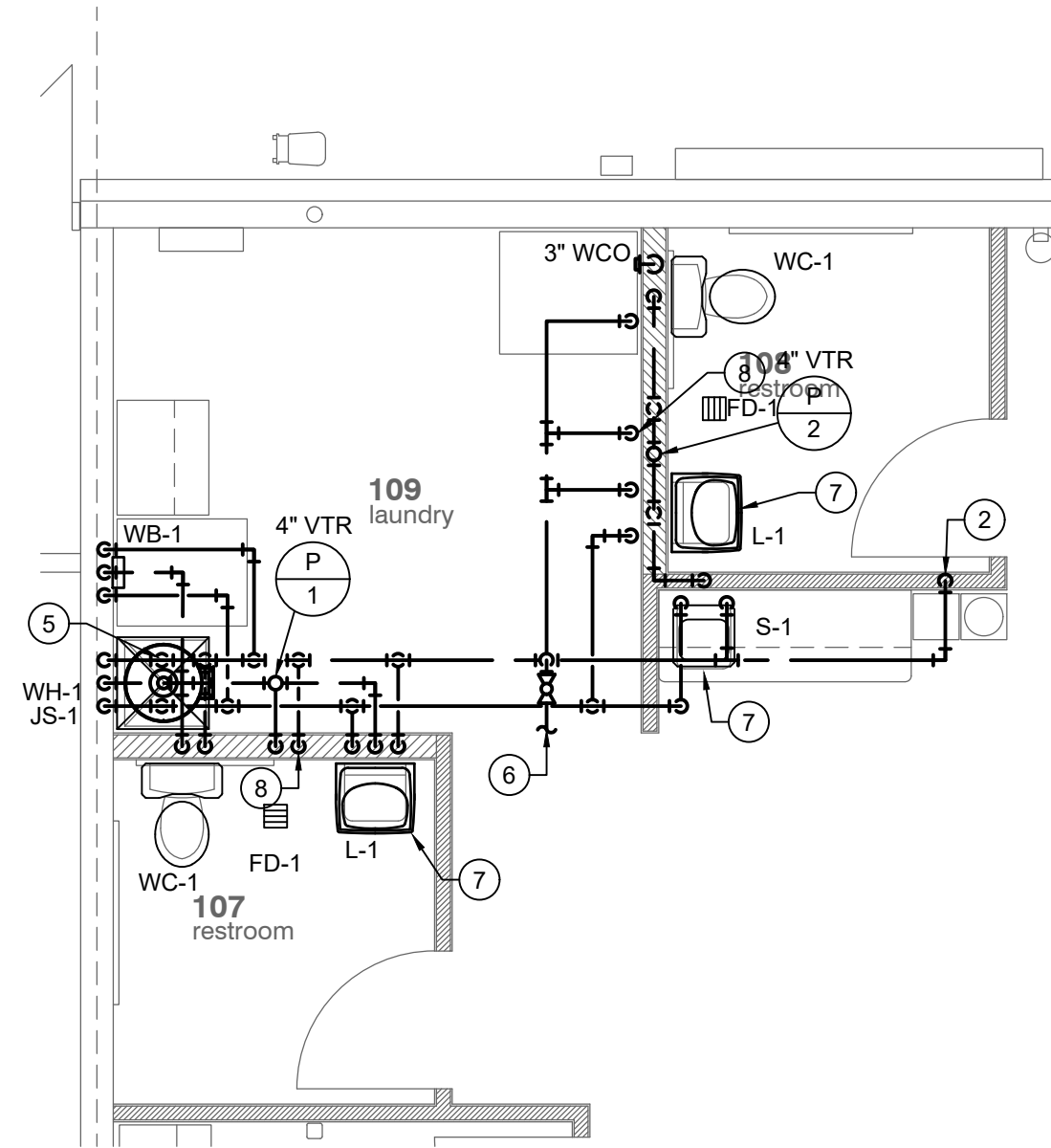
- 1 4"Ø EXHAUST DUCT UP THROUGH ROOF ABOVE. TERMINATE WITH APPROVED FITTING EQUIPPED WITH INSECT SCREEN.
- 2 1/2" CW DOWN TO WATER COOLER BACKBOX BELOW. PROVIDE BACKBOX APPROVED BY OWNER.
- 3 CONNECT NEW UNDERGROUND SAN TO EXISTING UNDERGROUND SAN MAIN. FIELD VERIFY EXACT LOCATION PRIOR TO INSTALLATION.
- 4 4"Ø DRYER VENT FROM DRYER CONNECTION, ROUTE UP THROUGH ROOF ABOVE. TERMINATE ABOVE ROOF PER THE DRYER MANUFACTURER'S INSTALLATION INSTRUCTIONS.
- 5 1/2" CW & 1/2" HW DOWN TO WATER HEATER BELOW. MOUNT WATER HEATER ABOVE JANITORS SINK.
- 6 1" CW, EXTEND TO EXISTING BUILDING SERVICE ENTRANCE AND CONNECT. FIELD VERIFY EXACT LOCATION.
- 7 INSTALL MIXING VALVE SCHEDULED IN PLUMBING FIXTURE SCHEDULE. INSTALL MIXING VALVE PER MANUFACTURER'S INSTALLATION INSTRUCTIONS
- 8 1/4" CW DOWN TO TRAP PRIMER CONNECTION ON FLOOR DRAIN BELOW.

AIR TERMINAL DEVICES SCHEDULE								
PLAN MARK	QUANTITY	MANUFACTURER	MODEL	SERVICE	MOUNT TYPE	BORDER SIZE	NECK SIZE	VOLUME DAMPER
RG-1	1	TITUS	PAR	RETURN	LAY-IN	24"X24"	12"	NO
RG-1	1	TITUS	PAR	RETURN	LAY-IN	12"X12"	12"	NO
RG-1	3	TITUS	PAR	RETURN	LAY-IN	24"X24"	22"X22"	NO
RG-1	2	TITUS	PAR	RETURN	LAY-IN	24"X24"	10"	NO
SD-1	2	TITUS	OMNI	SUPPLY	LAY-IN	12"X12"	8"	YES
SD-4	12	TITUS	OMNI	SUPPLY	LAY-IN	24"X24"	10"	YES
SD-4	2	TITUS	OMNI	SUPPLY	LAY-IN	24"X24"	8"	YES

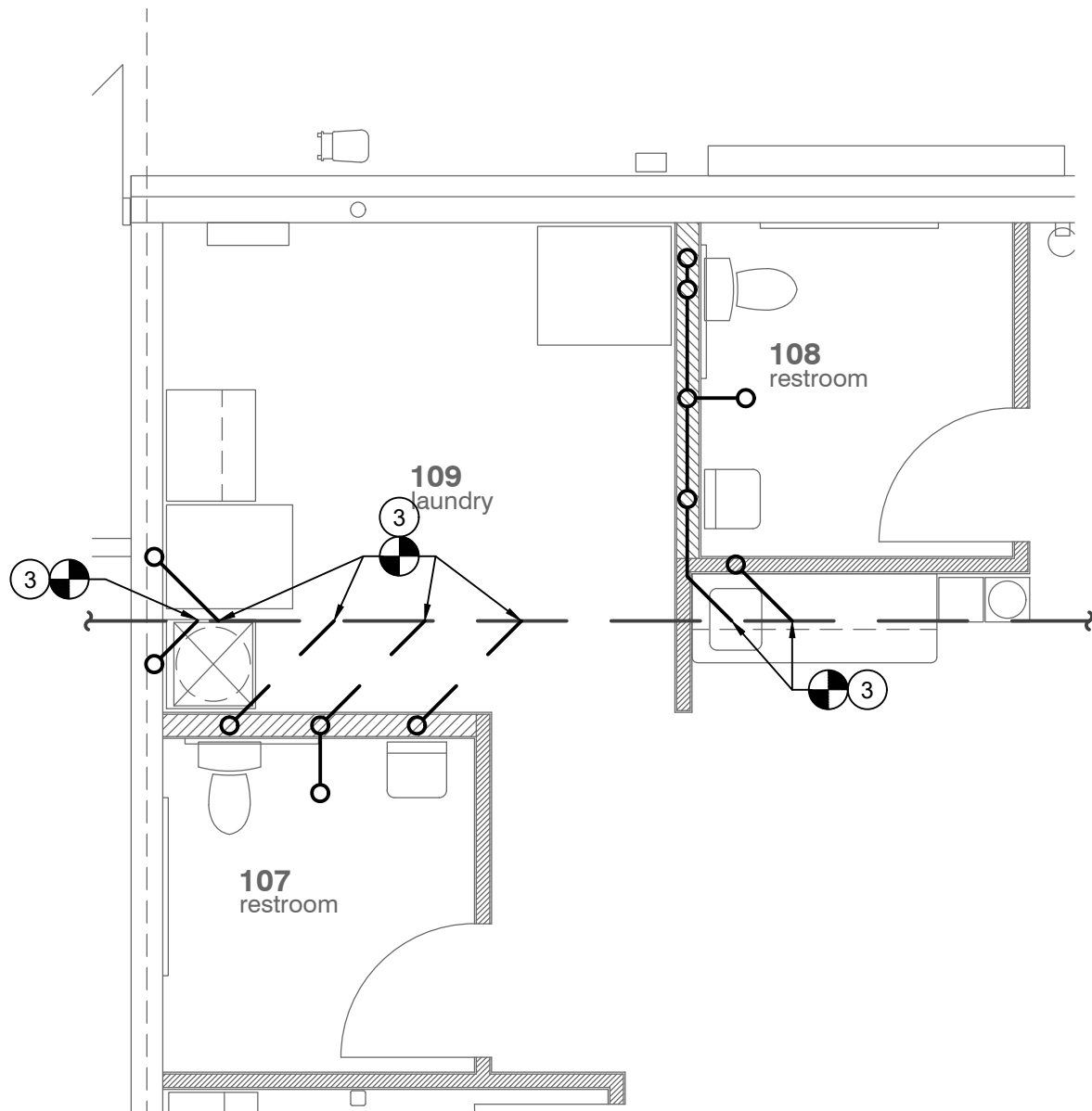
ELECTRIC WATER HEATER SCHEDULE										
UNIT CALLOUT	UNIT INFORMATION								DWG NO.	NOTES
	MFG	MODEL NO.	CAP. (GAL)	EWT (°F)	LWT (°F)	NUM OF ELEM.	TOTAL INPUT (KW)	VOLT/ PH		
WH-1	AO SMITH	ECT-30	30	40	120	2	4.5	208/1	RE:PLANS	----

EXHAUST FAN SCHEDULE								
UNIT CALLOUT	UNIT INFORMATION							NOTES
	MFG	MODEL NO.	TYPE	EXT STATIC (IN WC)	FLOW (CFM)	HP	VOLT/ PHASE	
EF-1	PANASONIC	FV05-11	INLINE	0.3	75	1/20	120/1	--

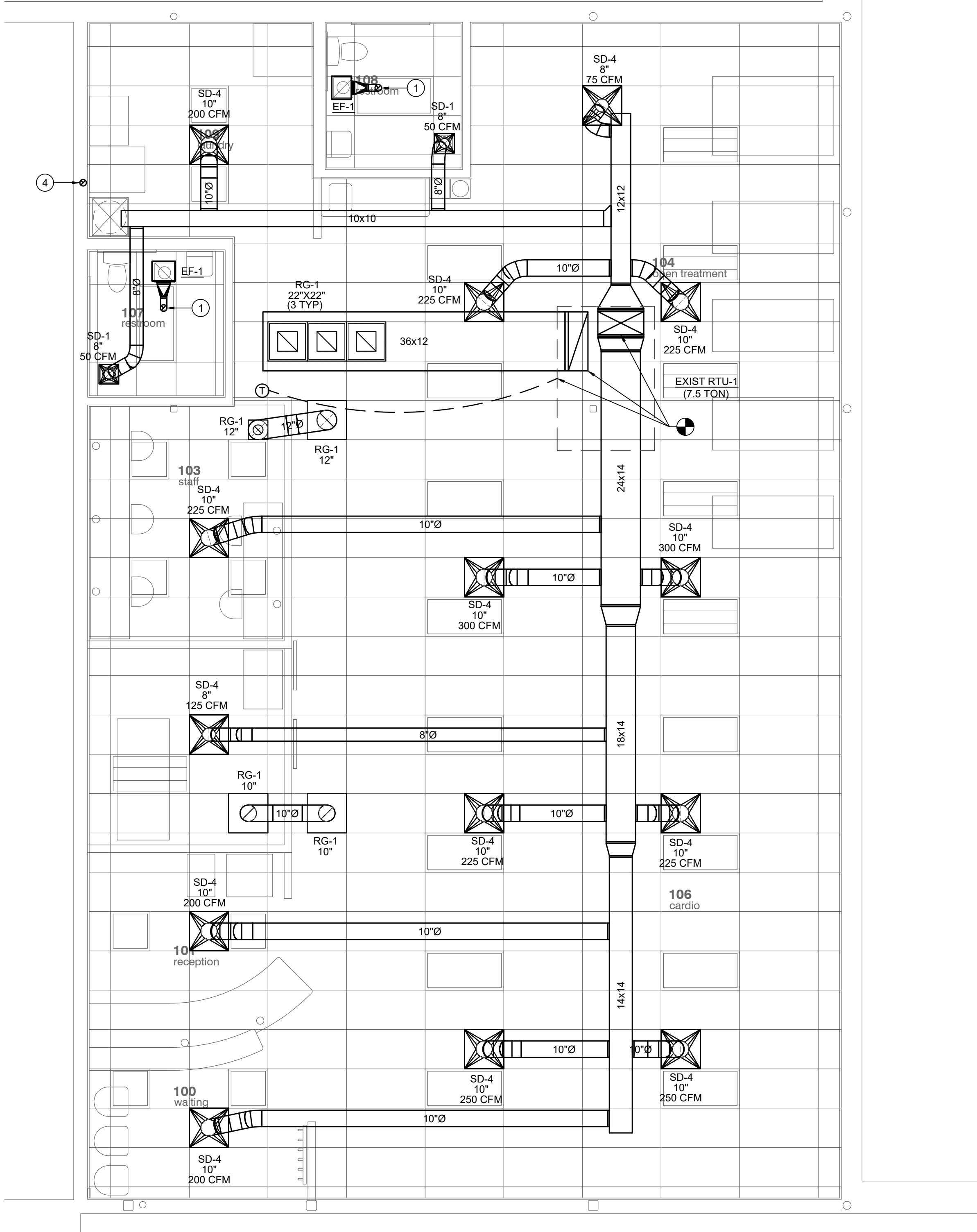
PLUMBING FIXTURE CONN. SCHEDULE					
FIXTURE	MARK	CW	HW	WASTE	VENT
LAVATORY (UNDER SLAB)	L-1	1/2"	1/2"	2"	1-1/2"
FLOOR DRAIN	FD-1	1/4"	--	3"	2"
FLUSH TANK WATER CLOSET	WC-1	1/2"	--	3"	2"
JANITOR SINK	JS-1	3/4"	3/4"	3"	2"
SINK (UNDER SLAB)	S-1	1/2"	1/2"	2"	2"
WASHER BOX	WB-1	1/2"	1/2"	2"	1-1/2"



3 FLOOR PLAN - PLUMBING  
1/4"=1'-0"



2 UNDERSLAB PLAN - PLUMBING  
1/4"=1'-0"



1 FLOOR PLAN - HVAC  
1/4"=1'-0"

RELEASE FOR  
CONSTRUCTION  
AS NOTED ON PLANS REVIEW  
DEVELOPMENT SERVICES  
LEE'S SUMMIT, MISSOURI  
3-11-21

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best information available to  
Architect. Field verification of  
actual elements, conditions, and  
dimensions is required.

STATE OF MISSOURI  
JAMES H. STEWART  
ARCHITECT  
3-11-21  
Project Number 21.112.32

Revisions

interior improvements for  
**Athletico**  
159 SW Hwy 150  
Lee's Summit . Missouri

s h e e t  
**M1**  
MECHANICAL  
PLANS  
permit . bid  
25 February 2021



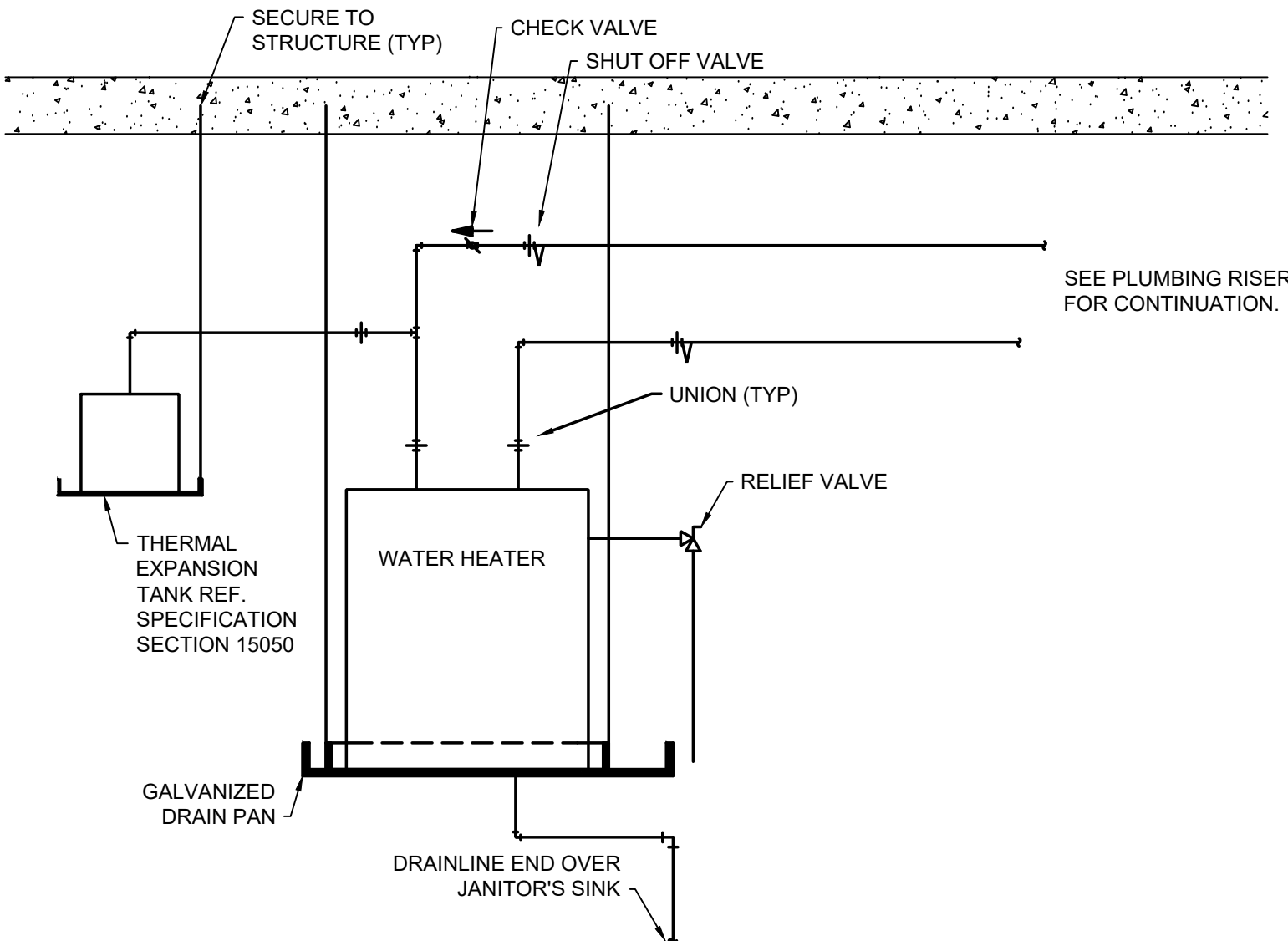
PLUMBING FIXTURE SCHEDULE						
PLAN MARK	MANUFACTURER AND MODEL	FIXTURE DESCRIPTION	ACCESSORIES MANUFACTURER AND MODEL	ACCESSORIES DESCRIPTION	SIZE	NOTES
FD-1	WATTS FD-12.SQ	PVC SHALLOW SUMP FLOOR DRAIN WITH SQUARE TOP WITH BRONZE STRAINER AND TRAP PRIMER CONNECTION.	-	-	-	
JS-1	MUSTEE 63M	FLOOR MOUNTED, PVC MOP SINK.	ACORN KFC	WALL MOUNTED SERVICE FAUCET WITH PAIL HOOD AND VACUUM BREAKER. SUPPLY SINK WITH 3/8" HOSE, MOP HANGER AND LINT BASKET STRAINER.	24" X 24"	
L-1	AMERICAN STANDARD LUCERNE 0356.041	VITREOUS CHINA, ADA COMPLIANT, D-SHAPED BOWL WALL HUNG LAVATORY.	1.) AMERICAN STANDARD COLONY 2175.205 2.) LAWLER TMM-1070	1.) SINGLE CONTROL CENTERSET FAUCET WITH METAL LEVER HANDLE. 2.) ASSE1070 COMPLIANT POINT OF USE THERMOSTATIC MIXING VALVE WITH BRONZE BODY, TAMPER RESISTANT COVER AND CHECK VALVES. SET OUTLET TEMPERATURE TO 95 DEG F.	-	PROVIDE CHROME PLATED BRASS TAILPIECE AND GRID DRAIN, CHROME PLATED BRASS P-TRAP, ANGLED STOP VALVES AND FLEXIBLE RISERS. INSULATE EXPOSED TAILPIECE, P-TRAP, AND WATER RISERS WITH ADA COMPLIANT INSULATION. MOUNT MIXING VALVE BELOW SINK AND PROVIDE A SINGLE TEMPERED WATER CONNECTION TO FAUCET.
S-1	ELKAY LRAD	SINGLE BOWL, STAINLESS STEEL, ADA COMPLIANT COUNTER MOUNTED SINK. 3 FAUCET HOLES ON 4" CENTERS.	ELKAY LK80GN05T4	8" WIDESPREAD FAUCET WITH 4" WRIST BLADE HANDLES AND GRID DRAIN ASSEMBLY.	22" X 19-1/2"	PROVIDE CHROME PLATED BRASS TAILPIECE AND GRID DRAIN, CHROME PLATED BRASS P-TRAP, AND ANGLED STOP VALVES AND FLEXIBLE RISERS. INSULATE EXPOSED TAILPIECE, P-TRAP, AND WATER RISERS WITH ADA COMPLIANT INSULATION.
WB-1	GUY GRAY #MWB	WASHING MACHINE CONNECTION BOX, RECESSED COLD ROLLED STEEL BOX WITH WHITE POWDER COAT FINISH, INTEGRAL SUPPLY VALVES AND PVC DRAIN.	-	-	-	
WC-1	AMERICAN STANDARD CADET 3 FLOWISE 2832.128	ADA COMPLIANT, FLOOR MOUNTED, FLUSH TANK, VITREOUS CHINA WATER CLOSET.	CHURCH 9500 C	SEAT: SOLID PLASTIC, OPEN FRONT, WHITE ELONGATED BOWL, INTEGRAL BUMPERS, EXTERNAL CHECK HINGES WITH STAINLESS STEEL POSTS.	-	

EXISTING RTU-1 Ventilation Calculation									
		7.5		Ton					
Room Name	Occupancy Classification	Occupant Density	Az	Pz	Rp	Ra	Ex	Vbz	Voz
Waiting	Reception	30	100	3	5	0.06	0.8	21	26
Reception	Office Space	5	110	1	5	0.06	0.8	12	14
Treatment	Med Prc. Rm	20	115	2	15	0	0.8	35	43
Staff	Office Space	5	135	1	5	0.06	0.8	14	18
Tlt	Toilet Room	0	60	0	0	0	0.8	0	0
Laundry	Storage Rm	0	150	0	0	0.12	0.8	18	23
Tlt	Toilet Room	0	65	0	0	0	0.8	0	0
Open Treatment	Health Club	10	540	5	20	0.06	0.8	140	176
Open Treatment	Corridor	0	450	0	0	0.06	0.8	27	34
Cardio	Health Club	10	355	4	20	0.06	0.8	92	115
Cardio	Corridor	0	335	0	0	0.06	0.8	20	25
			Vot						474 cfm

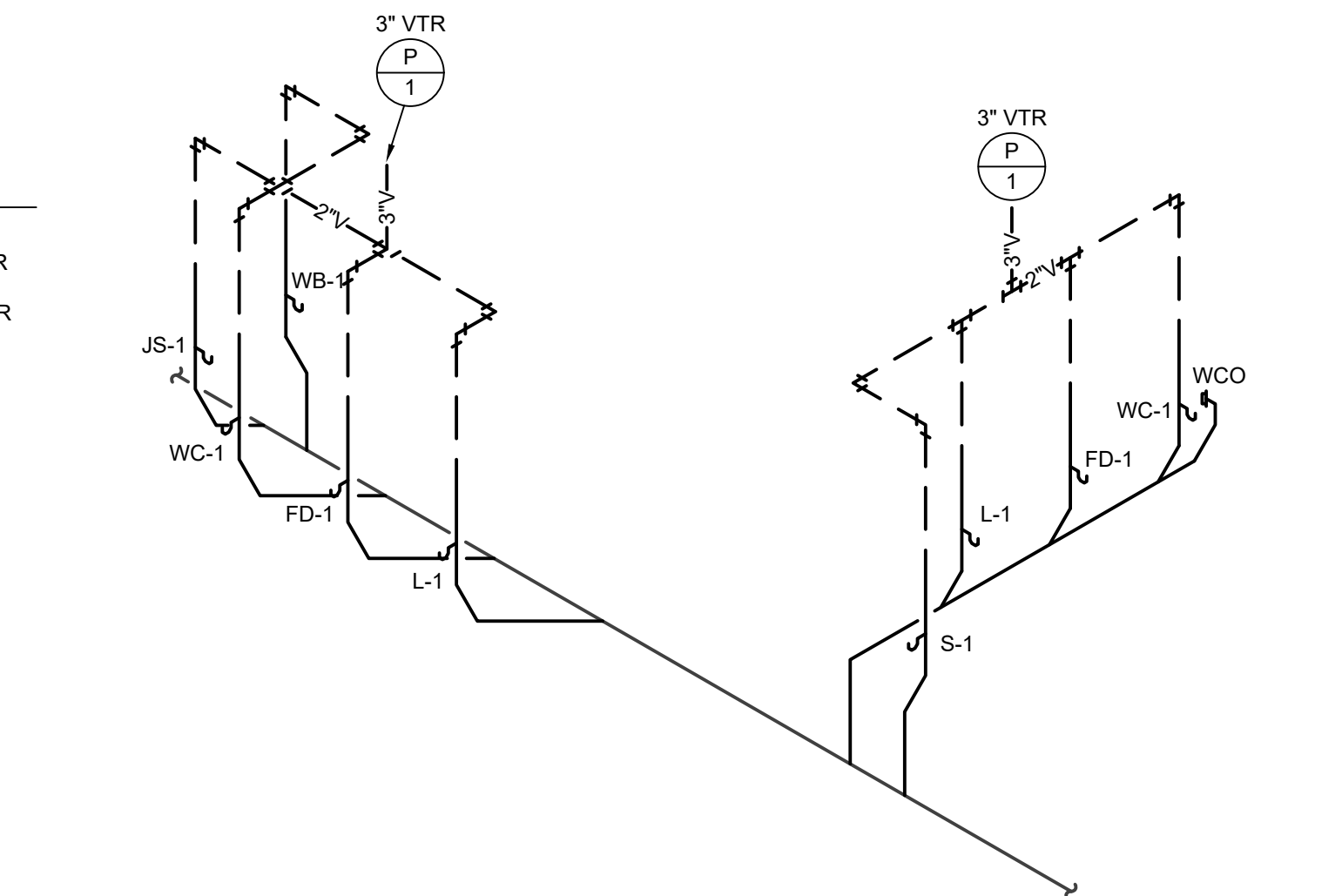
3 VENTILATION SCHEDULE

GENERAL		PLUMBING	
①	MECHANICAL NOTE REFERENCE	— SAN —	SOIL OR WASTE ABOVE GRADE OR FLOOR
②	DEMOLITION NOTE REFERENCE	— SAN —	SOIL OR WASTE BELOW GRADE OR FLOOR
⚠	REVISION NOTE REFERENCE	— V —	PLUMBING VENT
●	CONNECT TO EXISTING WORK	— — —	DOMESTIC COLD WATER
		— — —	DOMESTIC HOT WATER
		— G —	GAS (NATURAL)
		⊕	FLOOR CLEAN OUT
		→ WCO	WALL CLEAN OUT
— D —	HVAC CONDENSATE DRAIN	— HB —	HOSE BIBB
⊕	THERMOSTAT	⊕	FLOOR SINK, FLOOR DRAIN, AREA DRAIN
⊕	SUPPLY DIFFUSER	⊕	FLOOR SINK, FLOOR DRAIN, AREA DRAIN
⊕	RETURN GRILLE/EXHAUST REGISTER	⊕	PLUMBING VENT RISER CALL-OUT
⊕	RETURN AND EXHAUST AIR FLOW INDICATOR	⊕	ELBOW DOWN
⊕	DUCT MOUNTED MANUAL BALANCING DAMPER	⊕	ELBOW UP
		⊕	TEE UP
		⊕	TEE DOWN

1 MECHANICAL SYMBOLS



4 SUSPENDED WATER HEATER DETAIL NO SCALE



2 PLUMBING RISER DIAGRAM

## MECHANICAL SPECIFICATIONS

### 1. HANGERS AND SUPPORTS FOR PIPING AND EQUIPMENT

**DEFINITIONS**  
Terminology: As defined in MSS SP-90, "Guidelines on Terminology for Pipe Hangers and Supports."  
**PERFORMANCE REQUIREMENTS**  
Design supports for multiple pipes capable of supporting combined weight of supported systems, system contents, and test water. Design equipment supports capable of supporting combined operating weight of supported equipment and connected systems and components.  
**PRODUCTS**  
**STEEL PIPE HANGERS AND SUPPORTS**  
Description: MSS SP-58, Types 1 through 58, factory-fabricated components. Refer to Part 3 "Hanger and Support Applications" Article for where to use specific hanger and support types.  
**TRAPEZE PIPE HANGERS**  
Description: MSS SP-69, Type 58, shop- or field-fabricated pipe-support assembly made from structural-steel shapes with MSS SP-58 hanger rods, nuts, saddles, and U-bolts.  
**METAL FRAMING SYSTEMS**  
Description: MFMA-3, shop- or field-fabricated pipe-support assembly made of steel channels and other components.

**EXECUTION**  
**HANGER AND SUPPORT APPLICATIONS**  
Specific hanger and support requirements are specified in Sections specifying piping systems and equipment. Comply with MSS SP-69 for pipe hanger selections and applications that are not specified in piping system Sections. Use hangers and supports with galvanized, metallic coatings for piping and equipment that will not have field-applied finish. Use nonmetallic coatings on attachments for electrolytic protection where attachments are in direct contact with copper tubing.  
**Horizontal-Piping Hangers and Supports:** Unless otherwise indicated and except as specified in piping system Sections, install the following types: Adjustable, Steel Clevis Hangers (MSS Type 1): For suspension of noninsulated or insulated stationary pipes, NPS 1/2 to NPS 30 (DN 15 to DN 750). Adjustable, Steel Band Hangers (MSS Type 7): For suspension of noninsulated stationary pipes, NPS 1/2 to NPS 8 (DN 15 to DN 200). Complete Pipe Rolls (MSS Type 44): For support of pipes, NPS 2 to NPS 42 (DN 50 to DN 1050), if longitudinal movement caused by expansion and contraction might occur but vertical adjustment is not necessary.  
**Vertical-Piping Clamps:** Unless otherwise indicated and except as specified in piping system Sections, install the following types: Hanger-Rod Attachments: Unless otherwise indicated and except as specified in piping system Sections, install the following types: Steel Clevises (MSS Type 14): For 120 to 450 deg F (49 to 232 deg C) piping installations.  
**Building Attachments:** Unless otherwise indicated and except as specified in piping system Sections, install the following types: Saddles and Shields: Unless otherwise indicated and except as specified in piping system Sections, install the following types: Steel Pipe-Covering Protection Saddles (MSS Type 39): To fill interior voids with insulation that matches adjoining insulation.  
**Protection Shields (MSS Type 40):** Of length recommended in writing by manufacturer to prevent crushing insulation. Thermal-Hanger Shield Inserts: For supporting insulated pipe.  
Comply with MSS SP-69 for trapeze pipe hanger selections and applications that are not specified in piping system Sections.

**2. MECHANICAL INSULATION**  
**PRODUCTS**  
**INSULATION MATERIALS**  
Comply with requirements in Part 3 schedule articles for where insulating materials shall be applied.  
**FiberGlass:** Inorganic, incombustible, foamed or cellulated glass with annealed, rigid, hermetically sealed cells, with factory applied All Service Jacket (ASJ) painted in color selected by architect.  
**INSULATING CEMENTS**  
Mineral-Fiber, Hydraulic-Setting Insulating and Finishing Cement: Comply with ASTM C 449/C 449M.  
**FACTORY-APPLIED JACKETS**  
Insulation system schedules indicate factory-applied jackets on various applications. When factory-applied jackets are indicated, comply with the following:  
ASJ: White, kraft-paper, fiberglass-reinforced scrim with aluminum-foil backing; complying with ASTM C 1136, Type I.

**EXECUTION**  
**PREPARATION**  
Surface Preparation: Clean and dry surfaces to receive insulation. Remove materials that will adversely affect insulation application. Coordinate insulation installation with the trade installing heat tracing. Comply with requirements for heat tracing that apply to insulation. Mix insulating cements with clean potable water; if insulating cements are to be in contact with stainless-steel surfaces, use demineralized water.  
**GENERAL INSTALLATION REQUIREMENTS**  
Install insulation materials, accessories, and finishes with smooth, straight, and even surfaces; free of voids throughout the length of equipment, ducts and fittings, and piping including flanges, valves, and specialties. Install insulation materials, forms, vapor barriers or retarders, jackets, and thicknesses required for each item of equipment, duct system, and pipe system as specified in insulation system schedules. Install accessories compatible with insulation materials and suitable for the service. Install accessories that do not corrode, soften, or otherwise attack insulation or jacket in either wet or dry state. Install insulation with longitudinal seams at top and bottom of horizontal runs. Install multiple layers of insulation with longitudinal and end seams staggered. Do not weld brackets, clips, or other attachment devices to piping, fittings, and specialties.  
Keep insulation materials dry during application and finishing. Install insulation with tight longitudinal seams and end joints. Bond seams and joints with adhesive recommended by insulation material manufacturer. Install insulation with least number of joints practical. Where vapor barrier is indicated, seal joints, seams, and penetrations in insulation at hangers, supports, anchors, and other projections with vapor-barrier mastic. Install insulation continuously through hangers and around anchor attachments. For insulation application where vapor barriers are indicated, extend insulation on anchor legs from point of attachment to supported item to point of attachment to structure. Taper and seal ends at attachment to structure with vapor-barrier mastic. Install insert materials and install insulation to tightly join the insert. Seal insulation to insulation inserts with adhesive or sealing compound recommended by insulation material manufacturer. Cover inserts with jacket material matching adjacent pipe insulation. Install shields over jacket, arranged to protect jacket from tear or puncture by hanger, support, and shield. Apply adhesives, mastics, and sealants at manufacturer's recommended coverage rate and wet and dry film thicknesses. Apply mastic on seams and joints and at ends adjacent to duct and pipe flanges and fittings. Cut insulation in a manner to avoid compressing insulation more than 75 percent of its nominal thickness. Finish installation with systems at operating conditions. Repair joint separations and cracking due to thermal movement.  
Repair damaged insulation facings by applying same facing material over damaged areas. Extend patches at least 4 inches (100 mm) beyond damaged areas. Adhere, staple, and seal patches similar to butt joints.  
**PENETRATIONS**  
Insulation Installation at Interior Wall and Partition Penetrations (That Are Not Fire Rated): Install insulation continuously through walls and partitions.  
Insulation Installation at Fire-Rated Wall and Partition Penetrations: Install insulation continuously through penetrations of fire-rated walls

and partitions. Terminate insulation at fire damper sleeves for fire-rated wall and partition penetrations. Externally insulate damper sleeves to match adjacent insulation and overlap duct insulation at least 2 inches (50 mm).  
Pipe: Install insulation continuously through floor penetrations. Seal penetrations through fire-rated assemblies.  
**DUCT INSULATION SCHEDULE, GENERAL**  
Plenums and Ducts Requiring Insulation: Indoor, concealed supply and outdoor air. Indoor, exposed outdoor air. Indoor, concealed return located in nonconditioned space.  
Indoor, concealed.  
**INDOOR DUCT AND PLENUM INSULATION SCHEDULE**  
Supply-Air, Return-Air and Make Up Air Duct Insulation: Fiberglass blanket, 1-1/2 inches (38 mm) thick and 1.5-lb/cu. ft. (24-kg/cu. M) nominal density.  
**PIPING INSULATION SCHEDULE, GENERAL**  
Acceptable preformed pipe and tubular insulation materials and thicknesses are identified for each piping system and pipe size range. If more than one material is listed for a piping system, selection from materials listed is Contractor's option.  
**INDOOR PIPING INSULATION SCHEDULE**  
Domestic Cold Water, Hot Water and Hot Water Recirc. Fiberglass: 3/4 inches thick.

**3. DOMESTIC WATER PIPING**  
**PRODUCTS**  
**PIPING MATERIALS**  
Comply with requirements in "Piping Schedule" Article for applications of pipe, tube, fitting materials, and joining methods for specific services, service locations, and pipe sizes.  
**COPPER TUBE AND FITTINGS**  
Hard Copper Tube: ASTM B 88, Type L (ASTM B 88M, Type B)  
**PIPING JOINING MATERIALS**  
Solder Filler Metals: ASTM B 32, lead-free alloys. Include water-flushable flux according to ASTM B 813.  
**FLEXIBLE CONNECTORS**  
Stainless-Steel-Hose Flexible Connectors: Corrugated-stainless-steel tubing with stainless-steel wire-braid covering and ends welded to inner tubing.  
**EXECUTION**  
**PIPING INSTALLATION**  
Install copper tubing under building slab according to CDA's "Copper Tube Handbook."  
Install piping concealed from view and protected from physical contact by building occupants unless otherwise indicated and except in equipment rooms and service areas. Install piping indicated to be exposed and piping in equipment rooms and service areas at right angles or install piping above accessible ceilings to allow sufficient space for ceiling panel removal, and coordinate with other services occupying that space. Install piping adjacent to equipment and specialties to allow service and maintenance. Install piping to permit valve servicing. Install piping free of sags and bends. Install piping for changes in direction and branch connections. Install shut off valves with unions in copper tubing at final connection to each piece of equipment, machine, and specialty.  
**JOINT CONSTRUCTION**  
Ream ends of pipes and tubes and remove burrs. Bevel plain ends o steel pipe. Remove scale, slag, dirt, and debris from inside and outside of pipes, tubes, and fittings before assembly.  
**Soldered Joints:** Apply ASTM B 813, water-flushable flux to end of tube. Join copper tube and fittings according to ASTM B 828 or CDA's "Copper Tube Handbook."

Install shutoff (ball) valve close to water main on each branch and riser serving plumbing fixtures or equipment, on each water supply to equipment, and on each water supply to plumbing fixtures that do not have supply stops.  
Install drain valves for equipment at base of each water riser, at low points in horizontal piping, and where required to drain water piping.  
**CONNECTIONS**  
Install piping adjacent to equipment and machines to allow service and maintenance. Connect domestic water piping to exterior water-service piping. Use transition fitting to join dissimilar piping materials.  
**ESCUTCHEON INSTALLATION**  
Install escutcheons for penetrations of walls, ceilings, and floors.  
**PIPING SCHEDULE**  
Transition and special fittings with pressure ratings at least equal to piping rating may be used in applications below unless otherwise indicated.  
Aboveground domestic water piping shall be Hard copper tube, ASTM B 88, Type L.

**4. INTERIOR SANITARY WASTE AND VENT PIPING**  
**PRODUCTS**  
**PIPING MATERIALS**  
PVC Pipes: ASTM D 2665, solid-wall drain, waste, and vent.  
**EXECUTION**  
**PIPING APPLICATIONS**  
Aboveground, interior, soil, waste, and vent piping shall be PVC Pipe with socket fittings and solvent welded joints. Underground, soil, waste, and vent shall be PVC Pipe with socket fittings and solvent welded joints.  
**PIPING INSTALLATION**  
Make changes in direction for soil and waste drainage and vent piping using appropriate branches, bends, and long-sweep bends. Sanitary tees and short-sweep 1/4 bends may be used on vertical stacks if change in direction of flow is from horizontal to vertical. Use long-turn, double Y-branch and 1/8-bend fittings if 2 fixtures are installed back to back or side by side with common drain pipe. Straight tees, elbows, and crosses may be used on vent lines. Do not change direction of flow more than 90 degrees. Use proper size of standard increasers and reducers if pipes of different sizes are connected. Reducing size of drainage piping in direction of flow is prohibited. Lay buried building drainage piping beginning at low point of each system. Install true to grades and alignment indicated, with unbroken continuity of invert. Place hub ends of piping upstream. Install required gaskets according to manufacturer's written instructions for use of lubricants, cements, and other installation requirements. Maintain swab in piping and pull past each joint as completed. Install soil and waste drainage and vent piping at the code required minimum slopes. Install PVC soil and waste drainage and vent piping according to ASTM D 2665. Do not enclose, cover, or put piping into operation until it is inspected and approved by authorities having jurisdiction.  
**JOINT CONSTRUCTION**  
PVC Nonpressure Piping Joints: Join piping according to ASTM D 2665.

**5. FACILITY NATURAL-GAS PIPING**  
**PRODUCTS**  
**PIPES, TUBES, AND FITTINGS**  
Steel Pipe: ASTM A 53/A 53M, black steel, Schedule 40, Type E or S, Grade B.  
**JOINING MATERIALS**  
Joint Compound and Tape: Suitable for natural gas.  
Welding Filler Metals: Comply with AWS D10.12/D10.12M for welding materials appropriate for wall thickness and chemical analysis of steel pipe being welded.  
**MANUAL GAS SHUTOFF VALVES**  
Bronze Plug Valves: MSS SP-78.  
**MOTORIZED GAS VALVES**  
Electrically Operated Valves: Comply with UL 429.  
**EXECUTION**  
**OUTDOOR PIPING INSTALLATION**  
Comply with NFPA 54 for installation and purging of natural-gas piping.  
**INDOOR PIPING INSTALLATION**  
Comply with NFPA 54 for installation and purging of natural-gas piping. Arrange for pipe spaces, chases, slots, sleeves, and openings

in building structure during progress of construction, to allow for mechanical installations. Install piping in concealed locations unless otherwise indicated and except in equipment rooms and service areas. Install piping indicated to be exposed and piping in equipment rooms and service areas at right angles or parallel to building walls. Diagonal runs are prohibited unless specifically indicated otherwise. Install piping above accessible ceilings to allow sufficient space for ceiling panel removal. Locate valves for easy access. Install natural-gas piping at uniform grade of 2 percent down toward drip and sediment traps. Install piping free of sags and bends. Install fittings for changes in direction and branch connections. Fire-Barrier Penetrations: Maintain indicated fire rating of walls, partitions, ceilings, and floors at pipe penetrations. Seal pipe penetrations with firestop materials. Verify final equipment locations for roughing-in. Drips and Sediment Traps: Install drips at points where condensate may collect, including service-meter outlets. Locate where accessible to permit cleaning and emptying. Do not install where condensate is subject to freezing. Extend relief vent connections for service regulators, line regulators, and ventpressure protection devices to outdoors and terminate with weatherproof vent cap. Conceal pipe installations in walls, pipe spaces, utility spaces, above ceilings, below grade or floors, and in floor channels unless indicated to be exposed to view.  
**CONNECTIONS**  
Connect to utility's gas main according to utility's procedures and requirements. Install natural-gas piping electrically continuous, and bonded to gas appliance equipment grounding conductor of the circuit powering the appliance according to NFPA 70. Install piping adjacent to appliances to allow service and maintenance of appliances. Connect piping to appliances using manual gas shutoff valves and unions. Install valve within 72 inches (1800 mm) of each gas-fired appliance and equipment. Install union between valve and appliances or equipment. Sediment Traps: Install tee fitting with capped nipple in bottom to form drip, as close as practical to inlet of each appliance.  
**OUTDOOR & INDOOR PIPING SCHEDULE**  
Aboveground natural-gas piping shall be Steel pipe with wrought-steel fittings and welded joints.

**6. ROOF TOP UNITS**  
**SUBMITTALS**  
Product Data: Include rated capacities, furnished specialties, and accessories.  
**PACKAGED UNITS**  
Factory-assembled, prewired, self-contained unit consisting of cabinet, supply fan, controls, filters, DX cooling system and direct-fired gas furnace to be installed outside the building.  
**AIR FILTERS**  
Comply with NFPA 90A.  
**DIRECT-FIRED GAS FURNACE**  
Description: Factory assembled, piped, and wired; and complying with ANSI Z83.4, "Direct Gas-Fired Make-Up Air Heaters"; ANSI Z83.18, "Direct Gas-Fired Industrial Air Heaters"; and NFPA 54, "National Fuel Gas Code."  
**CONTROLS**  
Factory-wired, fuse-protected control transformer, connection for power supply and field-wired unit to remote control panel.  
**EXECUTION**  
**INSTALLATION**  
Install gas-fired units according to NFPA 54, "National Fuel Gas Code." Install roof curb on roof structure, according to ASR Guidelines. Install controls and equipment shipped by manufacturer for field installation with direct-fired H&V units.

**7. METAL DUCTS**  
**RECTANGULAR DUCTS AND FITTINGS**  
General Fabrication Requirements: Comply with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible" based on indicated static-pressure class unless otherwise indicated.  
**ROUND DUCTS AND FITTINGS**  
General Fabrication Requirements: Comply with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible," Chapter 3, "Round, Oval, and Flexible Duct," based on indicated static-pressure class unless otherwise indicated.  
General Material Requirements: Comply with SMACNA's "HVAC Duct Construction Standards Metal and Flexible" for acceptable materials, material thicknesses, and duct construction methods unless otherwise indicated. Sheet metal materials shall be free of pitting, seam marks, roller marks, stains, discolorations, and other imperfections. Galvanized Sheet Steel: Comply with ASTM A 653/A 653M.  
**EXECUTION**  
**DUCT INSTALLATION**  
Install duct systems as indicated unless deviations to layout are approved on Shop Drawings and Coordination Drawings. Install ducts according to SMACNA's "HVAC Duct Construction Standards - Metal and Flexible" unless otherwise indicated. Install round ducts in maximum practical lengths. Install ducts with fewest possible joints. Install factory- or shop-fabricated fittings for changes in direction, size, and shape and for branch connections. Unless otherwise indicated, install ducts vertically and horizontally, and parallel and perpendicular to building lines. Install ducts close to walls, overhead construction, columns, and other structural and permanent enclosure elements of building. Install ducts with a clearance of 1 inch (25 mm), plus allowance for insulation thickness. Route ducts to avoid passing through transformer vaults and electrical equipment rooms and enclosures. Where ducts pass through non-fire-rated interior partitions and exterior walls and are exposed to view, cover the opening between the partition and duct or duct insulation with sheet metal flanges of same metal thickness as the duct. Overlap openings on four sides by at least 1-1/2 inches (38 mm). Where ducts pass through fire-rated interior partitions and exterior walls, install fire dampers.

RELEASE FOR CONSTRUCTION AS NOTED ON PLANS REVIEW DEVELOPMENT SERVICES LEE'S SUMMIT, MISSOURI

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Project Number 21.112.32

Revisions

interior improvements for Athleticco

159 SW Hwy 150  
Lee's Summit, Missouri

s h e e t

M2 MECHANICAL SCHEDULES

permit, bld  
25 February 2021



LIGHT FIXTURE SCHEDULE									
TAG	QUANTITY (CONFIRM WITH PLANS)	DESCRIPTION	VOLTAGE	MOUNTING	LAMPING			MANU/SERIES	VA
					QTY	WATTAGE	TYPE/COLOR TEMP		
A	23	2'-0"x4'-0" RECESSED LED ARCHITECTURAL LENSED TROFFER. STEEL HOUSING AND DOOR FRAME WITH WHITE POWDER COAT FINISH, ROUND, SMOOTH ACRYLIC LENS, 0-10V 10% DIMMING LED DRIVER.	120/277	RECESSED GRID	--	38	LED/4000K/4800 LUMEN	LITHONIA#2BLT4-48L-ADSM	38
B	10	2'-0"x2'-0" RECESSED LED ARCHITECTURAL LENSED TROFFER. STEEL HOUSING AND DOOR FRAME WITH WHITE POWDER COAT FINISH, ROUND, SMOOTH ACRYLIC LENS, 0-10V 10% DIMMING LED DRIVER.	120/277	RECESSED GRID	--	38	LED/4000K/4800 LUMEN	LITHONIA#2BLT2-48L-ADSM	38
E	4	SURFACE MOUNTED SELF-CONTAINED EMERGENCY LIGHTING FIXTURE FOR WALL INSTALLATION. NI-CAD BATTERY, UV-STABLE PLASTIC HOUSING WITH WHITE FINISH. TWO FULLY ADJUSTABLE MR16 LAMPS WITH CLEAR PROTECTIVE LAMP LENS. PUSH TO TEST SWITCH, LED INDICATOR LIGHTS FOR AC SUPPLY, BATTERY CHARGE STATUS. 90 MINUTES OF BATTERY OPERATION.	120/277	SURFACE	2	1	LED	DUAL-LITE#EV	5
X	2	LED EXIT SIGN, SINGLE OR DOUBLE FACE AS INDICATED ON DRAWINGS, THERMOPLASTIC HOUSING, RED LETTERING, SEALED NI-CAD BATTERY, INTEGRAL LED EMERGENCY LAMPS, MINIMUM 90 MINUTE CAPACITY. DRAWINGS INDICATE ARROWS.	120/277	UNIVERSAL	3	6	LED	LITHONIA LHQM LED	5

OCCUPANCY SENSOR SCHEDULE							
TAG	QTY (CONFIRM WITH PLANS)	MANUFACTURER	MODEL	MOUNTING	TYPE	TIME DELAY SETTING	NOTES
OS-1	4	LEVITON	MDS10-ID	WALL	PASSIVE INFRARED	15 MIN	
OS-2	1	LEVITON	OSC10-RMW	CEILING	DUAL TECHNOLOGY	15 MIN	FURNISH WITH POWER PACK(S) AND ISOLATED RELAY

COMcheck Software Version 4.1.2.0

Interior Lighting Compliance Certificate

Project Information

Energy Code:

2018 IECC

Project Title:

Athletico

Project Type:

Alteration

Construction Site:

W

Owner/Agent:

Designer/Contractor:

Allowed Interior Lighting Power

A	B	C	D
Area Category	Floor Area (sq ft)	Allowed Watts / ft <sup>2</sup>	Allowed Watts (B X C)
1-Waiting (Common Space Types:Lobby - General)	198	1.00	198
4-Break (Common Space Types:Conference/Meeting/Multipurpose)	129	1.07	138
3-Office (Common Space Types:Office - Enclosed)	164	0.93	97
3-Treatment (Healthcare Facility:Exam/Treatment)	1689	1.68	2838
5-Restroom (Common Space Types:Restrooms)	120	0.85	102
			Total Allowed Watts = 3372

Proposed Interior Lighting Power

Fixture ID : Description / Lamp / Wattage Per Lamp / Ballast	B	C	D	E
Lamps/ Fixture	# of Fixture	Fixture Watt	(C X D)	
Waiting (Common Space Types:Lobby - General 198 sq.ft.)				
LED 2: B: 2X2 LED: LED Panel 33W	1	4	38	152
Break (Common Space Types:Conference/Meeting/Multipurpose 129 sq.ft.)				
LED 2: B: 2X2 LED: LED Panel 33W	1	2	38	76
Office (Common Space Types:Office - Enclosed 164 sq.ft.)				
LED 2: B: 2X2 LED: LED Panel 33W	1	4	38	152
Treatment (Healthcare Facility:Exam/Treatment 1689 sq.ft.)				
LED 1: A: 2X4 LED: LED Panel 33W	1	19	38	722
Restroom (Common Space Types:Restrooms 120 sq.ft.)				
LED 1: A: 2X4 LED: LED Panel 33W	1	2	38	76
			Total Proposed Watts = 1178	

Interior Lighting PASSES

Interior Lighting Compliance Statement

Compliance Statement: The proposed interior lighting alteration project represented in this document is consistent with the building plans, specifications and other calculations submitted with this permit application. The proposed interior lighting systems have been designed to meet the 2018 IECC requirements as calculated in COMcheck Version 4.1.2.0 and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

Cory Mitchell - designer

Signature

2-26-21

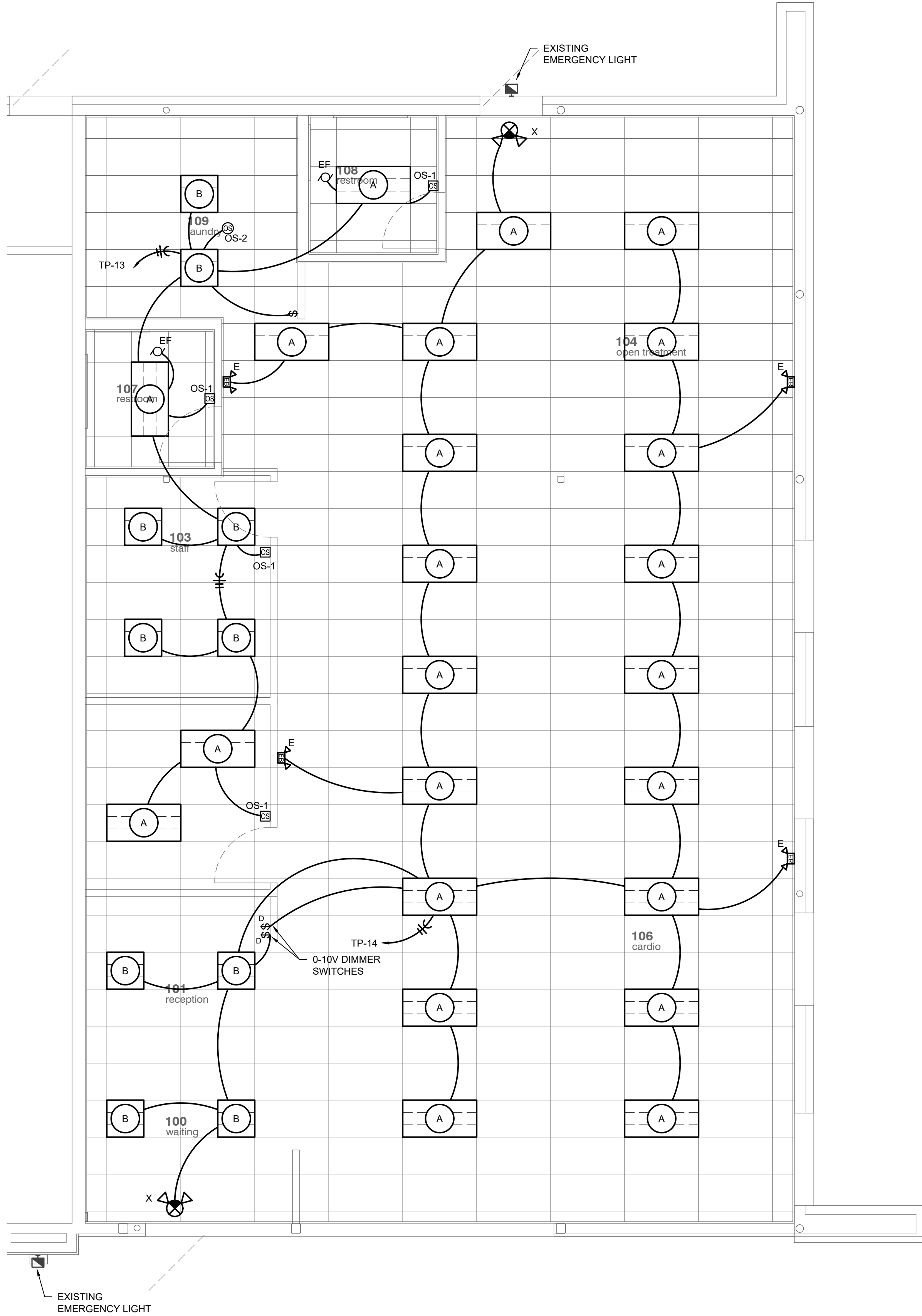
Date

Project Title: Athletico

Report date: 02/24/21

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Summit\Design\COMcheck.ccx



1 FLOOR PLAN - LIGHTING  
1/4"=1'-0"

RELEASE FOR CONSTRUCTION  
AS NOTED ON PLANS REVIEW  
DEVELOPMENT SERVICES  
LEE'S SUMMIT, MISSOURI  
03/12/2021

JOE STEWART  
ARCHITECT

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Excelsior Springs, MO 64024  
joe@jsa-kc.com  
816 . 830 . 2754

Drawings and/or Specifications are original proprietary work and property of the Architect intended for the specifically titled project. Use of items contained herein without consent of Architect for titled or other projects is prohibited. Drawings illustrate best information available to Architect. Field verification of actual elements, conditions, and dimensions is required.

SEAL OF MISSOURI  
CORY A. MITCHELL  
NUMBER 10709528  
EXPIRATION DATE 3-11-21  
Project Number 21.112.32

Revisions

interior improvements for  
**Athletico**  
159 SW Hwy 150  
Lee's Summit, Missouri

s h e e t  
**E1**  
LIGHTING PLAN

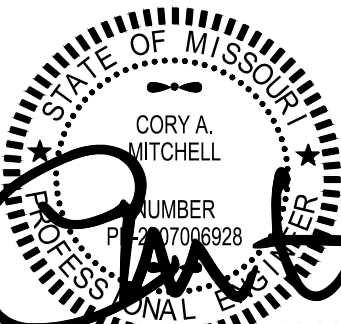
permit . bid  
25 February 2021

JOE STEWART  
ARCHITECT

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Project Number 21.112.32

Revisions

interior improvements for  
**Athletico**  
159 SW Hwy 150  
Lee's Summit . Missouri

s h e e t  
**E2**  
POWER PLAN

permit . bid  
25 February 2021

GENERAL NOTES:

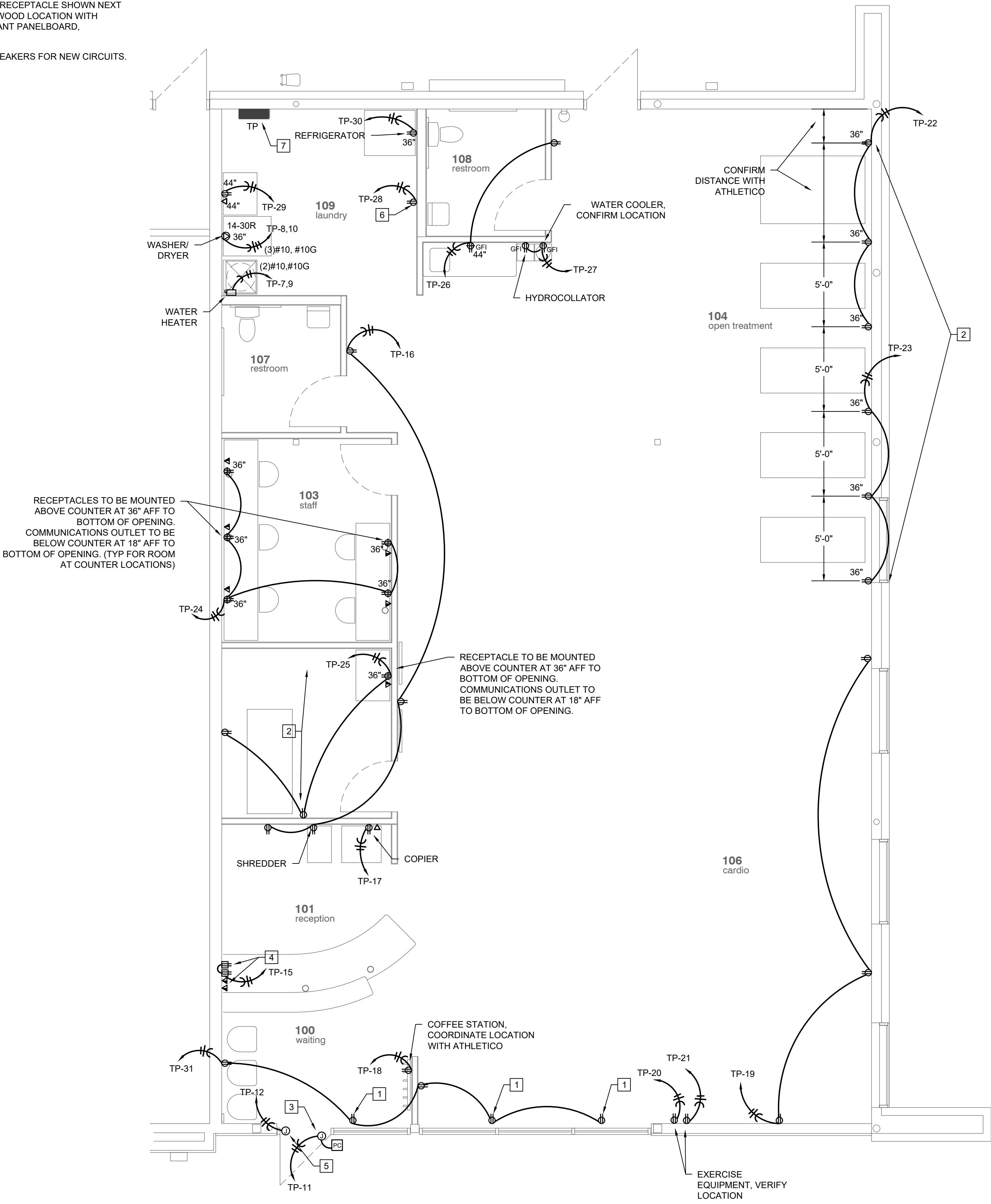
- AT LOCATIONS OF COMMUNICATIONS OUTLETS, UNLESS NOTED OTHERWISE, PROVIDE A 4"x4" BOX AT 18" AFF WITH (1) 3/4" CONDUIT WITH PULL STRING TO ABOVE THE CEILING.
- ALL CIRCUITS IN PATIENT CARE AREAS SERVING RECEPTACLES SHALL MEET THE REQUIREMENTS OF NEC 517.13 FOR REDUNDANT GROUNDING. EITHER METAL RACEWAY WITH A GROUND WIRE OR HOSPITAL GRADE TYPE MC CABLING SHALL BE INSTALLED. HOSPITAL GRADE MC CABLING SHALL BE EQUIPPED WITH AN ALUMINUM INTERLOCKED ARMOR COVER MEETING THE GROUNDING RETURN PATH REQUIREMENTS OF NEC 250.118. STANDARD TYPE MC CABLING MAY BE USED FOR ALL OTHER CIRCUITS. PATIENT CARE AREAS INCLUDE THE TREATMENT ROOM AND OPEN TREATMENT AREA AS INDICATED ON THE PLANS.
- TREATMENT AREAS ARE CONSIDERED "PATIENT CARE AREAS" BUT NOT "PATIENT BED AREAS" PER NEC 517. REDUNDANT GROUNDING PER THE GENERAL NOTE ABOVE ARE REQUIRED IN THESE AREAS HOWEVER "HOSPITAL GRADE" RECEPTACLES ARE NOT REQUIRED.
- ALL DEVICES TO BE WHITE WITH WHITE NYLON FACEPLATES EXCEPT DEVICES AT THE OPEN TREATMENT TABLES, INSTALLED ON THE DECORATIVE METAL ACCENT WALL, SHALL HAVE STAINLESS STEEL PLATES.
- MAINTAIN ELECTRICAL CONNECTION TO THE EXISTING ROOFTOP UNIT(S) AND ROOF RECEPTACLES.

PLAN NOTES:

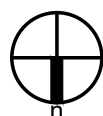
- MOUNT STORERFRONT RECEPTACLE ABOVE THE WINDOW OR FLUSH IN THE CEILING.
- ALL CIRCUITS IN THIS PATIENT TREATMENT AREA ON THIS CIRCUIT SHALL MEET THE REQUIREMENTS OF NEC 517.13 FOR REDUNDANT GROUNDING. EITHER METAL RACEWAY WITH A GROUND WIRE OR HOSPITAL GRADE TYPE MC CABLING SHALL BE INSTALLED. HOSPITAL GRADE MC CABLING SHALL BE EQUIPPED WITH AN ALUMINUM INTERLOCKED ARMOR COVER MEETING THE GROUNDING RETURN PATH REQUIREMENTS OF NEC 250.118. "HOSPITAL GRADE" RECEPTACLES ARE NOT REQUIRED IN THESE AREAS PER THE GENERAL NOTE ABOVE.
- PROVIDE POWER FOR EXTERIOR SIGNAGE AND PHOTOCCELL FOR CONTROL. MAKE CONNECTION TO THE SIGN. COORDINATE EXACT LOCATION WITH SIGN INSTALLER.
- MOUNT IN CASEWORK, COORDINATE LOCATION WITH ATHLETICO.
- MOUNT ABOVE DOOR FOR FUTURE ELECTRIC DOOR STRIKE/ DOOR OPERATOR. EXTEND 1/2" EMPTY CONDUIT FROM BOX TO DOOR FRAME. PROVIDE ADD ALTERNATE FOR (1) 1/2" EMPTY CONDUIT TO THE RECEPTION DESK FOR REMOTE DOOR OPERATOR.
- I.T. CABINET AT THIS LOCATION TO BE SUPPLIED BY THE TENANT, PROVIDE (1) 24" X 48" X 3/4" PLYWOOD FOR MOUNTING. MOUNT RECEPTACLE SHOWN NEXT TO CABINET. COORDINATE RECEPTACLE AND PLYWOOD LOCATION WITH TENANT. PROVIDE (1) #8 GROUND WIRE FROM TENANT PANELBOARD, TERMINATE ON THE CABINET.
- EXISTING PANELBOARD, PROVIDE NEW CIRCUIT BREAKERS FOR NEW CIRCUITS.

Panel TP Schedule													
VOLTAGE: 120/208 V				BUS RATING: 225 A				MOUNTING: SURFACE				FED FROM: ----	
PHASE/WIRE: 3 PH /4 W				MAIN TYPE & SIZE: 225 A MLO				MIN AIC: 35000					
CIRC	CIRCUIT DESCRIPTION	OCPD		PHASE LOAD VA						OCPD		CIRCUIT DESCRIPTION	CIRC
		AMP	POLE	A		B		C		POLE	AMP		
1,3,5	RTU (EXISTING)	50	3	4264	0	4264	0	4264	0	3	0	SPACE	2,4,6
7,9	WATER HEATER	30	2	2250	2700	2250	2700	0	0	2	30	WASHER DRYER	8,10
11	EXTERIOR SIGN	20	1	0	0	0	0	250	5	1	20	DOOR OPENER	12
13	LIGHTING	20	1	620	904	0	0	0	0	1	20	LIGHTING	14
15	RECEPTION REC	20	1	0	0	720	720	0	0	1	20	RECEPTION/TREAT REC	16
17	COPIER	20	1	0	0	0	0	180	1200	1	20	COFFEE STATION	18
19	TREATMENT RECEPT	20	1	540	1200	0	0	0	0	1	20	TREATMENT RECEPT	20
21	TREATMENT RECEPT	20	1	0	0	1200	540	0	0	1	20	OPEN TREAT RECEPTS	22
23	OPEN TREAT RECEPTS	20	1	0	0	0	0	540	900	1	20	STAFF RM RECEPTS	24
25	EXAM RECEPTS	20	1	660	480	0	0	0	0	1	20	REFRESHMENT RECEPT	26
27	HYDRO/WATER COOLER REC	20	1	0	0	1250	750	0	0	1	20	I.T. RACK REC	28
29	BREAK COUNTER REC	20	1	0	0	0	0	500	300	1	20	REFRIGERATOR	30
31	STOREFRONT/WTG REC	20	1	900	0	0	0	0	0	1	0	SPACE	32
33	SPACE	0	1	0	0	0	0	0	0	1	0	SPACE	34
35	SPACE	0	1	0	0	0	0	0	0	1	0	SPACE	36
37	SPACE	0	1	0	0	0	0	0	0	1	0	SPACE	38
39	SPACE	0	1	0	0	0	0	0	0	1	0	SPACE	40
41	SPACE	0	1	0	0	0	0	0	0	1	0	SPACE	42
TOTAL CONN. PHASE LOAD				14518	14394				8139				

LOAD CATEGORY	CONN. LOAD (KVA)	DEMAND FACTOR	DEMAND LOAD (KVA)	NOTES: GFI - GROUND FAULT CIRCUIT BREAKER LCK - HANDLE PADLOCK ATTACHMENT ST - SHUNT TRIP   <
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1 FLOOR PLAN - POWER  
1/4"=1'-0"





ELECTRICAL SPECIFICATIONS

1. COMMON WORK RESULTS FOR ELECTRICAL

**COORDINATION**  
Coordinate arrangement, mounting, and support of electrical equipment:  
To allow maximum possible headroom unless specific mounting heights that reduce headroom are indicated.  
To provide for ease of disconnecting the equipment with minimum interference to other installations.  
To allow right of way for piping and conduit installed at required slope.  
So connecting raceways, cables, wireways, cable trays, and busways will be clear of obstructions and of the working and access space of other equipment.  
Coordinate location of access panels and doors for electrical items that are behind finished surfaces or otherwise concealed.

EXECUTION

**COMMON REQUIREMENTS FOR ELECTRICAL INSTALLATION**  
Comply with NECA 1.  
**SLEEVE INSTALLATION FOR ELECTRICAL PENETRATIONS**  
Electrical penetrations occur when raceways, cables, wireways, cable trays, or busways penetrate concrete slabs, concrete or masonry walls, or fire-rated floor and wall assemblies.  
Concrete Slabs and Walls: Install sleeves for penetrations unless core-drilled holes or formed openings are used. Install sleeves during erection of slabs and walls.  
Use pipe sleeves unless penetration arrangement requires rectangular sleeved opening.  
Fire-Rated Assemblies: Install sleeves for penetrations of fire-rated floor and wall assemblies unless openings compatible with firestop system used are fabricated during construction of floor or wall.  
Cut sleeves to length for mounting flush with both surfaces of walls.  
Interior Penetrations of Non-Fire-Rated Walls and Floors: Seal annular space between sleeve and raceway or cable, using joint sealant appropriate for size, depth, and location of joint.  
Fire-Rated-Assembly Penetrations: Maintain indicated fire rating of walls, partitions, ceilings, and floors at raceway and cable penetrations. Install sleeves and seal raceway and cable penetration sleeves with firestop materials.  
Roof-Penetration Sleeves: Seal penetration of individual raceways and cables with flexible boot-type flashing units applied in coordination with roofing work.  
Aboveground, Exterior-Wall Penetrations: Seal penetrations using steel pipe sleeves and mechanical sleeve seals. Select sleeve size to allow for 1-inch (25-mm) annular clear space between pipe and sleeve for installing mechanical sleeve seals.  
**FIRESTOPPING**  
Apply firestopping to penetrations of fire-rated floor and wall assemblies for electrical installations to restore original fire-resistance rating of assembly.

2. GROUNDING AND BONDING

**QUALITY ASSURANCE**  
Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.  
Comply with UL 467 for grounding and bonding materials and equipment.

PRODUCTS

**CONDUCTORS**  
Insulated Conductors: Copper wire or cable insulated for 600 V unless otherwise required by applicable Code or authorities having jurisdiction.  
Bare Copper Conductors:  
Solid Conductors: ASTM B 3.  
Stranded Conductors: ASTM B 8.

EXECUTION

**APPLICATIONS**  
Conductors: Install solid conductor for No. 8 AWG and smaller, and stranded conductors for No. 6 AWG and larger, unless otherwise indicated.  
**EQUIPMENT GROUNDING**  
Install insulated equipment grounding conductors with all feeders and branch circuits.  
**INSTALLATION**

3. HANGERS AND SUPPORTS FOR ELECTRICAL SYSTEMS

**QUALITY ASSURANCE**  
Comply with NFPA 70.

PRODUCTS

**SUPPORT, ANCHORAGE, AND ATTACHMENT COMPONENTS**  
Raceway and Cable Supports: As described in NECA 1 and NECA 101.  
Conduit and Cable Support Devices: Steel and malleable-iron hangers, clamps, and associated fittings, designed for types and sizes of raceway or cable to be supported.  
Support for Conductors in Vertical Conduit: Factory-fabricated assembly consisting of threaded body and insulating wedging plug or plugs for non-armored electrical conductors or cables in riser conduits. Plugs shall have number, size, and shape of conductor gripping pieces as required to suit individual conductors or cables supported. Body shall be malleable iron.

EXECUTION

**APPLICATION**  
Comply with NECA 1 and NECA 101 for application of hangers and supports for electrical equipment and systems except if requirements in this Section are stricter.  
Maximum Support Spacing and Minimum Hanger Rod Size for Raceway: Space supports for EMT, IMC, and RMC as required by NFPA 70. Minimum rod size shall be 1/4 inch (6 mm) in diameter.  
Multiple Raceways or Cables: Install trapeze-type supports fabricated with steel slotted support system, sized so capacity can be increased by at least 25 percent in future without exceeding specified design load limits.  
Secure raceways and cables to these supports with two-bolt conduit clamps.  
**SUPPORT INSTALLATION**  
Comply with NECA 1 and NECA 101 for installation requirements except as specified in this Article.  
Raceway Support Methods: In addition to methods described in NECA 1, EMT, IMC, and RMC may be supported by openings through structure members, as permitted in NFPA 70.  
Mounting and Anchorage of Surface-Mounted Equipment and Components: Anchor and fasten electrical items and their supports to building structural elements by the following methods unless otherwise indicated by code:  
To Wood: Fasten with lag screws or through bolts.  
To New Concrete: Bolt to concrete inserts.  
To Masonry: Approved toggle-type bolts on hollow masonry units and expansion anchor fasteners on solid masonry units.  
To Existing Concrete: Expansion anchor fasteners.  
Instead of expansion anchors, powder-actuated driven threaded studs provided with lock washers and nuts may be used in existing standard-weight concrete 4 inches (100 mm) thick or greater. Do not use for anchorage to lightweight-aggregate concrete or for slabs less than 4 inches (100 mm) thick.  
To Steel: Beam clamps (MSS Type 19, 21, 23, 25, or 27) complying with MSS SP-69.  
To Light Steel: Sheet metal screws.  
Items Mounted on Hollow Walls and Nonstructural Building Surfaces: Mount cabinets, panelboards, disconnect switches, control enclosures, pull and junction boxes, transformers, and other devices on slotted-channel racks attached to substrate.

4. CONDUCTORS AND CABLES

**SUBMITTALS**  
Product Data: For each type of product indicated.  
**QUALITY ASSURANCE**  
Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.  
Comply with NFPA 70.

PRODUCTS

**CONDUCTORS AND CABLES**  
Manufacturers: Subject to compliance with requirements, provide products by one of the following:  
Alcan Products Corporation; Alcan Cable Division.  
American Insulated Wire Corp.; a Leviton Company.  
General Cable Corporation.  
Senator Wire & Cable Company.  
Southwire Company.  
Copper Conductors: Comply with NEMA WC 70.  
Conductor Insulation: Comply with NEMA WC 70 for Type THHN-THWN.  
Multiconductor Cable: Comply with NEMA WC 70 for metal-clad cable, Type MC, hospital grade with aluminum interlocked armor cover meeting the grounding return path requirements of NEC 250.118 where indicated on plans, with ground wire.  
**CONNECTORS AND SPICES**  
Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:  
AFC Cable Systems, Inc.  
Hubbell Power Systems, Inc.  
O-Z/Gedney, EGS Electrical Group LLC.  
3M, Electrical Products Division.  
Tyco Electronics Corp.  
Description: Factory-fabricated connectors and splices of size, ampacity rating, material, type, and class for application and service indicated.

EXECUTION

**CONDUCTOR MATERIAL APPLICATIONS**  
Branch Circuits: Copper, Solid for No. 10 AWG and smaller; stranded for No. 8 AWG and larger.  
**CONDUCTOR INSULATION AND MULTICONDUCTOR CABLE APPLICATIONS AND WIRING METHODS**  
Branch Circuits Concoaled in Concrete, below Slabs-on-Grade, and Underground: Type THHN-THWN, single conductors in raceway.  
Branch Circuits not Concoaled in Concrete: Type THHN-THWN, single conductors in raceway or Metal-clad Cable, Type MC (hospital grade where indicated).  
**INSTALLATION OF CONDUCTORS AND CABLES**  
Conceal cables in finished walls, ceilings, and floors, unless otherwise indicated.  
Install exposed cables parallel and perpendicular to surfaces of exposed structural members, and follow

surface contours where possible.  
Identify and color-code conductors and cables according to Section "Hangers and Supports for Electrical Systems."

5. RACEWAYS AND BOXES

**QUALITY ASSURANCE**  
Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.  
Comply with NFPA 70.

PRODUCTS

**METAL CONDUIT AND TUBING**  
Manufacturers: Subject to compliance with requirements, provide products by one of the following:  
Allied Tube & Conduit; a Tyco International Ltd. Co.  
O-Z/Gedney, a unit of General Signal.  
Wheatland Tube Company.  
Fittings for Conduit (Including all Types and Flexible and Liquidtight), EMT, and Cable: NEMA FB 1; listed for type and size raceway with which used, and for application and environment in which installed.  
Conduit Fittings for Hazardous (Classified) Locations: Comply with UL 886.  
Fittings for EMT: Steel or die-cast, set-screw or compression type for concealed locations. Steel or die-cast, compression type for exposed locations.  
**NONMETALLIC CONDUIT AND TUBING**  
Manufacturers: Subject to compliance with requirements, provide products by one of the following:  
CANTEX Inc.  
CertainTeed Corp.; Pipe & Plastics Group.  
RACO; a Hubbell Company.  
Thomas & Betts Corporation.  
**BOXES, ENCLOSURES, AND CABINETS**  
Manufacturers: Subject to compliance with requirements, provide products by one of the following:  
Hoffman.  
Hubbell Incorporated; Kilark Electric Manufacturing Co. Division.  
O-Z/Gedney, a unit of General Signal.  
RACO; a Hubbell Company.  
Thomas & Betts Corporation.  
**COORDINATION**  
Walker Systems, Inc.; Wiremold Company (The).

EXECUTION

**RACEWAY APPLICATION**  
Outdoors: Apply raceway products as specified below, unless otherwise indicated:  
Exposed and Concealed Conduit: Rigid steel conduit.  
Underground Conduit: RNC, Type EPC-40-PVC, direct buried.  
Connection to Vibrating Equipment (Including Transformers and Hydraulic, Pneumatic, Electric Solenoid, or Motor-Driven Equipment): LFNC.  
Boxes and Enclosures, Aboveground: NEMA 250, Type 3R.  
Comply with the following indoor applications, unless otherwise indicated:  
Exposed: EMT.  
Concealed in Ceilings and Interior Walls and Partitions: EMT, unless MC allowed per "Conductors and Cables" section.  
Connection to Vibrating Equipment (Including Transformers and Hydraulic, Pneumatic, Electric Solenoid, or Motor-Driven Equipment): FMC, except use LFMC in damp or wet locations.  
Damp or Wet Locations: Rigid steel conduit.  
Raceways for Optical Fiber or Communications Cable: EMT.  
Boxes and Enclosures: NEMA 250, Type 1, except use NEMA 250, Type 4, nonmetallic in damp or wet locations.  
Minimum Raceway Size: 1/2-inch (16-mm) trade size.  
Do not install aluminum conduits in contact with concrete.  
**INSTALLATION**  
Comply with NECA 1 for installation requirements applicable to products specified in Part 2 except where requirements on Drawings or in this Article are stricter.  
Keep raceways at least 6 inches (150 mm) away from parallel runs of flues and steam or hot-water pipes.  
Install horizontal raceway runs above water and steam piping.  
Support raceways as specified in "Hangers and Supports for Electrical Systems."  
Arrange stub-ups so curved portions of bends are not visible above the finished slab.  
Install no more than the equivalent of three 90-degree bends in any conduit run except for communications conduits, for which fewer bends are allowed.  
Conceal conduit and EMT within finished walls, ceilings, and floors, unless otherwise indicated.  
Raceways Embedded in Slabs:  
Run conduit larger than 1-inch (27-mm) trade size, parallel or at right angles to main reinforcement.  
Where at right angles to reinforcement, place conduit close to slab support.  
Arrange raceways to cross building expansion joints at right angles with expansion fittings.  
Change from EMT to RNC, Type EPC-40-PVC, rigid steel conduit, or IMC before rising above the floor.  
Raceway Terminations at Locations Subject to Moisture or Vibration: Use insulating bushings to protect conductors, including conductors smaller than No. 4 AWG.  
Install pull wires in empty raceways. Use polypropylene or monofilament plastic line with not less than 200-lb (90-kg) tensile strength. Leave at least 12 inches (300 mm) of slack at each end of pull wire.  
Raceways for Optical Fiber and Communications Cable: Install raceways, metallic and nonmetallic, rigid and flexible, with a maximum of two 90-degree bends or equivalent for each length of raceway unless Drawings show stricter requirements. Separate lengths with pull or junction boxes or terminations at distribution frames or cabinets where necessary to comply with these requirements.  
Flexible Conduit Connections: Use maximum of 72 inches (1830 mm) of flexible conduit for recessed and semirecessed lighting fixtures, equipment subject to vibration, noise transmission, or movement; and for transformers and motors.  
Use LFMC in damp or wet locations subject to severe physical damage.  
Use LFMC or LFNC in damp or wet locations not subject to severe physical damage.

6. WIRING DEVICES

**QUALITY ASSURANCE**  
Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.  
Comply with NFPA 70.

**COORDINATION**  
Receptacles for Owner-Furnished Equipment: Match plug configurations.  
Cord and Plug Sets: Match equipment requirements.

PRODUCTS

**STRAIGHT BLADE RECEPTACLES**  
Convenience Receptacles, 125 V, 20 A: Comply with NEMA WD 1, NEMA WD 6 configuration 5-20R, and UL 498.  
Products: Subject to compliance with requirements, provide one of the following:  
Cooper; 5351 (single), 5352 (duplex).  
Hubbell; HBL5351 (single), CR5352 (duplex).  
Leviton; 5891 (single), 5352 (duplex).  
Pass & Seymour; 5381 (single), 5352 (duplex).  
**GFCI RECEPTACLES**  
Duplex GFCI Convenience Receptacles, 125 V, 20 A:  
Products: Subject to compliance with requirements, provide one of the following:  
Cooper; GF20.  
Pass & Seymour; 2084.  
Hubbell Equal.  
Leviton Equal.  
**SNAP SWITCHES**  
Switches, 120/277 V, 20 A:  
Products: Subject to compliance with requirements, provide one of the following:  
Cooper; 2221 (single pole), 2222 (two pole), 2223 (three way), 2224 (four way).  
Hubbell; CS1221 (single pole), CS1222 (two pole), CS1223 (three way), CS1224 (four way).  
Leviton; 1221-2 (single pole), 1222-2 (two pole), 1223-2 (three way), 1224-2 (four way).  
Pass & Seymour; 20AC1 (single pole), 20AC2 (two pole), 20AC3 (three way), 20AC4 (four way).  
**WALL PLATES**  
Single and combination types to match corresponding wiring devices.  
Plate-Securing Screws: Metal with head color to match plate finish.  
Material for Finished Spaces: Smooth, high-impact thermoplastic.  
Material for Damp Locations: Cast aluminum with spring-loaded lift cover, and listed and labeled for use in "wet locations."  
Wet-Location, Weatherproof Cover Plates: NEMA 250, complying with type 3R weather-resistant, die-cast aluminum with lockable cover.  
**FINISHES**  
Color: Wiring device catalog numbers in Section Text do not designate device color.  
Wiring Devices Connected to Normal Power System: White.

EXECUTION

**INSTALLATION**  
Arrangement of Devices: Unless otherwise indicated, mount flush, with long dimension vertical and with grounding terminal of receptacles on top. Group adjacent switches under single, multigang wall plates.  
Mounting Heights: Mount devices at the following heights above finished floor unless noted otherwise.  
Receptacles and communications outlets: 18" to center of device.  
Above counter receptacles and communications outlets: 5" above the backsplash or counter top, whichever is higher.  
Switches: 46" to center of device.

7. LIGHTING CONTROL DEVICES

**QUALITY ASSURANCE**  
Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.  
**COORDINATION**  
Coordinate layout and installation of ceiling-mounted devices with other construction that penetrates ceilings or is supported by them, including light fixtures, HVAC equipment, smoke detectors, fire-suppression system, and partition assemblies.

PRODUCTS

OUTDOOR PHOTOELECTRIC SWITCHES

Basis-of-Design Product: Subject to compliance with requirements, provide a product by one of the following:  
Intermatic, Inc.  
Square D, Schneider Electric.  
TORK.

Wait Stopper (The)  
Description: Solid state, with SPST dry contacts rated for 1800 VA to operate connected load, relay, or contactor coils; complying with UL 773.  
Light-Level Monitoring Range: 1.5 to 10 fc (16.14 to 108 lx), with an adjustment for turn-on and turn-off levels within that range.  
Time Delay: 30-second minimum, to prevent false operation.  
Lighting Arrestor: Air-gap type.  
Mounting: Twist lock complying with IEEE C136.10, with base.

EXECUTION

**FIELD QUALITY CONTROL**  
Operational Test: Verify operation of each lighting control device, and adjust time delays.

8. LIGHTING
































**SUBMITTALS**  
Product Data: For each type of lighting fixture, arranged in order of fixture designation. Include data on features, accessories, finishes, and the following:  
Physical description of lighting fixture including dimensions.  
Emergency lighting units including battery and charger.  
Energy-efficiency data.  
Photometric data, in IESNA format, based on laboratory tests of each lighting fixture type, outfitted with lamps, ballasts, and accessories identical to those indicated for the lighting fixture as applied in this Project.  
**COORDINATION**  
Operation and Maintenance Data: For lighting equipment and fixtures to include in emergency, operation, and maintenance manuals.

**QUALITY ASSURANCE**  
Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.  
Comply with NFPA 70.

**COORDINATION**  
Coordinate layout and installation of lighting fixtures and suspension system with other construction that penetrates ceilings or is supported by them, including HVAC equipment, fire-suppression system, and partition assemblies.

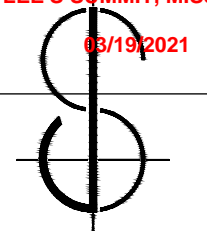
EXECUTION


**INSTALLATION**  
Support for Lighting Fixtures in or on Grid-Type Suspended Ceilings: Use grid as a support element.  
Install a minimum of four ceiling support system rods or wires for each fixture. Locate not more than 6 inches (150 mm) from lighting fixture corners.  
Support Clips: Fasten to lighting fixtures and to ceiling grid members at or near each fixture corner with clips that are UL listed for the application.  
Fixtures of Sizes Less Than Ceiling Grid: Install as indicated on reflected ceiling plans or center in acoustical panel, and support fixtures independently with at least two 3/4-inch (20-mm) metal channels spanning and secured to ceiling tees.  
Install at least one independent support rod or wire from structure to a tab on lighting fixture. Wire or rod shall have breaking strength of the weight of fixture at a safety factor of 3.

COMMUNICATIONS	
	TELEPHONE OUTLET
	DATA OUTLET
	TELEPHONE/DATA OUTLET
	ABOVE COUNTER DEVICE, MOUNT 5" ABOVE BACKSPASH OR COUNTER TOP, WHICHEVER IS HIGHER.
	TELEVISION OUTLET
	PLYWOOD BOARD FOR EQUIPMENT MOUNTING
POWER DEVICE AND CONTROLS	
	DISCONNECT SWITCH. 30/3/NF INDICATES AMPERAGE, NUMBER OF POLES, AND FUSING. NF = NON FUSED. MATCH CIRCUIT VOLTAGE. 240 VOLT, 3 POLE, 30 AMP NON FUSED IF BLANK.
	MOTOR
	PANELBOARD
	PHOTOCELL
	JUNCTION BOX
GENERAL	
	ELECTRICAL NOTE REFERENCE
	REVISION NOTE REFERENCE
	CONNECT TO EXISTING WORK
	DETAIL REFERENCE - NO./SHEET NO.
CONDUIT AND WIRE	
	CONDUIT HOMERUN TO PANEL NOTED WITH (2)#12 AND (1)#12 AWG GROUND UNLESS NOTED OTHERWISE. SHORT TICK MARKS INDICATE CONDUCTORS, LONG MARKS INDICATE NEUTRAL CONDUCTORS.
	GROUND WIRE. #12 AWG UNLESS NOTED OTHERWISE.
	CONDUIT CONCEALED IN WALL OR ABOVE CEILING WITH (2)#12 AND (1)#12 AWG GROUND UNLESS NOTED OTHERWISE.
	CONDUIT BELOW GRADE OR FLOOR WITH WITH (2)#12 AND (1)#12 AWG GROUND UNLESS NOTED OTHERWISE.
LIGHTING	
NOTE: FIXTURE DESIGNATIONS INDICATE TYPE, REFER TO LIGHT FIXTURE SCHEDULE	
	WALL/CEILING MOUNTED EMERGENCY LIGHTING UNIT
	LIGHT FIXTURE
	CEILING MOUNTED SURFACE/RECESSED LIGHT
	CEILING/WALL MOUNTED EXIT LIGHT. SHADING INDICATES FACES, ARROWS AS INDICATED
WIRING DEVICES	
NOTE: REFER TO SPECIFICATIONS FOR MOUNTING HEIGHTS NOT LISTED.	
	SIMPLEX, DUPLEX, AND QUAD RECEPTACLE. MOUNT AT 18" AFF TO CENTER OF DEVICE UNLESS NOTED OTHERWISE.
	ABOVE COUNTER RECEPTACLE, MOUNT 5" ABOVE BACKSPASH OR COUNTER TOP, WHICHEVER IS HIGHER.
	RECEPTACLE DESIGNATIONS: GFI - GROUND FAULT CIRCUIT INTERRUPTER RECEPTACLE WP - WEATHER RESISTANT RECEPTACLE WITH "IN-USE" COVER U - DUPLEX RECEPTACLE WITH (2) USB CHARGING PORTS, LEVITON T5832 OR EQUAL
	WALL SWITCH, SINGLE POLE, MOUNT AT 46" AFF TO CENTER OF DEVICE UNLESS NOTED OTHERWISE
	WALL SWITCH DESIGNATIONS: 3 - THREE POLE SWITCH 4 - FOUR-WAY WALL SWITCH D - 0-10V WALLBOX DIMMER
	MOTION SENSOR, CEILING MOUNTED. DESIGNATION INDICATES TYPE - REFER TO OCCUPANCY SENSOR SCHEDULE
	MOTION SENSOR, WALL MOUNTED. DESIGNATION INDICATES TYPE - REFER TO OCCUPANCY SENSOR SCHEDULE. MOUNT AT 46" AFF TO CENTER OF DEVICE
	NEMA RECEPTACLE, DESIGNATION INDICATES NEMA TYPE.

1 ELECTRICAL SYMBOLS  
NO SCALE

RELEASE FOR  
CONSTRUCTION  
AS NOTED ON PLANS REVIEW  
DEVELOPMENT SERVICES  
LEE'S SUMMIT, MISSOURI  
3/19/2021

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Project Number 21.112.32

Revisions

interior improvements for  
**Athletico**  
159 SW Hwy 150  
Lee's Summit . Missouri

s h e e t  
**E3**  
ELECTRICAL  
SPECIFICATIONS  
permit . bid  
25 February 2021