ALBANY ENGINEERED COMPOSITES

BREAK, LOCKER, TOILET ROOM T.I.

W AMELIA EARHART DR

PROJECT LOCATION

BID SET 02.05.25

W AMELIA EARHART DR

PROJECT NARRATIVE: THIS PROJECT CONSISTS OF INTERIOR TENANT IMPROVEMENTS TO EXISTING BREAK. AND TOILET ROOMS, AREA REMAINS THE SAME, ADDITIONAL

UCINITY MAP/ SITE PLAN
1" = 400'-0"

DESIGN CODE AND CRITERIA

APPLICABLE CODES AND GUIDELINES: INTERNATIONAL BUILDING CODE: INTERNATIONAL MECHANICAL CODE INTERNATIONAL PLUMBING CODE: INTERNATIONAL FIRE CODE: INTERNATIONAL ENERGY CONSERVATION CODE:

LAVITORY COUNT

NATIONAL ELECTRIC CODE:

ADA ACCESSIBILITY CODE:

ICC/ANSI A117.1-2017

PROJECT DATA:	EXISTIN	G AREA OF BUILDING IN IMPROVEMENT	TENANT IMPROVEMENT AREA
SECTION:		124,611 SF	2,706 SF
IBC CHAPTER 3	OCCUPANCY CLASSIFICATION:	F-1	F-1
TABLE 601:	CONSTRUCTION TYPE:	IIB	IIB
IBC 504:	ALLOWABLE BUILDING HEIGHT AND # OF STORIES :	75'-0" (2 STORIES) ABOVE GRADE	NA
	PROVIDED BUILDING HEIGHT AND # OF STORIES:	36'-0" (2 STORIES) ABOVE GRADE	NA
TABLE 601, 1020.1	FIRE RESISTANCE RATING FOR BUILDING ELEMENTS		
	STRUCTURAL FRAME NON-BEARING WALLS INTERIOR BEARING WALLS FLOOR CONSTRUCTION ROOF CONSTRCUTION CORRIDORS	0 HOURS 0 HOURS 0 HOURS 0 HOURS 0 HOURS	NA
TABLE 803.11	INTERIOR WALL AND CEILLING FINISH	CLASS C FOR ROOMS, CLASS B FOR EXIT CORRIDORS AND VERTICAL EXITS	CLASS C FOR ROOMS, CLASS B FOR EXIT CORRIDORS AND VERTICAL EXITS
IBC 1004.1:	DESIGN OCCUPANT LOAD:	TOTAL = 124,600 (SEE ASBUILT PLAN FOR 116,300 / 100 (INDUSTRIAL) = 1163 OCCUP 8,300 / 300 (WAREHOUSE) = 27.6 OCCUPAN	PANTS
		TOTAL OCCUPANTS = 1190.6	
IBC 1017.2:	MEANS OF EGRESS	250' - 0" (SPRINKLERED FACILITY)	250' - 0" (SPRINKLERED FACILITY)
IBC 1006.1:	MINIMUM NUMBER OF EXITS	2 FOR 1-500 OCCUPANTS 3 FOR 500-1000 OCCUPANTS 4 FOR MORE THAN 1000 OCCS	2 PROVIDED, SEE LIFE SAFETY PLAN
IBC 2900:	WATER CLOSET COUNT	REQUIRED 1/100 = 1191 /100 = 11.9	PROVIDED M = 5 TOILETS, 4 URINALS W = 5 TOILETS UNISEX = 2 TOILETS
			TOTAL - 42 TOURTS A LIDINALS

REQUIRED

1/100 = 1191 /100 = 11.9

ARCHITEC	TURAL
OV/D	00

COVER LIFE SAFETY PLAN DEMO PLAN CONCRETE PLAN DIMENSION FLOOR PLAN ANNOTATION FLOOR PLAN REFLECTED CEILING PLAN FLOOR FINISH PLAN **ELEVATIONS ELEVATIONS** DETAILS DETAILS

A502 METAL STUD DETAILS A503 ADA DETAILS A600 SCHEDULES A601 **SPECIFICATIONS**

STRUCTURAL

ROOM NAME

MECHANICAL/ PLUMBING

MECHANICAL COVER SHEET MECHANICAL DEMO PLAN MECHANICAL PLAN MECHANICAL DETAILS MECHANICAL SCHEDULES PLUMBING COVER SHEET PLUMBING DEMO PLAN PLUMBING PLAN - DWV PLUMBING PLAN - WATER PLUMBING DETAILS PLUMBING SCHEDULES

ELECTRICAL COVER SHEET EE001 ELECTRICAL DETAILS EE502 **ELECTRICAL DETAILS - PICTURES** EE701 TYPICAL MOUNTING DETAILS ELECTRICAL SPECS ELECTRICAL DEMO PLANS POWER PLAN **ELECTRICAL SCHEDULES** LIGHTING PLAN EL601 LIGHTING FIXTURE SCHEDULE LIGHTING CONTROLS SCHEDULE AUXILIARY PLAN

SYMBOLS & WALL HATCH LEGEND STANDARD ABBREVIATIONS **GRID LABEL** ADJ ADJUST, ADJACENT

AFF

BOT

1 A100	EXTERIOR ELEVATION TAG
1	INTERIOR ELEVATION TAG
1 A100	BUILDING SECTION TAG

ROOM TAG

WALL, BASE, FLOOR

ROOM#

WALL SECTION TAG

(1) (1)	ENLARGED PLAN OR PLAN DETAIL TAG
1 A100	SECTION DETAIL TAG
	CHANGE IN EL CODING

TOTAL = 12 TOILETS, 4 URINALS

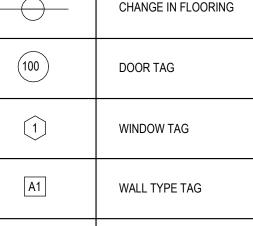
PROVIDED

UNISEX = 2

TOTAL = 12 TOILETS

M = 5

W = 5



A1	WALL TYPE TAG
FEC	FIRE EXTINGUISHER CABINET
FD	FLOOR DRAIN
MS	MOP SINK

ELEVATION TAG

CENTER LINE COL COLUMN CTR CENTER DIM DIMENSION DOWN EXT GFCI GLAZ GYP J-BOX MAX MECH MISC MTD NIC NTS QTY

EACH **EQUAL EQUIPMENT EXTERIOR** FLOOR DRAIN FACE OF GAUGE GENERAL CONTRACTOR GROUND FAULT CIRCUIT INTERRUPTED GLAZING GYPSUM HOLLOW METAL HEATING, VENTILATING, AND AIR CONDITIONING INTERIOR JUNCTION BOX MAXIMUM MECHANICAL MISCELLANEOUS MINIMUM MOUNTED NOT IN CONTRACT NOT TO SCALE ON CENTER QUANTITY REFLECTED CEILING PLAN RCP ROUGH OPENING SQUARE FEET SIM STC SOUND TRANSMISSION COEFFICIENT TOP OF TOW TYP TOP OF WALL TYPICAL UNO UNLESS NOTED OTHERWISE VERIFY IN FIELD

ABOVE FINISHED FLOOR

ALTERNATE

BOTTOM OF

BOTTOM OF WALL CONTROL JOINT

BOTTOM

GENERAL NOTES THE GENERAL CONTRACTOR AND ALL SUBCONTRACTORS ARE RESPONSIBLE FOR THE ENTIRE SET OF DRAWINGS AND THEIR RELEVANT SPECIFICATION SECTIONS, IN ORDER TO COORDINATE THEIR PORTION OF THE WORK.

ALL CONTRACTORS SHALL MAKE THEMSELVES AVAILABLE FOR A PRE-CONSTRUCTION COORDINATION MEETING TO REVIEW MOUNTING HEIGHTS OF EQUIPMENT, FIXTURES, DUCTWORK, ETC. IN ORDER TO VERIFY INTENT AND IDENTIFY AND RESOLVE POTENTIAL CONFLICTS.

ALL TRADES: REFER TO SHEET A601 FOR FURTHER INFORMATION REGARDING MATERIAL SPECIFICATIONS

CONTRACTOR IS TO SUBMIT A COMPLETED CONSTRUCTION WASTE MANAGEMENT PLAN, VIA EMAIL TO THE SLC SANITATION DIVISION. HYPERLINK "MAILTO:CONSTRUCTIONRECYCLING@SLCGOV.COM" CONS TRUCTIONRECYCLING@SLCGOV.COM. FOR INFORMATION CONTACT THE SLC SANITATION DIVISION, 801-535-6984.

FIRE NOTES

REQUIRED MEANS OF EGRESS AND FIRE PROTECTION SYSTEMS SHALL BE MAINTAINED DURING CONSTRUCTION AND DEMOLITION, REMODELING OR ALTERATIONS AND ADDITIONS TO THE BUILDING. FIRE PREVENTION BUREAU STAFF SHALL APPROVE REVIEW OF ANY EXITING ALTERATIONS.

DELEGATED DESIGN

FIRE SPRINKLER CEILING SUPPORT SYSTEM

ELECTRICAL

STRUCTURAL

MECHANICAL/

PLUMBING

801.328.5151

SPECTRUM ENGINEERS TYLER SQUIRE

324 SOUTH STATE STREET SUITE 400

SPECTRUM ENGINEERS

OWNER ALBANY ENGINEERED COMPOSITES

5995 WEST AMELIA EARHART DR

BHB STRUCTURAL

SLC UTAH 84116

MARTIN OLSON

801.355.5656

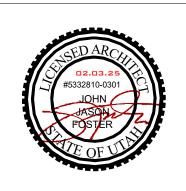
2766 SOUTH MAIN STREET

SALT LAKE CITY UTAH

SALT LAKE CITY UTAH

324 SOUTH STATE STREET SUITE 400 SALT LAKE CITY UTAH 801.328.5151

ATLAJ ARCHITECTS, INC 175 WEST 900 SOUTH SLC, UT 84101 801.322.2724 WWW.ATLASARCHITECTS.COM

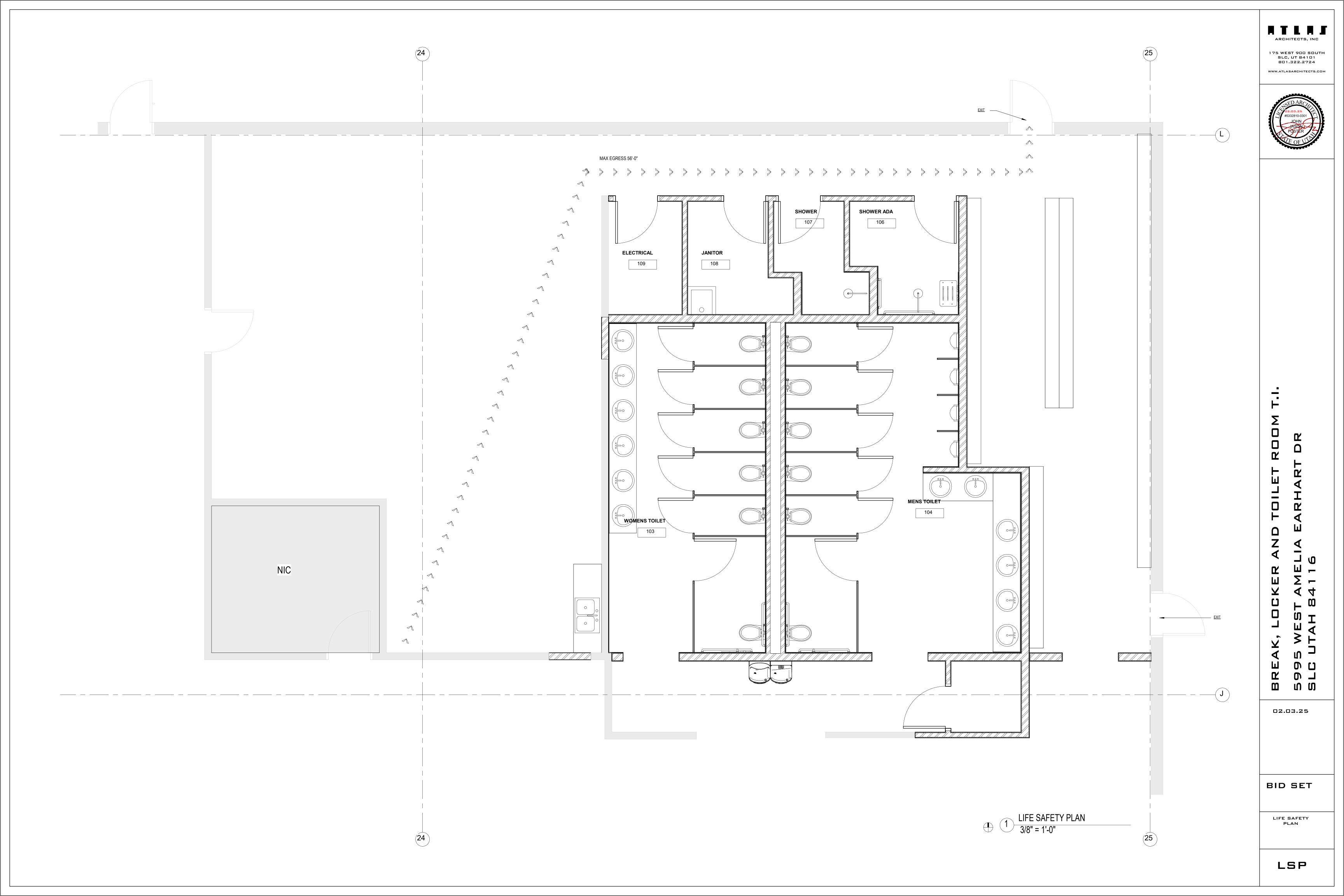


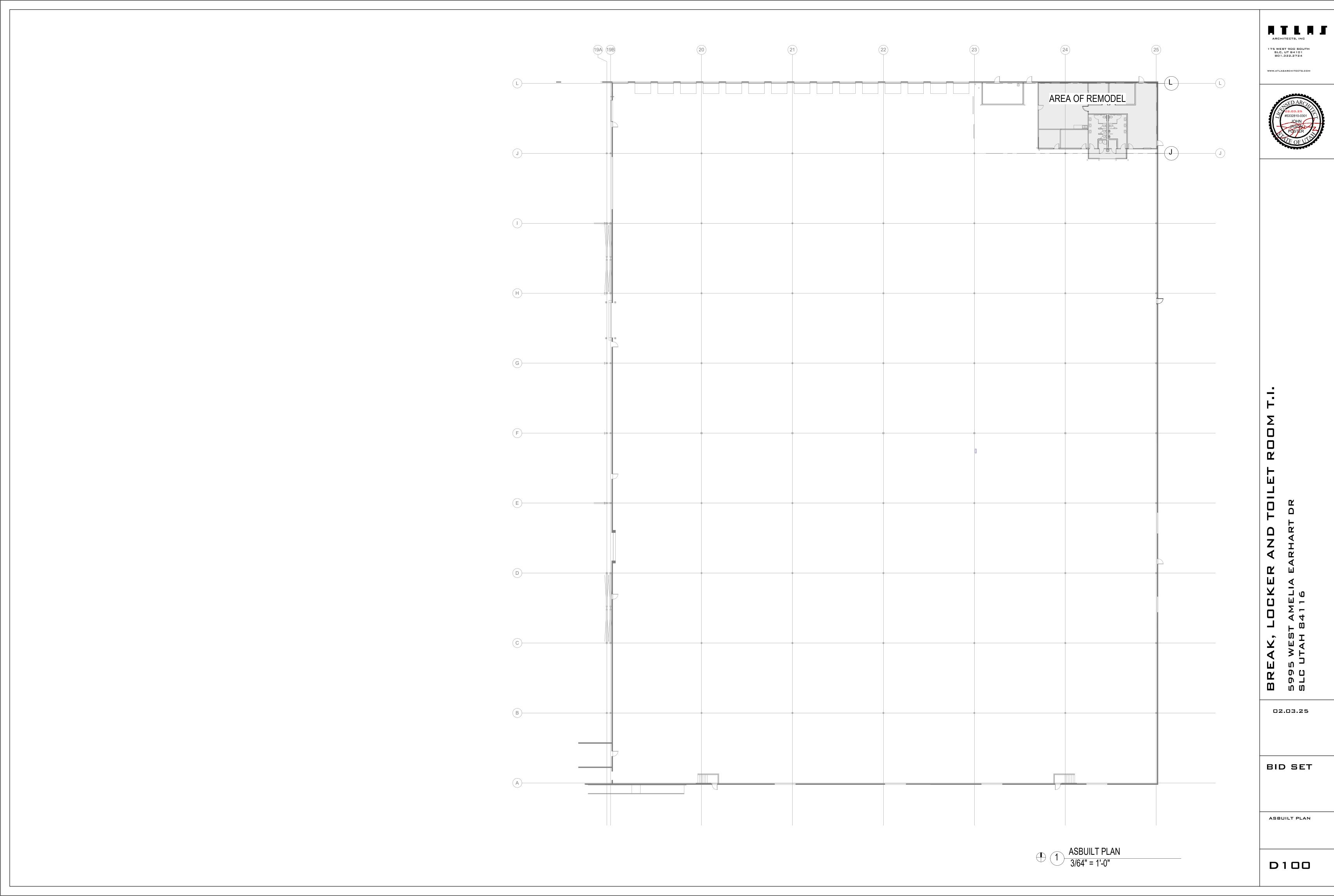
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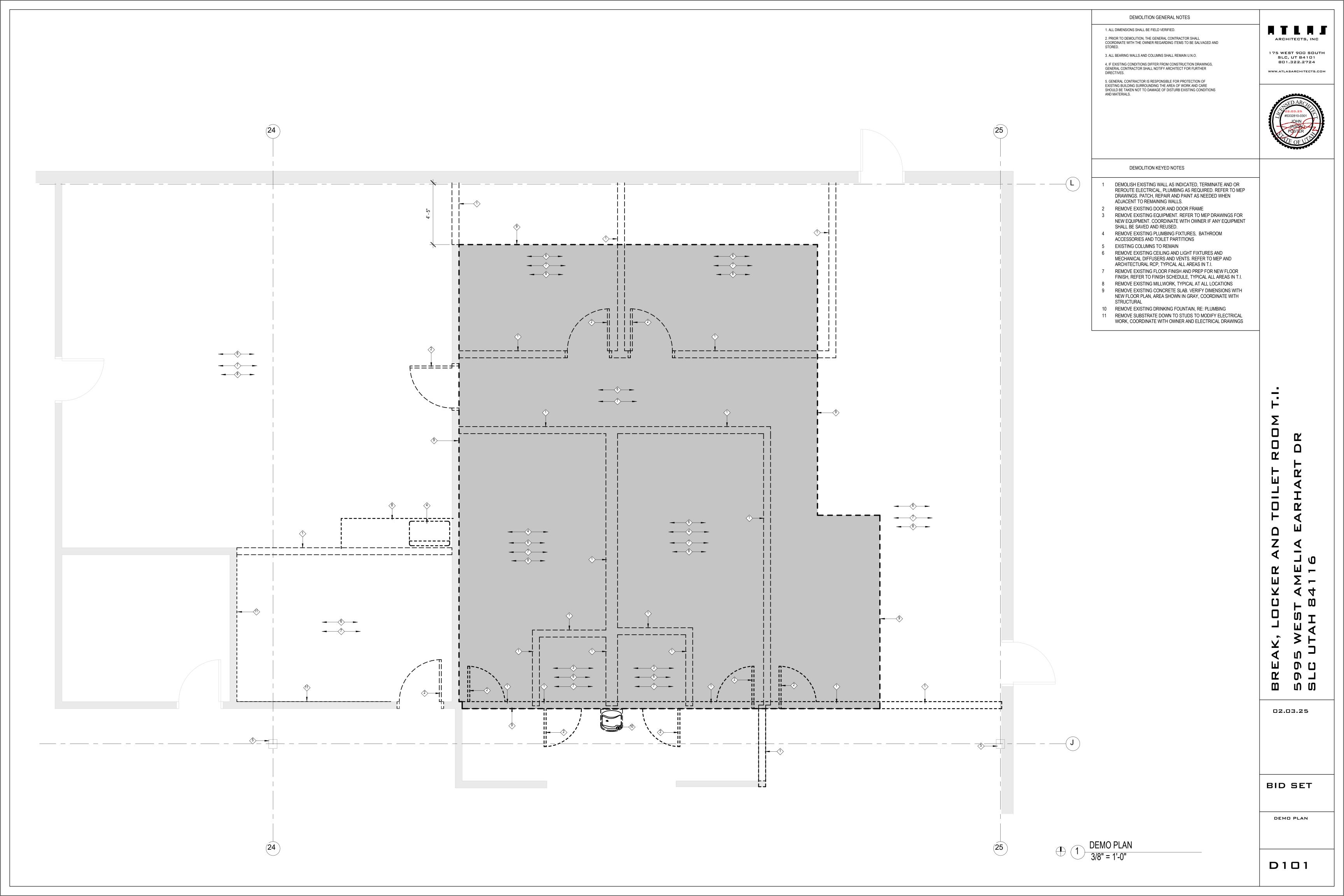
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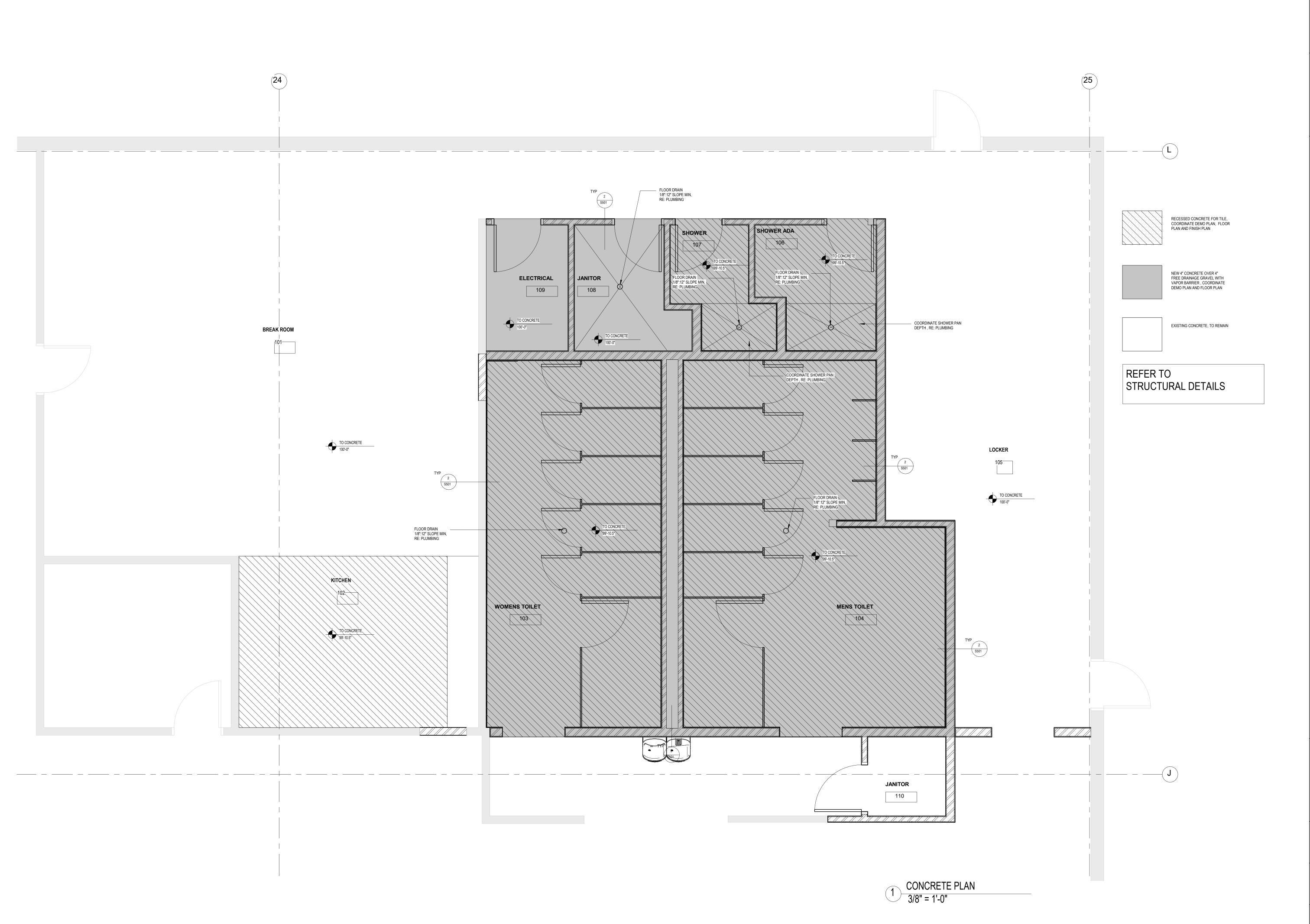
COVER

CVR





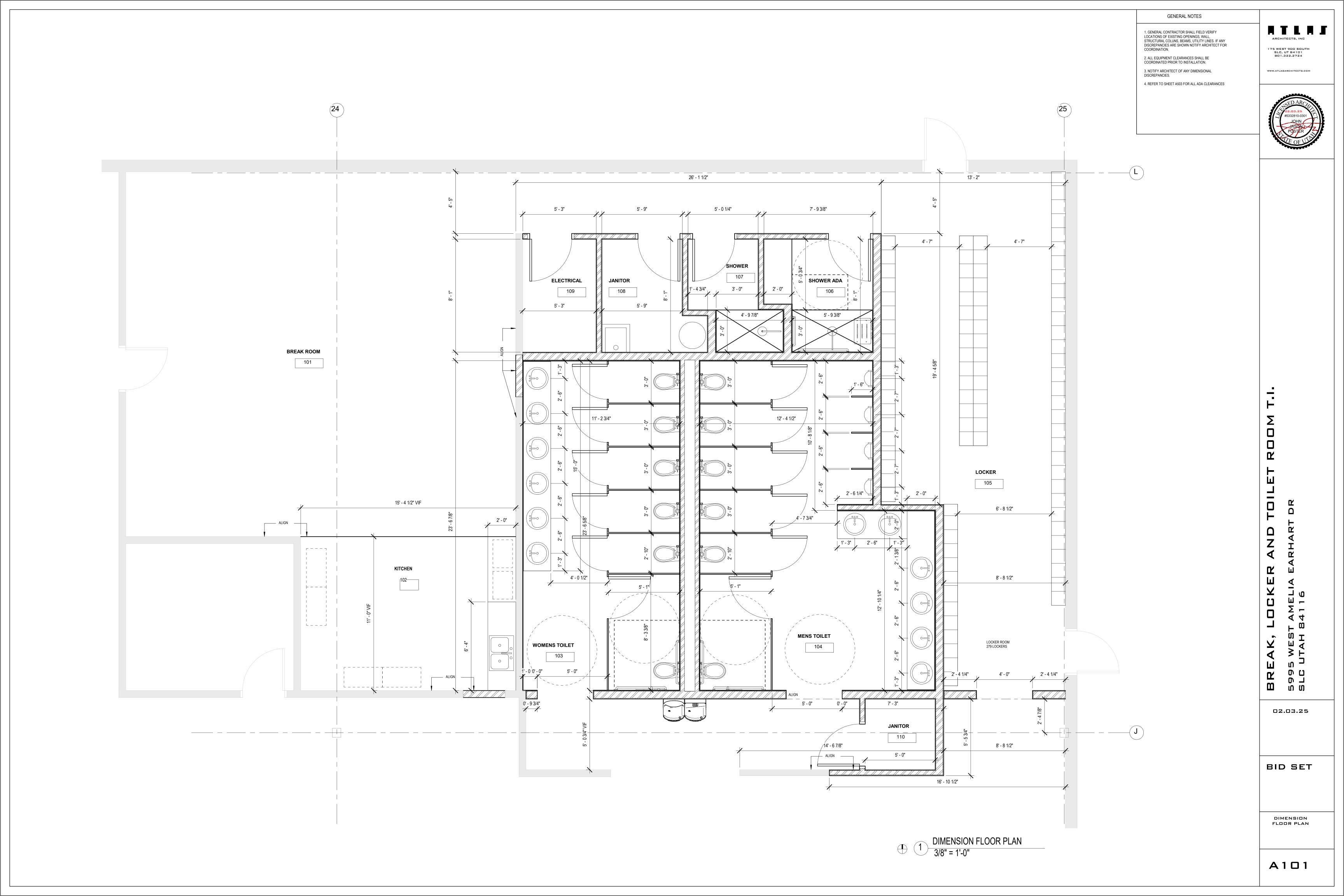


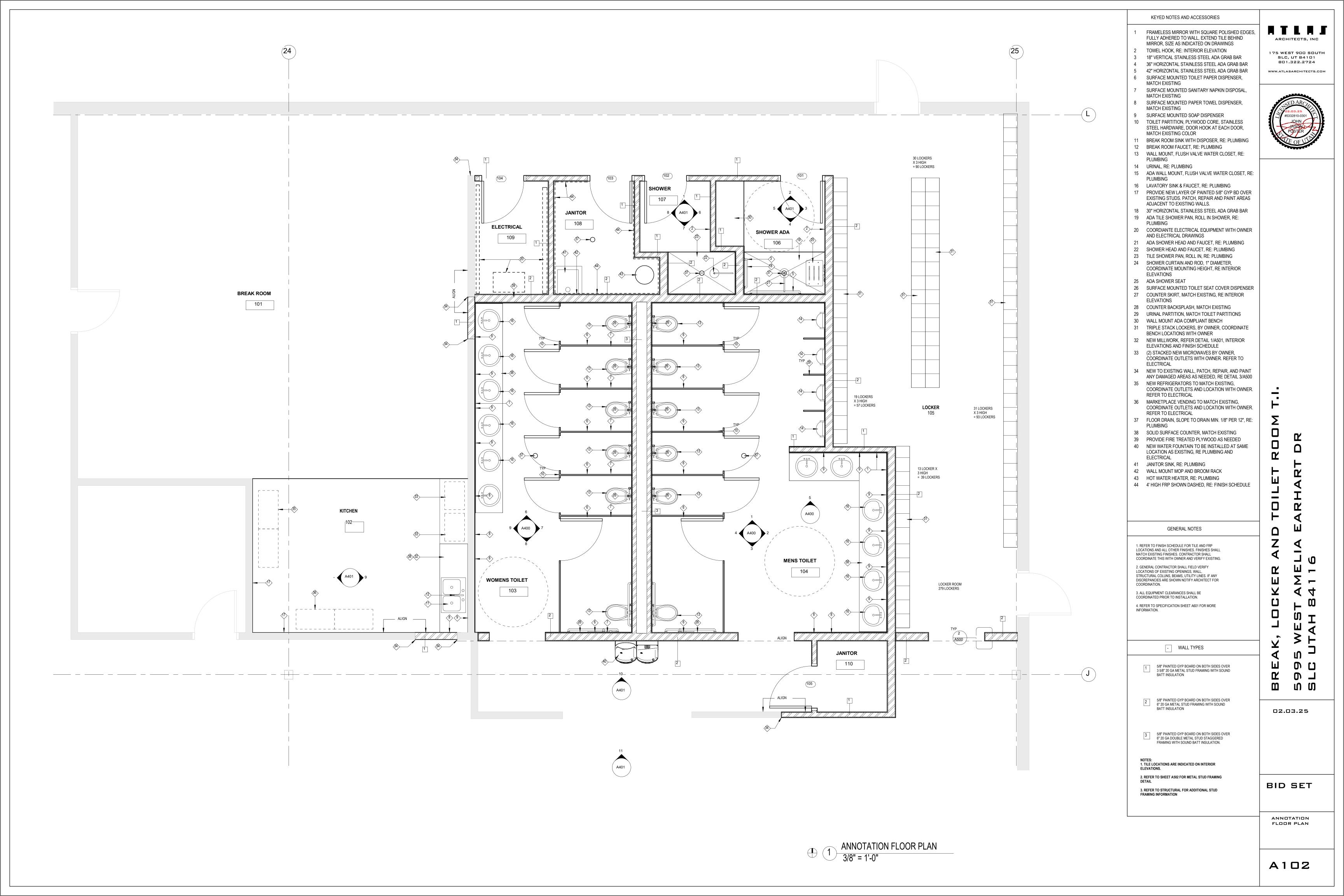


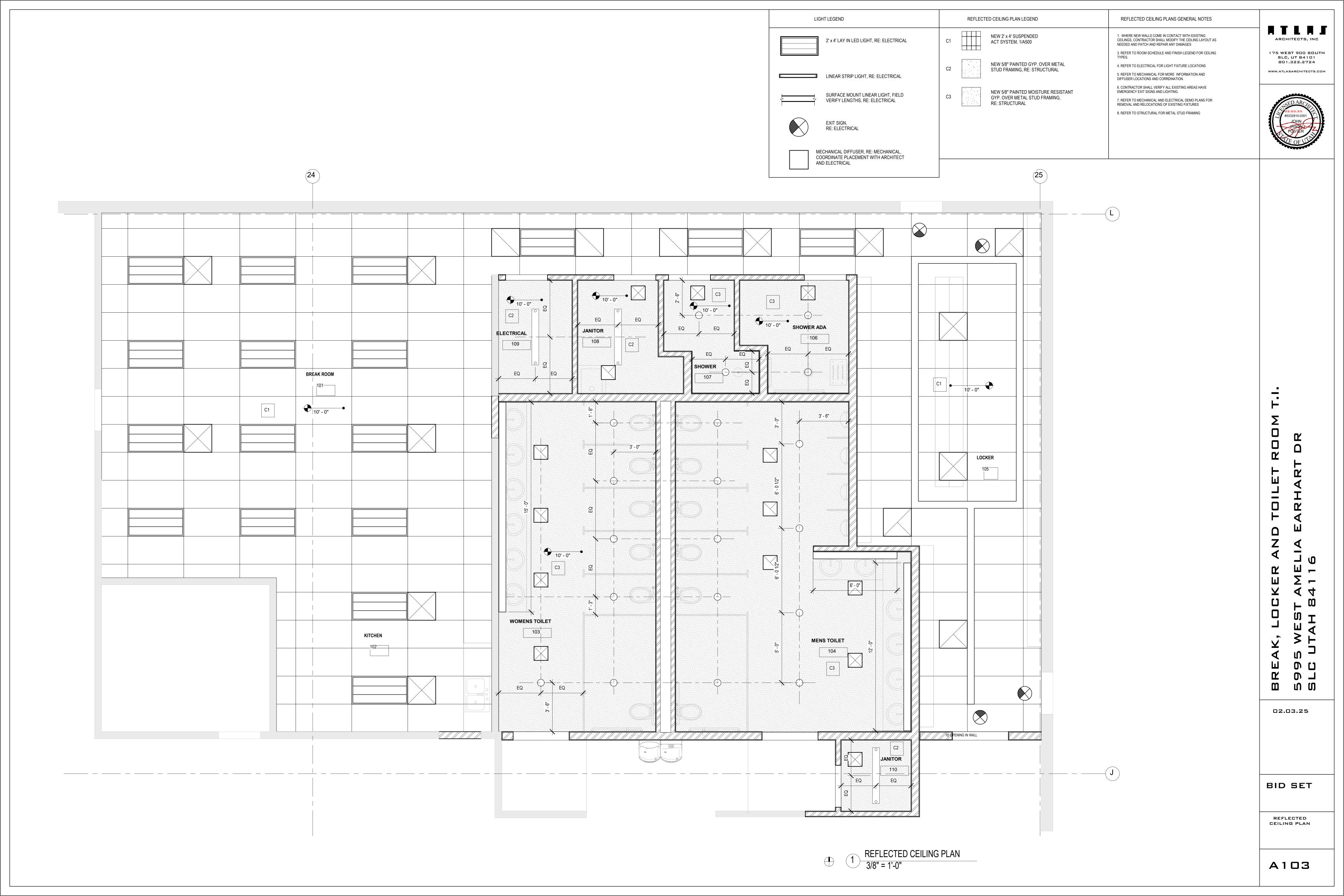
ARCHITECTS, INC

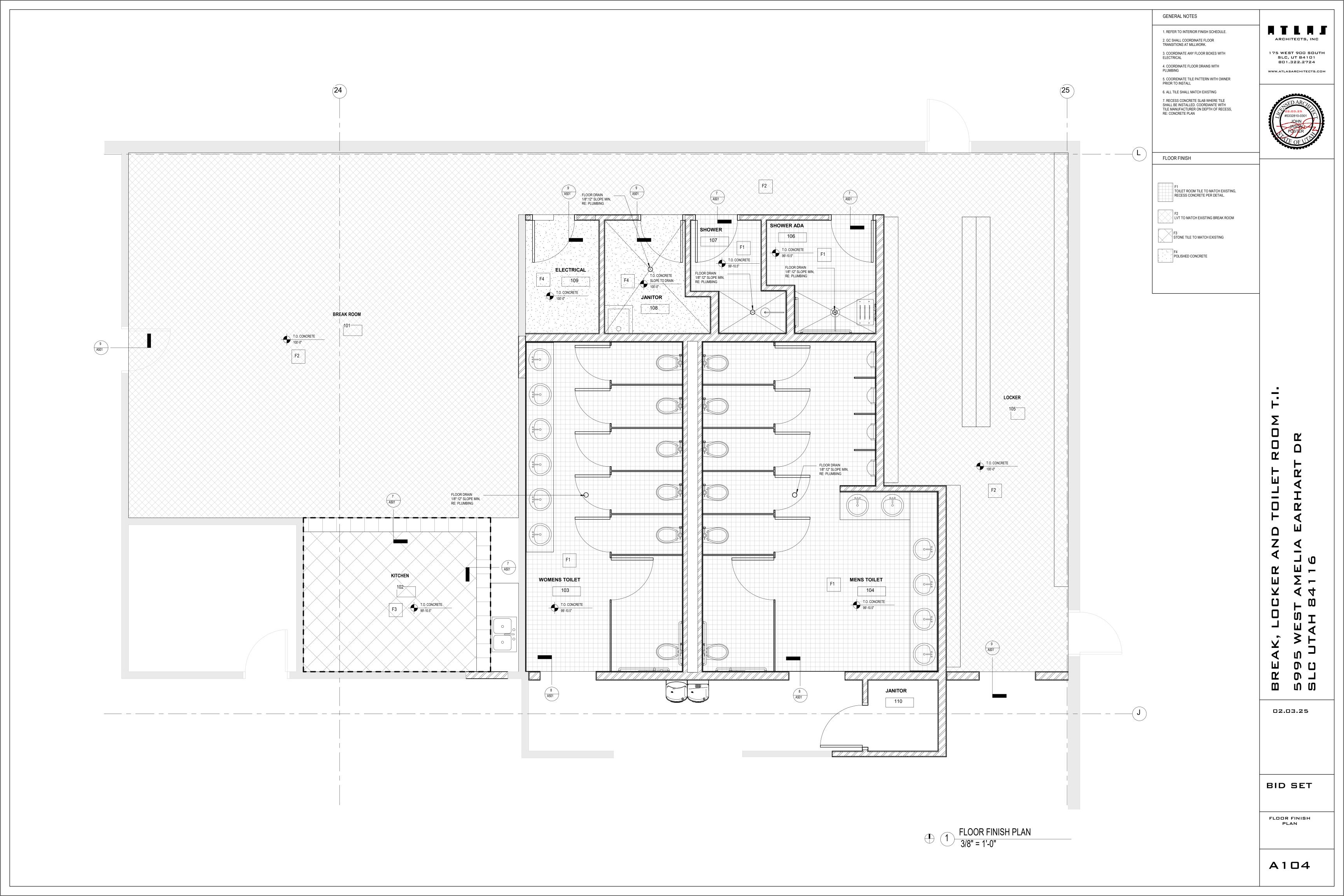
175 WEST 900 SOUTH SLC, UT 84101 801.322.2724

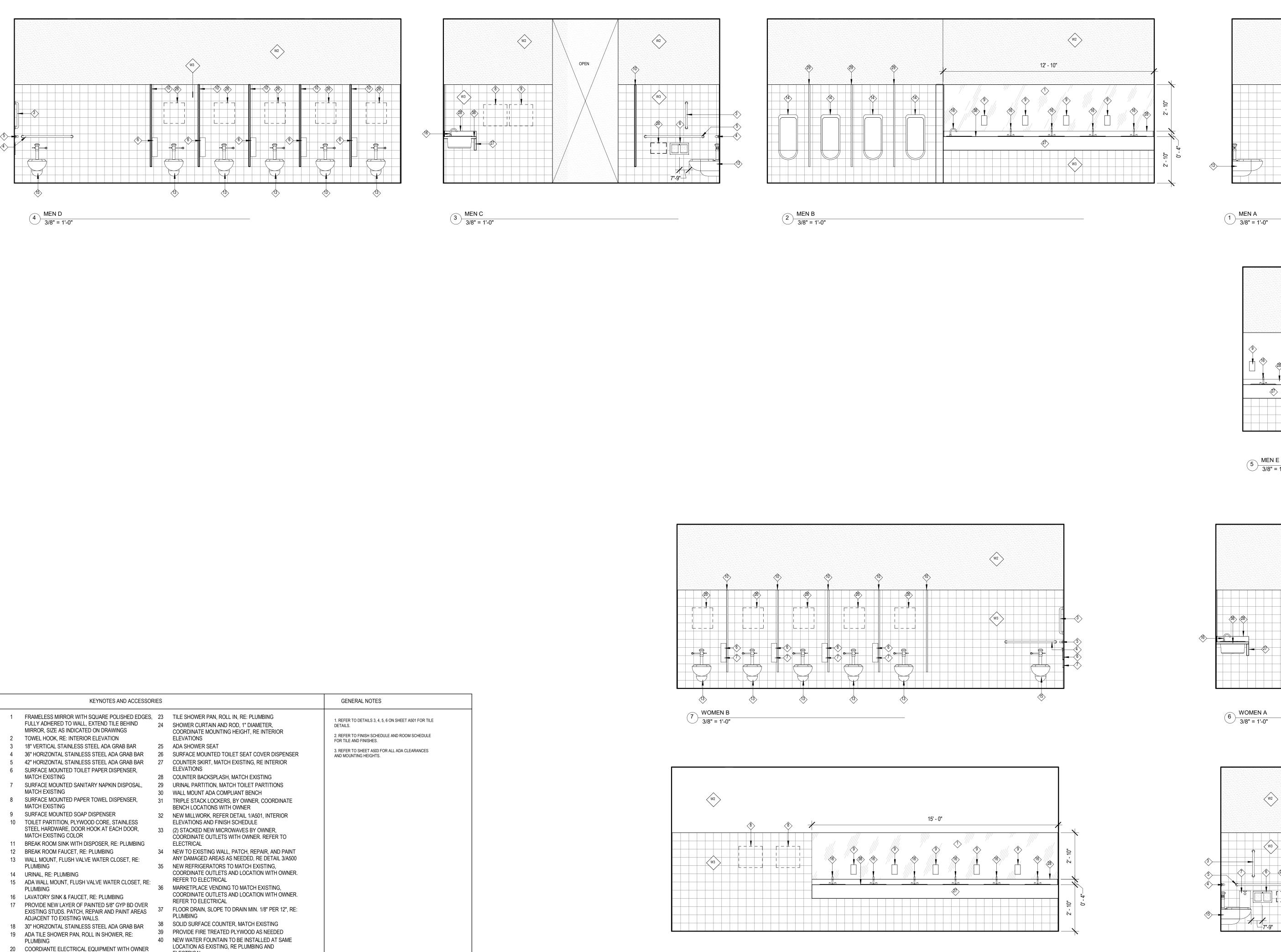
WWW.ATLASARCHITECTS.COM











9 WOMEN D 3/8" = 1'-0"

ELECTRICAL

JANITOR SINK, RE: PLUMBING

42 WALL MOUNT MOP AND BROOM RACK

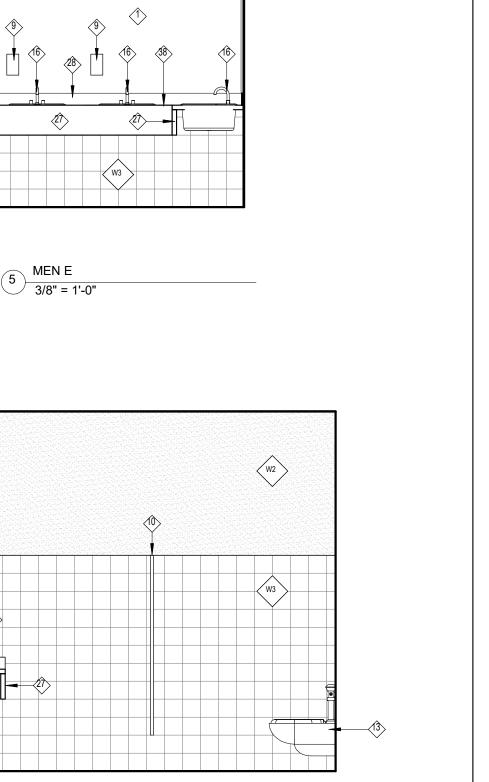
44 4' HIGH FRP SHOWN DASHED, RE: FINISH SCHEDULE

43 HOT WATER HEATER, RE: PLUMBING

AND ELECTRICAL DRAWINGS

21 ADA SHOWER HEAD AND FAUCET, RE: PLUMBING

22 SHOWER HEAD AND FAUCET, RE: PLUMBING



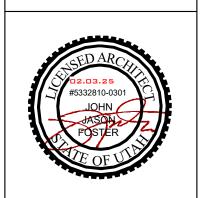
OPEN

8 WOMEN C 3/8" = 1'-0"

⟨W2⟩

W3

W2



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BID SET

ELEVATIONS

A400



OVERALL ELEVATION
3/8" = 1'-0"

FULLY ADHERED TO WALL, EXTEND TILE BEHIND ARCHITECTS, INC 175 WEST 900 SOUTH SLC, UT 84101 801.322.2724 5 42" HORIZONTAL STAINLESS STEEL ADA GRAB BAR WWW.ATLASARCHITECTS.COM

KEYNOTES AND ACCESSORIES

MATCH EXISTING

MATCH EXISTING

MATCH EXISTING

PLUMBING

PLUMBING

ELEVATIONS

ELEVATIONS

ELECTRICAL

PLUMBING

ELECTRICAL

B1 →

REFER TO ELECTRICAL

REFER TO ELECTRICAL

MATCH EXISTING COLOR

MIRROR, SIZE AS INDICATED ON DRAWINGS

STEEL HARDWARE, DOOR HOOK AT EACH DOOR,

EXISTING STUDS. PATCH, REPAIR AND PAINT AREAS

COORDINATE MOUNTING HEIGHT, RE INTERIOR

ADJACENT TO EXISTING WALLS.

AND ELECTRICAL DRAWINGS

BENCH LOCATIONS WITH OWNER

ELEVATIONS AND FINISH SCHEDULE

COORDINATE OUTLETS WITH OWNER. REFER TO

ANY DAMAGED AREAS AS NEEDED, RE DETAIL 3/A500

COORDINATE OUTLETS AND LOCATION WITH OWNER

COORDINATE OUTLETS AND LOCATION WITH OWNER

LOCATION AS EXISTING, RE PLUMBING AND

02.03.25

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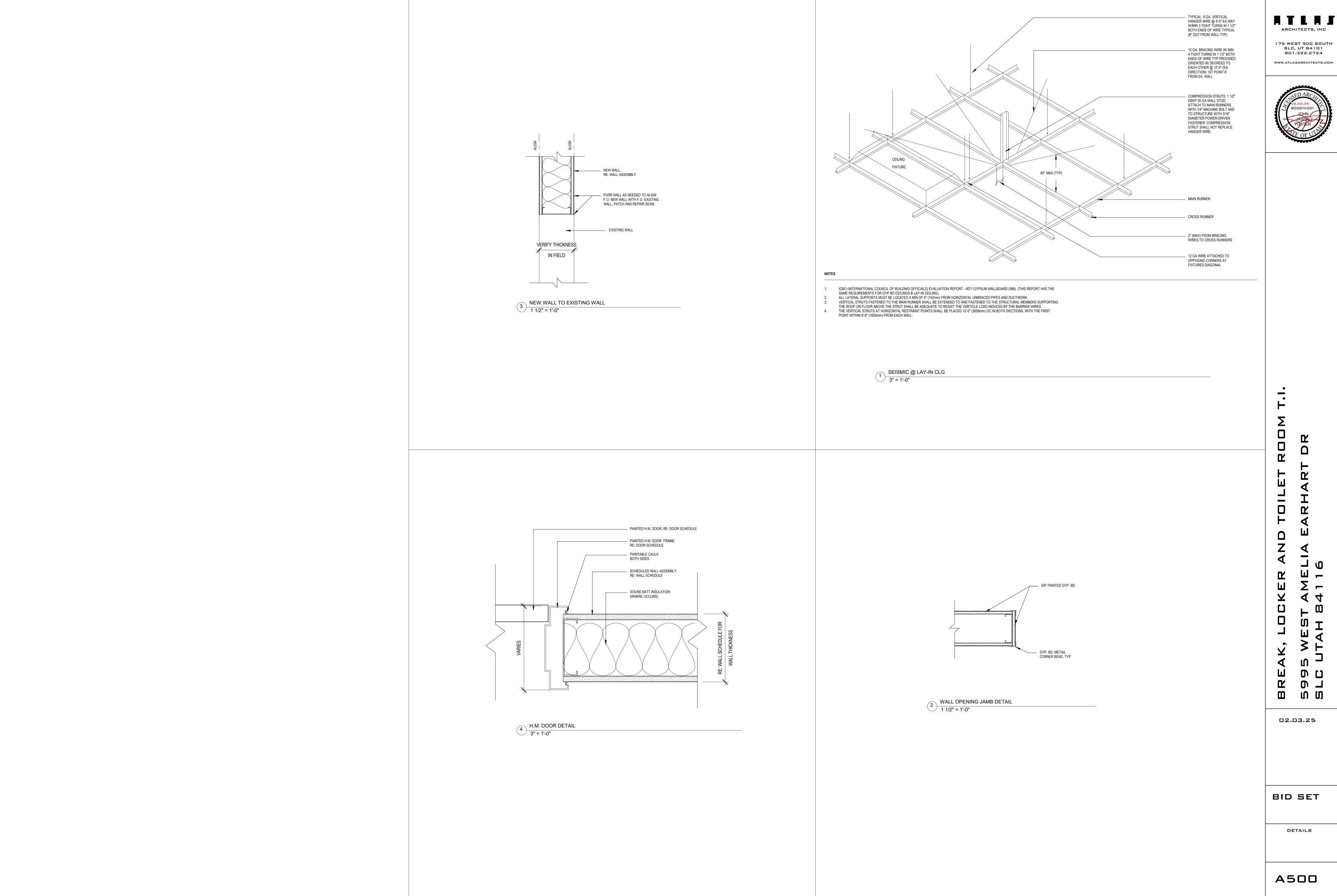
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BID SET

ELEVATIONS

A401

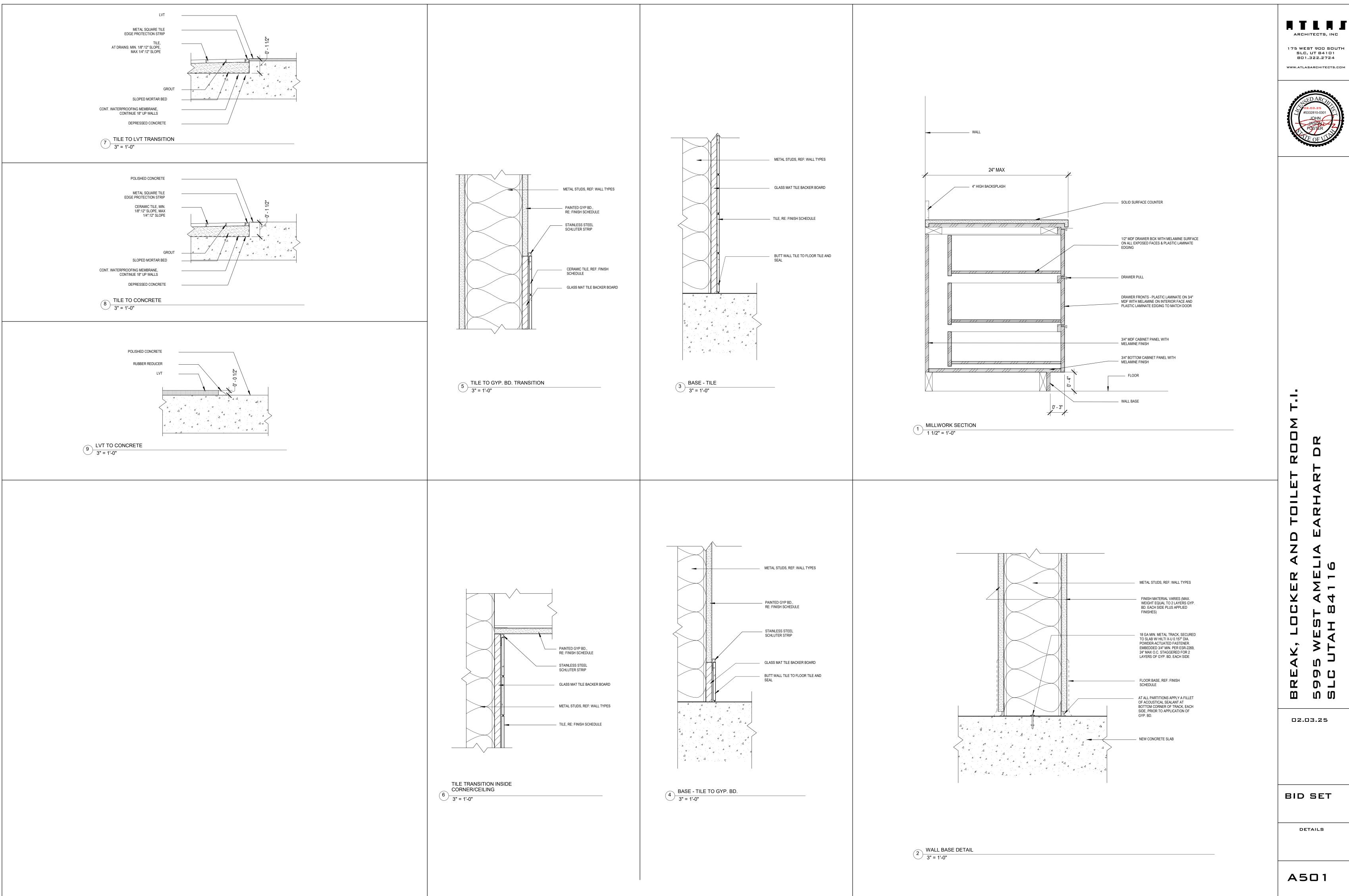






BID SET

DETAILS



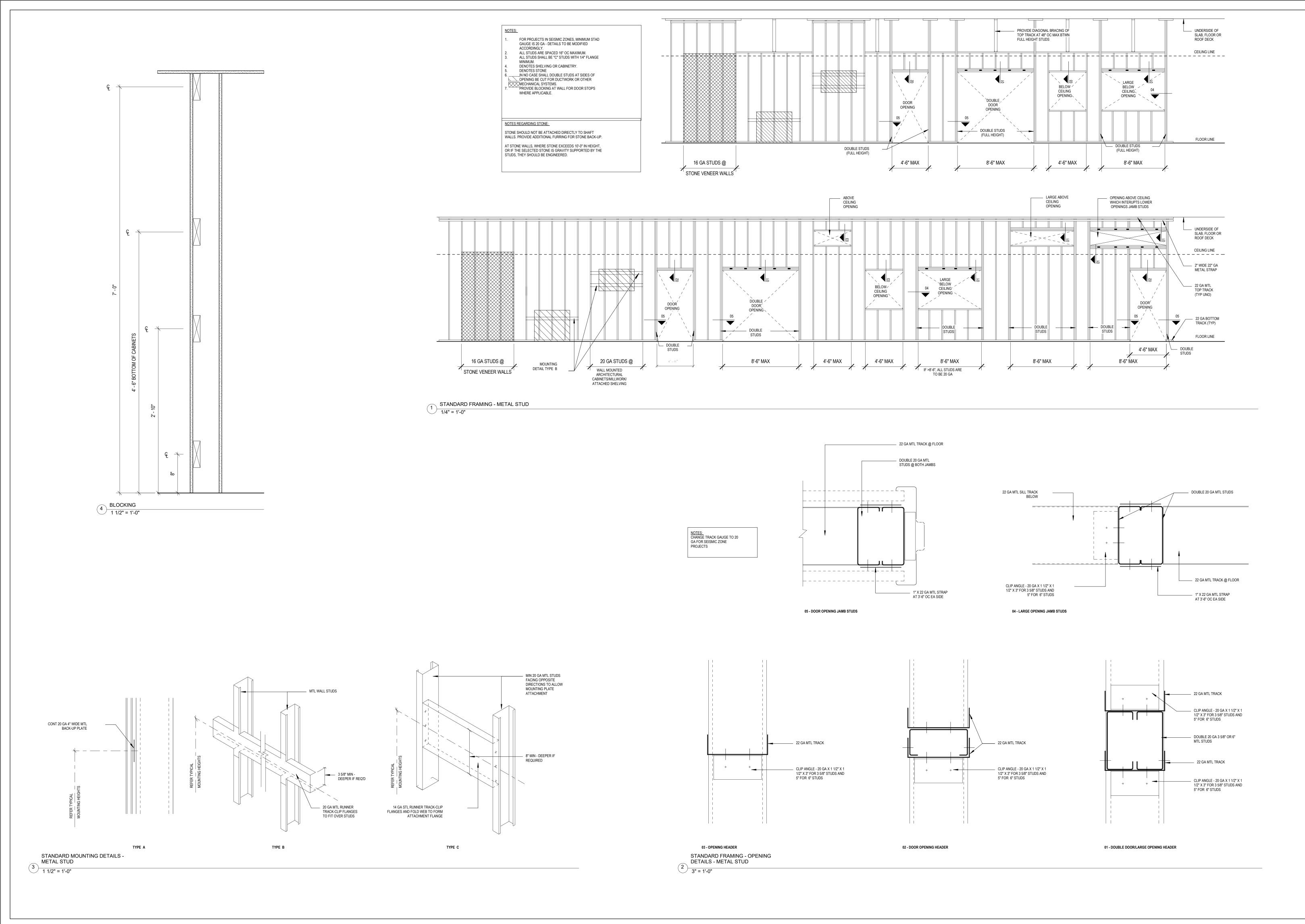


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BID SET

DETAILS

A501





RILAI

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METAL STUD

A502

DETAILS

RTLRS

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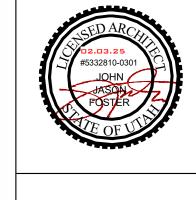
TOIL

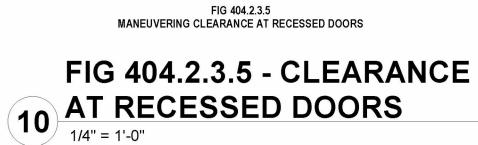
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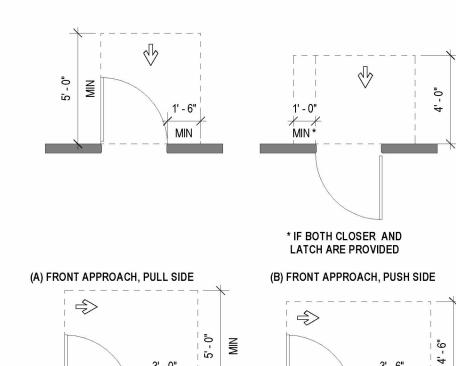
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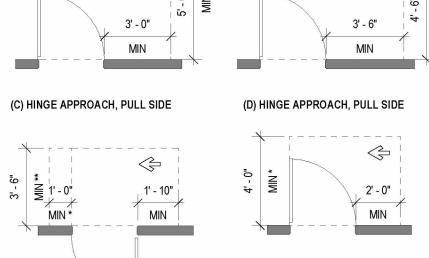


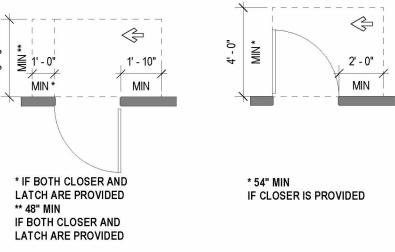


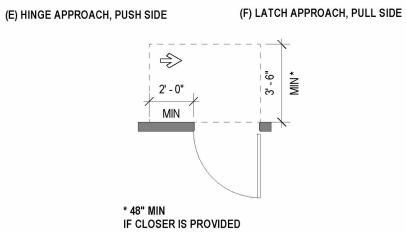
(C) PUSH SIDE, DOOR PROVIDED WITH BOTH CLOSER AND LATCH

(B) PUSH SIDE









(G) LATCH APPROACH, PUSH SIDE





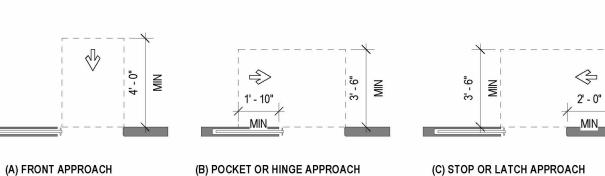
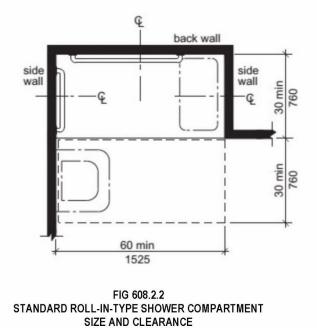


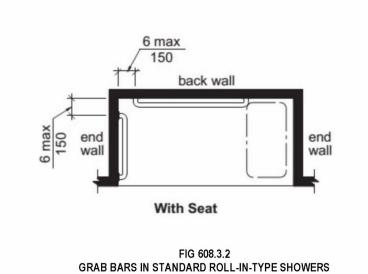
FIG 404.2.3.3

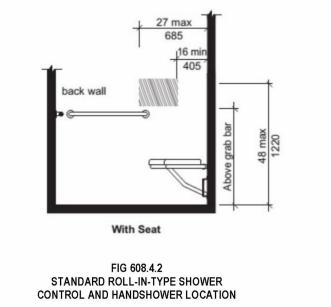
MANEUVERING CLEARANCE AT SLIDING AND FOLDING DOORS

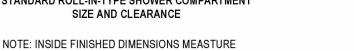
FIG 404.2.3.3 - CLEARANCE AT SLIDING/FOLDING DOORS

1/4" = 1'-0"

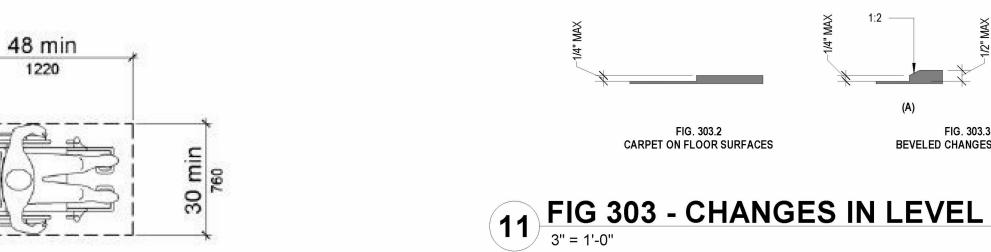


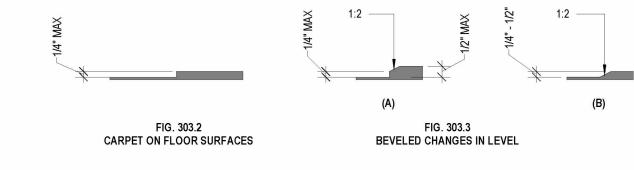


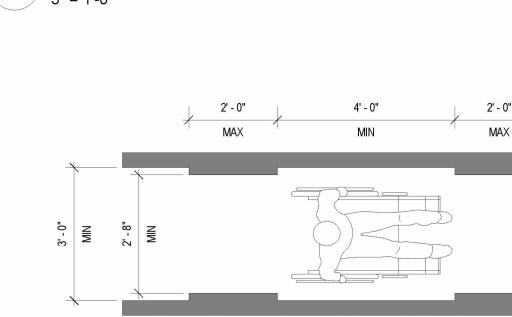


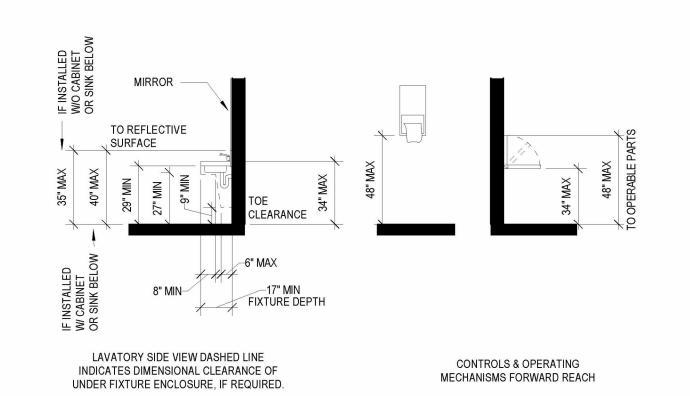


13 SHOWER CONTROL & GRAB BAR ELEVATIONS 3/8" = 1'-0"









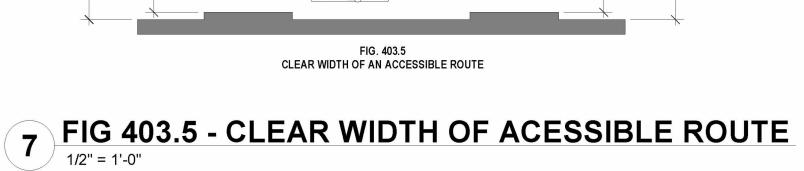
12 ELECTRICAL CLEARANCES

1/4" = 1'-0"

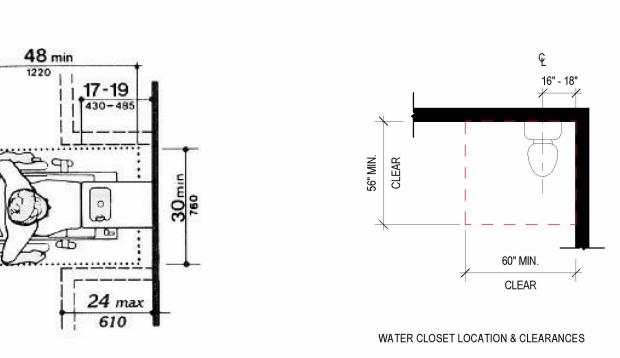


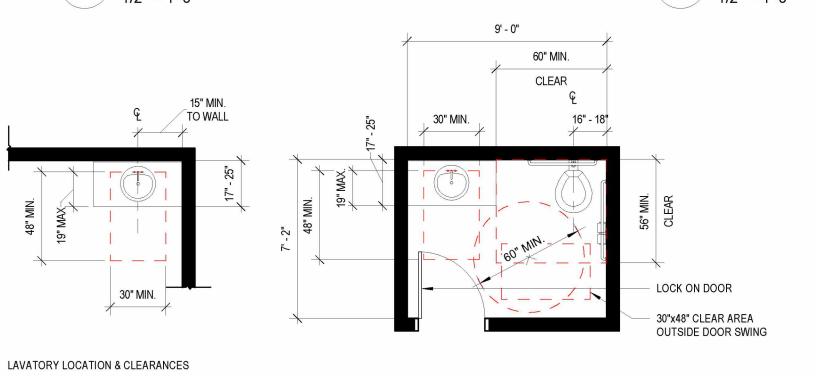
ADA MILLWORK CLEARANCE PER A117.1-2009 305

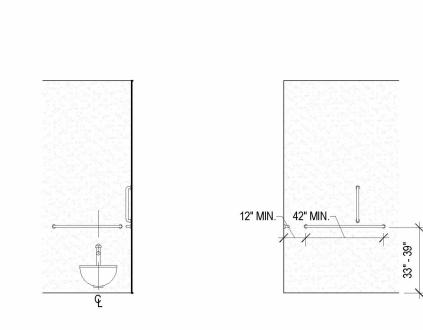
RANGE PER A117.1-2009 308



9 LAVATORY ACCESSORY CLEARANCES





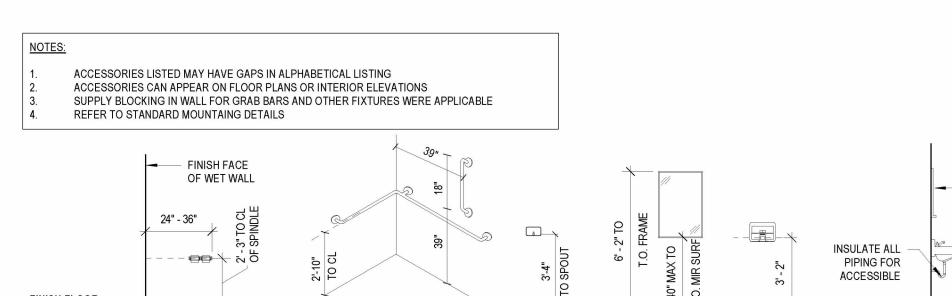


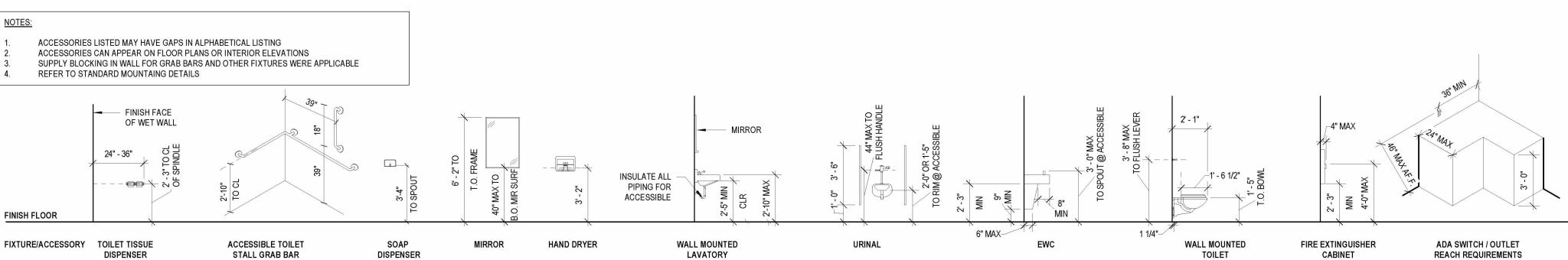












3 TYPICAL MOUNTING HEIGHTS

1/4" = 1'-0"

A503

BID SET

ADA DETAILS

101 A 102 A	PE WIDTH HEIG 3' - 0" 7' - 0" 3' - 0" 7' - 0"	PAIN	FRAME ITED HOLLO ITED HOLLO			FRAM TED HOLLOW TED HOLLOW		1 1	HARDWARE		COMMEN	NTS	REFER TO FLOOR PLANS FOR DOOR SWINGS FRAME FINISH TO MATCH DOOR UNLESS NOTED OTHERWISE	ARCHITECTS
103 A 104 A 105 A NOTES: 1. GENERAL CONTRAC	3' - 0" 7' - 0" 3' - 0" 7' - 0" 3' - 0" 7' - 0"	PAINT PAINT	TED HOLLO ITED HOLLO ITED HOLLO DRS AND DOOR HAR	OW METAL OW METAL	PAINT PAINT	TED HOLLOW TED HOLLOW TED HOLLOW	/ METAL	2 2 2					3. CONTRACTOR SHALL VERIFY THAT ALL EXISTING EGRESS DOORS HAVE PANIC HARDWARE PER IBC 1010.10. 4. CONTRACTOR SHALL VERIFY THE COLOR AND FINISH OF EXISTING DOOR HARDWARE AND MATCH 5. DOOR HARDWARE SHALL MEET THE REQUIREMENTS OF IBC 1010.1.19.1. HANDLES, PULLS, LATCHES, LOCKS, AND OTHER OPERABLE PARTS ON ACCESSIBLE DOORS SHALL HAVE A SHAPE THAT IS EASY TO GRASP WITH ONE HAND AND DOES NOT REQUIRE TIGHT GRASPING, PINCHING, OR TWISTING OF THE WRIST TO OPERATE. OPERABLE PARTS OF SUCH HARDWARE SHALL BE 34 INCHES. MINIMUM AND 48 INCHES MAXIMUM ABOVE THE FLOOR. WHERE SLIDING DOORS ARE IN THE FULLY OPEN POSITION, OPERATING HARDWARE SHALL BE EXPOSED AND USABLE FROM BOTH SIDES.	175 WEST 900 SLC, UT 84 801.322.2 WWW.ATLASARCHIT
4 A500	TYPE A PAINTED HM METAL DOOR AND FRAME									GROUP 1: S #101, #102 (4) HINGES, 1 PRIVACY I 1 SURFACE 1 KICK PLAT 1 WALL STC 1 GASKETIN GROUP 2: J. #103, #104 A	E P G ANITOR AND ELECTRICAL ND #105 FULL MORTISE OM/ CLOSET LOCK CLOSER E P	TA2714 V21 8265 351 O / P10 MOUNTING AS REQ'D K1050 10" HIGH CSK BEV 406 / 441CU AS REQ'D S88BL TA2714 10XG04 SA 351 O / P10 MOUNTING AS REQ'D K1050 10" HIGH CSK BEV 406 / 441CU AS REQ'D S88BL	RO RO PE	TE OF S
1/4" =	R TYPE = 1'-0"	NODTU		. BASE	WECT	NODTLI	WALL	FINISH	HEDULE		OFILING.		COMMENTO	
102 KIT	ROOM NAME EAK ROOM CHEN OMENS TOILET	NORTH B1 - B2	B1 - B2	B1 B1 B2	B1 B1 B2	NORTH W1 - W2/W3	W1 W1/W4 W2/W3	SOUTH W1 W1 W2/W3	WEST W1 W1 W2/W3	FLOOR F2 F3 F1	CEILING C1 C1 C3		COMMENTS	_ <u>-</u>
104 MEI 105 LOC	NS TOILET CKER	B2 B1	B2 B1	B2 B1	B2 B1	W2/W3 W1	W2/W3 W1	W2/W3 W1	W2/W3 W1	F1 F2	C3 C1			
107 SHO 108 JAN 109 ELE	OWER ADA OWER NITOR ECTRICAL NITOR	B2 B2 - B1	B2 B2 - B1	B2 B2 - B1	B2 B2 - B1	W2 W2 W1/W5 W1 W1/W5	W2/W3 W2/W3 W1/W5 W1 W1/W5	W2/W3 W2/W3 W1/W5 W1 W1/W5	W2/W3 W2/W3 W1/W5 W1/W5	F1 F1 F4 F4 F4	C3 C3 C2 C2 C2	FIRE TREATED PLY	WOOD WHERE REQUIRED BY CODE	ET RO
ABBREV. BASE	ACTOR SHALL COORDINATE WITH OWNER TO MA		TO EXISTING MATER						GEND			OMMENTS		R AND TOIL
31 32	RUBBER BASE TILE								ATCH EXISTI ATCH EXISTI					7 A 7 A 7 Z
CEILING C1	NEW 2' x 4' ACT CEILI PAINTED GYP BD CE PAINTED MOISTURE	ILING OVE	R METAL	STUD FRA		M	IATCH EXI	STING, SEI		1, REFER T		RAL FOR FRAMING RAL FOR FRAMING		, LO(VEST
						M	IATCH EXI	STING, SEE	E SHEET A60 E SHEET A60)1				E A K
COUNTERTOP S1	BATHROOM SOLID SI KITCHEN SOLID SUR	FACE							E SHEET A60)1				а с В 6
COUNTERTOP S1 S2 FLOOR FINISH	BATHROOM SOLID SI KITCHEN SOLID SUR BATHROOM TILE TO LVT TO MATCH EXIST	MATCH EX	KISTING					<u>-</u>	SHEET A60)1				
COUNTERTOP S1 S2 FLOOR FINISH F1 F2 F3 F4	KITCHEN SOLID SUR BATHROOM TILE TO	MATCH EX TING CH EXISTIN	NG	ΓING		M	IATCH EXI	STING, SEI STING, SEI	E SHEET A60 E SHEET A60 E SHEET A60)1				02.03.2
COUNTERTOP S1 S2 FLOOR FINISH F1 F2 F3 F4 MILLWORK M1	BATHROOM TILE TO LVT TO MATCH EXIST STONE TILE TO MATCH	MATCH EX TING CH EXISTIN	NG	ΓING		M M	IATCH EXII IATCH EXII	STING, SEI STING, SEI STING, SEI	E SHEET A60)1)1				02.03.2
COUNTERTOP S1 S2 FLOOR FINISH F1 F2 F3 F4 MILLWORK M1 WALL FINISH W1 W2	BATHROOM TILE TO LVT TO MATCH EXIST STONE TILE TO MATCH POLISHED CONCRET	MATCH EX TING CH EXISTIN TE TO MAT	NG	ΓING		M M M	IATCH EXISTANCE IATCH	STING, SEI STING, SEI STING, SEI STING, SEI OR TO MAT	E SHEET A60 E SHEET A60	O1 O1 O1 O, SEE SHE G, SEE SHE				BID SE
C3 COUNTERTOP S1 S2 FLOOR FINISH F1 F2 F3	BATHROOM TILE TO LVT TO MATCH EXIST STONE TILE TO MATCH POLISHED CONCRET PLASTIC LAMINATE PAINTED GYP. BD. PAINTED MOISTURE	MATCH EX TING CH EXISTIN TE TO MATO	NG	ΓING		M M M	IATCH EXISTATCH	STING, SEISTING,	SHEET A60 SHEET A60 CH EXISTIN CH EXISTIN SHEET A60 SHEET A60	G, SEE SHE G, SEE SHE				

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SECTION 007000 - CONDITIONS OF THE CONTRACT
                                                                                                                                                                             SECTION 015000 - TEMPORARY FACILITIES AND CONTROLS
 1.1 GENERAL CONDITIONS: STIPULATED SUM (SINGLE-PRIME CONTRACT)
                                                                                                                                                                               1.1 PROTECTION
                                                                                                                                                                                       A. Fire Extinguishers
                                                                                                                                                                              1.2 TEMPORARY UTILITY INSTALLATION
                    1. The Tenant shall provide Builder's Risk Insurance during Construction and Property and Liability
                                                                                                                                                                                       A. Provide isolation of work areas in occupied facilities with noise and dust controls.
                                                                                                                                                                                        B. Provide ventilation and humidity control as required for the performance of the work.
                   Insurance for completed improvements.
2. The Tenant's General Contractor must demonstrate a Certificate of Insurance licensed in the State of Utah showing full
                                                                                                                                                                                         C. Lighting: Provide temporary lighting as required.
                                                                                                                                                                                        D. Telephone Service: Provide a cell phone to the Job Superintendent. Post a list of important telephone numbers,
 coverage of the contractor for Comprehensive Automobile Liability and Commercial General Liability.
END OF SECTION 007000
                                                                                                                                                                                                  1) police, ambulance, and fire department, superintendents cell number, Contractor's after-hours
                                                                                                                                                                                                 emergency phone number, Architect's/Engineer's office phone number.
 1.1 SCOPE OF WORK OF PROJECT: Interior Tenant Improvement within an existing building shell as indicated in the Contract
                                                                                                                                                                              1.3 SECURITY AND PROTECTION FACILITIES INSTALLATION
Documents.

1.2 TENANT-FURNISHED PRODUCTS: Fixtures, Furniture and Equipment as indicated in the Contract Documents.
                                                                                                                                                                                       A. Temporary Partitions: Provide floor-to-ceiling dustproof partitions (framed) to separate areas of construction from
                                                                                                                                                                                        non-construction areas, including (but not limited to areas occupied by Owner and adjacent tenants from fumes and
 1.3 USE OF SITE: Limited to work in areas indicated, within Tenant's lease area. Coordinate with Building Owner for Contractor
 Staging Areas, Contractor Delivery Entrances and Contractor Parking Areas.
                                                                                                                                                                                       B. Temporary Field Office: Coordinate with Owner and Architect to provide a Temporary Field Office of sufficient size
                                                                                                                                                                             to accommodate needs of construction administration. END OF SECTION 015000
 1.4 TENANT'S OCCUPANCY REQUIREMENTS: Owner occupancy of completed areas of construction.
END OF SECTION 011000
 SECTION 012500 - SUBSTITUTION PROCEDURES
                                                                                                                                                                             SECTION 016000 - PRODUCT REQUIREMENTS
 1.1 ACTION SUBMITTALS
                                                                                                                                                                                1.1 PRODUCT SELECTION PROCEDURES
          A. Substitution Request Form: CSI Form 13.1A.
                                                                                                                                                                                       A. Product Selection Procedures
                                                                                                                                                                                                   1. Manufacturer/Source: Product by manufacturer or from source named that complies with requirements.
         B. Documentation:
                                                                                                                                                                                                   2. Products: One of the products listed that complies with requirements. Comparable products will be
                   2. Coordination information
                                                                                                                                                                                                   considered unless otherwise indicated.
                    Detailed comparison.
                                                                                                                                                                                                   3. Manufacturers: Product by one of the manufacturers listed that complies with requirements. Comparable
                   4. Product Data.
                                                                                                                                                                                                 products [will] [will not] be considered unless otherwise indicated.
                                                                                                                                                                                                  4. Basis-of-Design Product: Either the specified product or a comparable product by one of the other
                    Samples.
                     6. Certificates and qualification data.
                                                                                                                                                                                                   5. Visual Matching Specification: Product that matches Architect's sample. Architect's decision will be final.
                    7. List of similar installations.
                                                                                                                                                                                                 6. Visual Selection Specification: Product (and manufacturer) that complies with other specified
                    Material test reports.
                                                                                                                                                                                                  requirements. Architect will select color, gloss, pattern, density, or texture from manufacturer's product line
                    9. Research reports.
                    10. Detailed comparison of Contractor's construction schedule.
                    Cost information.
                                                                                                                                                                                       B. COMPARABLE PRODUCTS
                    Contractor's certification.

    Conditions for Consideration:

                                                                                                                                                                                                          a. Product does not require revisions to the Contract Documents, is consistent with the Contract
                    13. Contractor's waiver of rights to additional payment or time
           C. Architect's Action: If necessary, Architect will request additional information within seven days of receipt of a
                                                                                                                                                                                                             Documents and will produce the indicated results and is compatible with other portions of the
          request for substitution. Architect will notify Contractor of acceptance or rejection within 15 days of receipt, or seven
                                                                                                                                                                                                          b. Comparison of proposed product with those named in the Specifications.
          days of receipt of additional information.
                                                                                                                                                                                                            c. Product provides specified warranty.
          A. Substitutions for Cause: Not later than 15 days prior to time required for preparation and review of submittals
                                                                                                                                                                             END OF SECTION 016000
          B. Substitutions for Convenience: Will be considered if received within 15 days after commencement of the Work.
                                                                                                                                                                             SECTION 017300 - EXECUTION
 SECTION 012600 - CONTRACT MODIFICATION PROCEDURES
                                                                                                                                                                                       A. Existing Conditions: Existence and location of site improvements, utilities, and other construction affecting the Work
                                                                                                                                                                                                 1. Review of the Contract Documents and field conditions.
         A. Minor Changes in the Work: Use AIA Document G710
                                                                                                                                                                                       B. Cutting and Patching
          B. Quotation Form: Use CSI Form 13.6D and Form 13.6C
           C. Contractor-Initiated Work Changes Proposals: Submit to Architect.
                                                                                                                                                                                                  1. Provide temporary support
                                                                                                                                                                                                 2. Protect in-place construction.
           D. Work Changes Proposal Request Form: Use CSI Form 13.6A, Form 13.6D, and Form 13.6C unless Form provided
                                                                                                                                                                                                   3. Protect adjacent occupied areas
          E. Change Orders: Architect shall issue on AIA Document G701.
                                                                                                                                                                                                  4. Existing Utility Services and Mechanical/Electrical Systems; Minimize interruption to occupied areas.
            Construction Change Directives: Use AIA Document G714.
                                                                                                                                                                                                   5. Cutting: In general, use hand or small power tools. Cut holes and slots neatly to minimum size required.
END OF SECTION 012600
                                                                                                                                                                                                    emporarily cover openings when not in use. Do not cut any structural or loadbearing members or
SECTION 012900 - PAYMENT PROCEDURES
                                                                                                                                                                                                6. Patching: Patch with durable seams that are as invisible as practicable. Restore exposed finishes.
                                                                                                                                                                                        C. Owner-Installed Products
1.1 SUMMARY
        A. Schedule of Values:
                                                                                                                                                                                                   1. Provide access to Project site for Owner's personnel.
                                                                                                                                                                                                   2. Inform Owner of Contractor's preferred construction schedule for Owner's portion of the Work. Adjust
                     1. Provide multiple line items for principal subcontract amounts in excess of five percent of the Contract
                                                                                                                                                                                                   construction schedule based on a mutually agreeable timetable.
                    2. Include separate line items under Contractor and principal subcontracts for Project closeout requirements
                                                                                                                                                                                                   Include Owner's personnel at preinstallation conferences.
                   in an amount totaling five percent of the Contract Sum and s subcontract amount.
                                                                                                                                                                                                  1. Clean Project site and work areas daily. Dispose of materials lawfully.
          B. Applications for Payment:

    Payment Application Times: Indicated in the Agreement.

                                                                                                                                                                                                  Keep installed work clean.
                    2. Payment Application Forms: AIA Document G702 and AIA Document G703.
                                                                                                                                                                                                   Remove debris from concealed spaces
                    3. Waiver of Mechanic's Lien: Submitted from entities lawfully entitled to file a lien for work covered by
                                                                                                                                                                                        E. PROTECTION OF INSTALLED CONSTRUCTION
                    payment including subcontractors, sub-subcontractors, and suppliers for construction period covered by
                                                                                                                                                                                                   1. Provide final protection and maintain conditions that ensure Work is without damage.
previous application.
END OF SECTION 012900
                                                                                                                                                                             END OF SECTION 017300
                                                                                                                                                                              SECTION 017419 - CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL
 SECTION 013100 - PROJECT MANAGEMENT AND COORDINATION
                                                                                                                                                                                      A. Disposing of nonhazardous demolition and construction waste.
 1.1 REQUESTS FOR INFORMATION (RFIs)
          A. RFI Forms: Use AIA Document G716.
                                                                                                                                                                             1.2 WASTE MANAGEMENT
          B. Architect's Action: Allow seven working days for Architect's response for each RFI.
                                                                                                                                                                                       A. Legally dispose of demolition and construction waste.
           C. RFI Log: Maintain a tabular log of RFIs. Submit log weekly. Use CSI Log Form 13.2B.
                                                                                                                                                                                        B. Train workers, subcontractors, and suppliers on proper waste management procedures.
1.2 PROJECT MEETINGS
                                                                                                                                                                             END OF SECTION 017419
         A. Schedule and conduct meetings
                                                                                                                                                                             SECTION 017700 - CLOSEOUT PROCEDURES
         B. Preconstruction conference.
                    1. Preinstallation Conferences: Before each construction activity that requires coordination.
                                                                                                                                                                                        A. Prepare and submit Contractor's list of incomplete items (punch list) prepared on CSI Form 14.1A.
          C. Project Closeout Conference: No later than 30 days prior to the scheduled date of Substantial Completion.
          D. Progress Meetings: At weekly intervals, coordinated with preparation of payment requests.
                                                                                                                                                                                       B. Owner advised of pending insurance changeover.
                                                                                                                                                                                       C. Warranties, maintenance service agreements, and similar documents submitted.
          E. Coordination Meetings: At biweekly intervals, in addition to specific meetings held for other purposes
                                                                                                                                                                                         D. Releases, occupancy permits, and operating certificates submitted.
 SECTION 013200 - CONSTRUCTION PROGRESS DOCUMENTATION
                                                                                                                                                                                        F. Tools, spare parts, and extra materials delivered.
 1.1 INFORMATIONAL SUBMITTALS
                                                                                                                                                                                        G. Final changeover of locks performed.
          A. Format for Submittals: PDF electronic file.
                                                                                                                                                                                        H. Startup testing completed.
                                                                                                                                                                                         I. Test/adjust/balance records submitted
          C. Special Reports: Submit at time of unusual event.
                                                                                                                                                                                        J. Temporary facilities removed.
          D. Updating: At monthly intervals, issued one week before progress meeting.
                                                                                                                                                                                       K. Final cleaning performed.
END OF SECTION 013200

 Touchup performed.

                                                                                                                                                                              1.2 FINAL COMPLETION
 SECTION 013300 - SUBMITTAL PROCEDURES
                                                                                                                                                                                        \hbox{A. Preliminary Procedures: Before requesting final inspection, complete the following:} \\
                                                                                                                                                                                      B. Final Application for Payment submitted.
C. List of incomplete items (punch list) endorsed by Architect as completed or otherwise resolved for acceptance.
 1.1 PROCEDURES
       A. Electronic copies of digital data files of the Contract Drawings will may be provided by Architect for Contractor's
          use. A document release will be required.
                                                                                                                                                                                         D. Evidence of continuing insurance coverage submitted.
                                                                                                                                                                              1.3 SUBMITTAL OF PROJECT WARRANTIES and OPERATION AND MAINTENANCE MANUALS
                   1. Initial Review: 15 days.
                                                                                                                                                                                       A. Partial Occupancy: Submit warranties within 15 days of completion of designated portions of the Work that are
          2. Resubmittal Review: 15 days.
                                                                                                                                                                                        occupied or used by Owner.
                                                                                                                                                                                        B. Organize warranty documents based on Project Manual and bind in heavy-duty, three-ring, vinyl-covered, loose-leaf
          3. Sequential Review: 15 days.
          4. Concurrent Consultant Review: 15 days.
                                                                                                                                                                                       C. Scan warranties and bonds into a single indexed electronic PDF file.
          C. Transmittal Form: AIA Document G810.
                                                                                                                                                                                       D. Scan Operation and Maintenance documentation into a single indexed electronic PDF file.
         D. Submittal Procedures:

    Post as PDF files directly to Architect's email.

                                                                                                                                                                                        A. Cleaning Agents: Comply with Green Seal's GS-37 and California Code of Regulations maximum allowable VOC
                             a. Action Submittals.

 b. Informational Submittals.

                             c. Certificates and Certifications Submittals: Provide a digital signature on electronically
                                                                                                                                                                                       B. Clean each surface or unit to condition expected in an average commercial building cleaning and maintenance
                             submitted certificates and certifications where indicated.
                             d. Delegated-Design Services Certification: In addition to other required submittals, submit
                                                                                                                                                                                         C. Replace disposable air filters and clean permanent air filters.
                             digitally signed PDF electronic file, signed and sealed by the responsible design professional.
                                                                                                                                                                                        D. Clean ducts, blowers, and coils if units were operated without filters during construction.
          E. Contractor's Review:
                                                                                                                                                                              1.5 REPAIR OF THE WORK
                    1. Submittals: Marked with approval stamp before submitting to Architect.
                                                                                                                                                                                       A. Repair or remove and replace defective construction. Where damaged or worn items cannot be repaired or
                                                                                                                                                                                       restored, provide replacements. Restore damaged construction and permanent facilities used during construction to
                    2. Action Submittals: Stamped with an action stamp and returned.
                    3. Informational Submittals: Reviewed but not returned or rejected if they do not comply with requirements.
                                                                                                                                                                             END OF SECTION 017700
                    Incomplete submittals will be returned without review.
                   5. Submittals Not Required: May not be reviewed and may be discarded.
END OF SECTION 013300
                                                                                                                                                                             SECTION 017839 - PROJECT RECORD DOCUMENTS
                                                                                                                                                                                I.1 RECORD DOCUMENTS
SECTION 014000 - QUALITY REQUIREMENTS
                                                                                                                                                                                       A. Record Drawings
                                                                                                                                                                                                  1. Initial Submittal: PDF electronic files.
1.1 QUALITY ASSURANCE
                                                                                                                                                                                                 2. Final Submittal: Record digital file with three plots.
          A. Preconstruction testing.
          B. Mockups: For each form of construction and finish required, using materials indicated for the completed Work.
                                                                                                                                                                                       B. Record Specifications: Annotated PDF electronic files.
                                                                                                                                                                                         C. Record Product Data: Annotated PDF electronic files and directories.
                     1. Demonstrate the proposed range of aesthetic effects and workmanship.
                                                                                                                                                                                         D. Miscellaneous Record Submittals: Annotated PDF electronic files and directories.
                    2. Maintain mockups as a standard for judging the completed Work.
1.2 QUALITY CONTROL
                                                                                                                                                                                       E. Record Digital Data Files: Corrected digital data files of the Contract Drawings, as follows:
          A. Owner Responsibilities: Where indicated as Owner's responsibility, Owner will engage a qualified testing agency to
                                                                                                                                                                                                  1. Format: Annotated PDF electronic file with comment function enabled.
                                                                                                                                                                             END OF SECTION 017839
          perform these services.
         B. Contractor Responsibilities: Tests and inspections not explicitly assigned to Owner are Contractor's responsibility.
                                                                                                                                                                              SECTION 024119 - SELECTIVE DEMOLITION
                    1. Retesting/Reinspecting: Regardless of whether original tests or inspections were Contractor's
                    responsibility, provide quality-control services, including retesting and reinspecting, for construction that
                    replaced Work that failed to comply with the Contract Documents.
                                                                                                                                                                                       A. Submit a list of items that have been removed and salvaged for reuse in project.
END OF SECTION 014000
                                                                                                                                                                                       B. Store and protect in an area designated by the Owner.
```

1.2 FIELD CONDITIONS

1.3 GENERAL

B. Examination:

END OF SECTION 024119

removed under separate contract.

A. Hazardous Materials are not expected. If hazardous materials are encounter notify Architect and Owner. To be

1. Verify that utilities have been disconnected and capped before starting selective demolition.

A. Demolish and remove existing construction only to the extent required by new constriction and as indicated. B. Removal, salvaged and reinstalled Items: As indicated, including, but not limited to: wood door, Hollow Metal

C. Dispose of according to Section 017419 "Construction Waste Management and Disposal."

2. Provide temporary barricades and other protection required to prevent injury to people and damage to

SECTION 033000 - 0 1.1 PRODUCTS	CAST-IN-PLACE CONCRETE	
A. Concre	te General: ACI 301 and ACI 117. titious Materials:	
	Portland Cement: ASTM C150, Type I/II, gray. Fly Ash: ASTM C618, Class C or F.	
	3. Slag Cement: ASTM C989/C989M, Grade 100 or 120. 4. Aggregate: Normal weight. 5. Water.	
C. Mixing:	Project site.	
	essive Strength (28 Days):	
	Slabs-on-Ground: 4000 psi. Concrete Toppings: 4000 psi.	
	nd Slab Finishes:	
1.4 FIELD QUALITY	Trowel Finish: Surfaces exposed to view or to be covered with carpet. CONTROL	
	: By Owner-engaged agency. Inspections: By Owner-engaged special inspector.	
END OF SECTION (
SECTION 033543 - I 1.1 QUALITY ASSUI	POLISHED CONCRETE FINISHING RANCE	
	ample panels.	
	itting flooring.	
A. Reactiv		
C. Penetra	ating stains. ating liquid floor treatment.	
1.4 POLISHING	f Design: Prosoco, Inc Consolideck Polished Concrete System.	
A. Polish: END OF SECTION (Level 2: High sheen, 800 grit. 033543	
SECTION 054000 - 0	COLD FORMED METAL FRAMING	
054000 Cold Formed Manufacturers:		
A. Metal Framing		
	D: www.cemcosteel.com. etrich Building Systems: www.clarkdietrich.com.	
3. Marino:	www.marinoware.com.	
Scafco	pel Network, Inc: www.SteelNetwork.com. Corp.: www.scafoc.com.	
	utions: See Section 01 6000 - Product Requirements.	
1. Same n	ors and Accessories: nanufacturer as metal framing.	
2. Simpso	n Strong Tie: www.strongtie.com. utions: See Section 01 6000 - Product Requirements.	
	The state of the s	
SECTION 055000 - I	METAL FABRICATIONS	
A. Materia	ils: Steel plates, shapes, and bars. aneous Steel Trim:	
	1. Steel angle comer guards.	
C. Anchor	Steel channels. bolts, steel pipe sleeves, slotted-channel inserts, and wedge-type inserts cast into concrete or built	into unit
	reld plates and angles not specified in other Sections, for casting into concrete.	
END OF SECTION (
SECTION 064116 - I 1.1 QUALITY ASSUI	PLASTIC-LAMINATE-CLAD ARCHITECTURAL CABINETS RANCE	
	cturer's Qualifications: AWI's Quality Certification Program licensed participant. ps for typical plastic-laminate cabinets.	
1.2 PLASTIC-LAMIN	IATE-CLAD CABINETS ctural Woodwork Standards Grade: Custom.	
B. Type of	f Construction: Frameless.	
D. Lamina	nd Drawer-Front Style: Flush overlay. te Cladding for Exposed Surfaces:	
	Horizontal Surfaces: Grade HGS. Postformed Surfaces: Grade HGP.	
E. Materia	Vertical Surfaces: Grade VGS. Is for Semiexposed Surfaces: High-pressure decorative laminate, NEMA LD 3, Grade VGS.	
complianc	RLINK "http://www.specagent.com/LookUp/?ulid=5711&mf=04&src=wd" Manufacturers: Subject to e with requirements, provide products as indicated on the drawings – finish schedule.	
	etardant-Treated Materials: Where indicated on Drawings.	
B. Cabinet	t Hardware: 1. Hinges: Frameless, concealed.	
	2. Pulls: 3 inch Tab Drawer Pulls. a. Basis of Design Product: Emtek, Trail, 3 inch Drawer Pulls with 1-3/8 inch projection.	Finish:
	Oil Rubbed Bronze.	. mioil.
	Adjustable shelf supports. Locks: As indicated.	
END OF SECTION (5. Exposed Hardware Finishes: Oil Rubbed Bronze. 064116	
	FIBERGLASS REINFORCED PANELING	
2.01 MANUFACTUR A. Fiberglass Reinford		
•	s, Inc: www.cranecomposites.com.	
3. Nudo Products, In		
2.02 PANEL SYSTE		
A. Wall Panels: 1. Panel Size: 4 by 8		
 Panel Thickness: Surface Design: S 	0.09 inch (2.3 mm).	
4. Color: White.	od: Adhesive only, with trim and sealant in joints.	
2.03 MATERIALS	s reinforced plastic (FRP), complying with ASTM D5319.	
1. Surface Burning C	Characteristics: Maximum flame spread index of 25 and smoke	
2. Impact Strength: 0	50; when system tested in accordance with ASTM E84. Greater than 6 ft lb force per inch (320 J per m), when tested in	
	coordinating with panel.	
C. Fasteners: Extrud		
	ACOUSTICAL INSULATION	
	Attenuation Batts:	
	Glass-Fiber Blanket: Unfaced acoustical insulation complying with ASTM C 665, Type I. Surface Burning Characteristics:	
	a. Maximum flame spread: 10 b. Maximum smoke developed: 10	
	c. When tested in accordance with ASTM E 84. 3. Combustion Characteristics:	
	a. Passes ASTM E 136.	
	4. Fire Resistance Ratings: a. Passes ASTM E 119 as part of a complete fire tested wall assembly. 5. Could Transmission Class CTC 40 Min.	
	5. Sound Transmission Class: STC 49 Min. 6. Dimensional Stability:	
B. Auxiliar	a. Linear Shrinkage less than 0.1% y Insulating Materials:	
	1. Insulation fasteners. 2. Adhesive.	

END OF SECTION 072100

A. 1.3 JOINT S	Product Data NSTRUCTION TESTING
	Low-emitting sealants by Manufacturers. EALANTS
В.	Nonstaining silicone joint sealants. Urethane joint sealants.
	Mildew-resistant joint sealants. Butyl joint sealants. Nondrying, nonskinning, noncuring.
E.	 Use: Bedding joints under metal thresholds and saddles, between metal flashings and other material Latex joint sealants. Paintable, Type OP, Grade NF single component.
F	 Use: Interior wall and ceiling control and expansion joints, joints between door and window frames ar wall surfaces, other interior joints for which no other type is indicated. Joint-sealant backing.
1.4 FIELD Q	UALITY CONTROL Field-adhesion testing.
	CTION 079200
1.1 INTERIO	31113 - HOLLOW METAL DOORS AND FRAMES OR STANDARD STEEL DOORS AND FRAMES
A.	Heavy-Duty Doors and Frames: ANSI/SDI A250.8, Level 2. 1. Face: Factory primed and field finished, minimum thickness 18 ga.
	Edge Construction: Model 1, Full Flush. Core: Manufacturer's standard.
1 2 INCTALL	Frames: Knocked down; Factory primed and field finished, minimum thickness of 14 ga. Exposed Finish: Prime. ATION ATI
1.2 INSTALL A. 1.3 MANUFA	Metal-Stud Partitions: Frames filled with insulation.
A.	Ceco Door Assa Abloy, Assa Abloy Group
C.	Curries Steelcraft, an Allegion Brand
	CTION 081113
	34126.23 - INTERIOR ALL-GLASS ENTRANCES
	Interior, manual-swinging, all-glass entrance systems.
1.2 WARRAI	
B.	Interior All-Glass Entrance Systems: Two years. Concealed Floor Closers: Five years. By MANIJA SWIMCING ALL GLASS ENTRANCE SYSTEMS
	R, MANUAL-SWINGING, ALL-GLASS ENTRANCE SYSTEMS Fitting Configuration: 1. Door Fittings: Patch fittings at head and sill on pivot side only (A-Style)
D	 Door Fittings: Patch fittings at head and sill on pivot side only (A-Style). Sidelight and Transom Fittings: Recessed glazing channel at top, side, and bottom. Fitting Material: Aluminum.
	Accessory Fittings: 1. Overhead doorstop.
	2. Center-housing lock. 3. U-channel.
D.	Door Hardware: 1. Concealed floor closers and top pivots.
	Concealed overhead holder. Bush-pull set.
	Single-door and active-leaf locksets. Inactive-leaf locksets.
	6. Cylinders. 7. Exit devices.
1.4 GLASS	8. Threshold.
A.	Glass: Fully tempered. 1. Class 1, Clear Monolithic: a. Thickness: 12 mm.
1 5 FIFI D O	b. Locations: As indicated. UALITY CONTROL
A.	Inspection Agency: Owner engaged. CTION 084126.23
	37100 - DOOR HARDWARE
1.1 WARRAI	
1.2 MAINTE	NANCE SERVICE Full-Maintenance Service: Six months.
1.3 FIELD Q	UALITY CONTROL Independent Architectural Hardware Consultant: Contractor engaged.
В.	Occupancy Adjustment: After three months. IARDWARE SCHEDULE
END OF SE	CTION 087100
1.1 SUBMIT	
1.2 MATERIA	
A.	Steel Framing: 1. Steel studs and runners, Minimum 20 gauge.
	Double 18 gauge studs at each side of openings. Slip-Type Head Joints, select from the following as indicated or required:
	a. Double runner. b. Deflection track. a. Eigesten track.
	c. Firestop track. d. Flat strap and backing plate.
END OF SE	OTION 000046
	CTION 092216
SECTION 09	22900 - GYPSUM BOARD TALS
SECTION 09 1.1 SUBMIT A. 1.2 MATERIA	22900 - GYPSUM BOARD TALS Product Data. ALS
SECTION 09 1.1 SUBMIT A. 1.2 MATERIA	22900 - GYPSUM BOARD TALS Product Data. ALS Interior Gypsum Board, select from the following as indicated: 1. Gypsum board, Type 'X'.
SECTION 09 1.1 SUBMIT A. 1.2 MATERIA	22900 - GYPSUM BOARD TALS Product Data. ALS Interior Gypsum Board, select from the following as indicated: 1. Gypsum board, Type 'X'.
SECTION 09 1.1 SUBMIT A. 1.2 MATERIA	D2900 - GYPSUM BOARD TALS Product Data. ALS Interior Gypsum Board, select from the following as indicated: 1. Gypsum board, Type 'X'. a. Paper faced gypsum panels as defined in ASTM C1396/C1396M; sizes to minimize joints place; ends square cut.
SECTION 09 1.1 SUBMIT A. 1.2 MATERI A.	D2900 - GYPSUM BOARD TALS Product Data. ALS Interior Gypsum Board, select from the following as indicated: 1. Gypsum board, Type 'X'. a. Paper faced gypsum panels as defined in ASTM C1396/C1396M; sizes to minimize joints place; ends square cut. b. Vertical and Horizontal Applications. 2. Backing for Wet Areas. a. Mold Resistance: score of 10 when tested in accordance with ASTM D3273. b. Glass mat faced board. c. Fire resistant type 'X' core.
SECTION 0S 1.1 SUBMIT A. 1.2 MATERI. A.	22900 - GYPSUM BOARD TALS Product Data. ALS Interior Gypsum Board, select from the following as indicated: 1. Gypsum board, Type 'X'. a. Paper faced gypsum panels as defined in ASTM C1396/C1396M; sizes to minimize joints place; ends square cut. b. Vertical and Horizontal Applications. 2. Backing for Wet Areas. a. Mold Resistance: score of 10 when tested in accordance with ASTM D3273. b. Glass mat faced board. c. Fire resistant type 'X' core. Trim Accessories: 1. Interior.
SECTION 09 1.1 SUBMIT A. 1.2 MATERI A. B. 1.3 MANUFA	20200 - GYPSUM BOARD TALS Product Data. ALS Interior Gypsum Board, select from the following as indicated: 1. Gypsum board, Type 'X'. a. Paper faced gypsum panels as defined in ASTM C1396/C1396M; sizes to minimize joints place; ends square cut. b. Vertical and Horizontal Applications. 2. Backing for Wet Areas. a. Mold Resistance: score of 10 when tested in accordance with ASTM D3273. b. Glass mat faced board. c. Fire resistant type 'X' core. Trim Accessories: 1. Interior. ACTURERS American Gypsum Company
B. 1.3 MANUFA A. B. C.	22900 - GYPSUM BOARD TALS Product Data. ALS Interior Gypsum Board, select from the following as indicated: 1. Gypsum board, Type 'X'. a. Paper faced gypsum panels as defined in ASTM C1396/C1396M; sizes to minimize joints place; ends square cut. b. Vertical and Horizontal Applications. 2. Backing for Wet Areas. a. Mold Resistance: score of 10 when tested in accordance with ASTM D3273. b. Glass mat faced board. c. Fire resistant type 'X' core. Trim Accessories: 1. Interior. ACTURERS American Gypsum Company LightRoc and FireBlock USG Corporation
B. 1.3 MANUFA A. B. C. D. E.	22900 - GYPSUM BOARD TALS Product Data. ALS Interior Gypsum Board, select from the following as indicated: 1. Gypsum board, Type 'X'. a. Paper faced gypsum panels as defined in ASTM C1396/C1396M; sizes to minimize joints place; ends square cut. b. Vertical and Horizontal Applications. 2. Backing for Wet Areas. a. Mold Resistance: score of 10 when tested in accordance with ASTM D3273. b. Glass mat faced board. c. Fire resistant type 'X' core. Trim Accessories: 1. Interior. ACTURERS American Gypsum Company LightRoc and FireBlock USG Corporation Sheetrock Georgia Pacific Gypsum
B. 1.3 MANUFA A. B. C. D. E. G. G.	20200 - GYPSUM BOARD TALS Product Data. ALS Interior Gypsum Board, select from the following as indicated: 1. Gypsum board, Type 'X'. a. Paper faced gypsum panels as defined in ASTM C1396/C1396M; sizes to minimize joints place; ends square cut. b. Vertical and Horizontal Applications. 2. Backing for Wet Areas. a. Mold Resistance: score of 10 when tested in accordance with ASTM D3273. b. Glass mat faced board. c. Fire resistant type 'X' core. Trim Accessories: 1. Interior. ACTURERS American Gypsum Company LightRoc and FireBlock USG Corporation Sheetrock Georgia Pacific Gypsum DensShield Tile Backer National Gypsum Company
B. 1.3 MANUFA A. B. C. D. E. F. G. H.	Product Data. ALS Interior Gypsum Board, select from the following as indicated: 1. Gypsum board, Type 'X'. a. Paper faced gypsum panels as defined in ASTM C1396/C1396M; sizes to minimize joints place; ends square cut. b. Vertical and Horizontal Applications. 2. Backing for Wet Areas. a. Mold Resistance: score of 10 when tested in accordance with ASTM D3273. b. Glass mat faced board. c. Fire resistant type 'X' core. Trim Accessories: 1. Interior. ACTURERS American Gypsum Company LightRoc and FireBlock USG Corporation Sheetrock Georgia Pacific Gypsum DensShield Tile Backer
B. 1.3 MANUFA A. B. C. D. E. F. G. H. END OF SECTION 09	Product Data. ALS Interior Gypsum Board, select from the following as indicated: 1. Gypsum board, Type 'X'. a. Paper faced gypsum panels as defined in ASTM C1396/C1396M; sizes to minimize joints place; ends square cut. b. Vertical and Horizontal Applications. 2. Backing for Wet Areas. a. Mold Resistance: score of 10 when tested in accordance with ASTM D3273. b. Glass mat faced board. c. Fire resistant type 'X' core. Trim Accessories: 1. Interior. ACTURERS American Gypsum Company LightRoc and FireBlock USG Corporation Sheetrock Georgia Pacific Gypsum DensShield Tile Backer National Gypsum Company Gold Bond eXP Tile Backer CTION 092900 3013 - CERAMIC TILING
B. 1.3 MANUFA A. B. C. D. E. END OF SECTION 09 1.1 TILE PRO	22900 - GYPSUM BOARD TALS Product Data. ALS Interior Gypsum Board, select from the following as indicated: 1. Gypsum board, Type 'X'. a. Paper faced gypsum panels as defined in ASTM C1396/C1396M; sizes to minimize joints place; ends square cut. b. Vertical and Horizontal Applications. 2. Backing for Wet Areas. a. Mold Resistance: score of 10 when tested in accordance with ASTM D3273. b. Glass mat faced board. c. Fire resistant type 'X' core. Trim Accessories: 1. Interior. ACTURERS American Gypsum Company LightRoc and FireBlock USG Corporation Sheetrock Georgia Pacific Gypsum DensShield Tile Backer National Gypsum Company Gold Bond eXP Tile Backer CTION 092900 20013 - CERAMIC TILING ODUCTS Tile Types: Refer to finish schedule.
B. 1.3 MANUFA A. B. C. D. E. END OF SECTION 09 1.1 TILE PRO	Display to the company LightRoc and FireBlock USG Corporation Sheetrock Georgia Pacific Gypsum Company LightRoc and FireBlock USG Corporation Sheetrock Georgia Pacific Gypsum DensShield Tile Backer National Gypsum Company Gold Bond eXP Tile Backer CTION 092900 Displays Trobes Sheetrock Composition: Refer to finish schedule. 1. Basis-of-Design Product: Refer to finish schedule. 1. Basis-of-Design Product: Refer to finish schedule. 2. Composition: Refer to finish schedule.
B. 1.3 MANUFA A. B. C. D. E. F. G. H. END OF SEC SECTION 09 1.1 TILE PRI A.	22900 - GYPSUM BOARD TALS Product Data. ALS Interior Gypsum Board, select from the following as indicated: 1. Gypsum board, Type 'X'. a. Paper faced gypsum panels as defined in ASTM C1396/C1396M; sizes to minimize joints place; ends square cut. b. Vertical and Horizontal Applications. 2. Backing for Wet Areas. a. Mold Resistance: score of 10 when tested in accordance with ASTM D3273. b. Glass mat faced board. c. Fire resistant type 'X' core. Trim Accessories: 1. Interior. ACTURERS American Gypsum Company LightRoc and FireBlock USG Corporation Sheetrock Georgia Pacific Gypsum DensShield Tile Backer National Gypsum Company Gold Bond eXP Tile Backer CTION 092900 2013 - CERAMIC TILING ODUCTS Tile Types: Refer to finish schedule. 1. Basis-of-Design Product: Refer to finish schedule. 2. Composition: Refer to finish schedule for additional information.
B. 1.3 MANUFA A. B. C. D. E. F. G. H. END OF SEC SECTION 09 1.1 TILE PRI A. 1.2 ACCESS A. B.	22900 - GYPSUM BOARD TALS Product Data. ALS Interior Gypsum Board, select from the following as indicated: 1. Gypsum board, Type 'X'. a. Paper faced gypsum panels as defined in ASTM C1396/C1396M; sizes to minimize joints place; ends square cut. b. Vertical and Horizontal Applications. 2. Backing for Wet Areas. a. Mold Resistance: score of 10 when tested in accordance with ASTM D3273. b. Glass mat faced board. c. Fire resistant type 'X' core. Trim Accessories: 1. Interior. ACTURERS American Gypsum Company LightRoc and FireBlock USG Corporation Sheetrock Georgia Pacific Gypsum DensShield Tile Backer National Gypsum Company Gold Bond eXP Tile Backer CTION 092900 2013 - CERAMIC TILING ODUCTS Tile Types: Refer to finish schedule. 1. Basis-of-Design Product: Refer to finish schedule. 2. Composition: Refer to finish schedule. 3. Description: Refer to finish schedule for additional information. CORY MATERIALS Crack Isolation Membrane: Polyethylene sheet. Metal edge strips.
B. 1.3 MANUFA A. B. C. D. E. F. G. HEND OF SECTION 09 1.1 TILE PRI A. 1.2 ACCESS A. B. 1.3 INTERIO	29900 - GYPSUM BOARD TALS Product Data. ALS Interior Gypsum Board, select from the following as indicated: 1. Gypsum board, Type 'X'. a. Paper faced gypsum panels as defined in ASTM C1396/C1396M; sizes to minimize joints place; ends square cut. b. Vertical and Horizontal Applications. 2. Backing for Wet Areas. a. Mold Resistance: score of 10 when tested in accordance with ASTM D3273. b. Glass mat faced board. c. Fire resistant type 'X' core. Trim Accessories: 1. Interior. ACTURERS American Gypsum Company LightRoc and FireBlock USG Corporation Sheetrock Georgia Pacific Gypsum DensShield Tile Backer National Gypsum Company Gold Bond eXP Tile Backer CITION 092900 3013 - CERAMIC TILING DDUCTS Tile Types: Refer to finish schedule. 1. Basis-of-Design Product: Refer to finish schedule. 2. Composition: Refer to finish schedule for additional information. SORY MATERIALS Crack Isolation Membrane: Polyethylene sheet. Metal edge strips. RTILE INSTALLATION SCHEDULE Interior Walls, Wood or Metal Studs or Furring:
B. 1.3 MANUFA A. B. C. D. E. F. G. H. END OF SEC SECTION 09 1.1 TILE PR A. 1.2 ACCESS A. B. 1.3 INTERIO A.	Dayson - Gypsum Board, select from the following as indicated: 1. Gypsum board, Type 'X'. a. Paper faced gypsum panels as defined in ASTM C1396/C1396M; sizes to minimize joints in place; ends square cut. b. Vertical and Horizontal Applications. 2. Backing for Wet Areas. a. Mold Resistance: score of 10 when tested in accordance with ASTM D3273. b. Glass mat faced board. c. Fire resistant type 'X' core. Trim Accessories: 1. Interior. ACTURERS American Gypsum Company LightRoc and FireBlock USG Corporation Sheetrock Georgia Pacific Gypsum DensShield Tile Backer National Gypsum Company Gold Bond eXP Tile Backer CTION 092900 3013 - CERAMIC TILING ODUCTS Tile Types: Refer to finish schedule. 1. Basis-of-Design Product: Refer to finish schedule. 2. Composition: Refer to finish schedule for additional information. SORY MATERIALS Crack Isolation Membrane: Polyethylene sheet. Metal edge strips. Br TILE INSTALLATION SCHEDULE

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SECTION 096513 - RESILIENT BASE AND ACCESSORIES
  1.1 PRODUCTS
            A. Resilient Base: Thermoset rubber
                    1. Style and Location:

 a. Sculptured: In areas indicated

                    2. Minimum Thickness: 0.125 inch.
                    3. Height: 4 inches.
                    4. Outside Corners: Job formed or preformed.
                   5. Inside Corners: Job formed or preformed.
          B. Resilient Accessories: Rubber.
                    1. Transition strips.
          C. Installation Materials:
                     1. Trowelable leveling and patching compounds.
                    Adhesives.
END OF SECTION 096513
 SECTION 099123 - INTERIOR PAINTING
1.1 QUALITY ASSURANCE
          A. Mockups for each color and finish.
 1.2 SUSTAINABILITY REQUIREMENTS
          A. Low-emitting paints and coatings.
1.3 PAINT, GENERAL
          A. MPI-listed products.
 1. Gypsum Flat Finish (Ceilings and Ceiling Clouds):
           Sherwin Williams Extra White SW7006
           Primer: ProMar 200 Zero Primer, 0g/l
           1st Coat: ProMar 200 Zero VOC Flat, 0g/l
           2nd Coat: ProMar 200 Zero VOC Flat, 0g/l
2. Gypsum Eggshell Finish (Interior Walls):
           Sherwin Williams Extra White SW7006
           Primer: ProMar 200 Zero Primer, 0g/l
           1st Coat: ProMar 200 Zero VOC eggshell, 0g/l
           2nd Coat: ProMar 200 Zero VOC eggshell, 0g/l
 3. Gypsum Epoxy, Eggshell Finish (Restroom, Kitchen and Janitor Walls):
           Sherwin Williams Extra White SW7006
          Primer: ProMar 200 Zero Primer, 0g/l
           1st Coat: ProIndustrial Water-Based Epoxy, 0g
           2nd Coat: ProIndustrial Water-Based Epoxy, 0g/l
END OF SECTION 099123
  SECTION 101423 - PANEL SIGNAGE
 1.1 SUSTAINABILITY REQUIREMENTS

 A. Low-emitting adhesives.

  1.2 PANEL SIGNS
          A. Panel Sign: Sign with exposed edges.
                     1. Composite Phenolic-Core Sign: Solid phenolic core with subsurface graphic image.
                   2. Mounting: Surface mounted with adhesive or two-face tape.
           A. Field-Applied, Vinyl-Character Sign: Prespaced characters die cut from adhesive-backed, weather-resistant vinyl
          film; field applied to substrate.
END OF SECTION 101423
SECTION 101423.16 - ROOM-IDENTIFICATION PANEL SIGNAGE
 1.1 SUSTAINABILITY REQUIREMENTS
         A. Low-emitting adhesives.
          A. Room-Identification Sign: Sign system with frame.
                   1. Laminated-Sheet Sign: Photopolymer sheet with raised graphics.
                             a. Graphics: Photo image with changeable insert.
                     2. Mounting: Surface mounted with concealed anchors or magnetic tape.
                     3. Text and Typeface: Accessible raised characters and Braille.
END OF SECTION 101423.16
   Ceiling Hung Toilet Compartments: sheet steel faces, pressure bonded to sound deadening core, formed and closed edges,
  corners made with corner clips or mitered, welded and ground smooth, powder coat smooth finish to match steel window system
          Door and Panel face: 22 ga
            Pilaster Face: 18 ga
            Internal Reinforcement: provide in areas of attached hardware and fittings.
           Door and Panel Thickness: 1"
           Door Width: 24"
           Door Width for Handicap: 36"
           Urinal Screens: Wall mount with continuous panel brackets
 SECTION 10 2800 - TOILET, BATH, AND UTILITY ACCESSORIES
          Commercial Toilet and Utility Accessories:
                    American Specialties, Inc: www.americanspecialties.com
                    Bradley Corporation: www.bradleycorp.com.
                     Bobrick Washroom Equipment, Inc: www.bobrick.com.
                     Substitutions: Section 01 6000 - Product Requirements.
2.03 COMMERCIAL TOILET ACCESSORIES
           Toilet Paper Dispenser: Double roll, surface mounted bracket type, stainless steel, eccentric-shaped plastic spindle
 for 1/2 revolution delivery designed to prevent theft of tissue roll.
                   Acceptable Product: B-2888 manufactured by Bobrick.
        Combination Towel Dispenser/Waste Receptacle: Recessed with projecting waste receptacle, stainless steel;
 seamless beveled wall flanges, removable waste receptacle locked into cabinet.
                    Towel dispenser capacity: 600 C-fold or 800 multifold.
                    Waste receptacle capacity: 12 gallons (45 liters).
                   Acceptable Product: B-3944 manufactured by Bobrick
           Soap Dispenser: Liquid soap dispenser, deck-mounted on lavatory, with polyethylene container concealed below
  deck; piston and 4 inch (100 mm) spout of stainless steel with bright polished finish; chrome-plated deck escutcheon.
                   Minimum Capacity: 20 ounces (0.6 liter).
                   Acceptable Product: B-221 manufactured by Bobrick
        Mirrors: Stainless steel framed, 1/4 inch (6 mm) thick annealed float glass; ASTM C1036.
                     Annealed Float Glass: Silvering, protective and physical characteristics in compliance with HYPERLINK
            "http://global.ihs.com/doc_detail.cfm?rid=BSD&document_name=ASTM C1503" ASTM C1503.
                    Size: 24 inches wide x 36 inches high.
                  Frame: 0.05 inch (1.3 mm)angle shapes, with mitered and welded and ground corners, and tamperproof
            hanging system; satin finish.
                   Backing: Full-mirror sized, minimum 0.03 inch (0.8 mm) galvanized steel sheet and nonabsorptive filler
           5. Shelf: Stainless steel; gage and finish to match mirror frame, turned down edges, welded to frame; 5
           inches (125 mm) deep, full width of mirror.
                  Acceptable Product: B-292 manufactured by Bobrick.
          Seat Cover Dispenser: Stainless steel, surface-mounted, reloading by concealed opening at base, tumbler lock.
                  Minimum capacity: 250 seat covers.

Acceptable Product: B-221 manufactured by Bobrick.
          Grab Bars: Stainless steel, nonslip grasping surface finish.
                   Standard Duty Grab Bars:
                  Push/Pull Point Load: 250 pound-force (1112 N), minimum.
                 Dimensions: 1-1/4 inch (32 mm) outside diameter, minimum 0.05 inch (1.3 mm) wall thickness, concealed
           flange mounting, 1-1/2 inch (38 mm) clearance between wall and inside of grab bar.
                   Length and Configuration: As indicated on drawings.
                   Acceptable Product: B-5806 Series manufactured by Bobrick.
        Sanitary Napkin Disposal Unit: Stainless steel, surface-mounted, self-closing door, locking bottom panel with full-
length stainless steel piano-type hinge, removable receptacle.
                   Acceptable Product: B-254 manufactured by Bobrick.
2.04 UTILITY ROOM ACCESSORIES
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Mop and Broom Holder: 0.05 inch (1.3 mm) thick stainless steel, Type 304, hat-shaped channel.

Owner Selected and Provided. Layouts shown in plan for design intent and MEP coordination.

Length: Manufacturer's standard length for number of holders.

Holders: 4 spring-loaded rubber cam holders.

123600 Countertops and Millwork

Acceptable Product: B-223 manufactured by Bobrick.





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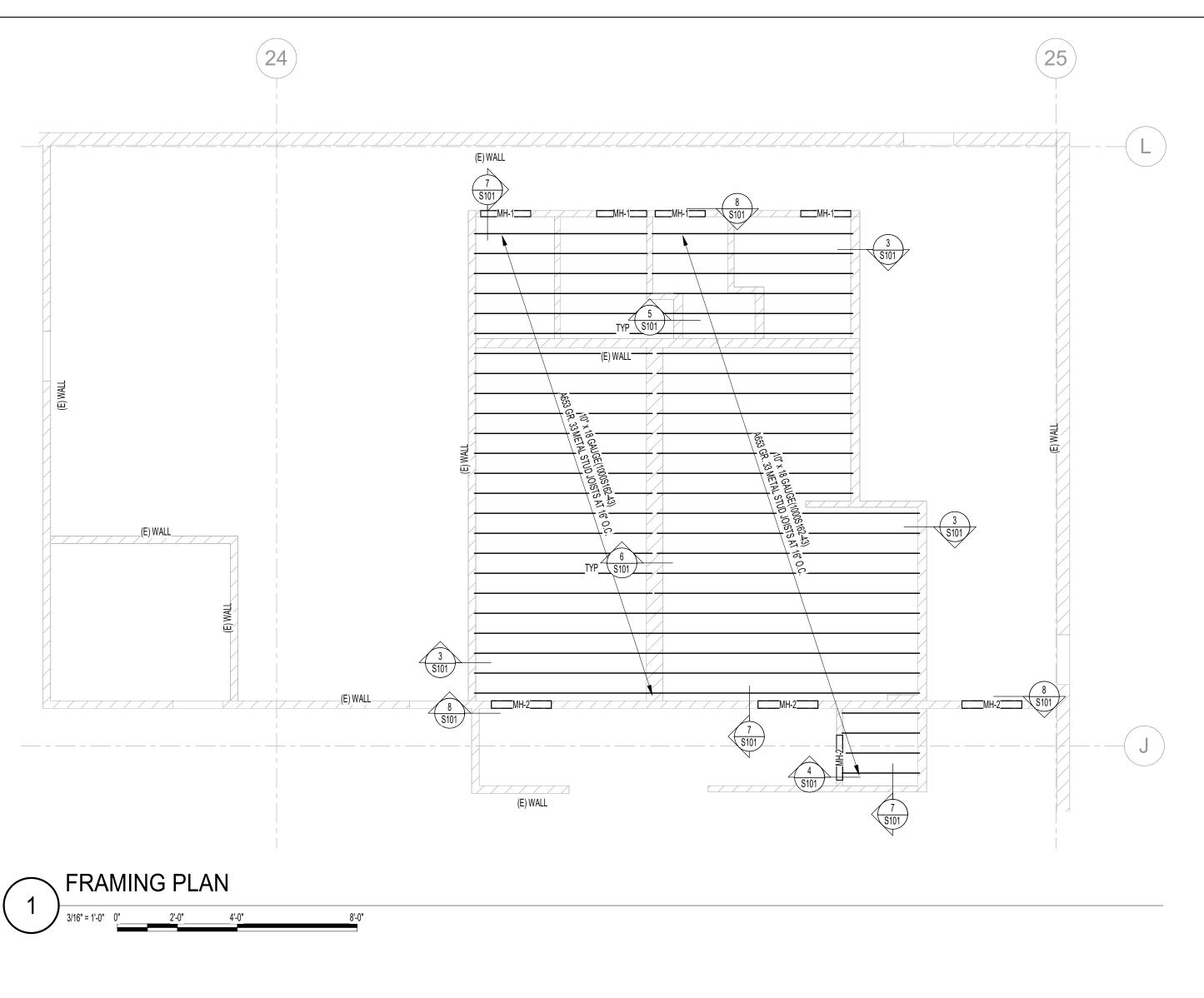
02.03.25

BID SET

SPECIFICATIONS

A601

ANY ITEMS NOT SPECIFIED IN THIS SECTION SHALL BE COORDINATED WITH THE ARCHITECT



HEADER/JAMB SCHEDULE

COMMENTS

JAMB TYPE HEADER TYPE

H1

H2

1. ATTACH ALL COMPONENTS TOGETHER WITH #10 SCREWS AT 6" O.C. OR ATTACH COMPONENTS 18 GA OR HIGHER WITH 1/8" x 1" FILLET

STUDS SHALL BE A MINIMUM OF 1.5/8" WIDE WITH A 3/8" MINIMUM RETURN LIP. JAMB STUD TO MATCH WALL STUD.

JAMB TYPES

JAMB TYPE 'J1'

HEADER TYPES

JAMB STUD, NOTE 3

TRACK, NOTE 4 -

(2) 600T125-54

HEADER TYPE 'H2'

SCREWS SHALL PENETRATE THROUGH FRAMING MEMBER WITH AT LEAST THREE THREADS.

SEE GENERAL STRUCTURAL NOTES FOR ADDITIONAL REQUIREMENTS.

TRACKS SHALL BE A MINIMUM OF 1.1/4" WIDE. TRACK GAUGE AND DEPTH TO MATCH WALL STUD.

CONDITION

METAL STUD

METAL STUD

HEADER/JAMB NOTES:

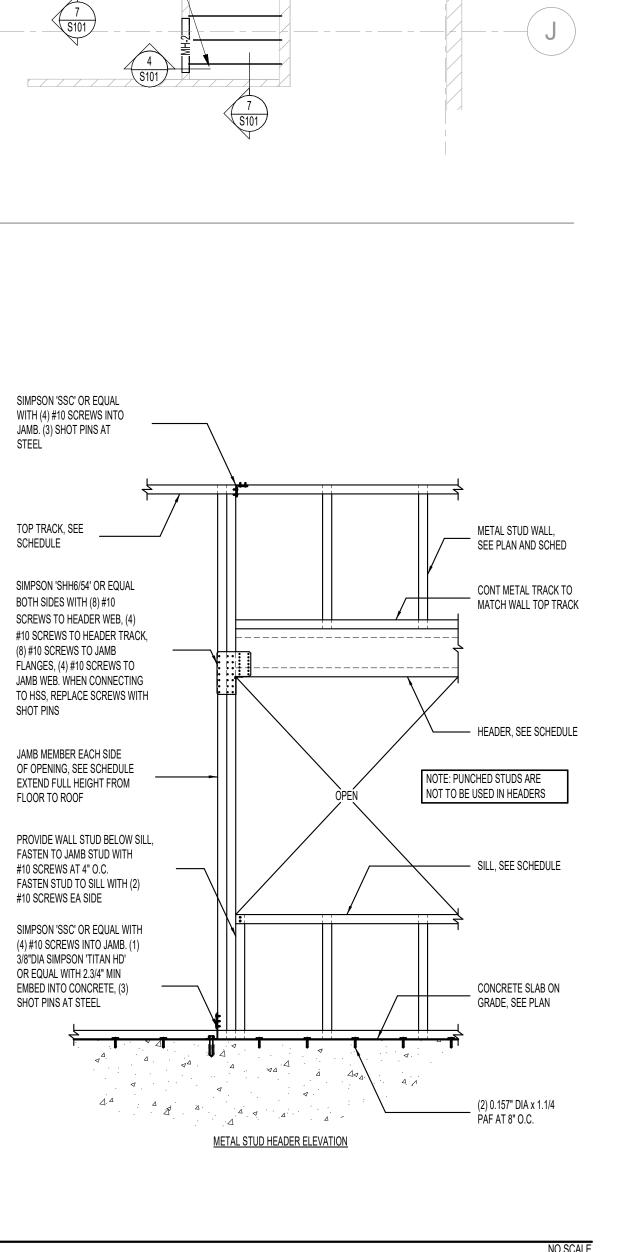
WELDS AT 12" O.C.

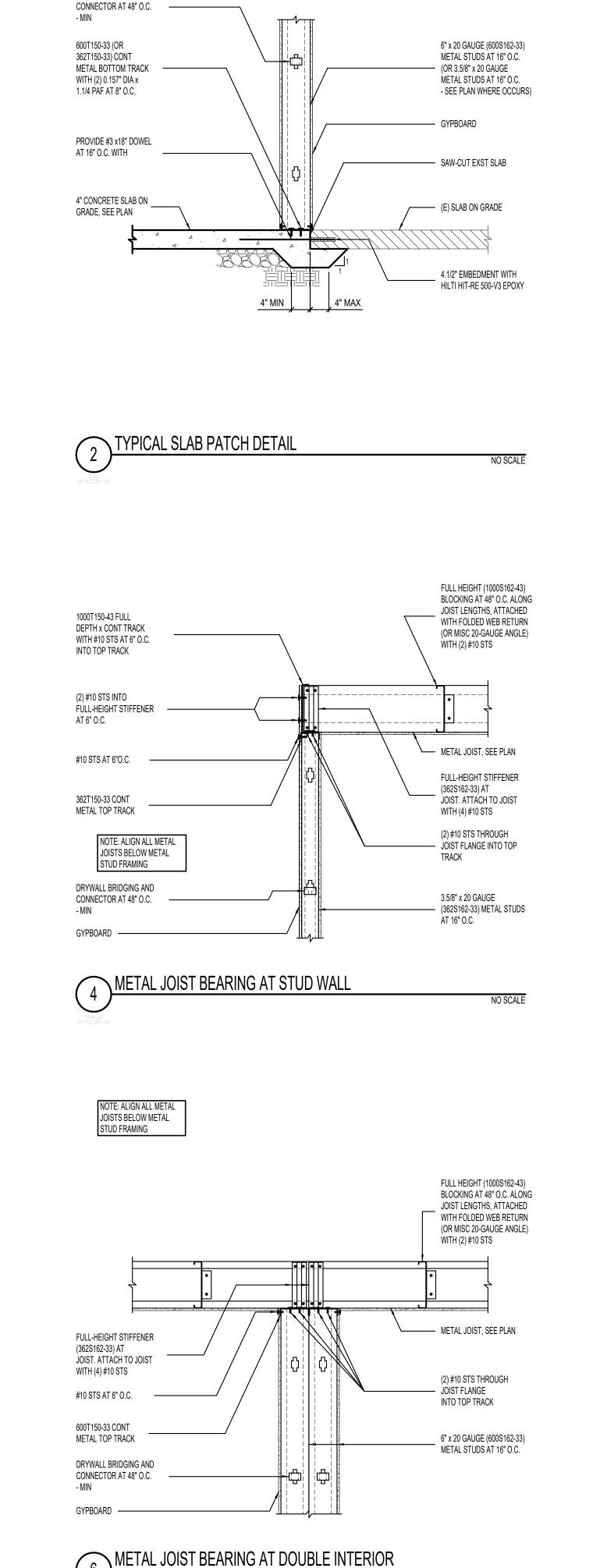
TRACK, NOTE 4 -

HEADER TYPE 'H1'

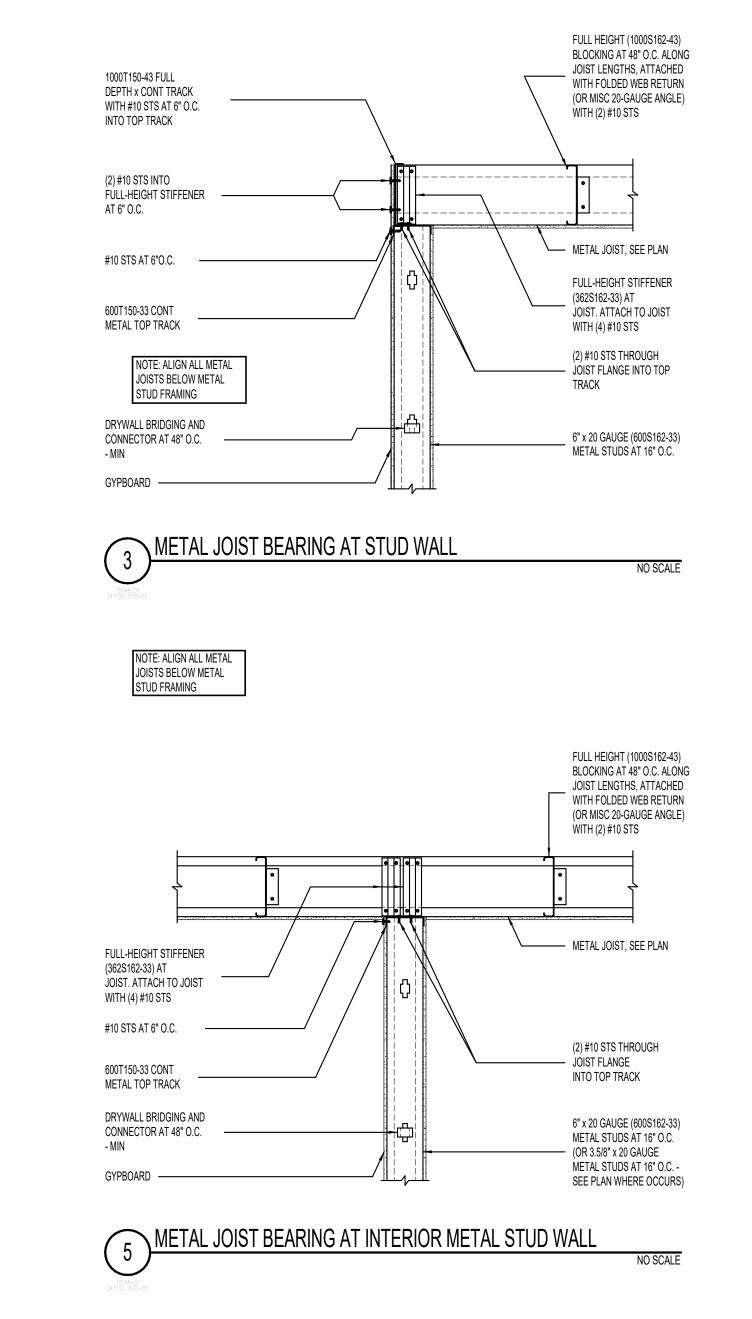
STEEL HEADER/JAMB SCHEDULE

(2) 362T125-54





DRYWALL BRIDGING AND



1000T150-43 FULL

INTO TOP TRACK

(2) #10 STS INTO

#10 STS AT 6"O.C.

600T150-33 CONT

METAL TOP TRACK

NOTE: ALIGN ALL METAL

BLOCK BEARING AT STUD WALL

JOISTS BELOW METAL

STUD FRAMING

DRYWALL BRIDGING AND

CONNECTOR AT 48" O.C.

AT 6" O.C.

FULL-HEIGHT STIFFENER

DEPTH x CONT TRACK

WITH #10 STS AT 6" O.C.



FULL HEIGHT (1000S162-43)

JOIST LENGTHS, ATTACHED

WITH FOLDED WEB RETURN

(OR MISC 20-GAUGE ANGLE)

WITH (2) #10 STS

- METAL JOIST, SEE PLAN

FULL-HEIGHT STIFFENER

JOIST. ATTACH TO JOIST

(2) #10 STS THROUGH

- JOIST FLANGE INTO TOP

METAL STUDS AT 16" O.C.

- (OR 3.5/8" x 20 GAUGE

(362S162-33) AT

WITH (4) #10 STS

TRACK

BLOCKING AT 48" O.C. ALONG

ا

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No. 5150049-2202

FRAMING PLAN

S101

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02.03.25

BID SET

SYMBOL LEGEND - PIPING					
NOTE: ALL ABBREVIATION	IS MAY NOT BE USED.				
SYMBOL	DESCRIPTION				
\bowtie	SHUT OFF VALVE				
X	GATE VALVE				
	CHECK VALVE				
×	AUTOMATIC 2-WAY VALVE				
	AUTOMATIC 3-WAY VALVE				
\bowtie	GLOBE VALVE				
Φ	BALL VALVE				
	RELIEF VALVE				
	PRESSURE REDUCING VALVE				
	BUTTERFLY VALVE				
<u>s</u>	SOLENOID VALVE				
	ANGLE VALVE				
	VENTURI VALVE				
\boxtimes	BALANCING OR PLUG COCK				
\boxtimes	FLOW SETTER				
\otimes	EXPANSION VALVE				
$\overline{\downarrow}$	GAS COCK				
∑MAV	MANUAL AIR VENT				
\bar{\bar{\bar{\bar{\bar{\bar{\bar{	STRAINER				
О1	GAUGE COCK				
	FLEXIBLE CONNECTION				
9	PRESSURE GAUGE				
	THERMOMETER				
->-	PIPE REDUCER				
<u></u>	REFRIGERANT SITE GLASS				
	REFRIGERANT STRAINER				
1	REFRIGERANT FILTER DRIER				
	90 DEGREE ELBOW UP				
———э	90 DEGREE ELBOW DOWN				
	90 DEGREE TEE UP				
	90 DEGREE TEE DOWN				
	PIPE UNION				
	PIPE CAP				
——————————————————————————————————————	PIPE ANCHOR				
	FLOAT AND THERMOSTATIC TRAP				

S	MBOL LEGEND - MISC
F	REFERENCE LINES AND SYMBOLS
SYMBOL	DESCRIPTION
<u>-</u>	VIEW OR DETAIL INDICATOR: # INDICATES DETAIL NUMBER, SHEET INDICATES DRAWING SHEET WHERE VIEW OR DETAIL IS SHOWN.
<u>(1)</u>	ELEVATION OR SECTION INDICATOR: # INDICATES VIEW NUMBER, SHEET INDICATES DRAWING SHEET WHERE VIEW IS SHOWN.
NAME ###	ROOM / SPACE INDICATOR
#	KEYNOTE INDICATOR
<u>_</u> #	REVISION INDICATOR
(XX-##)	PLUMBING FIXTURE INDICATOR
XX-##>	EQUIPMENT INDICATOR
TAG CFM	REGISTER, GRILLE, OR DIFFUSER INDICATOR
→ OR ∽	BREAKLINE
MATCH LINE SEE XX/XXX	MATCHLINE INDICATOR
	CONTRACT LIMIT LINE: DASHDOT, WIDE LINE
•	NEW CONNECTION TO EXISTING
	POINT OF DEMOLITION

SYMBOL	DESCRIPTION
	RECTANGULAR SUPPLY DUCT UP
	RECTANGULAR SUPPLY DUCT DOWN
	RECTANGULAR RETURN DUCT UP
	RECTANGULAR RETURN DUCT DOWN
	RECTANGULAR EXHAUST DUCT UP
	RECTANGULAR EXHAUST DUCT DOWN
	ROUND SUPPLY DUCT UP
	ROUND SUPPLY DUCT DOWN
	ROUND RETURN DUCT UP
	ROUND RETURN DUCT DOWN
	ROUND EXHAUST DUCT UP
	ROUND EXHAUST DUCT DOWN
	OVAL SUPPLY DUCT UP
	OVAL SUPPLY DUCT DOWN
	OVAL RETURN DUCT UP
	OVAL RETURN DUCT DOWN
	OVAL EXHAUST DUCT UP
	OVAL EXHAUST DUCT DOWN
	SPIRAL OVAL DUCT
	SPIRAL ROUND DUCT
	DUCT INSULATION
	DUCT LINING
	90° RECTANGULAR ELBOW WITH TURNING VANES
	90° ROUND RADIUS ELBOW
	GORED OVAL RADIUS ELBOW
	DUCT SIZE OR SHAPE TRANSITION
<u> </u>	DUCT TO BE DEMOLISHED

SYMBOL LEGEND - DUCTWORK

NOTE: ALL ABBREVIATIONS MAY NOT BE USED.

P	PIPING LEGEND				
NOTE:	NOTE: ALL ABBREVIATIONS MAY NOT BE USED.				
ABBREVIATION	DESCRIPTION				
CHWR	CHILLED WATER RETURN				
CHWS	CHILLED WATER SUPPLY				
———CA———	COMPRESSED AIR				
——CD——	CONDENSATE DRAIN				
C02	CARBON DIOXIDE				
CWR	CONDENSER WATER RETURN				
CWS	CONDENSER WATER SUPPLY				
——FP——	FIRE PROTECTION				
——FOR——	FUEL OIL RETURN				
——FOS——	FUEL OIL SUPPLY				
——FOV——	FUEL OIL VENT				
———GR———	GLYCOL RETURN				
——GS——	GLYCOL SUPPLY				
——НРС	HIGH PRESSURE CONDENSATE				
——MPC——	MEDIUM PRESSURE CONDENSATE				
——LPC——	LOW PRESSURE CONDENSATE				
——HPS——	HIGH PRESSURE STEAM				
——MPS———	MEDIUM PRESSURE STEAM				
——LPS——	LOW PRESSURE STEAM				
——HHWR——	HEATING HOT WATER RETURN				
——HHWS——	HEATING HOT WATER SUPPLY				
——LPG——	LIQUID PROPANE GAS				
——MA——	MEDICAL AIR				
——NG——	NATURAL GAS				
NO	NITROUS OXIDE				
O	OXYGEN				
——PC——	PUMPED CONDENSATE				
RG	REFRIGERANT GAS				
——RL——	REFRIGERANT LIQUID				
——SMR——	SNOW MELT RETURN				
SMS	SNOW MELT SUPPLY				
——VAC——	VACUUM				

SYMBOL LEG	SEND - MECH					
NOTE: ALL ABBREVIATION	NOTE: ALL ABBREVIATIONS MAY NOT BE USED.					
SYMBOL	DESCRIPTION					
	SQUARE OR RECTANGULAR SUPPLY DIFFUSER					
	SQUARE OR RECTANGULAR RETURN DIFFUSER					
	SQUARE OR RECTANGULAR EXHAUST DIFFUSER					
	ROUND DIFFUSER					
	LINEAR SLOT GRILLE OR DIFFUSER					
	FLEXIBLE DUCT					
	SIDEWALL GRILLE OR REGISTER					
	DUCT HIGH EFFICIENCY TAKE OFF WITH BALANCING DAMPER					
	BALANCING DAMPER					
	FIRE DAMPER					
	FIRE / SMOKE COMBINATION DAMPER					
	THERMOSTAT - SENSOR - HUMIDISTAT					

	ABBREVIATIONS
	NOTE: ALL ABBREVIATIONS MAY NOT BE USED
(E) (F)	EXISTING FUTURE
(F) AC	AIR CONDITION(-ING,-ED)
APD	AIR PRESSURE DROP
BD	BALANCING DAMPER
HP	BRAKE HORSE POWER
TU TUH	BRITISH THERMAL UNIT BTU/HOUR
CFH	CUBIC FEET PER HOUR
CFM	CUBIC FEET PER MINUTE
CV	CONTROL VALVE
DB DOW	DRY BULB TEMPERATURE
DCW DHW	DOMESTIC COLD WATER DOMESTIC HOT WATER
DHWR	DOMESTIC HOT WATER RECIRC
OP	DEPTH, DEEP, OR DROP IN PRESSURE
EA	EXHAUST AIR
EER EFF	ENERGY EFFICIENCY RATIO EFFICIENCY
ELEC	ELECTRIC
ELEV	ELEVATION
ENT	ENTERING
EVAP	EVAPORAT(-E, -ING, -ED, -OR)
EWT EXT	ENTERING WATER TEMPERATURE EXTERNAL
=X I =D	FIRE DAMPER
FLA	FULL LOAD AMPS
FPI	FINS PER INCH
FPM	FEET PER MINUTE
FPS FSD	FEET PER SECOND FIRE SMOKE DAMPER
GE	GREASE EXHAUST
GPH	GALLONS PER HOUR
GPM	GALLONS PER MINUTE
HD	HEAD
HG HP	MERCURY HORSEPOWER
ir IR	HOUR
HTG	HEATING
ΗZ	HERTZ (FREQUENCY)
N	INCH
<w ₋AT</w 	KILOWATT LEAVING AIR TEMPERATURE
LBS	POUNDS
_H	LATENT HEAT
_RA	LOCKED ROTOR AMPS
_VG	LEAVING
.WT ИВН	LEAVING WATER TEMPERATURE THOUSAND BTU PER HOUR
MCA	MINIMUM CIRCUIT AMPS
MFR	MANUFACTUR(-ER, -ED)
NC	NORMALLY CLOSED OR NOISE CRITERIA
NIC NO	NOT IN CONTRACT
NO NPSH	NORMALLY OPEN NET POSITIVE SUCTION HEAD
NTS	NOT TO SCALE
DA	OUTSIDE AIR
OD	OUTSIDE DIAMETER
DZ DD	OUNCE
PD PG	PRESSURE DROP OR DIFFERENCE PROPOLENE GLYCOL
PH	PHASE
PPM	PARTS PER MILLION
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PSIA PSIG	PSI ABSOLUTE PSI GAUGE
PSIG RA	PSI GAUGE RETURN AIR
RECIRC	RECIRCULATE (-ER, -ED, -ING)
REFR	REFRIGERATION
REQD	REQUIRED
RLA	RATED LOAD AMPS
RPM SA	REVOLUTIONS PER MINUTE SUPPLY AIR
SCFM	STANDARD CUBIC FEET PER MINUTE
SCW	SOFT COLD WATER
SH	SENSIBLE HEAT
SP SPEC(S)	STATIC PRESSURE
SPEC(S) SQ	SPECIFICATION(S) SOLIARE
SQ SS	SQUARE SANITARY SEWER, SOIL, WASTE
STD	STANDARD
ГА	TRANSFER AIR
ΓD	TEMP. DROP OR DIFF.
ГЕМР	TEMPERATURE
OT	TOTAL
STAT YP	THERMOSTAT TYPICAL
11P V	VOLT VOLTAGE OR VENT

VOLT, VOLTAGE OR VENT

VARIABLE FREQUENCY DRIVE

VARIABLE AIR VOLUME

VENT, VENTILATION

VENT THROUGH ROOF WET BULB TEMP

WATER PRESSURE DROP

WATER COLUMN

WATER GAUGE

WATER

VACUUM

VELOCITY

VERTICAL

VAC

VAV

VEL

VENT

VERT

VFD

VOL VTR

WPD

WTR

MECHANICAL GENERAL NOTES

- 1. THE MECHANICAL DRAWINGS SHOW THE GENERAL DESIGN, ARRANGEMENT, & EXTENT OF THE MECHANICAL SYSTEM. BECAUSE OF THE SMALL SCALE OF THE DRAWINGS, THESE DRAWINGS DO NOT SHOW ALL OFFSETS, BENDS, OR ELBOWS NECESSARY FOR THE COMPLETE INSTALLATION IN THE SPACE PROVIDED. CONTRACTOR SHALL MAKE ALTERATIONS AS MAY BE NECESSARY TO MAKE THE SYSTEM COMPLETE & OPERATIONAL IN ACCORDANCE WITH THE DESIGN INTENT.
- 2. MAJOR DEVIATIONS SUCH AS CHANGES IN SIZES, WEIGHTS, QUANTITIES, OR MATERIAL REQUIRE PRIOR APPROVAL BY THE DESIGN ENGINEER.
- 3. THE DRAWINGS & SPECIFICATIONS HAVE BEEN PREPARED TO SUPPLEMENT EACH OTHER & SHALL BE INTERPRETED AS AN INTEGRAL UNIT WITH THE ITEMS SHOWN ON ONE & NOT THE OTHER BEING FURNISHED & INSTALLED AS THOUGH SHOWN AND CALLED OUT IN BOTH DOCUMENTS.
- 4. THE ENTIRE MECHANICAL INSTALLATION SHALL CONFORM TO THE REQUIREMENTS OF THE MOST RECENTLY ADOPTED BUILDING CODES, MECHANICAL CODE, PLUMBING CODE, ELECTRICAL CODE, & ALL OTHER APPLICABLE CITY, COUNTY, STATE, & FEDERAL CODES & REGULATIONS IN
- 5. THE ENTIRE MECHANICAL INSTALLATION SHALL CONFORM TO ALL CODES,
 BUILES REGULATIONS & REQUIREMENTS OF THE BUILDING OWNER
- RULES, REGULATIONS, & REQUIREMENTS OF THE BUILDING OWNER.

 6. ALL MECHANICAL COMPONENTS AND EQUIPMENT SHALL BE INSTALLED TO
- CONFORM WITH ANY APPLICABLE LOCAL SEISMIC REQUIREMENTS.

 7. PRIOR TO FABRICATION & INSTALLATION OF ANY MECHANICAL COMPONENT THE CONTRACTOR SHALL COORDINATE THE INSTALLATION OF ALL MECHANICAL WORK WITH ALL OTHER BUILDING TRADES, INCLUDING BUILDING TRADES HIRED DIRECTLY BY THE OWNER. WHERE CONFLICTS MAY OCCUR, THEY SHALL BE RESOLVED PRIOR TO INSTALLATION.
- MAY OCCUR, THEY SHALL BE RESOLVED PRIOR TO INSTALLATION.

 VERIFY ALL REQUIRED SERVICE CONNECTIONS, INCLUDING ELECTRICAL CHARACTERISTICS, FOR ALL EQUIPMENT PRIOR TO ORDERING OR FABRICATING MECHANICAL EQUIPMENT AND COMPONENTS.
- 9. THE SPACE ABOVE CEILINGS IS LIMITED. CAREFUL COORDINATION IS REQUIRED WITH ALL TRADES BEFORE ANY PIPE, DUCT, OR EQUIPMENT IS ORDERED &/OR INSTALLED. ANY CONFLICTS &/OR CHANGES FOUND DURING INSTALLATION THAT RESULTS FROM THE LACK OF COORDINATION BY THE CONTRACTORS DURING THE SHOP DRAWING PROCESS ARE THE RESPONSIBILITY OF THE CONTRACTOR.
- 10. ALL MECHANICAL INFORMATION IS NOT SHOWN ON THE MECHANICAL DRAWINGS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION OF ALL INFORMATION ON ALL OTHER CONSTRUCTION DOCUMENTS.
 11. THE CONTRACTOR SHALL BE RESPONSIBLE TO REVIEW & USE, WHERE
- APPROPRIATE, ALL THE MECHANICAL DETAILS SHOWN ON THE DRAWINGS.
 DETAILS MAY OR MAY NOT BE CALLED OUT ON THE DRAWINGS WITH
 SYMBOLS OR KEYED NOTES. ANY CHANGES RESULTING FROM FAILURE TO
 INSTALL THE MECHANICAL SYSTEM WITHOUT USING THE INCLUDED DETAILS
 SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
- 12. ALL EQUIPMENT SHALL BE INDEPENDENTLY SUPPORTED FROM STRUCTURAL MEMBERS. STRUCTURAL ELEMENTS SHOWN IN DETAILS MAY OR MAY NOT PERTAIN TO ANY PORTION OF THE BUILDING. COORDINATE ALL MOUNTING REQUIREMENTS WITH ARCHITECTURAL & STRUCTURAL DRAWINGS AND SPECIFICATIONS.
- 13. ALL MECHANICAL COMPONENTS AND EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH ALL MANUFACTURER RECOMMENDATIONS.
- 14. ALL SIMILAR EQUIPMENT SHALL BE OF THE SAME MANUFACTURER. AIR INLETS & OUTLETS OF SIMILAR TYPES SHALL BE OF THE SAME MANUFACTURER.
- 15. ANY PART OF THE MECHANICAL INSTALLATION THAT FAILS, IS DEEMED UNFIT, OR BECOMES DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED OR REPLACED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR EQUIPMENT CHECK-IN, SAFEKEEPING, & DAMAGE.
- 16. COORDINATE WITH ARCHITECTURAL REFLECTED CEILING PLAN FOR EXACT LOCATION OF ALL CEILING DIFFUSERS & GRILLES.
- 17. CONTRACTOR SHALL OPERATE INSTALLED &/OR MODIFIED SYSTEMS & DEMONSTRATE ALL ASPECTS OF THE SYSTEM TO THE ENGINEER &/OR OWNER TO PROVE ALL ASSOCIATED SYSTEMS ARE OPERATIONAL.
- 18. DURING CONSTRUCTION THE CONTRACTOR SHALL MAINTAIN A SET OF ASBUILT REDLINED RECORD DRAWINGS AT THE PROJECT SITE. ALL CHANGES OR DEVIATIONS IN LAYOUT, ROUTING, EQUIPMENT, COMPONENTS, & ACCESSORIES SHALL BE RECORDED. THESE REDLINED DRAWINGS SHALL BE GIVEN TO THE ARCHITECT / ENGINEER AFTER THE FINAL INSPECTION IN ACCORDANCE WITH PROJECT SPECIFICATIONS.
- 19. ALL DUCT ELBOWS SHALL BE LONG RADIUS, UNLESS NOTED OTHERWISE.

DEFINITIONS

NOTE: ALL DEFINITIONS MAY NOT BE USED.

INDICATED: THE TERM "INDICATED" REFERS TO GRAPHIC REPRESENTATIONS, NOTES, OR SCHEDULES ON THE DRAWINGS, OTHER PARAGRAPHS OR SCHEDULES IN THE SPECIFICATIONS, AND SIMILAR REQUIREMENTS IN THE CONTRACT DOCUMENTS. WHERE TERMS SUCH AS "SHOWN", "NOTED", "SCHEDULED", AND "SPECIFIED" ARE USED, IT IS TO HELP THE READER LOCATE THE REFERENCE, NO LIMITATION ON LOCATION IS INTENDED.

DIRECTED: TERMS SUCH AS "DIRECTED", "REQUESTED", AUTHORIZED", "SELECTED", "APPROVED", "REQUIRED", AND "PERMITTED" MEAN "DIRECTED BY THE ENGINEER", "REQUESTED BY THE ENGINEER", AND SIMILAR PHRASES.

APPROVED: THE TERM "APPROVED", WHERE USED IN CONJUNCTION WITH THE ENGINEER'S ACTION ON THE CONTRACTOR'S SUBMITTALS, APPLICATIONS, AND REQUESTS, IS LIMITED TO THE ENGINEER'S DUTIES AND RESPONSIBILITIES AS STATED IN GENERAL AND SUPPLEMENTARY CONDITIONS.

FURNISH: THE TERM "FURNISH" IS USED TO MEAN "SUPPLY AND DELIVER TO THE PROJECT SITE, READY FOR UNLOADING, UNPACKING, ASSEMBLY, INSTALLATION, AND SIMILAR OPERATIONS."

INSTALL: THE TERM "INSTALL" IS USED TO DESCRIBE OPERATIONS AT PROJECT SITE INCLUDING THE ACTUAL "UNLOADING, UNPACKING, ASSEMBLY, ERECTION, PLACING, ANCHORING, APPLYING, WORKING TO DIMENSION, FINISHING, CURING, PROTECTING, CLEANING, AND SIMILAR OPERATIONS."

PROVIDE: THE TERM "PROVIDE" MEANS "TO FURNISH AND INSTALL, COMPLETE AND READY FOR THE INTENDED USE."

INSTALLER: AN "INSTALLER" IS THE CONTRACTOR OR AN ENTITY ENGAGED BY THE CONTRACTOR, EITHER AS AN EMPLOYEE, SUBCONTRACTOR, OR SUBSUBCONTRACTOR, FOR PERFORMANCE OF A PARTICULAR CONSTRUCTION ACTIVITY, INCLUDING INSTALLATION, ERECTION, APPLICATION, AND SIMILAR OPERATIONS. INSTALLERS ARE REQUIRED TO BE EXPERIENCED IN THE OPERATIONS THEY ARE ENGAGED TO PERFORM.

MECHANICAL SHEET INDEX

E001	MECHANICAL COVER SHEET
D101	LEVEL 1 MECHANICAL DEMO PLAN
H101	LEVEL 1 MECHANICAL PLAN
E501	MECHANICAL DETAILS
E601	MECHANICAL SCHEDULES

ARCHITECTS, INC

175 WEST 900 SOUTH SLC, UT 84101 801.322.2724 WWW.ATLASARCHITECTS.COM

SPECTRUM

324 S. State St., Suite 400

Salt Lake City, UT 84111

800-678-7077

801-328-5151

fax: 801-328-5155

www.spectrum-engineers.com

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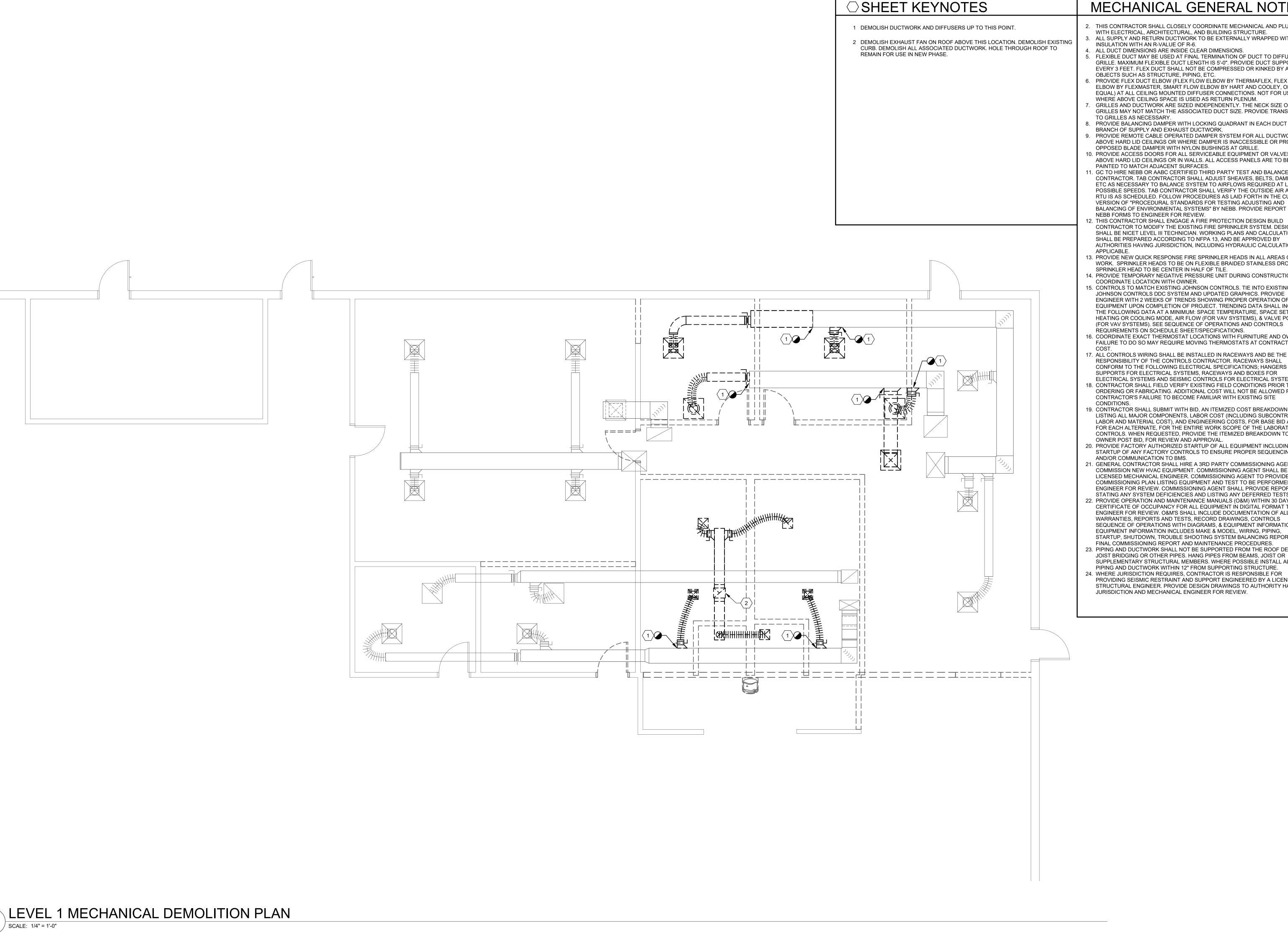
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MECHANICAL COVER SHEET





MECHANICAL GENERAL NOTES

- 2. THIS CONTRACTOR SHALL CLOSELY COORDINATE MECHANICAL AND PLUMBING WITH ELECTRICAL, ARCHITECTURAL, AND BUILDING STRUCTURE.
- ALL SUPPLY AND RETURN DUCTWORK TO BE EXTERNALLY WRAPPED WITH INSULATION WITH AN R-VALUE OF R-6.
- ALL DUCT DIMENSIONS ARE INSIDE CLEAR DIMENSIONS. 5. FLEXIBLE DUCT MAY BE USED AT FINAL TERMINATION OF DUCT TO DIFFUSER OR GRILLE. MAXIMUM FLEXIBLE DUCT LENGTH IS 5'-0". PROVIDE DUCT SUPPORTS EVERY 3 FEET. FLEX DUCT SHALL NOT BE COMPRESSED OR KINKED BY ANY
- 6. PROVIDE FLEX DUCT ELBOW (FLEX FLOW ELBOW BY THERMAFLEX, FLEX RIGHT ELBOW BY FLEXMASTER, SMART FLOW ELBOW BY HART AND COOLEY, OR EQUAL) AT ALL CEILING MOUNTED DIFFUSER CONNECTIONS. NOT FOR USE WHERE ABOVE CEILING SPACE IS USED AS RETURN PLENUM.
- GRILLES AND DUCTWORK ARE SIZED INDEPENDENTLY. THE NECK SIZE OF GRILLES MAY NOT MATCH THE ASSOCIATED DUCT SIZE. PROVIDE TRANSITION
- 8. PROVIDE BALANCING DAMPER WITH LOCKING QUADRANT IN EACH DUCT BRANCH OF SUPPLY AND EXHAUST DUCTWORK.
- 9. PROVIDE REMOTE CABLE OPERATED DAMPER SYSTEM FOR ALL DUCTWORK ABOVE HARD LID CEILINGS OR WHERE DAMPER IS INACCESSIBLE OR PROVIDE OPPOSED BLADE DAMPER WITH NYLON BUSHINGS AT GRILLE.
- 10. PROVIDE ACCESS DOORS FOR ALL SERVICEABLE EQUIPMENT OR VALVES ABOVE HARD LID CEILINGS OR IN WALLS. ALL ACCESS PANELS ARE TO BE PAINTED TO MATCH ADJACENT SURFACES.
- 11. GC TO HIRE NEBB OR AABC CERTIFIED THIRD PARTY TEST AND BALANCE (TAB) CONTRACTOR. TAB CONTRACTOR SHALL ADJUST SHEAVES, BELTS, DAMPERS, ETC AS NECESSARY TO BALANCE SYSTEM TO AIRFLOWS REQUIRED AT LOWEST POSSIBLE SPEEDS. TAB CONTRACTOR SHALL VERIFY THE OUTSIDE AIR AT EACH RTU IS AS SCHEDULED. FOLLOW PROCEDURES AS LAID FORTH IN THE CURRENT VERSION OF "PROCEDURAL STANDARDS FOR TESTING ADJUSTING AND BALANCING OF ENVIRONMENTAL SYSTEMS" BY NEBB. PROVIDE REPORT ON
- 12. THIS CONTRACTOR SHALL ENGAGE A FIRE PROTECTION DESIGN BUILD CONTRACTOR TO MODIFY THE EXISTING FIRE SPRINKLER SYSTEM. DESIGNER SHALL BE NICET LEVEL III TECHNICIAN. WORKING PLANS AND CALCULATIONS SHALL BE PREPARED ACCORDING TO NFPA 13, AND BE APPROVED BY AUTHORITIES HAVING JURISDICTION, INCLUDING HYDRAULIC CALCULATIONS IF
- 13. PROVIDE NEW QUICK RESPONSE FIRE SPRINKLER HEADS IN ALL AREAS OF WORK. SPRINKLER HEADS TO BE ON FLEXIBLE BRAIDED STAINLESS DROPS. SPRINKLER HEAD TO BE CENTER IN HALF OF TILE.
- 14. PROVIDE TEMPORARY NEGATIVE PRESSURE UNIT DURING CONSTRUCTION. COORDINATE LOCATION WITH OWNER.
- 15. CONTROLS TO MATCH EXISTING JOHNSON CONTROLS. TIE INTO EXISTING JOHNSON CONTROLS DDC SYSTEM AND UPDATED GRAPHICS. PROVIDE ENGINEER WITH 2 WEEKS OF TRENDS SHOWING PROPER OPERATION OF EQUIPMENT UPON COMPLETION OF PROJECT. TRENDING DATA SHALL INCLUDE THE FOLLOWING DATA AT A MINIMUM: SPACE TEMPERATURE, SPACE SET POINT, HEATING OR COOLING MODE, AIR FLOW (FOR VAV SYSTEMS), & VALVE POSITION (FOR VAV SYSTEMS). SEE SEQUENCE OF OPERATIONS AND CONTROLS REQUIREMENTS ON SCHEDULE SHEET/SPECIFICATIONS.
- 16. COORDINATE EXACT THERMOSTAT LOCATIONS WITH FURNITURE AND OWNER. FAILURE TO DO SO MAY REQUIRE MOVING THERMOSTATS AT CONTRACTORS
- 17. ALL CONTROLS WIRING SHALL BE INSTALLED IN RACEWAYS AND BE THE RESPONSIBILITY OF THE CONTROLS CONTRACTOR. RACEWAYS SHALL CONFORM TO THE FOLLOWING ELECTRICAL SPECIFICATIONS; HANGERS AND SUPPORTS FOR ELECTRICAL SYSTEMS, RACEWAYS AND BOXES FOR
- ELECTRICAL SYSTEMS AND SEISMIC CONTROLS FOR ELECTRICAL SYSTEMS. 18. CONTRACTOR SHALL FIELD VERIFY EXISTING FIELD CONDITIONS PRIOR TO ORDERING OR FABRICATING. ADDITIONAL COST WILL NOT BE ALLOWED FOR CONTRACTOR'S FAILURE TO BECOME FAMILIAR WITH EXISTING SITE
- LISTING ALL MAJOR COMPONENTS, LABOR COST (INCLUDING SUBCONTRACTOR LABOR AND MATERIAL COST), AND ENGINEERING COSTS, FOR BASE BID AND FOR EACH ALTERNATE, FOR THE ENTIRE WORK SCOPE OF THE LABORATORY CONTROLS. WHEN REQUESTED, PROVIDE THE ITEMIZED BREAKDOWN TO THE OWNER POST BID. FOR REVIEW AND APPROVAL.
- 20. PROVIDE FACTORY AUTHORIZED STARTUP OF ALL EQUIPMENT INCLUDING STARTUP OF ANY FACTORY CONTROLS TO ENSURE PROPER SEQUENCING AND/OR COMMUNICATION TO BMS.
- 21. GENERAL CONTRACTOR SHALL HIRE A 3RD PARTY COMMISSIONING AGENT TO COMMISSION NEW HVAC EQUIPMENT. COMMISSIONING AGENT SHALL BE LICENSED MECHANICAL ENGINEER. COMMISSIONING AGENT TO PROVIDE COMMISSIONING PLAN LISTING EQUIPMENT AND TEST TO BE PERFORMED TO ENGINEER FOR REVIEW. COMMISSIONING AGENT SHALL PROVIDE REPORT STATING ANY SYSTEM DEFICIENCIES AND LISTING ANY DEFERRED TESTS
- 22. PROVIDE OPERATION AND MAINTENANCE MANUALS (O&M) WITHIN 30 DAYS OF CERTIFICATE OF OCCUPANCY FOR ALL EQUIPMENT IN DIGITAL FORMAT TO ENGINEER FOR REVIEW. O&M'S SHALL INCLUDE DOCUMENTATION OF ALL WARRANTIES, REPORTS AND TESTS, RECORD DRAWINGS, CONTROLS SEQUENCE OF OPERATIONS WITH DIAGRAMS, & EQUIPMENT INFORMATION EQUIPMENT INFORMATION INCLUDES MAKE & MODEL, WIRING, PIPING, STARTUP, SHUTDOWN, TROUBLE SHOOTING SYSTEM BALANCING REPOR FINAL COMMISSIONING REPORT AND MAINTENANCE PROCEDURES.
- 23. PIPING AND DUCTWORK SHALL NOT BE SUPPORTED FROM THE ROOF DECK JOIST BRIDGING OR OTHER PIPES. HANG PIPES FROM BEAMS, JOIST OR SUPPLEMENTARY STRUCTURAL MEMBERS. WHERE POSSIBLE INSTALL ALL PIPING AND DUCTWORK WITHIN 12" FROM SUPPORTING STRUCTURE.
- WHERE JURISDICTION REQUIRES, CONTRACTOR IS RESPONSIBLE FOR PROVIDING SEISMIC RESTRAINT AND SUPPORT ENGINEERED BY A LICENSED STRUCTURAL ENGINEER. PROVIDE DESIGN DRAWINGS TO AUTHORITY HAVING JURISDICTION AND MECHANICAL ENGINEER FOR REVIEW.

RTLRS ARCHITECTS, INC

175 WEST 900 SOUTH SLC, UT 84101 801.322.2724 WWW.ATLASARCHITECTS.COM

SPECTRUM ENGINEERS 324 S. State St., Suite 400 Salt Lake City, UT 84111 800-678-7077

801-328-5151 fax: 801-328-5155 www.spectrum-engineers.com

02.03.25

BID SET

LEVEL 1 MECHANICAL DEMO PLAN

MD101

SHEET KEYNOTES 1 ADJUST EXISTING DIFFUSER TO ALIGN WITH NEW CEILING GRID. REMOVE, CLEAN, AND REINSTALL DIFFUSERS.

- CLEAN, AND REINSTALL DIFFUSERS.
- 2 EXISTING DUCTWORK UP TO EXISTING RTU.
- 3 EA DUCTWORK UP TO ROOFTOP EXHAUST FAN EF-3. INSTALL WITH NEW CURB. USE EXISTING HOLE THROUGH ROOF IN THIS LOCATION FOR PENETRATION IF POSSIBLE. SEE EF-3 IN EXHAUST FAN SCHEDULE FOR ADDITIONAL INFORMATION.
- 4 EA DUCTWORK UP THROUGH ROOF. TERMINATE WITH MANUFACTURER'S CAP.

MECHANICAL GENERAL NOTES

- 2. THIS CONTRACTOR SHALL CLOSELY COORDINATE MECHANICAL AND PLUMBING WITH ELECTRICAL, ARCHITECTURAL, AND BUILDING STRUCTURE.
- 3. ALL SUPPLY AND RETURN DUCTWORK TO BE EXTERNALLY WRAPPED WITH INSULATION WITH AN R-VALUE OF R-6.
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 ALL DUCT DIMENSIONS ARE INSIDE CLEAR DIMENSIONS.
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- EVERY 3 FEET. FLEX DUCT SHALL NOT BE COMPRESSED OR KINKED BY ANY OBJECTS SUCH AS STRUCTURE, PIPING, ETC.

 6. PROVIDE FLEX DUCT ELBOW (FLEX FLOW ELBOW BY THERMAFLEX, FLEX RIGHT ELBOW BY FLEXMASTER, SMART FLOW ELBOW BY HART AND COOLEY, OR
- EQUAL) AT ALL CEILING MOUNTED DIFFUSER CONNECTIONS. NOT FOR USE WHERE ABOVE CEILING SPACE IS USED AS RETURN PLENUM.

 7. GRILLES AND DUCTWORK ARE SIZED INDEPENDENTLY. THE NECK SIZE OF GRILLES MAY NOT MATCH THE ASSOCIATED DUCT SIZE. PROVIDE TRANSITION
- TO GRILLES AS NECESSARY.

 8. PROVIDE BALANCING DAMPER WITH LOCKING QUADRANT IN EACH DUCT

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RTLRS

ARCHITECTS, INC

175 WEST 900 SOUTH

SLC, UT 84101

801.322.2724

WWW.ATLASARCHITECTS.COM

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324 S. State St., Suite 400
Salt Lake City, UT 84111

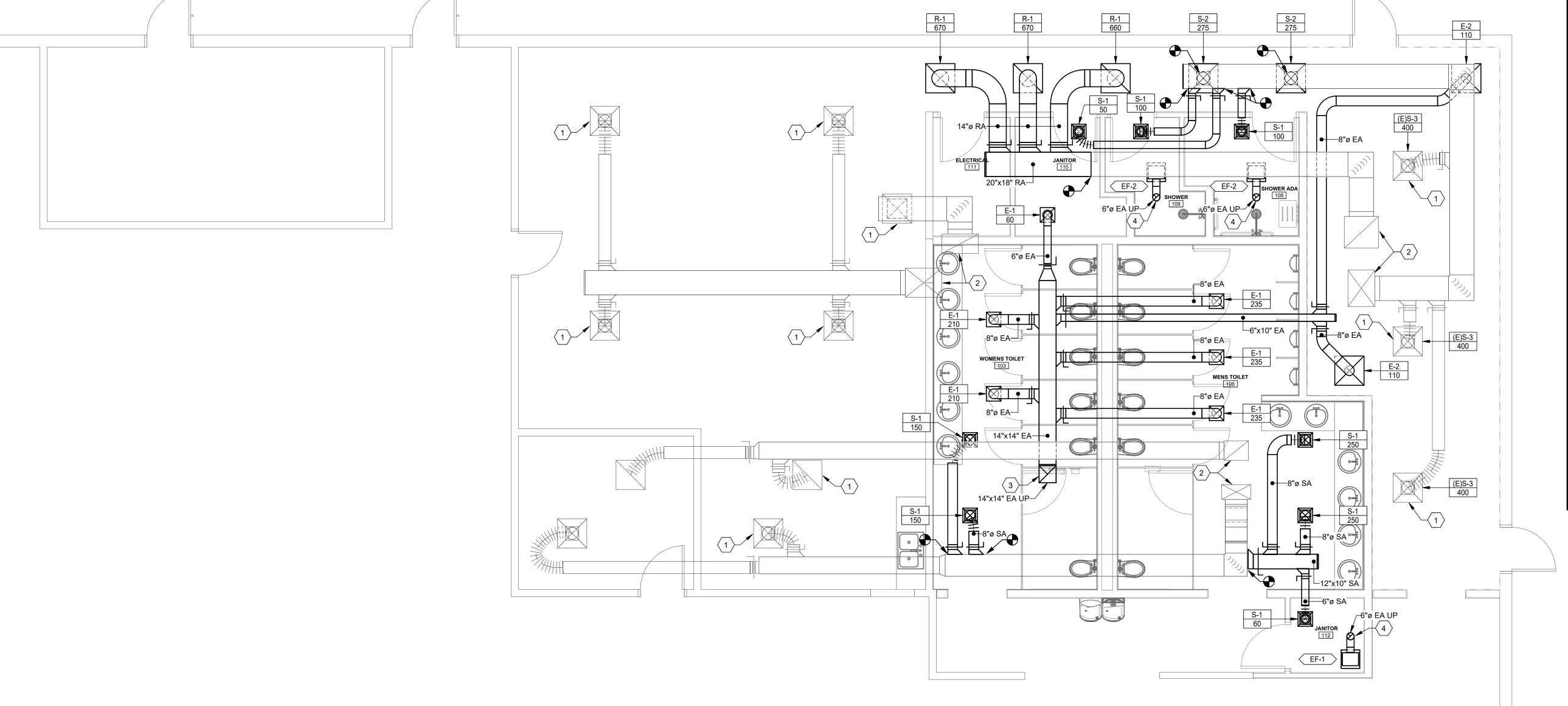
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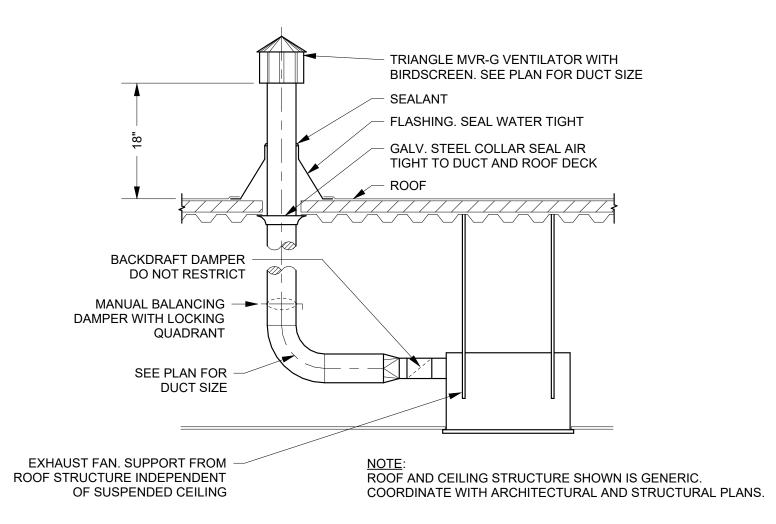
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LEVEL 1 MECHANICAL PLAN

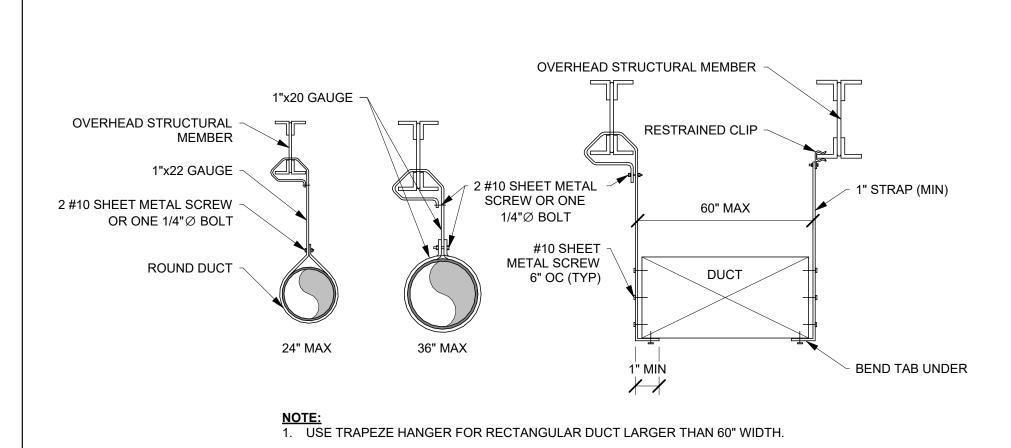


1. ALL TURNING VANES SHALL BE SINGLE VANE TYPE REGARDLESS OF DIMENSION. 2. ALL SINGLE VANES SHALL HAVE A 2 INCH RADIUS, 1 INCH MAXIMUM SPACE BETWEEN VANES AND A 3/4 INCH TRAILING EDGE.

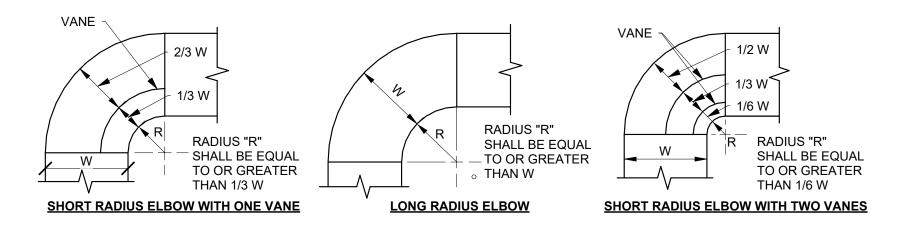
DUCT ELBOW - SQUARE DETAIL SCALE: NTS







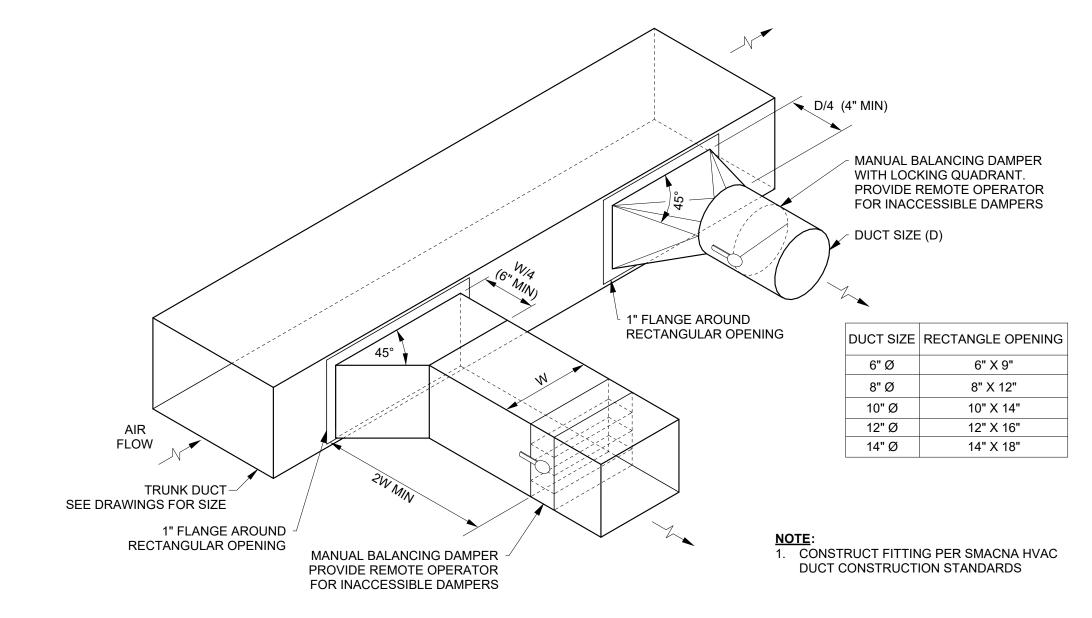
DUCT HANGERS (COMBINED)



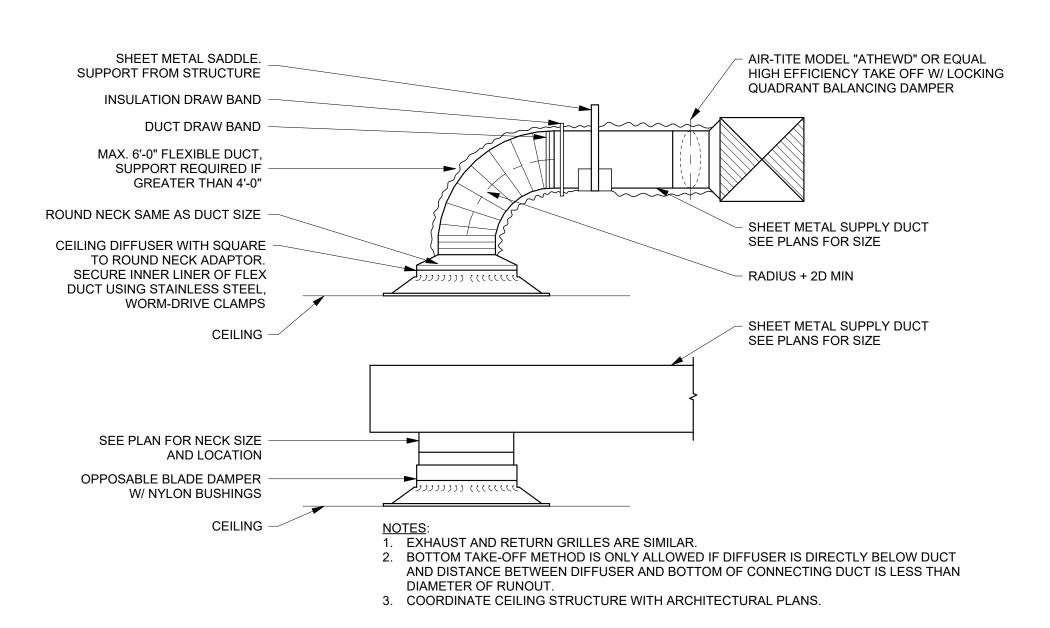
1. ALL ELBOWS ARE LONG RADIUS UNLESS OTHERWISE NOTED ON PLANS. THE INTERIOR SURFACE OF

ALL RADIUS ELBOWS SHALL BE MADE ROUND. 2. ALL LONG RADIUS ELBOWS SHOWN ON PLANS MAY BE MADE SHORT RADIUS ELBOWS. ALL SHORT RADIUS ELBOWS SHALL HAVE VANES. VANES SHALL BE CONSTRUCTED, SUPPORTED AND FASTENED AS DIRECTED BY SMACNA HVAC DUCT CONSTRUCTION STANDARDS.

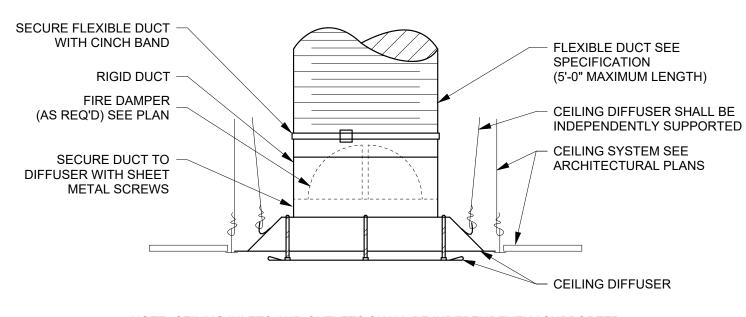
DUCT ELBOW - ROUND DETAIL SCALE: NTS



DUCT HIGH EFFICIENCY TAKE-OFFS SCALE: NTS

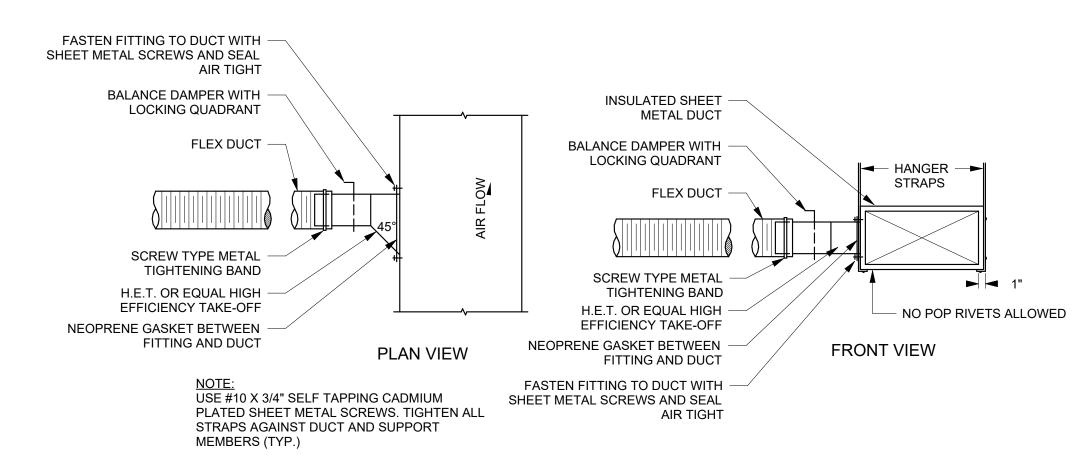


CEILING DIFFUSER DETAIL WITH DUCTING

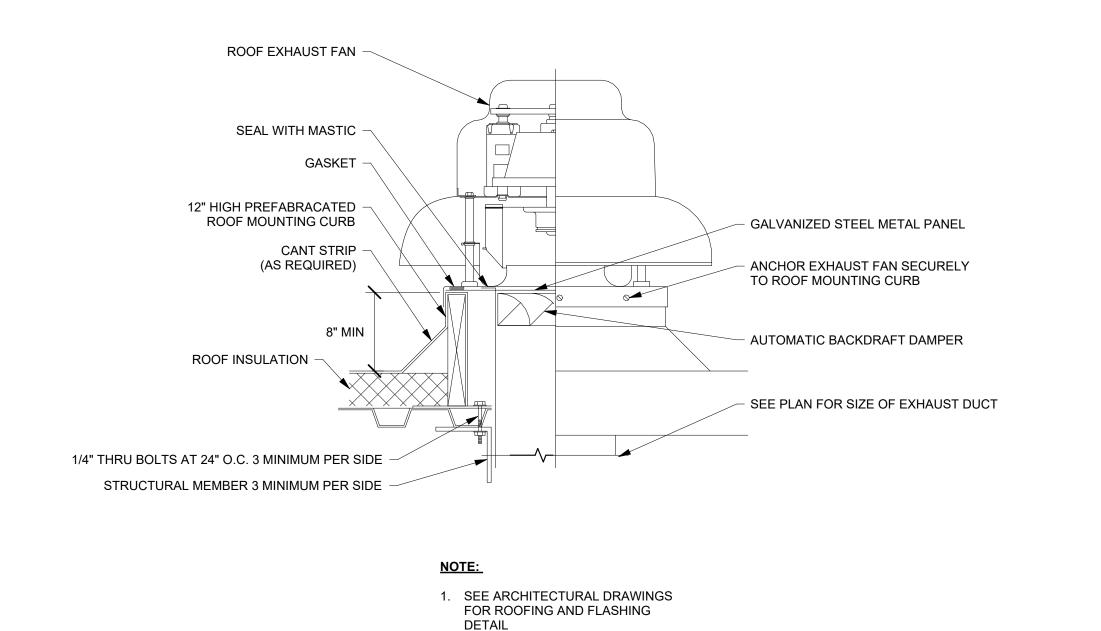


NOTE: CEILING INLETS AND OUTLETS SHALL BE INDEPENDENTLY SUPPORTED

CEILING DIFFUSER DETAIL



FLEX DUCT WITH HIGH EFFICIENCY TAKE OFF SCALE: NTS



ROOF EXHAUST FAN

ATLAI ARCHITECTS, INC 175 WEST 900 SOUTH SLC, UT 84101 801.322.2724 WWW.ATLASARCHITECTS.COM

SPECTRUM ENGINEERS 324 S. State St., Suite 400 Salt Lake City, UT 84111 800-678-7077 801-328-5151 fax: 801-328-5155 www.spectrum-engineers.com

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02.03.25

BID SET

MECHANICAL DETAILS

ME501

							EX	HAL	JST F	FAN	SCHE	DULE						
ACCEPTA	BLE MANUFACTURERS:	CONTROLS:										REMARKS:					SCHEDULE KEY	
PENN BAI LOREN CO TWIN CITY GREENHE BROAN PANASON	OOK Y ECK	(A) PROVIDE TIME CLOCK AN BUSINESS HOURS. (B) PROVIDE WITH SWITCH F OPERATION. (C) PROVIDE WITH SWITCH F OPERATION. FAN TO RUN CONTINUOUSLY AND RAI (100 CFM) WHEN SWITCH (D) INTERLOCK WITH LIGHTS DELAY. (E) PROVIDE AND INTERLOCK RAMP UP TO 100% SPEEL	FOR ON/OFF OR ON/OFF N AT MINIMU MP UP TO F ED ON S AND PROV K WITH THE	SWITCH SWITCH IM SPEED (30 CFM ULL SPEED TIDE 10 MINUTE RU	HEAT SENSOR IS ACTIVATED THE HOOD AND MAKE UP AIR UNIT SHALL TURN ON. PROVIDE/INSTALL MAKE UP AIR UNIT AND EXHAUST FAN SWITCHES SO THAT THEY CAN BE CONTROLLED IN THE EVENT THAT A SENSOR FAILS.			SELINE . S OF ST SHALL IN	 (1) PROVIDE WITH BACKDRAFT DAMPER, DISCONNECT SWITCH, SUPPORT BRACKETS AND ISOLATOR, FLEXIBLE CONNECTION, AND BELT TENSIONER. (2) PROVIDE VARIABLE SPEED CONTROLLER FOR ALL DIRECT DRIVE FANS. TEST AND BALANCE CONTRACTOR SHALL MARK BALANCED POSITION ON CONTROLLER. (3) PROVIDE EC MOTOR VARIABLE SPEED FAN. (4) PROVIDE FACTORY AUTHORIZED STARTUP OF EQUIPMENT INCLUDING STARTUP OF ANY FACTORY CONTROLS TO ENSURE PROPER SEQUENCING AND/OR COMMUNICATION TO BMS. 				PLUMB = DIVISION 22 MECH = DIVISION 23 ELEC = DIVISION 26 MNFR = MANUFACTURER					
								ELEC	CTRICAL			DISCONNECT		SOUND				
LABEL	SERVES	TYPE	CFM	ESP (IN-WC)	FAN RPM	VOLTS	PHASE	Hz	НР	FLA	EMERG POWER	PROVIDED BY (MECH/ ELEC)	CONTROL METHOD		WEIGHT (LBS)	MANUFACTURER	MODEL	REMARKS
EF-1	JANITOR	CEILING CABINET FAN	100	0.5	894	120	1	60	0.002	0.3	NO	ELEC	Α	3	8	GREENHECK	SP-LP0810W	ALL
EF-2	SHOWER ROOMS	CEILING CABINET FAN	120	0.5	900	120	1	60	0.02	0.5	NO	ELEC	D	4	24	GREENHECK	SP-A200	ALL
EF-3	RESTROOMS & LOCKER ROOM	DOWNBLAST ROOFTOP FAN	1260	0.5	1210	120	1	60	0.22	5.8	NO	ELEC	D	9.6	70	GREENHECK	GB-130	ALL

				REGI	STER - GRIL	LE- DIFF	USER S	CHE	DULE			
ACCEPTAI	BLE MANUFACTURE	RS: REMARKS):									
KRUEGER TUTTLE & TITUS PRICE		(2) COORE	DINATE EXACT		Y. ION WITH OWNER AND ARCHI' DAPTER AS NECESSARY.	ГЕСТ.						
LABEL	TYPE	MAX AIRFLOW (CFM)	FACE SIZE	NECK SIZE	BLOW PATTERN	PD (IN-WC)	THROW(S) (FT)	MAX NC	MANUFACTURER	MODEL		REMARKS
E-1	PERFORATED EXHAUST GRILLE	250	12" X 12"	6" Ø	N/A	0.000	N/A	20	PRICE INDUSTRIES	PDDR	ALL	
R-1	PERFORATED RETURN GRILLE	1000	24" X 24"	14" Ø	N/A	0.000	N/A	20	PRICE INDUSTRIES	PDDR	ALL	
S-1	SQUARE CONE DIFFUSER	350	12" X 12"	8" Ø	4-WAY	0.181	7-10-15	30	PRICE INDUSTRIES	SCD	ALL	
S-2	SQUARE CONE DIFFUSER	545	24" X 24"	10" Ø	4-WAY	0.122	5-8-12	30	PRICE INDUSTRIES	SCD	ALL	

	DUCT	INSULATION REQU	IREM	ENTS	3
DUCT EVETEM	DUCT LOCATION	INCHI ATION MATERIAL C	_	THERMAL NCE ("R")	FIELD ADDITED LACKET
DUCT SYSTEM	DUCT LOCATION	INSULATION MATERIALS	CLIMATE ZONES 1-4	CLIMATE ZONES 5-8	FIELD APPLIED JACKET
	BUILDING INTERIOR, CONCEALED	MINERAL-FIBER BLANKET	6.0	6.0	NONE
SUPPLY AIR	BUILDING INTERIOR, EXPOSED, OUTSIDE CONDITIONED SPACE	MINERAL-FIBER BLANKET	6.0	6.0	NONE
	BUILDING EXTERIOR (OUTSIDE BUILDING INSULATION)	MINERAL-FIBER BLANKET	8.0	12.0	ALUMINUM
	BUILDING INTERIOR, CONCEALED	MINERAL-FIBER BLANKET	6.0	6.0	NONE
RETURN AIR	BUILDING INTERIOR, EXPOSED, OUTSIDE CONDITIONED SPACE	MINERAL-FIBER BLANKET	6.0	6.0	NONE
	BUILDING EXTERIOR (OUTSIDE BUILDING INSULATION)	MINERAL-FIBER BLANKET	8.0	12.0	ALUMINUM
EXHAUST AIR	ALL	NONE			
OUTSIDE AIR	BUILDING INTERIOR, CONCEALED OR EXPOSED	MINERAL-FIBER BLANKET	6.0	6.0	NONE
OUTSIDE AIR	BUILDING EXTERIOR (OUTSIDE BUILDING INSULATION)	MINERAL-FIBER BLANKET	8.0	12.0	NONE
FLEXIBLE DUCT		MINERAL-FIBER BLANKER POLYETHYLENE INNER AND OUTER JACKET	6.0	6.0	NONE
NOTES					

1. DUCT INSULATION THERMAL RESISTANCE VALUES DETERMINED FROM 2018 IECC SECTION C403.11.1.
2. CLIMATE ZONES DETERMINED BY ASHRAE. THIS PROJECT IS IN CLIMATE ZONE XXXX.

3. ALL DUCT INSULATION SHALL HAVE ALL SERVICE JACKET MANUFACTURER FROM KRAFT PAPER, REINFORCED SCRIM, ALUMINUM FOIL, OR VINYL FILM.
4. DUCT INSULATION SHALL BE MECHANICALLY FASTENED TO DUCTS WIDER THAN 24" AND SHALL BE AFFIXED TO BOTTOM OF DUCT WITH WELDED METAL PINS AND 2" WASHERS AT 18" MAXIMUM SPACING.

5. DUCT LINER, WHERE SHOWN ON DRAWINGS, SHALL BE A MINIMUM OF 1" THICK AND SHALL HAVE A MINIMUM "R" VALUE OF 3.8.

6. DUCT LINER SHALL NOT BE SUBSTITUTED FOR DUCT WRAP UNLESS THE MINIMUM "R" VALUE OF THE DUCT LINER IS INCREASED TO VALUE NEEDED PER TABLE ABOVE.
7. DUCT DIMENSIONS SHOWN ON THE DRAWINGS ARE NET FREE AREA. WHERE DUCT LINER IS SHOWN, INCREASE METAL DUCT SIZE TO ALLOW FOR THICKNESS OF DUCT LINER.
8. TOTAL LENGTH OF FLEXIBLE DUCT FUN SHALL NOT EXCEED 3'-0". EXTEND SHEET METAL DUCT TO WITHIN 3'-0" OF THE AIR INLET OR AIR OUTLET DEVICE.
9. OFFSET OF FLEXIBLE DUCT SHALL NOT EXCEED ONE HALF OF THE DUCT DIAMETER.
10. ALL DUCT CHANGES IN DIRECTION SHALL BE MADE WITH RIGID ELBOWS OR OTHER RIGID METAL FITTINGS.

11. INDOOR DUCT INSULATION AND RELATED MATERIALS SHALL HAVE A FLAME-SPREAD INDEX OF 25 OR LESS, AND SMOKE-DEVELOPED INDEX OF 50 OR LESS WHEN TESTED TO ASTM 84.

12. OUTDOOR DUCT INSULATION AND RELATED MATERIALS SHALL HAVE A FLAME-SPREAD INDEX OF 75 OR LESS, AND SMOKE-DEVELOPED INDEX OF 150 OR LESS WHEN TESTED TO ASTM 84.

13. ALL DUCT COVERINGS AND LININGS SHALL NOT FLAME, GLOW, SMOLDER, OR SMOKE WHEN TESTED IN ACCORDANCE WITH ASTM 411.

14. ALL MATERIALS USED AS INTERNAL INSULATION AND EXPOSED TO THE AIR STREAM IN DUCTS SHALL BE SHOWN TO BE DURABLE WHEN TESTED IN ACCORDANCE WITH UL 181.

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BID SET

MECHANICAL SCHEDULES

ME601

SYMBOL LEGEND - MISC					
REFERENCE LINES AND SYMBOLS					
SYMBOL	DESCRIPTION				
-	VIEW OR DETAIL INDICATOR: # INDICATES DETAIL NUMBER, SHEET INDICATES DRAWING SHEET WHERE VIEW OR DETAIL IS SHOWN.				
	ELEVATION OR SECTION INDICATOR: # INDICATES VIEW NUMBER, SHEET INDICATES DRAWING SHEET WHERE VIEW IS SHOWN.				
NAME ###	ROOM / SPACE INDICATOR				
(#)	KEYNOTE INDICATOR				
<u>#</u>	REVISION INDICATOR				
(XX-##)	PLUMBING FIXTURE INDICATOR				
XX-##>	EQUIPMENT INDICATOR				
TAG CFM	REGISTER, GRILLE, OR DIFFUSER INDICATOR				
→ OR ∽	BREAKLINE				
MATCH LINE SEE XX/XXX	MATCHLINE INDICATOR				
	CONTRACT LIMIT LINE: DASHDOT, WIDE LINE				
•	NEW CONNECTION TO EXISTING				
	POINT OF DEMOLITION				

SYMBOL LEG	END - PIPING
NOTE: ALL ABBREVIATION	S MAY NOT BE USED.
SYMBOL	DESCRIPTION
T	HOSE BIBB / WALL HYDRANT
	CLEANOUT TO GRADE
\rightarrow	FLOOR CLEANOUT
4	WALL CLEANOUT
	FLOOR DRAIN
	FLOOR SINK

DEFINITIONS

NOTE: ALL DEFINITIONS MAY NOT BE USED.

INDICATED: THE TERM "INDICATED" REFERS TO GRAPHIC REPRESENTATIONS, NOTES, OR SCHEDULES ON THE DRAWINGS, OTHER PARAGRAPHS OR SCHEDULES IN THE SPECIFICATIONS, AND SIMILAR REQUIREMENTS IN THE CONTRACT DOCUMENTS. WHERE TERMS SUCH AS "SHOWN", "NOTED", "SCHEDULED", AND "SPECIFIED" ARE USED, IT IS TO HELP THE READER LOCATE THE REFERENCE, NO LIMITATION ON LOCATION IS INTENDED.

DIRECTED: TERMS SUCH AS "DIRECTED", "REQUESTED", AUTHORIZED", "SELECTED", "APPROVED", "REQUIRED", AND "PERMITTED" MEAN "DIRECTED BY THE ENGINEER", "REQUESTED BY THE ENGINEER", AND SIMILAR PHRASES.

APPROVED: THE TERM "APPROVED", WHERE USED IN CONJUNCTION WITH THE ENGINEER'S ACTION ON THE CONTRACTOR'S SUBMITTALS, APPLICATIONS, AND REQUESTS, IS LIMITED TO THE ENGINEER'S DUTIES AND RESPONSIBILITIES AS STATED IN GENERAL AND SUPPLEMENTARY CONDITIONS.

FURNISH: THE TERM "FURNISH" IS USED TO MEAN "SUPPLY AND DELIVER TO THE PROJECT SITE, READY FOR UNLOADING, UNPACKING, ASSEMBLY, INSTALLATION, AND SIMILAR OPERATIONS."

INSTALL: THE TERM "INSTALL" IS USED TO DESCRIBE OPERATIONS AT PROJECT SITE INCLUDING THE ACTUAL "UNLOADING, UNPACKING, ASSEMBLY, ERECTION, PLACING, ANCHORING, APPLYING, WORKING TO DIMENSION, FINISHING, CURING, PROTECTING, CLEANING, AND SIMILAR OPERATIONS."

PROVIDE: THE TERM "PROVIDE" MEANS "TO FURNISH AND INSTALL, COMPLETE AND READY FOR THE INTENDED USE."

INSTALLER: AN "INSTALLER" IS THE CONTRACTOR OR AN ENTITY ENGAGED BY THE CONTRACTOR, EITHER AS AN EMPLOYEE, SUBCONTRACTOR, OR SUBSUBCONTRACTOR, FOR PERFORMANCE OF A PARTICULAR CONSTRUCTION ACTIVITY, INCLUDING INSTALLATION, ERECTION, APPLICATION, AND SIMILAR OPERATIONS. INSTALLERS ARE REQUIRED TO BE EXPERIENCED IN THE OPERATIONS THEY ARE ENGAGED TO PERFORM.

F	PIPING LEGEND
NOTE:	ALL ABBREVIATIONS MAY NOT BE USED.
ABBREVIATION	DESCRIPTION
160	160°F HOT WATER
—160R:	160°F HOT WATER RETURN / CIRCULATION
180	180°F HOT WATER
180R:	180°F HOT WATER RETURN / CIRCULATION
—— -AW- ——	ACID WASTE
AV	ACID VENT
C02	CARBON DIOXIDE
	COMBINATION WASTE AND VENT
——CA——	COMPRESSED AIR
CD	CONDENSATE DRAIN
———DCW———	DOMESTIC COLD WATER
DHW	DOMESTIC HOT WATER
—DHWR	DOMESTIC HOT WATER RECIRCULATION
DI	DEIONIZED WATER
—-—DSW—-—	DOMESTIC SOFT WATER
	DEMOLISHED PIPING
——FP——	FIRE PROTECTION
——FOR——	FUEL OIL RETURN
——FOS——	FUEL OIL SUPPLY
——FOV——	FUEL OIL VENT
—— -GW-	GREASE WASTE
——HPC——	HIGH PRESSURE CONDENSATE
——MPC——	MEDIUM PRESSURE CONDENSATE
——LPC——	LOW PRESSURE CONDENSATE
ICW	INDUSTRIAL COLD WATER
IHW	INDUSTRIAL HOT WATER
IW	IRRIGATION WATER
——LPG——	LIQUID PROPANE GAS
——MA———	MEDICAL AIR
——NG——	NATURAL GAS
NO	NITROUS OXIDE
O	OXYGEN
OD	OVERFLOW ROOF DRAIN / STORM DRAIN
——PC——	PUMPED CONDENSATE
RD	ROOF DRAIN / STORM DRAIN
— -ss- —	SANITARY SEWER
VAC	VACUUM
	VENT

----- VENT

SYMBOL LEG NOTE: ALL ABBREVIATION	
SYMBOL	DESCRIPTION
\bowtie	SHUT OFF VALVE
Image: Control of the	GATE VALVE
ightharpoonup	CHECK VALVE
×	AUTOMATIC 2-WAY VALVE
K	AUTOMATIC 3-WAY VALVE
	GLOBE VALVE
Ф	BALL VALVE
	RELIEF VALVE
	PRESSURE REDUCING VALVE
	BUTTERFLY VALVE
S	SOLENOID VALVE
	ANGLE VALVE
	VENTURI VALVE
8	BALANCING OR PLUG COCK
\boxtimes	FLOW SETTER
\otimes	EXPANSION VALVE
$\overline{}$	GAS COCK
ZMAV	MANUAL AIR VENT
-	STRAINER
O ₁	GAUGE COCK
	FLEXIBLE CONNECTION
P	PRESSURE GAUGE
	THERMOMETER
->-	PIPE REDUCER
<u></u>	REFRIGERANT SITE GLASS
	REFRIGERANT STRAINER
I —	REFRIGERANT FILTER DRIER
	90 DEGREE ELBOW UP
	90 DEGREE ELBOW DOWN
o	90 DEGREE TEE UP
	90 DEGREE TEE DOWN
	PIPE UNION
	PIPE CAP
	PIPE ANCHOR
	FLOAT AND THERMOSTATIC TRAP

	ABBREVIATIONS
(E)	NOTE: ALL ABBREVIATIONS MAY NOT BE USED. EXISTING
(F)	FUTURE
AC APD	AIR CONDITION(-ING,-ED) AIR PRESSURE DROP
BD	BALANCING DAMPER
BHP BTU	BRAKE HORSE POWER BRITISH THERMAL UNIT
BTUH	BTU/HOUR
CFH CFM	CUBIC FEET PER HOUR CUBIC FEET PER MINUTE
CV	CONTROL VALVE
DB DCW	DRY BULB TEMPERATURE DOMESTIC COLD WATER
DHW	DOMESTIC HOT WATER
DHWR DP	DOMESTIC HOT WATER RECIRC DEPTH, DEEP, OR DROP IN PRESSURE
EA	EXHAUST AIR
EER EFF	ENERGY EFFICIENCY RATIO EFFICIENCY
ELEC	ELECTRIC
ELEV ENT	ELEVATION ENTERING
EVAP	EVAPORAT(-E, -ING, -ED, -OR) ENTERING WATER TEMPERATURE
EWT EXT	EXTERNAL
FD FLA	FIRE DAMPER FULL LOAD AMPS
FPI	FINS PER INCH
FPM FPS	FEET PER MINUTE FEET PER SECOND
FSD	FIRE SMOKE DAMPER
GE GPH	GREASE EXHAUST GALLONS PER HOUR
GPM	GALLONS PER MINUTE
HD HG	HEAD MERCURY
HP	HORSEPOWER
HR HTG	HOUR HEATING
HZ	HERTZ (FREQUENCY)
IN KW	INCH KILOWATT
LAT	LEAVING AIR TEMPERATURE
LBS LH	POUNDS LATENT HEAT
LRA LVG	LOCKED ROTOR AMPS LEAVING
LWT	LEAVING WATER TEMPERATURE
MBH MCA	THOUSAND BTU PER HOUR MINIMUM CIRCUIT AMPS
MFR	MANUFACTUR(-ER, -ED)
NC NIC	NORMALLY CLOSED OR NOISE CRITERIA NOT IN CONTRACT
NO NPSH	NORMALLY OPEN NET POSITIVE SUCTION HEAD
NTS	NOT TO SCALE
OA OD	OUTSIDE AIR OUTSIDE DIAMETER
OZ	OUNCE
PD PG	PRESSURE DROP OR DIFFERENCE PROPOLENE GLYCOL
PH	PHASE
PPM PSF	PARTS PER MILLION POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PSIA PSIG	PSI ABSOLUTE PSI GAUGE
RA RECIRC	RETURN AIR
REFR	RECIRCULATE (-ER, -ED, -ING) REFRIGERATION
REQD RLA	REQUIRED RATED LOAD AMPS
RPM	REVOLUTIONS PER MINUTE
SA SCFM	SUPPLY AIR STANDARD CUBIC FEET PER MINUTE
SCW	SOFT COLD WATER
SH SP	SENSIBLE HEAT STATIC PRESSURE
SPEC(S)	SPECIFICATION(S)
SQ SS	SQUARE SANITARY SEWER, SOIL, WASTE
STD	STANDARD
TA TD	TRANSFER AIR TEMP. DROP OR DIFF.
TEMP TOT	TEMPERATURE TOTAL
TSTAT	THERMOSTAT
TYP V	TYPICAL VOLT, VOLTAGE OR VENT
VAC	VACUUM
VAV VEL	VARIABLE AIR VOLUME VELOCITY
VENT	VENT, VENTILATION
VERT VFD	VERTICAL VARIABLE FREQUENCY DRIVE
VOL	VOLUME
VTR WB	VENT THROUGH ROOF WET BULB TEMP
WC	WATER COLUMN

WATER GAUGE

WATER

WATER PRESSURE DROP

WPD

WTR

PLUMBING GENERAL NOTES

- 1. THE PLUMBING DRAWINGS SHOW THE GENERAL DESIGN, ARRANGEMENT AND EXTENT OF THE PLUMBING SYSTEM. BECAUSE OF THE SMALL SCALE OF THE DRAWINGS, THESE DRAWINGS DO NOT SHOW ALL OFFSETS, BENDS OR ELBOWS NECESSARY FOR THE COMPLETE INSTALLATION IN THE SPACE PROVIDED. CONTRACTOR SHALL MAKE SUCH SLIGHT ALTERATIONS AS MAY BE NECESSARY TO MAKE THE SYSTEM COMPLETE AND OPERATIONAL IN ACCORDANCE WITH THE DESIGN INTENT. MAJOR DEVIATIONS SUCH AS CHANGES IN COMPONENT SIZES, WEIGHTS, QUANTITIES OR MATERIAL REQUIRE PRIOR APPROVAL BY THE DESIGN ENGINEER.
- 2. THE DRAWINGS AND SPECIFICATIONS HAVE BEEN PREPARED TO SUPPLEMENT EACH OTHER AND SHALL BE INTERPRETED AS AN INTEGRAL UNIT WITH THE ITEMS SHOWN ON ONE AND NOT THE OTHER BEING FURNISHED AND INSTALLED AS THOUGH SHOWN AND CALLED OUT IN BOTH.
- FURNISHED AND INSTALLED AS THOUGH SHOWN AND CALLED OUT IN BOTH.

 3. THE ENTIRE PLUMBING INSTALLATION SHALL CONFORM TO THE
 REQUIREMENTS OF THE MOST RECENTLY ADOPTED BUILDING CODES,
 MECHANICAL CODE, PLUMBING CODE, ELECTRICAL CODE, AND ALL OTHER
 APPLICABLE CITY, COUNTY, STATE, AND FEDERAL CODES AND
 REGULATIONS IN EFFECT.
- 4. THE ENTIRE PLUMBING INSTALLATION SHALL CONFORM TO ANY CODES, RULES, REGULATIONS AND REQUIREMENTS OF THE BUILDING OWNER.
- 5. PRIOR TO FABRICATION AND INSTALLATION OF ANY PLUMBING COMPONENT THE CONTRACTOR SHALL COORDINATE THE INSTALLATION OF ALL PLUMBING WORK WITH ALL OTHER BUILDING TRADES, INCLUDING BUILDING TRADES HIRED DIRECTLY BY THE OWNER. WHERE CONFLICTS MAY OCCUR, THEY SHALL BE RESOLVED PRIOR TO INSTALLATION.
- ALL PLUMBING INFORMATION IS NOT SHOWN ON THE PLUMBING DRAWINGS.
 THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL
- INFORMATION ON ALL OTHER CONSTRUCTION DOCUMENTS.

 7. THE CONTRACTOR SHALL BE RESPONSIBLE TO REVIEW AND USE, WHERE APPROPRIATE, ALL THE PLUMBING DETAILS SHOWN ON THE DRAWINGS. DETAILS MAY OR MAY NOT BE CALLED OUT ON THE DRAWINGS WITH SYMBOLS OR KEYED NOTES. ANY CHANGES RESULTING FROM FAILURE TO INSTALL THE PLUMBING SYSTEM WITHOUT USING THE INCLUDED DETAILS
- SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

 8. ANY PART OF THE PLUMBING INSTALLATION THAT FAILS, IS UNFIT, OR BECOMES DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED OR REPLACED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.

 9. PROVIDE PROPER PROVISIONS FOR EXPANSION, CONTRACTION, OR
- MOVEMENT OF ALL PIPING.

 10. PROVIDE LARGE ENOUGH PIPE SLEEVES THROUGH WALL OR FLOOR TO
- ALLOW FOR ANTICIPATED DIFFERENTIAL MOVEMENT.

 11. ALL PIPING SHALL BE SUPPORT WITH CLEVIS HANGERS (MSS TYPE 1).
 PERFORATED METAL STRAPS OR PLASTIC STRAPPING (PLUMBER TAPE)
 SHALL NOT BE USED TO SUPPORT OR BRACE ANY PIPE.
- 12. PROVIDE PIPE HANGERS WITHIN 18-INCHES OF ALL CHANGES OF DIRECTION.
- 13. PROVIDE SWAY BRACING FOR ALL PIPING 4" AND LARGER AT ALL CHANGES IN DIRECTION GREATER THAN 45-DEGREES.
- 14. ALL STEEL CLEVIS HANGERS USED TO SUPPORT COPPER PIPING SHALL BE COPPER OR PLASTIC COATED.15. COPPER PIPING SHALL NOT COME IN CONTACT WITH FIRE TREATED
- LUMBER. PROVIDE ½" THICK SLIP-ON CLOSED CELL INSULATION WHERE COPPER PIPING IS ADJACENT TO FIRE TREATED LUMBER. CLOSED CELL INSULATION SHALL EXTEND A MINIMUM OF 1-1/2" PAST LUMBER.
- 16. ALL EXPOSED PIPING SHALL BE INSTALLED IN A NEATLY ARRANGED MANNER PARALLEL TO THE BUILDING STRUCTURE.17. ALL EXPOSED DOMESTIC WATER PIPE IN OCCUPIED SPACES SHALL BE
- POLISHED CHROME PLATED.

 18. ALL EXPOSED DRAINAGE PIPING IN OCCUPIED SPACES INCLUDING TRAPS
- UNDER SINKS SHALL BE POLISHED CHROME PLATED.

 19. DRAWINGS SHOW GENERAL ARRANGEMENT OF THE DRAIN WASTE AND VENT SYSTEM WITH THE REQUIRED CLEANOUTS. CONTRACTOR SHALL PROVIDE ALL ADDITIONAL CLEANOUTS AS REQUIRED BY THE PLUMBING CODE.
- 20. ALL SANITARY DRAINAGE SYSTEM PIPING 3" AND LARGER SHALL BE SLOPED IN DIRECTION OF FLOW AT A MINIMUM OF 1/8" PER FOOT.
- IN DIRECTION OF FLOW AT A MINIMUM OF 1/8" PER FOOT.

 21. ALL SANITARY DRAINAGE SYSTEM PIPING SMALLER THAN 3" SHALL BE SLOPED IN DIRECTION OF FLOW AT A MINIMUM OF 1/4" PER FOOT.
- 22. SLOPE VENT SYSTEM TOWARDS DRAINAGE SYSTEM.
- 23. SIMILAR EQUIPMENT SHALL BE OF THE SAME MANUFACTURER.24. ALL EQUIPMENT SHALL PROVIDE THE SCHEDULED PERFORMANCE AT THE
- JOB SITE ELEVATION.

 25. FIXTURE AND EQUIPMENT MODEL NUMBERS SHOWN IN PLUMBING FIXTURE SCHEDULE AND PLUMBING EQUIPMENT SCHEDULE ARE SHOWN TO ESTABLISH THE TYPE OF PRODUCT THAT SHALL BE USED. THE SELECTED PRODUCT SHALL MEET THE SCHEDULED PERFORMANCE DATA SHOWN ON
- THE SCHEDULE EVEN IF A DIFFERENT MODEL IS SUPPLIED THAT IS DIFFERENT THAN THAT SCHEDULED.

 26. ALL EQUIPMENT SHALL BE INSTALLED IN STRICT ACCORDANCE WITH THE EQUIPMENT MANUFACTURER'S INSTALLATION INSTRUCTIONS. PROVIDE ALL NECESSARY FITTINGS, TRANSITIONS, VALVES AND OTHER DEVICES AND ACCESSORIES REQUIRED FOR A COMPLETE, WORKABLE INSTALLATION.
- 27. SEE "PLUMBING FIXTURE SCHEDULE" FOR INDIVIDUAL TRAPS, WASTE, VENT, AND DOMESTIC WATER PIPING FOR INDIVIDUAL FIXTURES.
- 28. ALL PLUMBING EQUIPMENT SHALL BE LISTED AND LABELED BY AN APPROVED TESTING AGENCY.

STANDARDS.

29. FIXTURES, EQUIPMENT AND PIPING INSTALLATION SHALL MEET NSF

PLUMBING SHEET INDEX

PE001	PLUMBING COVER SHEET
PD101	LEVEL 1 PLUMBING DEMO PLAN
PL101	LEVEL 1 PLUMBING PLAN - DWV
PL111	LEVEL 1 PLUMBING PLAN - WATER
PE501	PLUMBING DETAILS
PE601	PLUMBING SCHEDULES

ARCHITECTS, INC

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ENGINEERS
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Salt Lake City, UT 84111
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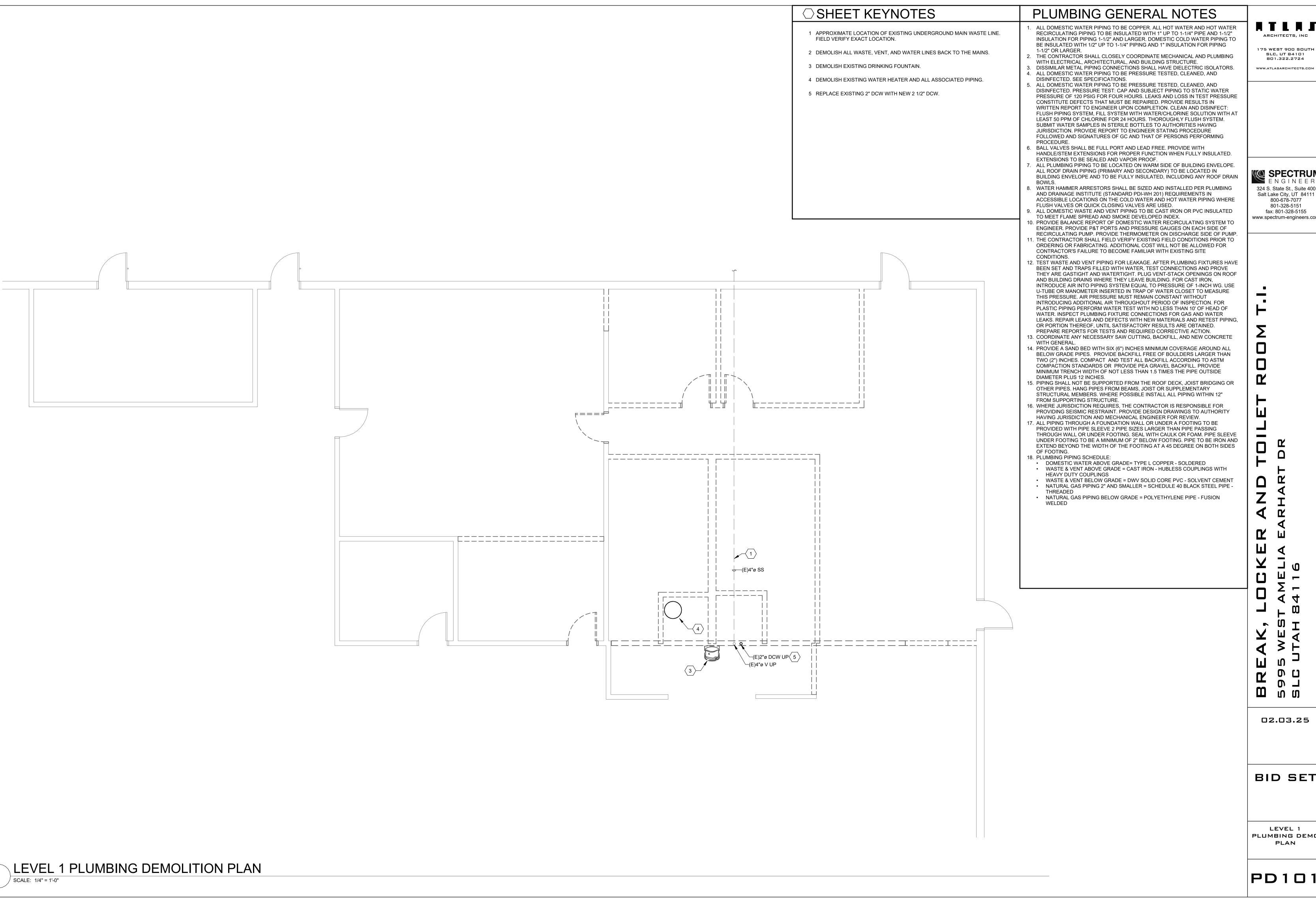
BREAK, LOCKER AND TOILET ROO 5995 WEST AMELIA EARHART DR SLC UTAH 84116

02.03.25

BID SET

PLUMBING COVER SHEET

PE001



SPECTRUM ENGINEERS

324 S. State St., Suite 400 Salt Lake City, UT 84111 800-678-7077 801-328-5151 fax: 801-328-5155

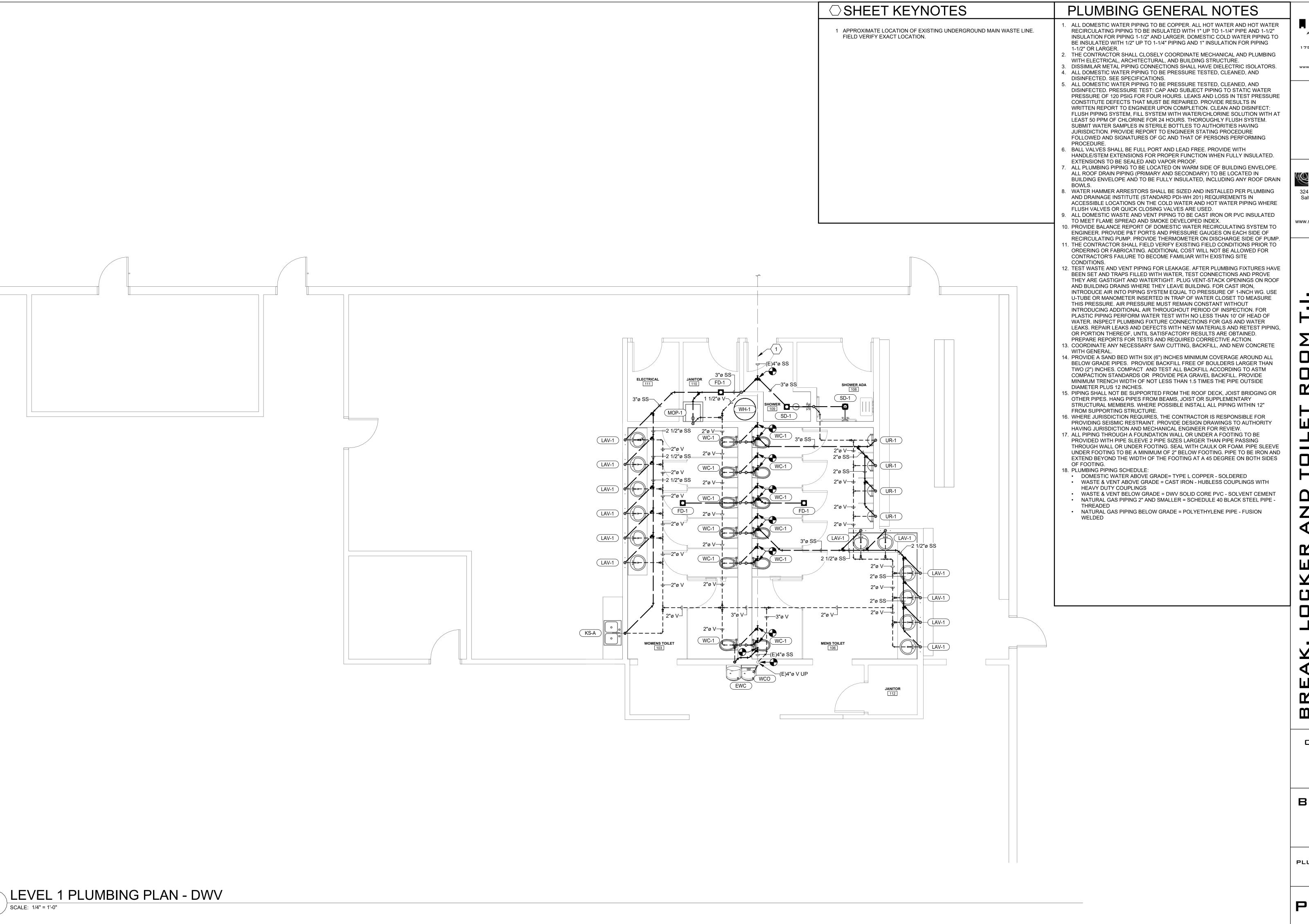
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BID SET

LEVEL 1 PLUMBING DEMO

PD101



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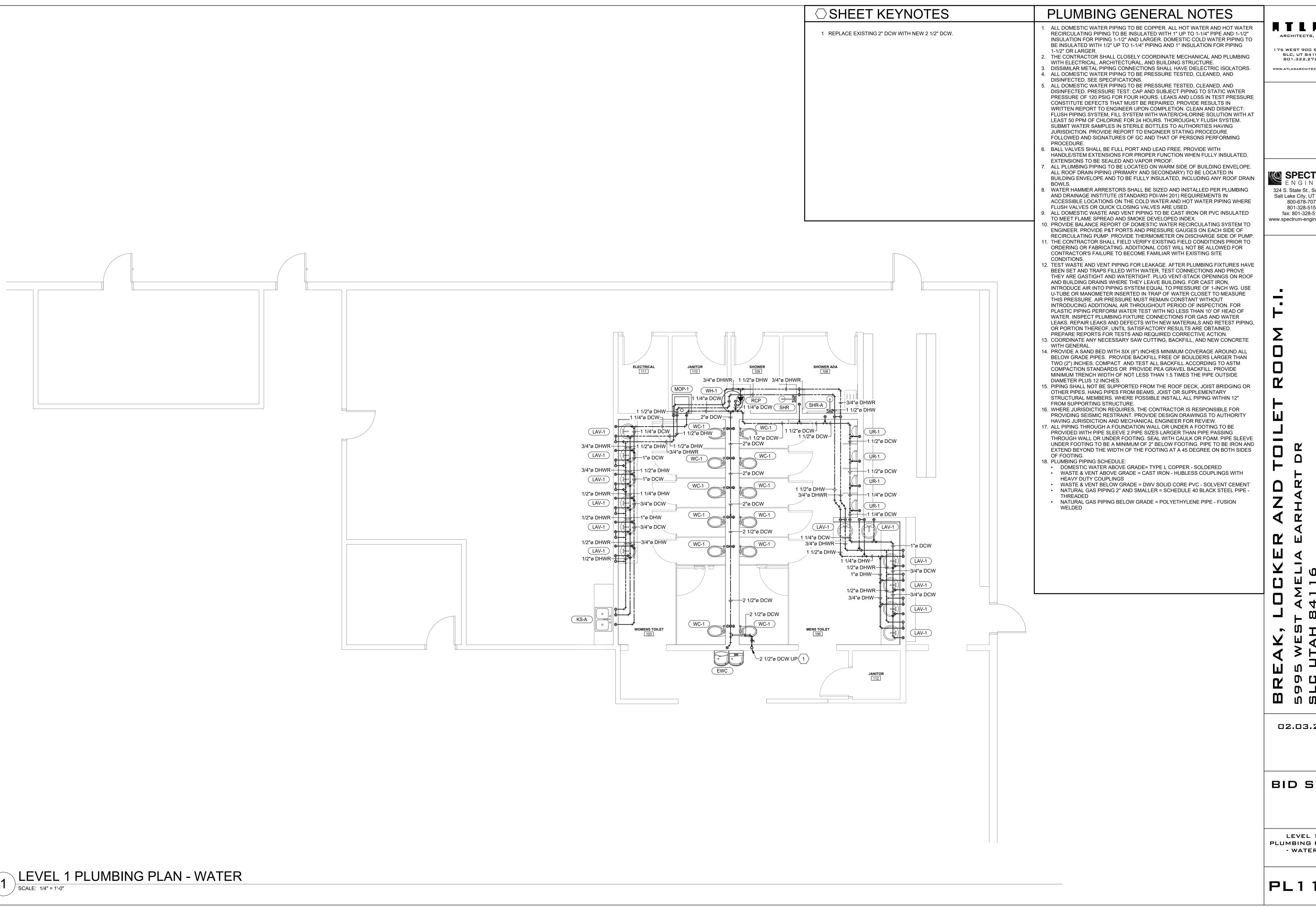
Salt Lake City, UT 84111 www.spectrum-engineers.com

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BID SET

LEVEL 1 PLUMBING PLAN - DWV

PL101



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BID SET

LEVEL 1 PLUMBING PLAN - WATER

PL111

/ STEEL BAND

☐ HANGER

MSS SP-69 TYPE 7

UNINSULATED PIPE 2" Ø AND UNDER

VENT THRU ROOF DETAIL

SCALE: NTS

SUPPORT FROM STRUCTURE (TYP)

CLEVIS HANGER

RIGID INSULATION WITH PROTECTION SHIELD

TYPE 1

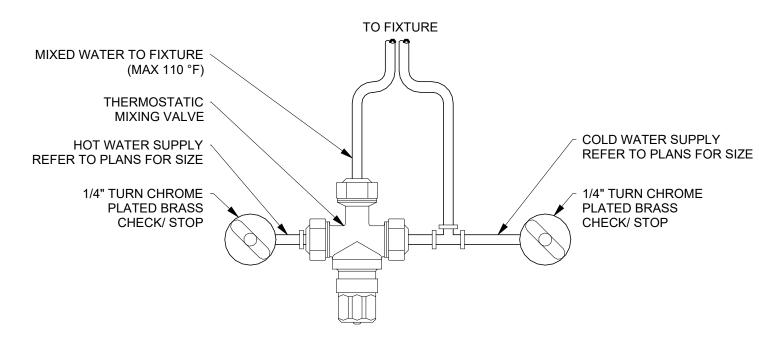
UNINSULATED PIPE OVER 2" Ø

PIPE HANGERS DETAIL

MSS SP-69 TYPE 1

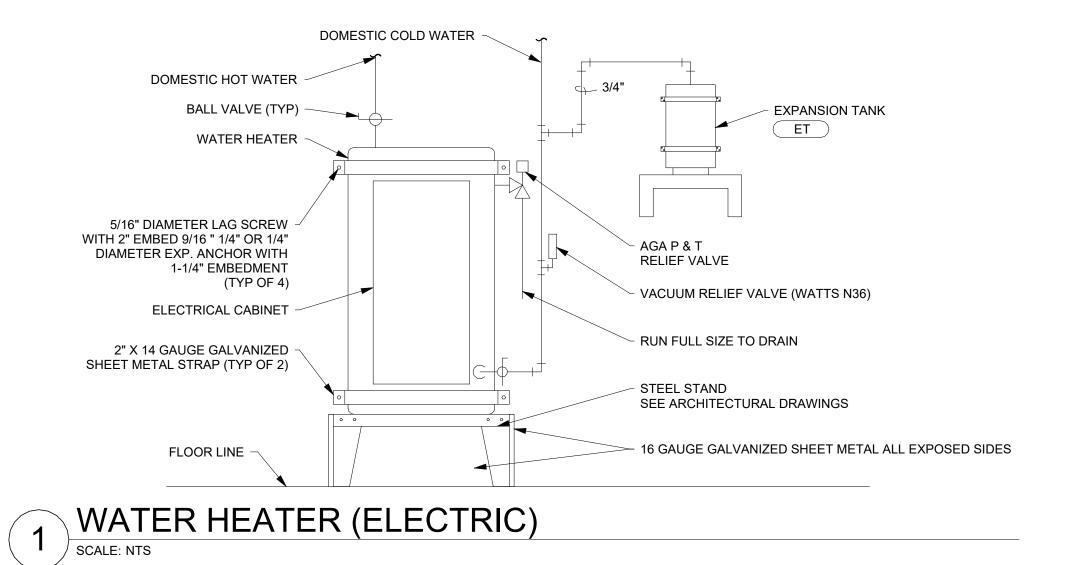
INSULATED PIPE

SCALE: NTS



THERMOSTATIC MIXING VALVE (AT SINK) DETAIL

SCALE: NTS



DCW, DHW, DHWR
MAINS IN CEILING

3/4" DCW, 1/2" DHW
3/4" DHWR IN WALL

PUBLIC LAVATORY

AXIMUM PIPING LENGTH
(SEE TABLE)

BALANCING VALVE (BV)

BALANCING VALVE (BV)

NOMINAL PIPE	VOLUME (LIQUID OUNCES	MAXIMUM PIPING LENGTH (FEET)					
SIZE (INCHES)	PER FOOT LENGTH)	PUBLIC LAVATORY FAUCETS	OTHER FIXTURES AND APPLIANCES				
1/4	0.33	6	50				
3/8	0.75	3	50				
1/2	1.5	2	43				
3/4	3	0.5	21				
1	5	0.5	13				
1 1/4	8	0.5	8				
1 1/2	11	0.5	6				
2 OR LARGER	18	0.5	4				

PIPING VOLUME AND MAXIMUM PIPING LENGTHS

SCALE: NTS

ARCHITECTS, INC

175 WEST 900 SOUTH
SLC, UT 84101
801.322.2724

WWW.ATLASARCHITECTS.COM

SPECTRUM
E N G I N E E R S

324 S. State St., Suite 400
Salt Lake City, UT 84111
800-678-7077
801-328-5151
fax: 801-328-5155

801-328-5151
fax: 801-328-5155
www.spectrum-engineers.com

BREAK, LOCKER AND TOILET ROC 5995 WEST AMELIA EARHART DR SLC UTAH 84116

02.03.25

BID SET

PLUMBING DETAILS

PE501

SANITARY	SEW	ER DEMA	ND						
BASIS FOR DESIGN									
2021 INTERNATIONAL PLUMBING									
CHAPTER 7 - SANI	TARY DRAINAGI	E- REQUIRED PIPE SIZE =	4"						
TABLE 710.1(1) - BUILDING DRAINS AND S	SEWERS - 180 DF	FU'S PERMITTED ON MAIN	_						
EQUIPMENT	QUANTITY	INDIVIDUAL DRAINGE FIXTURE UNIT	TOTAL DRAINAGE FIXTURE UNITS						
DRINKING FOUNTAIN	1	1	1						
FLOOR / SHOWER DRAINS	5	2	10						
KITCHEN SINK	1	2	2						
LAVATORY	12	1	12						
SERVICE SINK	1	2	2						
URINAL	4	4	16						
WATER CLOSET, PUBLIC (1.6 GPF)	12	4	48						
TOTAL	36		91						

D	OMESTI	С НОТ	WATE	R DEMAI	ND				
202	1 INTERNATIONAL PLU	JMBING CODE - 1	ABLE E103.3(3)	ESTIMATED DEMAND (G	SPM): 23.25				
			PIPE SIZE (WA	ATER SUPPLY TO BUILDI	NG): 1 1/4"				
2021	2021 INTERNATIONAL PLUMBING CODE - FIGURE E103.3(5) PIPE FRICTION (PSI / 100 FT):								
			PIPE '	VELOCITY (FEET / SECO	ND): XX.X				
EQUIPMENT	TYPE OF SUPPLY CONTROL	QUANTITY	COMBINED WATER SUPPLY FIXTURE UNITS (WSFU)	TOTAL WATER SUPPLY FIXTURE UNITS (WSFU)					
KITCHEN SINK	PRIVATE	FAUCET	1	1	1				
LAVATORY	PUBLIC	FAUCET	12	1.5	18				
SERVICE SINK	OFFICES, ETC.	FAUCET	1	2.25	2.25				
SHOWER HEAD	PRIVATE	MIXING VALVE	2	1	2				
TOTAL			16		23.25				

D(OMESTI	C COLD W	ATER	DEMAND	
	: 172.2				
		PIPE	SIZE (WATER	SUPPLY TO BUILDING):	2 1/2"
2	021 INTERNATIONA	L PLUMBING CODE - FIGURE	E103.3(5) PIPE I	FRICTION (PSI / 100 FT)	: XX.X
			PIPE VELO	CITY (FEET / SECOND):	XX.X
EQUIPMENT	OCCUPANCY	TYPE OF SUPPLY CONTROL	QUANTITY	COMBINED WATER SUPPLY FIXTURE UNITS (WSFU)	
DRINKING FOUNTAIN	OFFICES, ETC.	3/8" VALVE	1	1	1
KITCHEN SINK	PRIVATE	FAUCET	1	1.4	1.4
LAVATORY	PUBLIC	FAUCET	12	2	24
SERVICE SINK	OFFICES, ETC.	FAUCET	1	3	3
SHOWER HEAD	PRIVATE	MIXING VALVE	2	1.4	2.8
URINAL	PUBLIC	3/4" FLUSHOMETER VALVE	4	5	20
WATER CLOSET, PUBLIC (1.6 GPF)	PUBLIC	FLUSHOMETER VALVE	12	10	120
WCO			1		0
TOTAL			34		172.2

				RECIR	RCUL	ATIO	ΝP	UMP	SCHEDULE		
ACCEPTAB	LE	REMARKS:									
BELL & GOSSETT ARMSTRONG TACO GRUNDFOS (1) PROVIDE WITH AQUASTAT AND TIE INTO (2) BALANCE DOMESTIC HOT WATER RECII REPORT TO ENGINEER. (3) PROVIDE WITH BRONZE, PLASTIC, OR S (4) RUN IN CONSTANT PRESSURE MODE IN WATER IS RUNNING					RCULATING TAINLESS S	LINE. PROVID TEEL IMPELL	E BALAN	ICING VALVE STAINLESS S	E. PROVIDE P&T PORT ON INLE TEEL BODY.	T AND DISCHARGE OF	
		FL	UID			ELECTRICAL					
LABEL	LIQUID TYPE	GPM	HEAD (FT)	MAX. TEMP. (°F)	VOLTS	PHASE	Hz	WATTS	MANUFACTURER	MODEL	REMARKS
RCP	WATER	15	15.00	110	120	1	60	270	BELL & GOSSETT	NRF-36	ALL

ACCEPTAI	BLE MANUFACTURERS: REMARKS:					
SIOUX CHIEF "HYDRA-ARRESTER" MIFAB "MWH" PPP "SC" WATTS LF02				(1) ANSI / ASSE 1010 LISTED (2) LEAD FREE CONSTRUCTION (3) COPPER TUBE BODY; POLY PISTON, EDPM O-RING (4) MIP THREADED INLET		
SYMBOL	INLET SIZE (INCHES)	PDI SYMBOL	CAPACITY (DFU)	BASIS OF DESIGN MANUFACTURER & MODEL		
WHA-A	1/2	Α	1-11	SIOUX CHIEF 652-A		
WHA-B	3/4	В	12-32	SIOUX CHIEF 653-B		
WHA-C	1	С	22-60	SIOUX CHIEF 654-C		
WHA-D	1	D	61-113	SIOUX CHEIF 655-D		
WHA-E	1	E	114-154	SIOUX CHIEF 656-E		
WHA-F	1	F	155-330	SIOUX CHIEF 657-F		

				W	ATER	HE	ATE	R (ELEC	CTRIC)		
ACCEPTAE	BLE	REMARKS:									
LOCHINVAR AO SMITH BRADFORD WHITE RHEEM STATE (1) PROVIDE WITH EXPANSION TANK THERM-X-TROL ST-25. (2) PROVIDE WITH UPPER AND LOWER SEISMIC STRAPS WITH TWO 5/16" LAG SCREWS HAVING 2" OF EMBED AT EACH CONNECTION LOCATION. (3) PROVIDE ALUMINUM WATER HEATER PAN AND ROUTE DRAIN TO FLOOR DRAIN. (3) PROVIDE WITH EXPANSION TANK THERM-X-TROL ST-25. (4) PROVIDE WITH EXPANSION TANK THERM-X-TROL ST-25. (5) PROVIDE WITH EXPANSION TANK THERM-X-TROL ST-25. (6) PROVIDE WITH EXPANSION TANK THERM-X-TROL ST-25. (7) PROVIDE WITH EXPANSION TANK THERM-X-TROL ST-25. (8) PROVIDE WITH EXPANSION TANK THERM-X-TROL ST-25. (9) PROVIDE WITH UPPER AND LOWER SEISMIC STRAPS WITH TWO 5/16" LAG SCREWS HAVING 2" OF EMBED AT EACH CONNECTION LOCATION. (9) PROVIDE WITH EXPANSION TANK THERM-X-TROL ST-25. (1) PROVIDE WITH EXPANSION TANK THERM-X-TROL ST-25. (1) PROVIDE WITH EXPANSION TANK THERM-X-TROL ST-25. (2) PROVIDE WITH UPPER AND LOWER SEISMIC STRAPS WITH TWO 5/16" LAG SCREWS HAVING 2" OF EMBED AT EACH CONNECTION LOCATION. (3) PROVIDE WITH EXPANSION TANK THERM-X-TROL ST-25. (4) PROVIDE WITH UPPER AND LOWER SEISMIC STRAPS WITH TWO 5/16" LAG SCREWS HAVING 2" OF EMBED AT EACH CONNECTION LOCATION. (3) PROVIDE WITH EXPANSION TANK THERM-X-TROL ST-25. (4) PROVIDE WITH EXPANSION TANK THERM-X-TROL ST-25. (5) PROVIDE WITH EXPANSION TANK THERM-X-TROL ST-25. (6) PROVIDE WITH EXPANSION TANK THERM-X-TROL ST-25. (7) PROVIDE WITH EXPANSION TANK THERM-X-TROL ST-25. (7) PROVIDE WITH EXPANSION TANK THERM-X-TROL ST-25. (8) PROVIDE WITH EXPANSION TANK THERM-X-TROL ST-25. (9) PROVIDE WITH EXPANSION TANK THERM-X-TROL ST-25. (1) PROVIDE WITH EXPANSION TANK THERM-X-TROL ST-25. (2) PROVIDE WITH EXPANSION TANK THERM-X-TROL ST-25. (3) PROVIDE WITH EXPANSION TANK THERM-X-TROL ST-25. (4) PROVIDE WITH EXPANSION TANK THERM-X-TROL ST-25. (4) PROVIDE WITH EXPANSION THERM THERM THERM THERM THERM-											
					ELECTI	RICAL		OPERATING			
LABEL	LOCATION		RECOVERY GPH @ 90° ΔT	VOLTS		RICAL Hz	kW	OPERATING WEIGHT (LBS)	MANUFACTURER	MODEL	REMARKS

		F	PLUME	SING F	IXTU	RE SCHEDU	LE	
	TO PLUMBING SPE ACTOR TO VISIT SI							
LABEL	DESCRIPTION	WASTE	VENT	CW	HW	MANUFACTURER	MODEL	REMARKS
EWC	ELECTRIC WATER COOLER WITH BOTTLER FILLING STATION	1 1/2"	1 1/2"	1/2"	0"	ELKAY		ELECTRICAL DATA: 120/1, 4 FLA, 370 WATTS
FD-1	FLOOR DRAIN	2"	2"	0"	0"	FIXTURE: ZURN TRAP SEAL: RECTORSEAL	FIXTURE: Z415-BZ1 TRAP SEAL: SURESEAL	TRAP SEAL TO MATCH FD SIZE
KS-A	TOP MOUNT DOUBLE BOWL KITCHEN SINK (ACCESSIBLE)	1 1/2"	1 1/2"	1/2"	1/2"	FIXTURE: ELKAY FAUCET: KOHLER DISPOSER: INSINKERATOR TMV: BRADLEY	FAUCET:K-10445	MOUNT AT ADA HEIGHT DISPOSER ELECTRICAL: 1/2 HP, 1725 RPM, 6.3A, 120/1
LAV-1	COUNTERTOP LAVATORY	1 1/4"	1 1/2"	1/2"	1/2"	FIXTURE: KOHLER FAUCET: KOHLER INSULATION: TRUEBRO TMV: WEBSTONE	FIXTURE: K-2839-1 FAUCET: K-13461 INSULATION: LAVGUARD 2 TMV: H-77211W-TG	SET TMV AT 110 DEG. F.
MOP-1	SERVICE SINK	3"	2"	3/4"	3/4"	FIXTURE: MUSTEE FAUCET:KOHLER	FIXTURE: 63M FAUCET: K-8907	PROVIDE HOSE AND HOSE HOLDER, MOP HANGER, BUMPER AND WALL GUARD
SD-1	FLOOR DRAIN	2"	2"	0"	0"	FIXTURE: ZURN TRAP SEAL: RECTORSEAL	FIXTURE: Z415-BZ1 TRAP SEAL: SURESEAL	TRAP SEAL TO MATCH FD SIZE
SHR	SHOWER	0"	0"	1/2"	1/2"	KOHLER	K-10827-4	
SHR-A	SHOWER (ACCESSIBLE)	0"	0"	1/2"	1/2"	KOHLER	K-10827-4	MOUNT FOR ADA REQUIREMENTS
UR-1	URINAL	2"	2"	1"	0"	FIXTURE: KOHLER FLUSH VALVE: ZURN	FIXTURE: K-5452-ET FLUSH VALVE: ZER6003AV-CP	
WC-1	WALL MOUNT FLUSH VALVE WATER CLOSET	3"	2"	1 1/2"	0"	FIXTURE: KOHLER FLUSH VALVE: ZURN SEAT: BEMIS	FIXTURE: K-4325-SS FLUSH VALVE: ZER6000-CP-WS1 SEAT: 1955CTJ	
wco	WALL CLEANOUT	0"	0"	0"	0"	ZURN	Z1446	SIZE TO MATCH PIPE BEING SERVED

ARCHITECTS, INC

175 WEST 900 SOUTH
SLC, UT 84101
801.322.2724
WWW.ATLASARCHITECTS.COM

SPECTRUM
ENGINEERS
324 S. State St., Suite 400
Salt Lake City, UT 84111
800-678-7077
801-328-5151
fax: 801-328-5155
www.spectrum-engineers.com

REAK, LOCKER AND TOILET ROO 95 WEST AMELIA EARHART DR 0 UTAH 84116

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PLUMBING SCHEDULES

PE601

	SYMBOLS LEGEND
SYMBOL	DESCRIPTION
REFERENC	E AND LINE SYMBOLS
A5 E-501	DETAIL INDICATOR: A5 INDICATES DETAIL NUMBER, E-501 INDICATES DRAWING SHEET WHERE DETAIL IS SHOWN.
A5 E-201	ELEVATION OR SECTION INDICATOR, EXTERIOR: A5 INDICATES ELEVATION OR SECTION NUMBER, E-201 INDICATES DRAWING SHEET WHERE ELEVATION OR SECTION IS SHOWN.
A5 E-201	ELEVATION OR SECTION INDICATOR, INTERIOR: A5 INDICATES ELEVATION OR SECTION NUMBER, E-201 INDICATES DRAWING SHEET WHERE ELEVATION OR SECTION IS SHOWN.
ROOM NAME	ROOM IDENTIFIER WITH ROOM NAME AND NUMBER.
1	KEYNOTE INDICATOR.
1	REVISION INDICATOR.
CU-1	EQUIPMENT INDICATOR.
X-X XMDP	MECHANICAL EQUIPMENT INDICATOR. "X-X" INDICATES EQUIPMENT MARK SHOWN ON EQUIPMENT SCHEDULE. "XMDP" IDENTIFIES PANEL EQUIPMENT IS CIRCUITED TO. REFER TO EQUIPMENT SCHEDULE FOR ADDITIONAL INFORMATION.
	BREAK, STRAIGHT: TO BREAK PARTS OF DRAWING
\sim	BREAK, ROUND
MATCH LINE SEE XX/X-XXX	MATCH LINE INDICATOR: CENTER, EXTRA WIDE LINE.
	NEW LINE: MEDIUM LINE.
	HIDDEN FEATURES LINE: HIDDEN, THIN LINE
	EXISTING TO REMAIN LINE: THIN LINE.
	DEMOLITION LINE: DASHED, MEDIUM LINE
	PROPERTY LINE: DASHED, WIDE LINE.
	CONTRACT LIMIT LINE: DASHDOT, WIDE LINE.
WIRING ME	THODS
	WIRING.
0	WIRING TURNED UP OR TOWARDS OBSERVER.
	WIRING TURNED DOWN OR AWAY FROM OBSERVER.
A-1	SINGLE BRANCH CIRCUIT HOME RUN TO PANELBOARD WITH DEDICATED NEUTRAL CONDUCTOR. LETTER AND NUMBER NOTATION IDENTIFY PANEL AND CIRCUIT NUMBER.
A-1,3,5	BRANCH CIRCUIT HOME RUN TO PANELBOARD: NUMBER OF ARROWS INDICATES NUMBER OF CIRCUITS. LETTER AND NUMBER NOTATIONS IDENTIFY PANEL AND CIRCUIT NUMBERS. NUMBER IN BOX REFERS TO THE CONDUCTOR AND CONDUIT SCHEDULE.
	LOW VOLTAGE WIRING: DIVIDE, MEDIUM LINE.
+	CONDUIT STUB. DIMENSION RECORD DRAWINGS AND MARK.
1	CONDUCTOR & CONDUIT ("CC") SCHEDULE INDICATOR. REFER TO ONE-LINE DIAGRAM.
HC	ADA ACCESS PUSH PLATE
Φ	JUNCTION BOX.
Фс	JUNCTION BOX, CEILING.
Φ _{SC}	JUNCTION BOX, SYSTEMS FURNITURE COMMUNICATION CONNECTION.
O _{SP}	JUNCTION BOX, SYSTEMS FURNITURE POWER CONNECTION.
РВ	PULL BOX.
A"xB" +/-C'-D"	CABLE TRAY ABOVE ACCESSIBLE CEILING. "A" DENOTES CABLE TRAY WIDTH, "B" DENOTES CABLETRAY DEPTH. +/-C'-D" DENOTES CABLE TRAY ELEVATION ABOVE OR BELOW FINISHED SURFACE.
	LADDER RACK.
—J——J—	CABLE J-HOOKS ABOVE ACCESSIBLE CEILING.
•	MECHANICAL EQUIPMENT CONNECTION. REFER TO EQUIPMENT SCHEDULE FOR REQUIREMENTS.

	SYMBOLS LEGEND		SYMBOLS LEGEND
ADOL		CVMDOL	<u> </u>
MBOL	DESCRIPTION AL POWER AND DISTRIBUTION	SYMBOL FIRE ALAR	DESCRIPTION
	METER.		MAGNETIC DOOR HOLDER.
<u>v)</u>		5	WAGNETIC DOOR HOLDER.
<u>-</u>	DISCONNECT SWITCH, FUSED.		COMBINATION FIRE/SMOKE DAMPER. 120V POWER FROM ELECTRICAL SYSTEM.
<u>-</u>	DISCONNECT SWITCH, UNFUSED.	@ FSD	
X 1	STARTER, COMBINATION WITH DISCONNECT SWITCH.	(5)	DETECTOR, SMOKE.
X	STARTER OR MOTOR CONTROLLER.		DETECTOR, SMOKE, DUCT WITH HOUSING AND SAMPLING TUBE.
•	PUSHBUTTON.	3	
:	PUSHBUTTONS, MOTOR CONTROL.	R	SHUT DOWN RELAY: INSTALL RELAY IN CONTROL CIRCUIT OF EQUIPMENT TO BE CONTROLLED IN THE EVENT OF A
7 .	PANELBOARD CABINET, FLUSH MOUNTED.		FIRE.
7 7	PANELBOARD CABINET, SURFACE MOUNTED, 1 SECTION.	ММ	MONITOR MODULE.
	PANELBOARD CABINET, SURFACE MOUNTED, 2 SECTION.	◯ 75	ALARM, STROBE, CEILING MOUNTED. SUBSCRIPT INDICATES CANDELA RATING.
	DIOTRIPUTION DANIEL OR OWITOLIDOARD	75	STROBE, WALL MOUNTED. SUBSCRIPT INDICATES CANDELA RATING.
<u>///</u> P#	DISTRIBUTION PANEL OR SWITCHBOARD.	75	ALARM, HORN/STROBE, WALL MOUNTED, ONE ASSEMBLY. SUBSCRIPT INDICATES CANDELA RATING.
LP	LIGHTING RELAY, CONTACTOR PANEL, OR DIMMING ENCLOSURE.	75	SPEAKER, WALL MOUNTED, EVACUATION, COMBINATION STROBE. SUBSCRIPT INDICATES CANDELLA RATING.
\$ST	SWITCH, TOGGLE MOTOR STARTER WITH OVERLOAD PROTECTION.	>⊗⊲ 75	ALADM LIODNICTDORE ONE ACCEMBLY CEILING MOUNTED
	TRANSFORMER (SEE ONE-LINE FOR SIZE)	75	SPEAKER/STROBE, CEILING MOUNTED. SUBSCRIPT INDICATES CANDELA RATING.
MG DE	EVICES	◎ 75	ALARM, STROBE, CEILING MOUNTED. SUBSCRIPT INDICATES CANDELA RATING.
 b	RECEPTACLE, DUPLEX: NEMA 5-20R.	LIGHTING	INDICATES CANDELATATING.
<u>в</u> В а	RECEPTACLE, DUPLEX, ABOVE COUNTER: NEMA 5-20R.	(W-3)	
<u>Ба</u> Бс	RECEPTACLE, DUPLEX, CEILING: NEMA 5-20R.		FIXTURE IDENTIFICATION: (W-3) INDICATES FIXTURE TYPE AS SCHEDULED.
₩ C B DF	RECEPTACLE, DUPLEX WITH GROUND FAULT CIRCUIT INTERRUPTER, DRINKING FOUNTAIN: CONCEAL WATER COOLER RECEPTACLE BEHIND WATER COOLER. SEE MECHANICAL/PLUMBING SHOP DRAWINGS FOR INSTALLATION REQUIREMENTS.	(W-3E)	FIXTURE IDENTIFICATION: EMERGENCY LIGHTING FIXTURE WITH BATTERY PACK AND/ OR GENERATOR AND/ OR CENTRALIZED INVERTER AND/ OR CENTRALIZED UPS CONNECTION AS INDICATED IN PLANS. (W-3E) INDICATES FIXTURE TYPE AS SCHEDULED.
₩w	RECEPTACLE, DUPLEX WITH GROUND FAULT CIRCUIT INTERRUPTER, WET LABEL, "WEATHERPROOF IN USE": NEMA 5-20R.	EM	EMERGENCY.
	RECEPTACLE, DUPLEX WITH GROUND FAULT CIRCUIT	NL	NIGHT LIGHT: DO NOT SWITCH.
₩	INTERRUPTER: NEMA 5-20R.	<u></u>	EGRESS DIRECTION ARROW (EXIT SIGNS).
<u> </u>	RECEPTACLE, QUADRAPLEX: NEMA 5-20R.	⊗	EXIT SIGN: SINGLE FACE; CEILING MOUNTED
₩	RECEPTACLE, QUADRAPLEX WITH GROUND FAULT CIRCUIT INTERRUPTER: NEMA 5-20R.		EXIT SIGN: SINGLE FACE; WALL MOUNTED
<u> </u>	RECEPTACLE, SPECIAL PURPOSE. PROVIDE RECEPTACLE TO MATCH EQUIPMENT PLUG.	•	EXIT SIGN: DOUBLE FACE; CEILING MOUNTED
	MULTI-OUTLET ASSEMBLY: NEMA 5-20R.	•	EXIT SIGN: DOUBLE FACE; WALL MOUNTED
D#	FLUSH FLOOR BOX. "#" SHOWN ON DRAWINGS. REFER TO	LIGHTING (CONTROL
B#	WIRING DEVICE SCHEDULE IN THE ELECTRICAL SPECIFICATIONS FOR CONFIGURATION AND DEVICES.	>::	OCCUPANCY SENSOR, DUAL TECHNOLOGY, OMNI-DIRECTIONAL, CEILING.
X \$	SWITCH, SINGLE POLE ("x" INDICATES FIXTURES CONTROLLED).		OCCUPANCY SENSOR, DUAL TECHNOLOGY, WALL.
X \$2	SWITCH, DOUBLE POLE ("x" INDICATES FIXTURES CONTROLLED).	P	PHOTOCELL.
₹	RECEPTACLE, DUPLEX, WITH USB OUTLET	*	VACANCY SENSOR, DUAL TECHNOLOGY, OMNI-DIRECTIONAL, CEILING.
	RED CABLING	•••	VACANCY SENSOR, DUAL TECHNOLOGY, WALL.
(·))	DATA CONNECTION: WIRELESS ACCESS POINT	*	SWITCH/OCCUPANCY SENSOR COMBO, DUAL TECHNOLOGY, WALL
▼ X	(WAP). REQUIRES (2) DATA DROPS PER DEVICE OUTLET, DATA COMMUNICATION ("X" INDICATES QUANTITY OF	**	SWITCH/VACANCY SENSOR COMBO, DUAL TECHNOLOGY, WALL.
▼	CABLES). TWO-WAY EMERGENCY COMMUNICATION DEVICE PER IBC,	*	DIMMER SWITCH/OCCUPANCY SENSOR COMBO,
	WALL MOUNTED IN RECESSED BOX. TELEPHONE TERMINAL BOARD, FIRE TREATED PLYWOOD	Ψ ••••	DUAL TECHNOLOGY, WALL. DIMMER SWITCH/VACANCY SENSOR
	PAINTED.		COMBO, DUAL TECHNOLOGY, WALL. LOW VOLTAGE DIGITAL LIGHTING CONTROL SWITCH: LETTER
<u></u> ✓	LAN RACK, FLOOR STANDING.	a,b	"a,b" INDICATES ZONING WHERE SHOWN (REFER TO PLANS, SCHEDULES, AND DETAILS FOR EXACT BUTTON CONFIGURATION AND PROGRAMMING REQUIREMENTS)

CCTV CAMERA/ENCLOSURE WITH LENS, TYPICAL. SEE SCHEDULE

SECURITY

CARD READER.

AND PROGRAMMING REQUIREMENTS)

DIGITAL LIGHTING ROOM CONTROLLER

DIGITAL LIGHTING DIMMING CONTROLLER

SCHEDULE / DIAGRAM

LIGHTING SPACE CONTROL TYPE. X INDICATES TYPE. SEE

	ABBREV	ΊΑ
	NOTE: ALL ABBREVIAT	TIONS N
1P	SINGLE POLE	kVAF
	SINGLE-PHASE	kW
	ONE-WAY	kWh
	TWO-CONDUCTOR	LED
	TWO-WAY	LFMO
3/C	THREE-CONDUCTOR	
3WAY	THREE-WAY	LFNC
4OUT	QUADRUPLE RECEPTACLE	
	OUTLET	LPS
	FOUR-POLE DOUBLE THROW	LRA
4PST		LTG
4W	FOUR-WIRE	LV MAT
4WAY		IVIAI
A AC	ABOVE COUNTER ARMORED CABLE	MAX
ADA	AMERICANS WITH DISABILITIES	MC
	ACT	MCA
ADJ	ADJACENT	MCB
AFF	ABOVE FINISHED FLOOR	MCC
AFG	ABOVE FINISHED GRADE	MCP
AIC	AMPERE INTERRUPTING CAPACITY	MDP MG
ALUM	ALUMINUM	MH
AMP	AMPERE	MIN
ANN	ANNUNCIATOR	MLO
AP	ACCESS POINT (WIRELESS DATA)	МОС
AR	AS REQUIRED	MTS
ASC	AMPS SHORT CIRCUIT	NA
ATS	AUTOMATIC TRANSFER SWITCH	NC NEC
AV	AUDIO VISUAL	NEM
AWG	AMERICAN WIRE GAGE	
BB XFMR	BUCK-BOOST TRANSFORMER	NFC
BFF	BELOW FINISHED FLOOR	NFPA
BFG	BELOW FINISHED GRADE	
С	CEILING MOUNTED	NIC
CAT	CATEGORY	NL
CATV	COMMUNITY ANTENNA TELEVISION	NO NTS
СВ	CIRCUIT BREAKER	ОС
CCBA	CUSTOM COLOR AS SELECTED BY ARCHITECT	OCP OE
CCTV	CLOSED CIRCUIT TELEVISION	OF/C
CF/CI	CONTRACTOR FURNISHED/ CONTRACTOR INSTALLED	OF/C
CF/OI	CONTRACTOR FURNISHED/ OWNER INSTALLED	OED

OWNER INSTALLED CFBA CUSTOM FINISH AS SELECTED BY ARCHITECT CKT CIRCUIT CONSTRUCTION MANAGER CND CONDUIT CO CONVENIENCE OUTLET COR CONTRACTING OFFICER'S REPRESENTATIVE CONTROL PANEL

CURRENT TRANSFORMER CTV CABLE TELEVISION CU COPPER dBA UNIT OF SOUND LEVEL DPDT DOUBLE POLE, DOUBLE DISCONNECT SWITCH ENHANCED EACH EA **EMERGENCY** EM ELECTRICAL METALLIC TUBING ELECTRIC NONMETALLIC ENT TUBING EPO EMERGENCY POWER OFF EQUIP EQUIPMENT EQUIPMENT ROOM ER EXISTING FURNITURE MOUNTED FIRE ALARM FCP FIRE ALARM CONTROL PANEL FULL LOAD AMPS FMC FLEXIBLE METAL CONDUIT FOB FREIGHT ON BOARD FPP FIBER PATCH PANEL FVNR FULL VOLTAGE NON-REVERSING FVR FULL VOLTAGE REVERSING GEN GENERATOR GFCI GROUND FAULT INTERRUPTER GFP GROUND FAULT PROTECTION GIG GIGA HERTZ GND GROUND HD HEAVY DUTY HIGH INTENSITY DISCHARGE HID HOA

HPF

HPS

HV

IMC

ABBREV	IAT	IONS		G
NOTE: ALL ABBREVIAT	IONS MA	Y NOT BE USED.	1.	CI
GLE POLE GLE-PHASE E-WAY D-CONDUCTOR D-WAY EE-CONDUCTOR FF-WAY	kVAR kW kWh LED LFMC	KILOVOLT AMPERE REACTIVE KILOWATT KILOWATT HOUR LIGHT EMITTING DIODE LIQUID TIGHT FLEXIBLE METAL CONDUIT LIQUID TIGHT FLEXIBLE		TH M CA SI SI TO DI (V
EE-WAY DRUPLE RECEPTACLE LET	LPS	NONMETALLIC CONDUIT LOW PRESSURE SODIUM		ÍΝ
R-POLE DOUBLE THROW R-POLE SINGLE THROW R-WIRE R-WAY	LRA LTG LV MATV	LOCKED ROTOR AMPS LIGHTING LOW VOLTAGE MASTER ANTENNA TELEVISION SYSTEM	2.	O' AS W RI IN
IVE COUNTER ORED CABLE ERICANS WITH DISABILITIES	MAX MC MCA	MAXIMUM METAL CLAD MINIMUM CIRCUIT AMPS		A.
ACENT IVE FINISHED FLOOR IVE FINISHED GRADE PERE INTERRUPTING	MCB MCC MCP MDP	MAIN CIRCUIT BREAKER MOTOR CONTROL CENTER MOTOR CIRCUIT PROTECTION MAIN DISTRIBUTION PANEL		В.
ACITY MINUM PERE UNCIATOR PESS POINT (WIRELESS	MG MH MIN MLO MOCP	MOTOR GENERATOR MANHOLE MINIMUM MAIN LUGS ONLY MAXIMUM OVERCURRENT		C.
A) REQUIRED PS SHORT CIRCUIT OMATIC TRANSFER	MTS NA NC	PROTECTION MANUAL TRANSFER SWITCH NOT APPLICABLE NORMALLY CLOSED		0.

NATIONAL ELECTRICAL CODE MA NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION NATIONAL FIRE CODE PA NATIONAL FIRE PROTECTION ASSOCIATION NOT IN CONTRACT NIGHT LIGHT NORMALLY OPEN NOT TO SCALE ON CENTER **OVER CURRENT PROTECTION** OWNER ELECTRONICS OWNER FURNISHED/

CONTRACTOR INSTALLED OI OWNER FURNISHED/ OWNER INSTALLED OFP OBTAIN FROM PLANS OH DR OVERHEAD (COILING) DOOR OVERLOAD PUSHBUTTON POWER FACTOR PHASE PANEL PLENUM PAIR POWER SUPPLY POTENTIAL TRANSFORMER

PAN/TILT/ZOOM PHOTO VOLTAIC QTY QUANTITY REMOVE RCP REFLECTED CEILING PLAN RMC RIGID METAL CONDUIT RNC RIGID NONMETAL CONDUIT RPM REVOLUTIONS PER MINUTE RPP RISER PATCH PANEL REMOVE AND RELOCATE START/STOP SCA SHORT CIRCUIT AMPS SCBA STANDARD COLOR AS SELECTED BY ARCHITECT SQUARE FOOT (FEET) SFBA STANDARD FINISH AS SELECTED BY ARCHITECT SPD SURGE PROTECTIVE DEVICE SPDT SINGLE POLE, DOUBLE THROW SPEC SPECIFICATION

SPP STATION PATCH PANEL SPST SINGLE POLE, SINGLE THROW ST SINGLE THROW SWBD SWITCHBOARD SWGR SWITCHGEAR TWIST LOCK TELEPHONE POLE TWISTED PAIR TELECOMMMUNICATIONS TTB TELEPHONE TERMINAL BOARD TELEVISION TVSS TRANSIENT VOLTAGE SURGE

HAND-OFF-AUTOMATIC SUPPRESSER HORSE POWER TYP TYPICAL HIGH POWER FACTOR UF UNDERFLOOR HIGH PRESSURE SODIUM UGND UNDERGROUND HIGH VOLTAGE UPS UNINTERRUPTIBLE POWER HWM HORIZONTAL WIRE SUPPLY MANAGEMENT VOLTS HERTZ VA VOLT AMPERE INPUT/ OUTPUT VFC/VF VARIABLE FREQUENCY MOTOR ISOLATED GROUND CONTROLLER

INTERMEDIATE METAL VWM VERTICAL WIRE MANAGEMENT CONDUIT WITH IN/IS INSULATED/ ISOLATED WITHOUT W/O INFRARED WEATHERPROOF J-BOX JUNCTION BOX WPP WIRELESS PATCH PANEL kV KILOVOLT XFMR TRANSFORMER kVA KILOVOLT AMPERE

GENERAL ELECTRICAL NOTES

CLARIFICATION METHODS: AT THE TIME OF BIDDING, BIDDERS SHALL FAMILIARIZE THEMSELVES WITH THE DRAWINGS AND SPECIFICATIONS. ANY QUESTIONS, MISUNDERSTANDINGS, CONFLICTS, DELETIONS, DISCONTINUED PRODUCTS, CATALOG NUMBER DISCREPANCIES, DISCREPANCIES BETWEEN THE EQUIPMENT SUPPLIED AND THE INTENT OR FUNCTION OF THE EQUIPMENT, ETC. SHALL BE SUBMITTED TO THE ARCHITECT/ENGINEER IN WRITING FOR CLARIFICATION PRIOR FO ISSUANCE OF THE FINAL ADDENDUM AND BIDDING OF THE PROJECT. WHERE DISCREPANCIES OR MULTIPLE INTERPRETATIONS OCCUR. THE MOST STRINGENT (WHICH IS GENERALLY RECOGNIZED AS THE MOST COSTLY) THAT MEETS THE INTENT OF THE DOCUMENTS SHALL BE ENFORCED.

OWNER FURNISHED ITEMS: THE OWNER WILL FURNISH MATERIAL AND EQUIPMENT AS INDICATED IN THE CONTRACT DOCUMENTS TO BE INCORPORATED INTO THE WORK. THESE ITEMS ARE ASSIGNED TO THE INSTALLER AND COSTS FOR RECEIVING, HANDLING, STORAGE, IF REQUIRED, AND INSTALLATION ARE INCLUDED IN THE CONTRACT SUM.

THE INSTALLER'S RESPONSIBILITIES ARE THE SAME AS IF THE INSTALLER FURNISHED THE MATERIALS OR EQUIPMENT.

THE OWNER WILL ARRANGE AND PAY FOR DELIVERY OF OWNER FURNISHED ITEMS FREIGHT ON BOARD JOB SITE AND THE INSTALLER WILL INSPECT DELIVERIES FOR DAMAGE. IF OWNER FURNISHED ITEMS ARE DAMAGED, DEFECTIVE OR MISSING, DOCUMENT DAMAGED ITEMS WITH THE TRANSPORT COMPANY AND THE OWNER WILL ARRANGE FOR REPLACEMENT. THE OWNER WILL ALSO ARRANGE FOR MANUFACTURER'S FIELD SERVICES, AND THE DELIVERY OF MANUFACTURER'S WARRANTIES AND BONDS TO THE INSTALLER.

THE INSTALLER IS RESPONSIBLE FOR DESIGNATING THE DELIVERY DATES OF OWNER FURNISHED ITEMS AND FOR RECEIVING, UNLOADING AND HANDLING OWNER FURNISHED ITEMS AT THE SITE. THE INSTALLER IS RESPONSIBLE FOR PROTECTING OWNER FURNISHED ITEMS FROM DAMAGE, INCLUDING DAMAGE FROM EXPOSURE TO THE ELEMENTS, AND TO REPAIR OR REPLACE ITEMS DAMAGED AS A RESULT OF HIS OPERATIONS.

EXPOSED STRUCTURE AREAS (EXCLUDING MECHANICAL, ELECTRICAL, AND COMMUNICATION SPACES): INSTALL RACEWAYS BETWEEN DECK AND STRUCTURE WHEREVER POSSIBLE IN ÉXPOSED STRUCTURE CEILING AREAS. ROUTE RACEWAYS IN CONCEALED AREAS WHEREVER POSSIBLE. REFER ALL CONDITIONS WHERE RACEWAYS MUST BE INSTALLED WHICH CANNOT COMPLY WITH THESE REQUIREMENTS TO THE ARCHITECT.

SUBMITTALS: PROVIDE ORIGINAL ELECTRONIC PDF FORMAT, BOUND, BOOKMARKED (EACH SECTION AND PRODUCT), AND HIGHLIGHTED. JOB NAME AND SUBCONTRACTOR SHALL BE ON THE FRONT COVER. PREPARE INDEX OF EQUIPMENT SUBMITTED IN EACH TAB.

REFLECTED CEILING PLANS: COORDINATE THE LOCATION OF LIGHT FIXTURES WITH THE ARCHITECTURAL REFLECTED CEILING PLANS. REFER ALL DISCREPANCIES TO THE ARCHITECT AND ENGINEER.

ALL WORK SHALL BE DONE ACCORDING TO THE CURRENT NATIONAL ELECTRIC CODE (NEC), IBC, NFPA, AND IFC. COMPLIANCE AND FINAL APPROVAL IS SUBJECT TO THE ON SITE FIELD INSPECTION OF THE AHJ.

DEFINITIONS

NOTE: ALL DEFINITIONS MAY NOT BE USED.

INDICATED: THE TERM "INDICATED" REFERS TO GRAPHIC REPRESENTATIONS, NOTES, OR SCHEDULES ON THE DRAWINGS, OTHER PARAGRAPHS OR SCHEDULES IN THE SPECIFICATIONS, AND SIMILAR REQUIREMENTS IN THE CONTRACT DOCUMENTS. WHERE TERMS SUCH AS "SHOWN", "NOTED", "SCHEDULED", AND "SPECIFIED" ARE USED, IT IS TO HELP THE READER LOCATE THE REFERENCE, NO LIMITATION ON LOCATION IS INTENDED.

DIRECTED: TERMS SUCH AS "DIRECTED". "REQUESTED". AUTHORIZED". "SELECTED", "APPROVED", "REQUIRED", AND "PERMITTED" MEAN "DIRECTED BY THE ENGINEER", "REQUESTED BY THE ENGINEER", AND SIMILAR PHRASES.

APPROVED: THE TERM "APPROVED", WHERE USED IN CONJUNCTION WITH THE ENGINEER'S ACTION ON THE CONTRACTOR'S SUBMITTALS, APPLICATIONS, AND REQUESTS, IS LIMITED TO THE ENGINEER'S DUTIES AND RESPONSIBILITIES AS

STATED IN GENERAL AND SUPPLEMENTARY CONDITIONS.

FURNISH: THE TERM "FURNISH" IS USED TO MEAN "SUPPLY AND DELIVER TO THE PROJECT SITE, READY FOR UNLOADING, UNPACKING, ASSEMBLY, INSTALLATION, AND SIMILAR OPERATIONS."

INSTALL: THE TERM "INSTALL" IS USED TO DESCRIBE OPERATIONS AT PROJECT SITE INCLUDING THE ACTUAL "UNLOADING, UNPACKING, ASSEMBLY, ERECTION, PLACING, ANCHORING, APPLYING, WORKING TO DIMENSION, FINISHING, CURING, PROTECTING, CLEANING, AND SIMILAR OPERATIONS."

PROVIDE: THE TERM "PROVIDE" MEANS "TO FURNISH AND INSTALL, COMPLETE AND READY FOR THE INTENDED USE."

INSTALLER: AN "INSTALLER" IS THE CONTRACTOR OR AN ENTITY ENGAGED BY THE CONTRACTOR, EITHER AS AN EMPLOYEE, SUBCONTRACTOR, OR SUB-SUBCONTRACTOR, FOR PERFORMANCE OF A PARTICULAR CONSTRUCTION ACTIVITY, INCLUDING INSTALLATION, ERECTION, APPLICATION, AND SIMILAR OPERATIONS. INSTALLERS ARE REQUIRED TO BE EXPERIENCED IN THE OPERATIONS THEY ARE ENGAGED TO PERFORM.

TECHNOLOGY SYSTEMS: THE TERM "TECHNOLOGY SYSTEMS" IS USED TO DESCRIBE ALL LOW VOLTAGE SYSTEMS GENERALLY REFERRED TO AS "SPECIAL SYSTEMS". THESE SYSTEMS INCLUDE BUT ARE NOT NECESSARILY LIMITED TO ALL SYSTEMS WHICH UTILIZE VOLTAGES OF LESS THAN 71 VOLTS SUCH AS SOUND SYSTEMS, VIDEO SYSTEMS, TV SYSTEMS, SECURITY SYSTEMS, VOICE AND DATA CABLING SYSTEMS, ETC...

ELECTRICAL SHEET INDEX

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EE001	ELECTRICAL COVER SHEET
EE501	ELECTRICAL DETAILS
EE502	ELECTRICAL DETAILS - PICTURES
EE701	TYPICAL MOUNTING DETAILS
EE801	ELECTRICAL SPECS
ED101	LEVEL 1 ELECTRICAL DEMO PLANS
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EP601	ELECTRICAL SCHEDULES
EL101	LEVEL 1 LIGHTING PLAN
EL601	LIGHTING SCHEDULES
EY101	LEVEL 1 AUXILIARY PLAN



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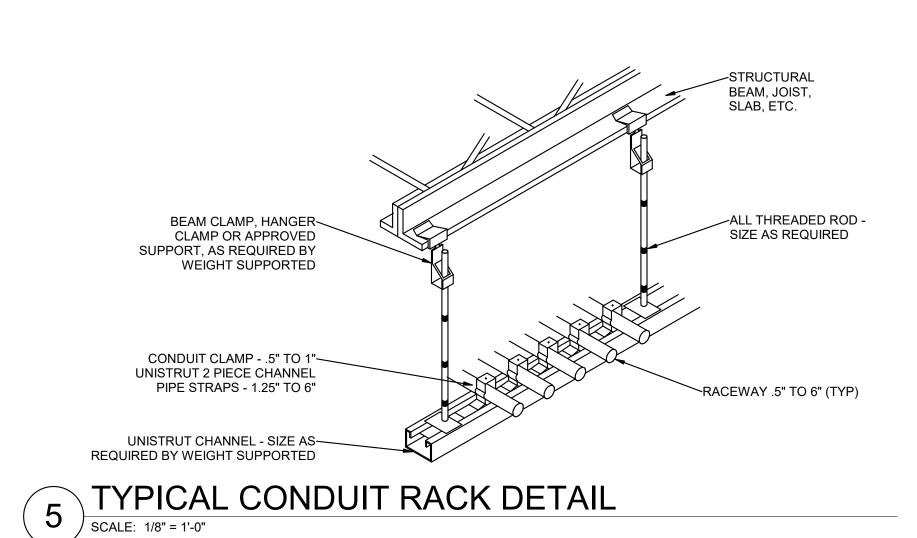
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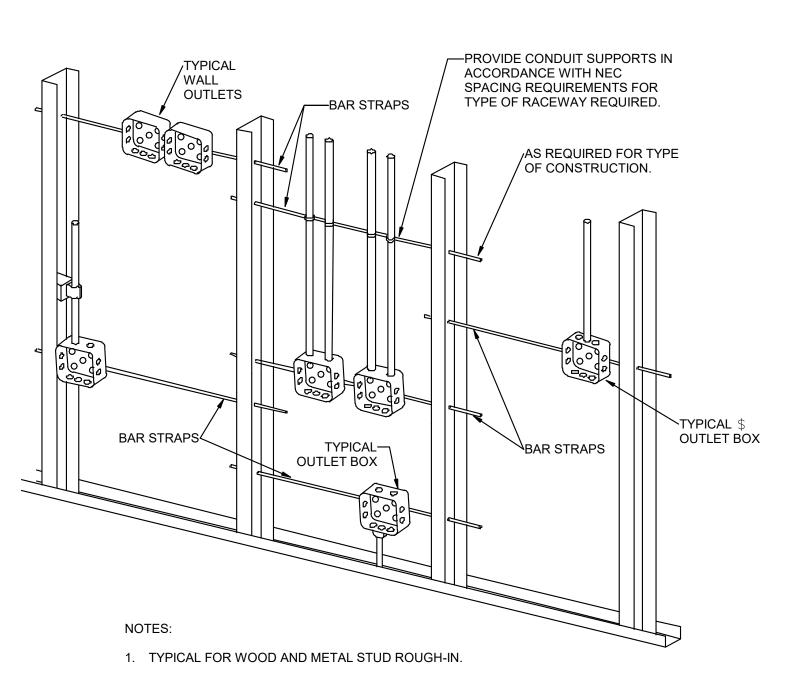
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BID SET

ELECTRICAL COVER SHEET

EE001

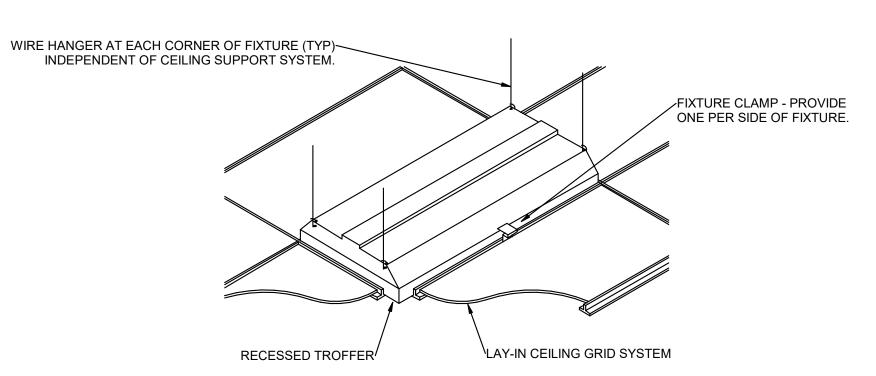




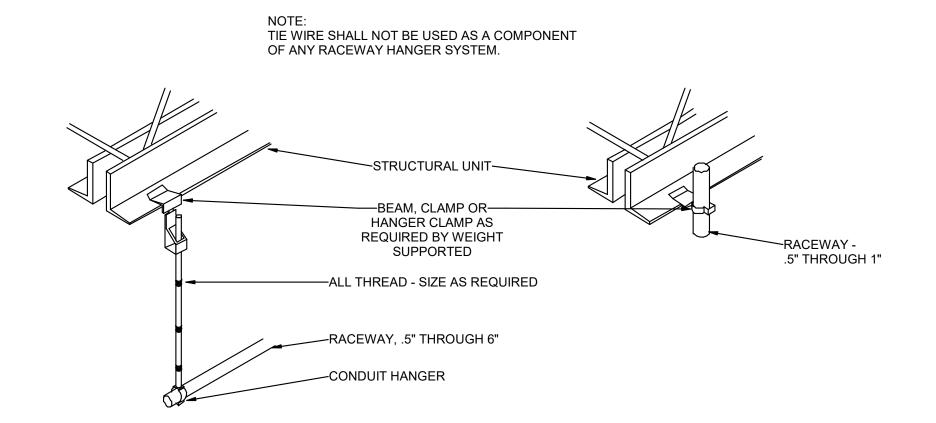
- 2. PLASTER RINGS NOT SHOWN.
- 3. LOCATE ALL OUTLET BOXES IN ACCORDANCE WITH ARCHITECTURAL AND MECHANICAL DRAWINGS AND WITH ALL APPLICABLE SHOP DRAWINGS.
- 4. IN ACCORDANCE WITH IBC 714.3.2 EXCEPTION 1, OUTLETS ON OPPOSITE SIDES OF WALLS OR PARTITIONS IN THE SAME STUD SPACE IN A RATED FIRE SEPARATION WALL MUST BE SEPARATED BY A MINIMUM OF 24" HORIZONTAL DISTANCE OR
- 5. IN NON-RATED WALLS, OUTLETS ON OPPOSITE SIDES OF WALLS OR PARTITIONS MUST BE SEPARATED BY 16" FOR SOUND ATTENUATION.

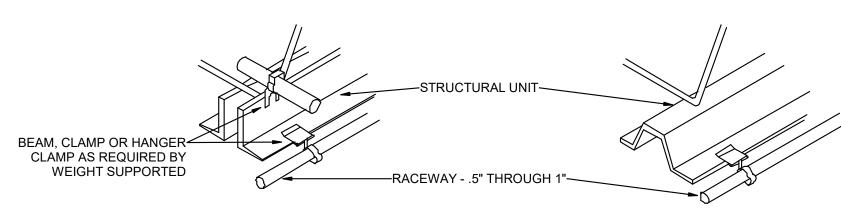
TYPICAL ROUGH-IN REQUIREMENTS DETAIL

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

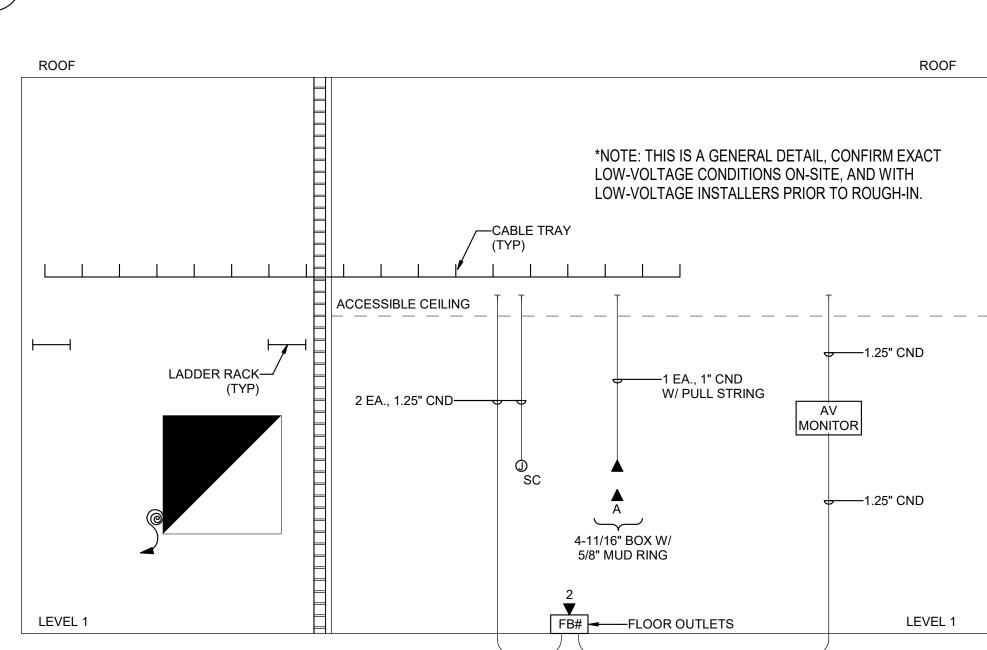


RECESSED FIXTURE MOUNTING DETAIL SCALE: 1/8" = 1'-0"





TYPICAL RACEWAY SUPPORT METHODS DETAIL 2 SCALE: 1/8" = 1'-0"



TELECOM CONDUIT RISER DIAGRAM

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

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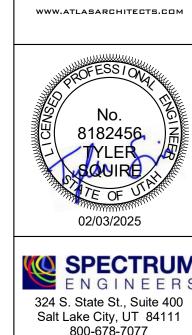
DETAILS

EE501

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PICTURES

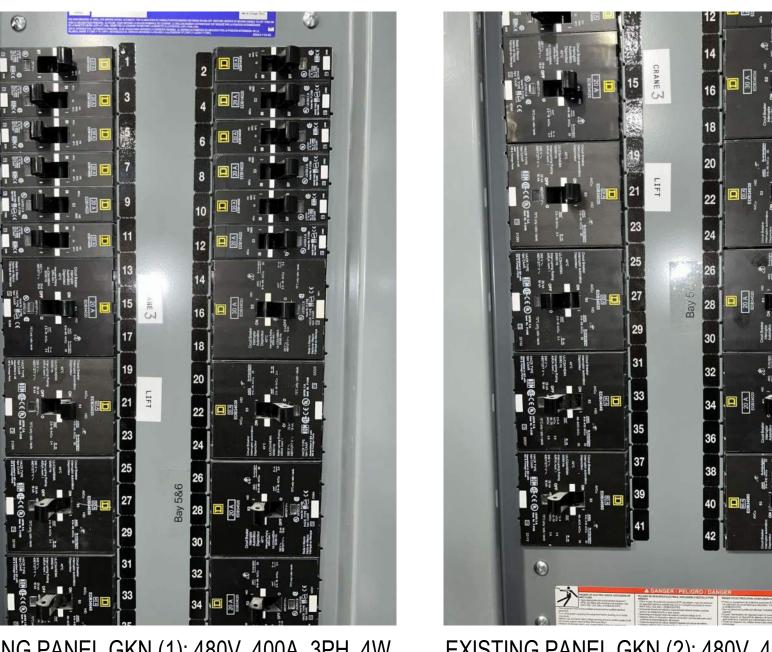








EXISTING PANEL GKN (2): 480V, 400A, 3PH, 4W (LOCATED NEAR OFFICE)



EXISTING GEAR (NEAR OFFICE) XFMR IS 150KVA, 3PH, PRIMARY 480D/ SECONDARY 208Y/120, %IZ = 2.92

EXISTING IT ROOM TO BE DEMOLISHED AND

RELOCATED



EXISTING PANEL GKN (1): 480V, 400A, 3PH, 4W (LOCATED NEAR OFFICE)



EXISTING PANEL (1): 208V, 400A, 3PH, 4W (LOCATED NEAR OFFICE)



EXISTING PANEL (2): 208V, 400A, 3PH, 4W (LOCATED NEAR OFFICE)

EXISTING GEAR - FAR WALL

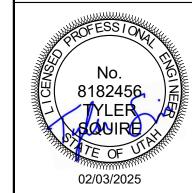
TYPICAL WALL MOUNTED DEVICES ALIGNMENT DETAIL

LIGHTING MOUNTING DETAILS

BOX MOUNTING DETAILS

GENERAL ATLAS SHEET NOTES ARCHITECTS, INC MOUNTING HEIGHTS OF ELECTRICAL AND ELECTRONIC EQUIPMENT IN THE FOLLOWING A - ELEVATIONS (ARCHITECTURAL, ELECTRICAL,

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SET BOXES WITH PLASTER RINGS FLUSH WITH

6 LOCATE BOX COVERS OR DEVICE PLATES SO THEY WILL NOT SPAN DIFFERENT TYPES OF BUILDING FINISHES EITHER VERTICALLY OR

ORDER OF PRIORITY:

MECHANICAL, ETC).

B - EQUIPMENT SHOP DRAWINGS.

AND ARE COMPATIBLE VOLTAGES IN ONE PLATE.

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4

02.03.25

BID SET

TYPICAL MOUNTING DETAILS

EE701

INDUSTRY STANDARDS AND PRACTICES.

LISTING AND LABELING: PROVIDE PRODUCTS THAT ARE UL LISTED AND LABELED.

NEMA COMPLIANCE: COMPLY WITH CONSTRUCTION AND INSTALLATION REQUIREMENTS OF APPLICABLE NEMA STANDARDS.

SUBMITTALS: SUBMIT PRODUCT DATA AND SHOP DRAWING ON THE FOLLOWING EQUIPMENT FOR

 WIRING DEVICES. LIGHTING FIXTURES.

PRIOR TO SUBMITTING BID, VISIT SITE TO VERIFY ALL EXISTING CONDITIONS AND ANY ITEMS THAT WILL AFFECT WORK OF THIS PROJECT. INCLUDE ALL COSTS IN BID.

MAINTAIN A SET OF REDLINED AS-BUILT DRAWINGS AND DELIVER TO OWNER UPON COMPLETION OF

PROTECT ADJACENT MATERIALS INDICATED TO REMAIN. INSTALL AND MAINTAIN DUST AND NOISE BARRIERS TO KEEP DIRT, DUST, AND NOISE FROM BEING TRANSMITTED TO ADJACENT AREAS. REMOVE

PROTECTION AND BARRIERS AFTER DEMOLITION OPERATIONS ARE COMPLETE.

LOCATE, IDENTIFY, AND PROTECT ELECTRICAL SERVICES WITHIN OR PASSING THROUGH DEMOLITION AREA AND SERVING OTHER AREAS OUTSIDE THE DEMOLITION LIMITS. MAINTAIN SERVICES TO AREAS OUTSIDE DEMOLITION LIMITS. WHEN SERVICES MUST BE INTERRUPTED. INSTALL TEMPORARY SERVICES FOR AFFECTED AREAS. COORDINATE POWER INTERRUPTIONS ONE WEEK IN ADVANCE WITH OWNER. IF POWER INTERRUPTIONS DISTURB NORMAL OPERATIONS, THEN POWER INTERRUPTIONS ARE ONLY ALLOWED DURING NON-BUSINESS OR NON-OPERATION HOURS.

PATCH AND REPAIR SURFACES THAT ARE DISTURBED OR DAMAGED AS A RESULT OF ELECTRICAL INSTALLATION. RESTORE SURFACES TO ORIGINAL CONDITION.

INSTALLATION OF FIRE-STOPPING SEALANT: INSTALL UL-LISTED SEALANT, INCLUDING FORMING, PACKING, AND OTHER ACCESSORY MATERIALS, TO FILL OPENINGS AROUND ELECTRICAL SERVICES PENETRATING FLOORS AND WALLS, TO PROVIDE FIRE-STOPS WITH FIRE-RESISTANCE RATINGS INDICATED FOR FLOOR OR WALL ASSEMBLY IN WHICH PENETRATION OCCURS. COMPLY WITH INSTALLATION REQUIREMENTS ESTABLISHED BY TESTING AND INSPECTING AGENCY.

SECTION 260519 - RACEWAYS AND BOXES FOR ELECTRICAL SYSTEMS

PROVIDE STEEL RACEWAY, FITTING, AND BOX SYSTEM FOR ALL WIRING, EXCEPT FOR PLASTIC CONDUIT MAY BE INSTALLED UNDERGROUND.

RIGID STEEL CONDUIT: ANSI C80.1.

INTERMEDIATE METAL CONDUIT: ANSI C80.6.

PLASTIC-COATED STEEL CONDUIT AND FITTINGS: NEMA RN 1

PLASTIC-COATED INTERMEDIATE METAL CONDUIT AND FITTINGS: NEMA RN 1.

ELECTRICAL METALLIC TUBING AND FITTINGS: ANSI C80.3 WITH SET-SCREW OR COMPRESSION-TYPE FITTINGS. CAST FITTINGS ARE NOT ALLOWED.

FLEXIBLE METAL CONDUIT: ZINC-COATED STEEL.

LIQUIDTIGHT FLEXIBLE METAL CONDUIT: FLEXIBLE STEEL CONDUIT WITH PVC JACKET.

FITTINGS: NEMA FB 1, COMPATIBLE WITH CONDUIT/TUBING MATERIALS AND SUITABLE FOR USE AND

RIGID NONMETALLIC CONDUIT (RNC): NEMA TC 2, SCHEDULE 40 OR 80 PVC.

PVC CONDUIT AND TUBING FITTINGS: NEMA TC 3; MATCH TO CONDUIT OR CONDUIT/TUBING TYPE AND MATERIAL. OUTLET AND DEVICE BOXES: USE ONE OF THE FOLLOWING:

1. SHEET METAL BOXES: NEMA OS 1.

EXECUTION

PROVIDE MINIMUM 3/4" RACEWAY.

INDOORS WIRING METHODS: USE THE FOLLOWING WIRING METHODS:

1. CONNECTION TO VIBRATING EQUIPMENT, INCLUDING TRANSFORMERS AND HYDRAULIC, PNEUMATIC, OR ELECTRIC SOLENOID OR MOTOR-DRIVEN EQUIPMENT: FLEXIBLE METAL CONDUIT WITH MINIMUM 18" OF LIQUID-TIGHT FLEXIBLE CONDUIT (MAXIMUM OF 6 FEET). EXCEPT IN WET OR DAMP LOCATIONS USE LIQUIDTIGHT FLEXIBLE METAL CONDUIT (MAXIMUM OF 6 FEET).

2. DAMP OR WET LOCATIONS: RIGID STEEL CONDUIT.

3. EXPOSED: ELECTRICAL METALLIC TUBING, RIGID OR INTERMEDIATE METAL CONDUIT WHERE SUBJECT TO PHYSICAL DAMAGE.

4. CONCEALED: ELECTRICAL METALLIC TUBING OR MC CABLE. MC CABLE MAY BE USED FOR THE LAST 30' OF ALL CIRCUITS, BUT NEVER IN THE ELECTRICAL ROOMS OR FOR CIRCUIT HOMERUNS.

5. CONNECTION FOR CONDUIT IN CRAMPED QUARTERS OR MISALIGNMENT EXIST. FLEXIBLE METAL CONDUIT (MINIMUM 1/2" CONCEAL CONDUIT AND EMT, UNLESS OTHERWISE INDICATED, WITHIN FINISHED WALLS, CEILINGS, AND

INSTALL RACEWAYS LEVEL AND SQUARE AND AT PROPER ELEVATIONS. RUN PERPENDICULAR AND AT RIGHT ANGLES TO BUILDING AND STRUCTURAL ELEMENTS. RUN PARALLEL OR BANKED RACEWAYS TOGETHER, ON COMMON SUPPORTS WHERE PRACTICAL. MAKE BENDS IN PARALLEL OR BANKED RUNS FROM SAME CENTER LINE TO MAKE BENDS PARALLEL.

SUPPORT RACEWAYS AS FOLLOWS, IN COMPLIANCE WITH DIVISION 16 SECTION "SUPPORTING DEVICES":

TWO SUPPORTS PER 10' RUN, WITHING 12" OF A COUPLING, FITTING OR BEND GREATER THAN 45 DEGREES, AND WITHIN 12" OF EVERY BOX TO WHICH THE RACEWAY IS ENTERING OR EXITING. RUN CONCEALED RACEWAYS WITH A MINIMUM OF BENDS IN THE SHORTEST PRACTICAL DISTANCE

CONSIDERING THE TYPE OF BUILDING CONSTRUCTION AND OBSTRUCTIONS, EXCEPT AS OTHERWISE

RACEWAYS EMBEDDED IN SLABS: INSTALL IN MIDDLE THIRD OF THE SLAB THICKNESS WHERE PRACTICAL, AND LEAVE AT LEAST 1 INCH (25 MM) CONCRETE COVER.

JOINTS AND TERMINATIONS: JOIN RACEWAYS WITH FITTINGS DESIGNED AND APPROVED FOR THE PURPOSE AND MAKE JOINTS AND TERMINATIONS TIGHT.

1. MAKE RACEWAY TERMINATIONS TIGHT. USE BONDING BUSHINGS OR WEDGES AT CONNECTIONS SUBJECT TO VIBRATION.

2. USE BONDING JUMPERS WHERE JOINTS CANNOT BE MADE TIGHT.

3. USE INSULATED THROAT OR EQUAL TYPE PLASTIC BUSHINGS FOR BOX CONNECTIONS TO PROTECT CONDUCTORS.

4. CONNECTORS ON FLEXIBLE CONDUIT AND MC CABLE SHALL BE THREADED TYPE - NOT PUSH-IN QUICK

INSTALL 200-LB NYLON PULL CORD IN ALL EMPTY RACEWAYS. CAP RACEWAY USING A BLANK COVER SIMILAR TO ADJACENT WIRING DEVICE COVERS.

ALL FUTURE RACEWAYS SHALL TERMINATE IN AN ACCESSIBLE CEILING SPACE UNLESS NOTED OTHERWISE. EXTEND AS NECESSARY. RECORD CIRCUIT NUMBERS ON THE INSIDE BACK OF RECEPTACLE AND LIGHTING OUTLET BOXES USING A PERMANT MARKER OR PERMANENT LABEL.

PROVIDE GROUNDING CONNECTIONS FOR RACEWAY, BOXES, AND COMPONENTS AS INDICATED AND INSTRUCTED BY MANUFACTURER. TIGHTEN CONNECTORS AND TERMINALS, INCLUDING SCREWS AND BOLTS, ACCORDING TO EQUIPMENT MANUFACTURER'S PUBLISHED TORQUE-TIGHTENING VALUES FOR EQUIPMENT CONNECTORS. WHERE MANUFACTURER'S TORQUING REQUIREMENTS ARE NOT INDICATED, TIGHTEN CONNECTORS AND TERMINALS ACCORDING TO TIGHTENING TORQUES SPECIFIED IN UL

SECTION 260526 - LOW-VOLTAGE ELECTRICAL POWER CONDUCTORS AND CABLES

WIRES AND CABLES: TYPE THHN/THWN COPPER CONDUCTOR.

SOLID CONDUCTOR FOR 10 AWG AND SMALLER; STRANDED CONDUCTOR FOR LARGER THAN 10 AWG.

CONNECTORS AND SPLICES: UL-LISTED FACTORY-FABRICATED WIRING CONNECTORS OF SIZE, AMPACITY RATING, MATERIAL, AND TYPE AND CLASS FOR APPLICATION AND FOR SERVICE INDICATED. SELECT TO COMPLY WITH PROJECT'S INSTALLATION REQUIREMENTS AND AS SPECIFIED IN THE "EXECUTION" ARTICLE. DO NOT PROVIDE THE FOLLOWIN G UNLESS APPROVED BY THE DIRECTOR:

EXPOSED CABLE WIRING.

2. SPLICES IN PANELBOARD, SWITCHBOARD ENCLOSURES, OR IN CONDUIT BODIES.

DO NOT USE ALLUMINUM CONDUCTORS OR NON-METALLIC SHEATHED CABLE.

COLOR-CODING OF SECONDARY PHASE CONDUCTORS: COLOR CODE SWITCH LEGS, TRAVELERS AND OTHER WIRING FOR BRANCH CIRCUITS OTHER THAN THOSE LISTED BELOW. PERMANENTLY POST COLOR CODE AT EACH BRANCH PANELBOARD. USE THE FOLLOWING COLORS FOR SERVICE, FEEDER AND BRANCH-CIRCUIT PHASE CONDUCTORS:

1. 208/120-V CONDUCTORS:

a. PHASE A: BLACK b. PHASE B: RED. c. PHASE C: BLUE.

d. NEUTRAL: WHITE e. GROUND: GREEN. f. INSULATED GROUND: GREEN WITH WHITE STRIPE.

2. 480/277-V CONDUCTORS:

a. PHASE A: BROWN. b. PHASE B: YELLOW c. PHASE C: VIOLET

d. NEUTRAL: GRAY.

e. GROUND: GREEN.

3. ORANGE IS RESERVED FOR THE HIGH-LEG OF CENTER-TAPPED DELTA SYSTEM.

4. #8 AND LARGER CONDUCTORS MAY BE TAPED WITH 8" OF HALF-LAPPED COLORED TAPE AT TERMINATIONS AND PULL BOXES.

INSTALL WIRES AND CABLES AS INDICATED, ACCORDING TO MANUFACTURER'S WRITTEN INSTRUCTIONS AND THE NECA "STANDARD OF INSTALLATION."

PULL CONDUCTORS INTO RACEWAY SIMULTANEOUSLY WHERE MORE THAN ONE IS BEING INSTALLED IN SAME RACEWAY.

CONDUCTOR SPLICES: KEEP TO MINIMUM.

INSTALL SPLICES AND TAPES THAT POSSESS EQUIVALENT OR BETTER MECHANICAL STRENGTH AND INSULATION RATINGS THAN CONDUCTORS BEING SPLICED.

USE SPLICE AND TAP CONNECTORS THAT ARE COMPATIBLE WITH CONDUCTOR MATERIAL. DO NOT USE PUSH-IN TYPE QUICK-WIRE DEVICES OR WIRE CONNECTORS.

WIRING AT OUTLETS: INSTALL WITH AT LEAST 12 INCHES (300 MM) OF SLACK CONDUCTOR AT EACH

CONNECT OUTLETS AND COMPONENTS TO WIRING AND TO GROUND AS INDICATED AND INSTRUCTED BY MANUFACTURER. TIGHTEN CONNECTORS AND TERMINALS, INCLUDING SCREWS AND BOLTS, ACCORDING TO EQUIPMENT MANUFACTURER'S PUBLISHED TORQUE-TIGHTENING VALUES FOR EQUIPMENT CONNECTORS. WHERE MANUFACTURER'S TORQUING REQUIREMENTS ARE NOT INDICATED, TIGHTEN CONNECTORS AND TERMINALS ACCORDING TO TIGHTENING TORQUES SPECIFIED IN UL STANDARD 486A

METAL CLAD (MC) CABLE:

1. MC CABLE MAY BE USED FOR THE FINAL 30' OF THE CIRCUIT, BUT NEVER FOR HOMERUNS OR IN THE ELECTRICAL ROOM.

SECTION 260529 - WIRING DEVICES

WIRING DEVICES: COMPLY WITH NEMA STANDARD WD 1, "GENERAL PURPOSE WIRING DEVICES."

COLOR: AS SELECTED BY ARCHITECT/OWNER, EXCEPT AS OTHERWISE INDICATED OR REQUIRED BY CODE. STANDARD DUPLEX RECEPTACLES: 20A DEVICES; PROVIDE NYLON FACE, BACK AND SIDE WIRING. COMPLY WITH FEDERAL SPECIFICATION W-C-596 AND HEAVY-DUTY GRADE OF UL STANDARD 498. "ELECTRICAL

ATTACHMENT PLUGS AND RECEPTACLES." PROVIDE NRTL LABELING OF DEVICES TO VERIFY THESE

COMPLIANCES GROUND-FAULT CIRCUIT INTERRUPTER (GFCI) RECEPTACLES: UL STANDARD 943, "GROUND FAULT CIRCUIT INTERRUPTERS." FEED-THROUGH TYPE. WITH INTEGRAL NEMA 5-20R DUPLEX RECEPTACLE ARRANGED TO PROTECT CONNECTED DOWNSTREAM RECEPTACLES ON THE SAME CIRCUIT. DESIGN UNITS FOR

SNAP SWITCHES: 20A DEVICES; PROVIDE NYLON FACE, QUIET-TYPE A.C. SWITCHES, NRTL LISTED AND LABELED AS COMPLYING WITH UL STANDARD 20 "GENERAL USE SNAP SWITCHES," AND WITH FEDERAL

TELEPHONE JACK: RJ-45, 8-POSITION, MODULAR, LATCHING-PLUG TYPE, FLUSH IN FACE OF WALL PLATED. WALL PLATES: SINGLE AND COMBINATION TYPES THAT MATE AND MATCH WITH CORRESPONDING WIRING DEVICES. FEATURES INCLUDE THE FOLLOWING:

1. COLOR: MATCHES WIRING DEVICE EXCEPT AS OTHERWISE INDICATED.

INSTALLATION IN A 2-3/4-INCH (70-MM) DEEP OUTLET BOX WITHOUT AN ADAPTER.

2. PLATE-SECURING SCREWS: METAL WITH HEADS COLORED TO MATCH PLATE FINISH.

3. MATERIAL FOR FINISHED SPACES: NYLON EXCEPT AS OTHERWISE INDICATED.

4. MATERIAL FOR UNFINISHED SPACES: STAINLESS STEEL.

WIRING DEVICES SHALL CONNNECT CONDUCTORS USING THREADED SCREWS. DO NOT USE PUSH-IN QUICK-WIRE CONNECTIONS.

DO NOT USE GFCI FEED-THROUGHS,

INSTALL DEVICES AND ASSEMBLIES PLUMB AND SECURE. PROTECT DEVICES AND ASSEMBLIES DURING PAINTING AND INSTALL WALL PLATES WHEN PAINTING IS COMPLETE.

ARRANGEMENT OF DEVICES: EXCEPT AS OTHERWISE INDICATED, MOUNT FLUSH, WITH LONG DIMENSION VERTICAL, AND GROUNDING TERMINAL OF RECEPTACLES ON TOP. GROUP ADJACENT SWITCHES UNDER SINGLE, MULTIGANG WALL PLATES.

SECTION 260533 - LIGHTING CONTROL DEVICES

MANUFACTURERS:

 INTERMATIC, INC. PARAGON ELECTRIC CO.

TORK.

MOUNTING:

INDOOR OCCUPANCY SENSORS

MANUFACTURERS:

HUBBELL LIGHTING INC.

2. LEVITON MFG. COMPANY INC.

3. LITHONIA LIGHTING.

4. SENSOR SWITCH, INC. COOPER/GREENGATE CONTROLS. WATT STOPPER (THE).

GENERAL DESCRIPTION: WALL- OR CEILING-MOUNTING, SOLID-STATE UNITS WITH A SEPARATE RELAY UNIT.

1. OPERATION: UNLESS OTHERWISE INDICATED, TURN LIGHTS ON WHEN COVERED AREA IS OCCUPIED AND OFF WHEN UNOCCUPIED; WITH A TIME DELAY FOR TURNING LIGHTS OFF, ADJUSTABLE OVER A MINIMUM RANGE OF 1 TO 15 MINUTES.

2. SENSOR OUTPUT: CONTACTS RATED TO OPERATE THE CONNECTED RELAY, COMPLYING WITH UL 773A. SENSOR SHALL BE POWERED FROM THE RELAY UNIT.

TUNGSTEN AT 120-V AC, AND FOR 1 HP AT 120-V AC. POWER SUPPLY TO SENSOR SHALL BE 24-V DC, 150-

MA, CLASS 2 POWER SOURCE AS DEFINED BY NFPA 70.

a. SENSOR: SUITABLE FOR MOUNTING IN ANY POSITION ON A STANDARD OUTLET BOX. b. RELAY: EXTERNALLY MOUNTED THOUGH A 1/2-INCH (13-MM) KNOCKOUT IN A STANDARD FLECTRICAL ENCLOSURE

3. RELAY UNIT: DRY CONTACTS RATED FOR 20-A BALLAST LOAD AT 120- AND 277-V AC, FOR 13-A

c. TIME-DELAY AND SENSITIVITY ADJUSTMENTS: RECESSED AND CONCEALED BEHIND HINGED DOOR.

5. INDICATOR: LED, TO SHOW WHEN MOTION IS BEING DETECTED DURING TESTING AND NORMAL OPERATION OF THE SENSOR.

6. BYPASS SWITCH: OVERRIDE THE ON FUNCTION IN CASE OF SENSOR FAILURE.

DUAL-TECHNOLOGY TYPE: CEILING MOUNTING; DETECT OCCUPANCY BY USING A COMBINATION OF PIR AND ULTRASONIC DETECTION METHODS IN AREA OF COVERAGE. PARTICULAR TECHNOLOGY OR COMBINATION OF TECHNOLOGIES THAT CONTROLS ON AND OFF FUNCTIONS SHALL BE SELECTABLE IN THE FIELD BY OPERATING CONTROLS ON UNIT.

1. SENSITIVITY ADJUSTMENT: SEPARATE FOR EACH SENSING TECHNOLOGY.

2. DETECTOR SENSITIVITY: DETECT OCCURRENCES OF 6-INCH (150-MM) MINIMUM MOVEMENT OF ANY PORTION OF A HUMAN BODY THAT PRESENTS A TARGET OF AT LEAST 36 SQ. IN. (232 SQ. CM), AND DETECT A PERSON OF AVERAGE SIZE AND WEIGHT MOVING AT LEAST 12 INCHES (305 MM) IN FITHER A HORIZONTAL OR A VERTICAL MANNER AT AN APPROXIMATE SPEED OF 12 INCHES/S (305 MM/S).

3. DETECTION COVERAGE (STANDARD ROOM): DETECT OCCUPANCY ANYWHERE WITHIN A CIRCULAR AREA OF 1000 SQ. FT. (93 SQ. M) WHEN MOUNTED ON A 96-INCH- (2440-MM-) HIGH CEILING.

MULTIPOLE CONTACTORS

MANUFACTURERS:

ALLEN-BRADLEY/ROCKWELL AUTOMATION. ASCO POWER TECHNOLOGIES, LP; A DIVISION OF EMERSON ELECTRIC CO.

CUTLER-HAMMER; EATON CORPORATION. GE INDUSTRIAL SYSTEMS; TOTAL LIGHTING CONTROL.

SIEMENS. SQUARE D.

DESCRIPTION: ELECTRICALLY OPERATED AND MECHANICALLY HELD, COMPLYING WITH NEMA ICS 2 AND

CURRENT RATING FOR SWITCHING: LISTING OR RATING CONSISTENT WITH TYPE OF LOAD SERVED. INCLUDING TUNGSTEN FILAMENT, INDUCTIVE, AND HIGH-INRUSH BALLAST (BALLAST WITH 15 PERCENT OR LESS TOTAL HARMONIC DISTORTION OF NORMAL LOAD CURRENT) CONTROL-COIL VOLTAGE: MATCH CONTROL POWER SOURCE. CONDUCTORS AND CABLES

POWER WIRING TO SUPPLY SIDE OF REMOTE-CONTROL POWER SOURCES: NOT SMALLER THAN NO. 12 AWG, COMPLYING WITH DIVISION 16 SECTION " CONDUCTORS AND CABLES."

CLASSES 2 AND 3 CONTROL CABLE: MULTICONDUCTOR CABLE WITH STRANDED COPPER CONDUCTORS NOT SMALLER THAN NO. 18 AWG, COMPLYING WITH DIVISION 16 SECTION "CONDUCTORS AND CABLES."

CLASS 1 CONTROL CABLE: MULTICONDUCTOR CABLE WITH STRANDED COPPER CONDUCTORS NOT SMALLER THAN NO. 14 AWG, COMPLYING WITH DIVISION 16 SECTION "CONDUCTORS AND CABLES."

INSTALL UNSHIELDED. TWISTED-PAIR CABLE FOR CONTROL AND SIGNAL TRANSMISSION CONDUCTORS COMPLYING WITH DIVISION 16 SECTION "VOICE AND DATA COMMUNICATION CABLING." EXECUTION

WIRING WITHIN ENCLOSURES: BUNDLE, LACE, AND TRAIN CONDUCTORS TO TERMINAL POINTS. SEPARATE POWER-LIMITED AND NONPOWER-LIMITED CONDUCTORS ACCORDING TO CONDUCTOR MANUFACTURER'S WRITTEN INSTRUCTIONS.

SIZE CONDUCTORS ACCORDING TO LIGHTING CONTROL DEVICE MANUFACTURER'S WRITTEN INSTRUCTIONS, UNLESS OTHERWISE INDICATED.

SPLICES, TAPS, AND TERMINATIONS: MAKE CONNECTIONS ONLY ON NUMBERED TERMINAL STRIPS IN

JUNCTION, PULL, AND OUTLET BOXES; TERMINAL CABINETS; AND EQUIPMENT ENCLOSURES. TIGHTEN ELECTRICAL CONNECTORS AND TERMINALS ACCORDING TO MANUFACTURER'S PUBLISHED TORQUE-TIGHTENING VALUES. IF MANUFACTURER'S TORQUE VALUES ARE NOT INDICATED, USE THOSE

PERFORM THE FOLLOWING FIELD TESTS AND INSPECTIONS AND PREPARE TEST REPORTS:

1. AFTER INSTALLING TIME SWITCHES AND SENSORS, AND AFTER ELECTRICAL CIRCUITRY HAS BEEN ENERGIZED, ADJUST AND TEST FOR COMPLIANCE WITH REQUIREMENTS.

2. OPERATIONAL TEST: VERIFY ACTUATION OF EACH SENSOR AND ADJUST TIME DELAYS.

SECTION 260543 - HANGERS AND SUPPORTS FOR ELECTRICAL SYSTEMS

INTENDED SERVICE.

MANUFACTURED SUPPORTING DEVICES:

SPECIFIED IN UL 486A AND UL 486B.

RACEWAY SUPPORTS: CLEVIS HANGERS. RISER CLAMPS. CONDUIT STRAPS. THREADED C-CLAMPS WITH RETAINERS, CEILING TRAPEZE HANGERS, WALL BRACKETS, AND SPRING STEEL CLAMPS.

2. FASTENERS: TYPES, MATERIALS, AND CONSTRUCTION FEATURES AS FOLLOWS:

a. EXPANSION ANCHORS: CARBON STEEL WEDGE OR SLEEVE TYPE. b. TOGGLE BOLTS: ALL STEEL SPRINGHEAD TYPE. c. POWDER-DRIVEN THREADED STUDS: HEAT-TREATED STEEL, DESIGNED SPECIFICALLY FOR THE

3. U-CHANNEL SYSTEMS: 16-GAGE STEEL CHANNELS, WITH 9/16-INCH- DIAMETER HOLES, AT A MINIMUM OF 8 INCHES ON CENTER, IN TOP SURFACE. PROVIDE FITTINGS AND ACCESSORIES THAT MATE AND MATCH WITH U-CHANNEL AND ARE OF THE SAME MANUFACTURER.

FABRICATED SUPPORTING DEVICES: SHOP-OR FIELD-FABRICATED SUPPORTS OR MANUFACTURED SUPPORTS ASSEMBLED FROM U-CHANNEL COMPONENTS.

CONNECT WITH WELDS AND MACHINE BOLTS TO FORM RIGID SUPPORTS.

. STEEL BRACKETS: FABRICATED OF ANGLES, CHANNELS, AND OTHER STANDARD STRUCTURAL SHAPES.

INSTALL SUPPORTING DEVICES TO FASTEN ELECTRICAL COMPONENTS SECURELY AND PERMANENTLY TO BUILDING STRUCTURE IN ACCORDANCE WITH NEC REQUIREMENTS. COORDINATE WITH THE BUILDING STRUCTURAL SYSTEM AND WITH OTHER ELECTRICAL INSTALLATION.

RACEWAY SUPPORTS: COMPLY WITH THE NEC AND THE FOLLOWING REQUIREMENTS:

1. CONFORM TO MANUFACTURER'S RECOMMENDATIONS FOR SELECTION AND INSTALLATION OF

2. STRENGTH OF EACH SUPPORT SHALL BE ADEQUATE TO CARRY PRESENT AND FUTURE LOAD MULTIPLIED BY A SAFETY FACTOR OF AT LEAST FOUR, BUT IN NO CASES SHALL BE LESS THAN 200 LBS IN THE STRENGTH OF EACH SUPPORT.

B. INSTALL INDEPENDENT AND LISTED INDIVIDUAL AND MULTIPLE (TRAPEZE) RACEWAY HANGERS AND RISER CLAMPS AS NECESSARY TO SUPPORT RACEWAYS. PROVIDE U-BOLTS, CLAMPS, ATTACHMENTS, AND OTHER HARDWARE NECESSARY FOR HANGER ASSEMBLY AND FOR SECURING HANGER RODS AND

MISCELLANEOUS SUPPORTS: SUPPORT MISCELLANEOUS ELECTRICAL COMPONENTS AS REQUIRED TO PRODUCE THE SAME STRUCTURAL SAFETY FACTORS AS SPECIFIED FOR RACEWAY SUPPORTS. INSTALL METAL CHANNEL RACKS FOR MOUNTING CABINETS, PANELBOARDS, DISCONNECTS, CONTROL ENCLOSURES, PULL BOXES, JUNCTION BOXES, TRANSFORMERS, AND OTHER DEVICES.

IN OPEN OVERHEAD SPACES, SUPPORT SHEET METAL BOXES INDEPENDANTLY AND DIRECTLY FROM THE

BUILDING STRUCTURE OR BY BAR HANGERS. WHERE BAR HANGERS ARE USED, ATTACH THE BAR TO

RACEWAYS ON OPPOSITE SIDES OF THE BOX AND SUPPORT THE RACEWAY WITH AN APPROVED TYPE OF FASTENER NOT MORE THAN 24 INCHES FROM THE BOX. OUTLET BOXES: PROVIDE OUTLET BOXES WITH RIGID SUPPORT USING METAL BAR HANGERS BETWEEN

FASTENING: UNLESS OTHERWISE INDICATED, FASTEN ELECTRICAL ITEMS AND THEIR SUPPORTING HARDWARE SECURELY TO THE BUILDING STRUCTURE, INCLUDING BUT NOT LIMITED TO CONDUITS, RACEWAYS, CABLES, CABLE TRAYS, BUSWAYS, CABINETS, PANELBOARDS, TRANSFORMERS, BOXES

DISCONNECT SWITCHES, AND CONTROL COMPONENTS IN ACCORDANCE WITH THE FOLLOWING: 1. FASTEN BY MEANS OF WOOD SCREWS OR SCREW-TYPE NAILS ON WOOD, TOGGLE BOLTS ON HOLLOW MASONRY UNITS, CONCRETE INSERTS OR EXPANSION BOLTS ON CONCRETE OR SOLID MASONRY, AND MACHINE SCREWS, WELDED THREADED STUDS, OR SPRING-TENSION CLAMPS ON STEEL. THREADED STUDS DRIVEN BY A POWDER CHARGE AND PROVIDED WITH LOCK WASHERS AND NUTS MAY BE USED INSTEAD OF EXPANSION BOLTS AND MACHINE OR WOOD SCREWS. DO NOT WELD CONDUIT, PIPE STRAPS. OR ITEMS OTHER THAN THREADED STUDS TO STEEL STRUCTURES. IN PARTITIONS OF LIGHT STEEL CONSTRUCTION, USE SHEET METAL SCREWS.

2. HOLES CUT TO DEPTH OF MORE THAN 1-1/2 INCHES IN REINFORCED CONCRETE BEAMS OR TO DEPTH OF MORE THAN % INCH IN CONCRETE SHALL NOT CUT THE MAIN REINFORCING BARS. FILL HOLES THAT ARE

8. ENSURE THAT THE LOAD APPLIED TO ANY FASTENER DOES NOT EXCEED 25 PERCENT OF THE PROOF TEST LOAD. USE VIBRATION- AND SHOCK- RESISTANT FASTENERS FOR ATTACHMENTS TO CONCRETE

SECTION 260548 - GROUNDING AND BONDING FOR ELECTRICAL SYSTEMS

GROUNDING AND BONDING PRODUCTS: TYPES AS INDICATED. WHERE TYPES, SIZES, RATINGS, AND QUANTITIES INDICATED DIFFER FROM NEC REQUIREMENTS, THE MORE STRINGENT REQUIREMENTS AND THE GREATER SIZE, RATING, AND QUANTITY INDICATIONS GOVERN.

CONDUCTOR MATERIALS: COPPER.

EQUIPMENT GROUNDING CONDUCTOR: GREEN INSULATED.

GROUNDING ELECTRODE CONDUCTOR: STRANDED CABLE.

BARE COPPER CONDUCTORS: CONFORM TO THE FOLLOWING:

1. SOLID CONDUCTORS: ASTM B-3.

2. ASSEMBLY OF STRANDED CONDUCTORS: ASTM B-8

3. TINNED CONDUCTORS: ASTM B-33.

GROUND BUS: BARE ANNEALED COPPER BARS OF RECTANGULAR CROSS-SECTION.

SIZES, AND COMBINATIONS OF CONDUCTORS AND OTHER ITEMS TO BE CONNECTED.

BRAIDED BONDING JUMPERS: COPPER TAPE, BRAIDED FROM NO. 30-GAGE BARE COPPER WIRE AND TERMINATED WITH COPPER FERRULES.

BONDING STRAP CONDUCTOR/CONNECTORS: SOFT COPPER, 0.05 INCH THICK AND 2 INCHES WIDE, EXCEPT CONNECTOR PRODUCTS: LISTED AND LABELED AS GROUNDING CONNECTORS FOR THE MATERIALS WITH

PRESSURE CONNECTORS: HIGH-CONDUCTIVITY PLATED UNITS.

BOLTED CLAMPS: HEAVY-DUTY UNITS LISTED FOR THE APPLICATION.

GROUND RODS: COPPER-CLAD STEEL, 3/4 INCH BY 10 FEET, MINIMUM.

EXOTHERMIC WELDED CONNECTIONS: PROVIDED IN KIT FORM AND SELECTED FOR THE SPECIFIC TYPES.

CIRCUIT RACEWAYS. SIGNAL AND COMMUNICATIONS: FOR TELEPHONE, ALARM, AND COMMUNICATION SYSTEMS, PROVIDE A #4 AWG MINIMUM GREEN INSULATED COPPER CONDUCTOR IN RACEWAY FROM THE GROUNDING ELECTRODE

QUANTITIES OF EQUIPMENT GROUNDING CONDUCTORS, EXCEPT WHERE LARGER SIZES OR MORE CONDUCTORS ARE INDICATED. INSTALL EQUIPMENT GROUND CONDUCTORS IN ALL FEEDER AND BRANCH

EQUIPMENT GROUNDING CONDUCTOR APPLICATION: COMPLY WITH NEC ARTICLE 250 FOR SIZES AND

SEPARATELY DERIVED SYSTEMS REQUIRED BY NEC TO BE GROUNDED SHALL BE GROUNDED AS APPROVED BY THE AUTHORITY HAVING JURISDICTION.

SYSTEM TO EACH TERMINAL CABINET OR CENTRAL EQUIPMENT LOCATION.

INSTALLATION, GENERAL: GROUND ELECTRICAL SYSTEMS AND EQUIPMENT IN ACCORDANCE WITH NEC EXCEPT WHERE GROUNDING IN EXCESS OF NEC REQUIREMENTS IS INDICATED.

IN CONDUIT. BOND THE GROUND CONDUCTOR CONDUIT TO THE CONDUCTOR AT EACH END. WHERE A DIELECTRIC FITTING IS INSTALLED IN THE MAIN METALLIC WATER SERVICE PIPE, CONNECT THE GROUND CONDUCTOR TO THE STREET SIDE OF THE FITTING. DO NOT INSTALL A GROUNDING JUMPER AROUND DIELECTRIC FITTINGS. BOND THE GROUND CONDUCTOR CONDUIT TO THE CONDUCTOR AT EACH END. BRAIDED-TYPE BONDING JUMPERS: INSTALL TO CONNECT GROUND CLAMPS ON WATER METER PIPING TO

GROUNDING ELECTRODE CONDUCTOR: PROVIDE INSULATED COPPER CONDUCTOR, SIZED AS INDICATED,

ROUTE GROUNDING AND BONDING CONDUCTORS USING THE SHORTEST AND STRAIGHTEST PATHS POSSIBLE WITHOUT OBSTRUCTING ACCESS OR PLACING CONDUCTORS WHERE THEY MAY BE SUBJECTED

ELECTRICALLY BYPASS WATER METERS. USE ELSEWHERE FOR FLEXIBLE BONDING AND GROUNDING

ACTION OR ELECTROLYSIS. SELECT CONNECTORS. CONNECTION HARDWARE, CONDUCTORS, AND CONNECTION METHODS SO METALS IN DIRECT CONTACT WILL BE GALVANICALLY COMPATIBLE. TIGHTEN GROUNDING AND BONDING CONNECTORS AND TERMINALS, INCLUDING SCREWS AND BOLTS, IN

ACCORDANCE WITH MANUFACTURER'S PUBLISHED TORQUE TIGHTENING VALUES FOR CONNECTORS AND

CONNECTIONS: MAKE CONNECTIONS IN SUCH A MANNER AS TO MINIMIZE POSSIBILITY OF GALVANIC

BOLTS. WHERE MANUFACTURER'S TORQUING REQUIREMENTS ARE NOT INDICATED, TIGHTEN CONNECTIONS TO COMPLY WITH TIGHTENING TORQUE VALUES SPECIFIED IN UL 486A AND UL 486B. COMPRESSION-TYPE CONNECTIONS: USE HYDRAULIC COMPRESSION TOOLS TO PROVIDE THE CORRECT CIRCUMFERENTIAL PRESSURE FOR COMPRESSION CONNECTORS. USE TOOLS AND DIES RECOMMENDED BY THE MANUFACTURER OF THE CONNECTORS. PROVIDE EMBOSSING DIE CODE OR OTHER STANDARD METHOD TO MAKE A VISIBLE INDICATION THAT A CONNECTOR HAS BEEN ADEQUATELY COMPRESSED ON

MOISTURE PROTECTION: WHERE INSULATED CONDUCTORS ARE CONNECTED TO GROUND RODS OR GROUND BUSES, INSULATE THE ENTIRE AREA OF THE CONNECTION AND SEAL AGAINST MOISTURE PENETRATION OF THE INSULATION AND CABLE. TESTS: SUBJECT THE COMPLETED GROUNDING SYSTEM TO A MEGGER TEST AT EACH LOCATION WHERE A MAXIMUM GROUND RESISTANCE LEVEL IS SPECIFIED, AT SERVICE DISCONNECT ENCLOSURE GROUND TERMINAL, AND AT GROUND TEST WELLS. MEASURE GROUND RESISTANCE WITHOUT THE SOIL BEING MOISTENED BY ANY MEANS OTHER THAN NATURAL PRECIPITATION OR NATURAL DRAINAGE OR SEEPAGE AND WITHOUT CHEMICAL TREATMENT OR OTHER ARTIFICIAL MEANS OF REDUCING NATURAL GROUND RESISTANCE. PERFORM TESTS BY THE 2-POINT METHOD IN ACCORDANCE WITH SECTION 9.03 OF IEEE 81.

"GUIDE FOR MEASURING EARTH RESISTIVITY, GROUND IMPEDANCE AND EARTH SURFACE POTENTIALS OF A

GROUND/RESISTANCE MAXIMUM VALUES SHALL BE AS FOLLOWS:

TO STRAIN, IMPACT, OR DAMAGE, EXCEPT AS INDICATED.

1. EQUIPMENT RATED 500 KVA AND LESS: 10 OHMS. DEFICIENCIES: WHERE GROUND RESISTANCES EXCEED SPECIFIED VALUES, AND IF DIRECTED, MODIFY THE GROUNDING SYSTEM TO REDUCE RESISTANCE VALUES. WHERE MEASURES ARE DIRECTED THAT EXCEED

THOSE INDICATED THE PROVISIONS OF THE CONTRACT, COVERING CHANGES WILL APPLY. SECTION 265100 - INTERIOR LIGHTING

PROVIDE 10% SPARE LAMPS, DIFFUSERS, AND GLASS FOR EACH LIGHT FIXTURE TYPE WITH NOT LESS THAN ONE FOR LESS THAN 10.

THE CONDUCTOR

GROUNDING SYSTEM."

COMPLY WITH THE REQUIREMENTS SPECIFIED IN THE ARTICLES BELOW AND LIGHTING FIXTURE SCHEDULE.

METAL PARTS: FREE FROM BURRS AND SHARP CORNERS AND EDGES.

SHEET METAL COMPONENTS: STEEL, EXCEPT AS INDICATED. COMPONENTS ARE FORMED AND SUPPORTED TO PREVENT WARPING AND SAGGING. DOORS, FRAMES, AND OTHER INTERNAL ACCESS: SMOOTH OPERATING AND FREE FROM LIGHT LEAKAGE UNDER OPERATING CONDITIONS. ARRANGE TO PERMIT RELAMPING WITHOUT USE OF TOOLS. ARRANGE

DOORS, FRAMES, LENSES, DIFFUSERS, AND OTHER PIECES TO PREVENT ACCIDENTAL FALLING DURING

RELAMPING AND WHEN SECURED IN THE OPERATING POSITION.

REFLECTING SURFACES: MINIMUM REFLECTANCES AS FOLLOWS, EXCEPT AS OTHERWISE INDICATED

WHITE SURFACES: 85 PERCENT.

FIXTURE. FINISH SAME AS FIXTURE.

SPECULAR SURFACES: 83 PERCENT.

3. DIFFUSING SPECULAR SURFACES: 75 PERCENT. LAMINATED SILVER METALLIZED FILM: 90 PERCENT.

LENSES, DIFFUSERS, COVERS, AND GLOBES: 100 PERCENT VIRGIN ACRYLIC PLASTIC OR WATER WHITE, ANNEALED CRYSTAL GLASS EXCEPT AS INDICATED.

1. PLASTIC: HIGHLY RESISTANT TO YELLOWING AND OTHER CHANGES DUE TO AGING, EXPOSURE TO

SINGLE-STEM HANGERS: 1/2-INCH STEEL TUBING WITH SWIVEL BALL FITTING AND CEILING CANOPY. FINISH TWIN-STEM HANGERS: TWO, 1/2-INCH STEEL TUBES WITH SINGLE CANOPY ARRANGED TO MOUNT A SINGLE

ROD HANGERS: 3/16-INCH DIAMETER CADMIUM PLATED, THREADED STEEL ROD. HOOK HANGER: INTEGRATED ASSEMBLY MATCHED TO FIXTURE AND LINE VOLTAGE AND EQUIPPED WITH

FLUORESCENT FIXTURES: CONFORM TO UL 1570, "FLUORESCENT LIGHTING FIXTURES."

HEAT AND UV RADIATION. LENS THICKNESS: 0.125 INCHES, MINIMUM.

THREADED ATTACHMENT, CORD, AND LOCKING- TYPE PLUG.

ELECTRONIC BALLASTS: CONFORM TO UL 935. "FLUORESCENT-LAMP BALLASTS." SOLID-STATE. FULL-LIGHT-OUTPUT, ENERGY-SAVING TYPE COMPATIBLE WITH ENERGY-SAVING LAMPS. CONFORM TO FCC REGULATIONS PART 15, SUBPART J. FOR ELECTROMAGNETIC INTERFERENCE. CONFORM TO IEEE C62.41, "GUIDE FOR SURGE VOLTAGES IN LOW-VOLTAGE AC POWER CIRCUITS." CATEGORY A. FOR RESISTANCE TO VOLTAGE SURGES FOR NORMAL AND COMMON MODES. BALLASTS MUST BE APPROVED BY USU.

3. TYPE: CLASS P, HIGH-POWER-FACTORY TYPE EXCEPT AS INDICATED OTHERWISE.

4. SOUND RATING: A RATING, EXCEPT AS INDICATED OTHERWISE.

5. VOLTAGE: 120/277 UNIVERSAL.

9. AVERAGE INPUT: THE FOLLOWING IS THE AVERAGE REQUIRED WATTAGE WHEN TESTED ACCORDING

A. 65 OR LESS WATTS WHEN OPERATING TWO F32T8 LAMPS.

APPROVED BALLASTS:

2. OSRAM SYLVANIA QUICKTRONIC HIGH EFFICIENCY (QHE) 3. ADVANCE OPTANIUM

EXIT SIGNS: CONFORM TO UL 924, "EMERGENCY LIGHTING AND POWER EQUIPMENT," AND THE FOLLOWING:

2. MINIMUM HEIGHT OF LETTERS: CONFORM TO LOCAL CODE.

4. LAMPS FOR AC OPERATION: LED.

FEATURES AND ADDITIONAL CHARACTERISTICS AS INDICATED.

1. BATTERY: SEALED, MAINTENANCE-FREE, LEAD-ACID TYPE WITH 10 YEAR NOMINAL LIFE MINIMUM, AND

2. CHARGER: MINIMUM TWO-RATE, FULLY-AUTOMATIC, SOLID-STATE TYPE, WITH SEALED TRANSFER

4. RELAY DISCONNECTS LAMPS AND BATTERY AUTOMATICALLY RECHARGES AND FLOATS ON TRICKLE

PROTECT LAMP HEADS OR FIXTURES. 6. TIME-DELAY RELAY: PROVIDE TIME-DELAY RELAY IN EMERGENCY LIGHTING UNIT CONTROL CIRCUIT

1. INTERNAL TYPE: SELF-CONTAINED, MODULAR, BATTERY-INVERTER UNIT FACTORY-MOUNTED WITHIN

OR ENTERING CEILING SPACE.

C. CHARGER: FULLY-AUTOMATIC, SOLID-STATE, CONSTANT-CURRENT TYPE. D. OPERATION: RELAY AUTOMATICALLY TURNS 2 LAMPS ON WHEN SUPPLY CIRCUIT VOLTAGE DROPS

LAMPS: PROVIDE LAMPS FOR EACH FIXTURE INDICATED. CONFORM TO ANSI STANDARDS, C78 SERIES APPLICABLE TO EACH TYPE OF LAMP. LAMPS SHALL BE TCLIP COMPLIANT. WHERE LAMPS ARE NOT INDICATED, PROVIDE LAMPS RECOMMENDED BY MANUFACTURER.

SHOWING EVIDENCE OF CORROSION DURING PROJECT WARRANTY PERIOD AND REPLACE WITH NEW

1. OTHER PARTS: MANUFACTURER'S STANDARD FINISH.

LIGHT INTENSITIES.

INSTALLATION: UNLESS OTHERWISE INDICATED, INSTALL LIGHTING FIXTURES AS FOLLOWS:

B. FIXTURES OF SIZES LESS THAN CEILING GRID: CENTER IN THE ACOUSTICAL PANEL. SUPPORT FIXTURES INDEPENDENTLY WITH AT LEAST TWO 3/4-INCH METAL CHANNELS SPANNING AND SECURED TO

ONE POINT AND TUBING OR ROD FOR SUSPENSION FOR EACH UNIT LENGTH OF CHASSIS, INCLUDING ONE AT EACH END. PROVIDE SWIVEL BASES FOR STEMS SUPPORTING LIGHT FIXTURES WHICH EXCEED 12" IN

6. LAMPING: LAMP UNITS ACCORDING TO MANUFACTURER'S INSTRUCTIONS. 7. RECESSED LIGHTING FIXTURES IN ACOUSTICAL TILE CEILING SHALL BE LOCATED CENTERED OF A

LONGER TO LIMIT SWINGING. SUPPORT STEM MOUNTED SINGLE-UNIT SUSPENDED FLUORESCENT FIXTURES WITH TWIN-STEM HANGERS. FOR CONTINUOUS ROWS, USE TUBING OR STEM FOR WIRING AT

1. CERTIFICATION: BY ELECTRICAL TESTING LABORATORY (ETL).

2. LABELING: BY CERTIFIED BALLAST MANUFACTURERS ASSOCIATION (CBM).

6. MINIMUM POWER FACTOR: 90 PERCENT

7. MINIMUM OPERATING FREQUENCY: 20,000 HZ.

8. THIRD HARMONIC CONTENT OF BALLAST CURRENT: LESS THAN 10 PERCENT.

TO ANSI C82.2, "FLUORESCENT LAMP BALLASTS, METHODS OF MEASUREMENT."

B. 32 OR LESS WATTS WHEN OPERATING ONE F32T8 LAMP

1 GF UI TRAMAX

4. UNIVERSAL ULTIM 8

INCANDESCENT FIXTURES: CONFORM TO UL 1571, "INCANDESCENT LIGHTING FIXTURES."

1. SIGN COLORS: CONFORM TO LOCAL CODE.

3. ARROWS: INCLUDE AS INDICATED.

SPECIAL PROJECT WARRANTY.

CHARGE WHEN NORMAL VOLTAGE IS RESTORED.

EMERGENCY LIGHTING UNITS: CONFORM TO UL 924. "EMERGENCY LIGHTING AND POWER EQUIPMENT" REQUIREMENTS FOR "UNIT EQUIPMENT." PROVIDE SELF-CONTAINED UNITS WITH THE FOLLOWING

3. OPERATION: RELAY AUTOMATICALLY TURNS LAMP ON WHEN SUPPLY CIRCUIT VOLTAGE DROPS TO 80-PERCENT OF NOMINAL OR BELOW. LAMP AUTOMATICALLY DISCONNECTS FROM BATTERY WHEN VOLTAGE APPROACHES DEEP-DISCHARGE LEVEL.

5. WIRE GUARD: WHERE INDICATED, PROVIDE HEAVY CHROME PLATED WIRE GUARD ARRANGED TO

ARRANGED TO HOLD UNIT "ON" FOR FIXED INTERVAL AFTER RESTORATION OF POWER FROM AN OUTAGE.

PROVIDE ADEQUATE TIME DELAY TO PERMIT HID LAMPS TO RESTRIKE AND DEVELOP ADEQUATE OUTPUT.

A. TEST SWITCH AND LED INDICATOR LIGHT: VISIBLE AND ACCESSIBLE WITHOUT OPENING FIXTURE

B. BATTERY: SEALED, MAINTENANCE-FREE, NICKEL-CADMIUM TYPE, WITH A MINIMUM NOMINAL 10-

EMERGENCY FLUORESCENT POWER SUPPLY: CONFORM TO UL 924, "EMERGENCY LIGHTING AND POWER

TO 80-PERCENT OF NOMINAL OR BELOW. RELAY DISCONNECTS LAMP AND BATTERY AUTOMATICALLY RECHARGES WHEN NORMAL VOLTAGE IS RESTORED.

STEEL PARTS FINISH: MANUFACTURER'S STANDARD FINISH APPLIED OVER CORROSION-RESISTANT PRIMER, FREE OF STREAKS, RUNS, HOLIDAYS, STAINS, BLISTERS, AND DEFECTS. REMOVE FIXTURES

THE FIXTURE BODY

2. CONNECT EQUIPMENT GROUNDING CONDUCTOR TO FIXTURE HOUSING. 3. PROVIDE INDEPENDENT SAFETY WIRES ATTACHED TO STRUCTURE AT THE DIAGONAL CORNDERS OF LIGHTIGN FIXTURES IN COMPLIANCE WITH SEISMIC REQUIREMENTS.

4. SUPPORT FOR RECESSED AND SEMIRECESSED FIXTURES: INSTALLED UNITS MAY BE SUPPORTED

MINIMUM OF FOUR RODS OR WIRES PER FIXTURE LOCATED NOT MORE THAN 6 INCHES FROM FIXTURE

FROM SUSPENDED CEILING SUPPORT SYSTEM. INSTALL CEILING SYSTEM SUPPORT RODS OR WIRES AT A

1. SETTING AND SECURING: SET UNITS PLUMB, SQUARE, AND LEVEL WITH CEILING AND WALLS, AND

SECURE ACCORDING TO MANUFACTURER'S PRINTED INSTRUCTIONS AND APPROVED SHOP DRAWINGS.

A. FIXTURES SMALLER THAN CEILING GRID: INSTALL A MINIMUM OF FOUR RODS OR WIRES FOR EACH FIXTURE AND LOCATE AT CORNER OF THE CEILING GRID WHERE THE FIXTURE IS LOCATED. DO NOT SUPPORT FIXTURES BY CEILING ACOUSTICAL PANELS.

C. INSTALL SUPPORT CLIPS FOR RECESSED FIXTURES, SECURELY FASTENED TO CEILING GRID MEMBERS, AT OR NEAR EACH FIXTURE CORNERS. 5. SUPPORT FOR SUSPENDED FIXTURES: BRACE PENDANTS AND RODS THAT ARE 4-FEET LONG OR

ADJUSTING AND CLEANING: CLEAN FIXTURES UPON COMPLETION OF INSTALLATION. USE METHODS AND MATERIALS RECOMMENDED BY MANUFACTURER. ADJUST AIMABLE FIXTURES TO PROVIDE REQUIRED

SPECTRUM 324 S. State St., Suite 400 Salt Lake City, UT 84111 800-678-7077

801-328-5151

fax: 801-328-5155

www.spectrum-engineers.com

175 WEST 900 SOUTH

SLC, UT 84101

801.322.2724

WWW.ATLASARCHITECTS.COM

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BID SET

ELECTRICAL SPECS

EE801

GENERAL SHEET NOTES

EVERY EFFORT HAS BEEN MADE TO SHOW EXISTING DEVICES THAT NEED TO BE DEMOLISHED ON WALLS AND CEILINGS, BUT THE EXACT SCOPE MUST BE CONFIRMED ON-SITE.



BEFORE THE REMOVAL OF ANY ELECTRICAL EQUIPMENT OR WIRING, FIELD VERIFY THAT THE EQUIPMENT OR WIRING IS INACTIVE OR NO

LONGER IN USE.

REMOVE ALL DEVICES, RACEWAYS, AND WIRING FROM WALLS TO BE REMOVED. WHERE ACTIVE RACEWAYS OCCUR IN WALLS TO BE REMOVED, RE-ROUTE THE RACEWAY WITH ASSOCIATED WIRING TO KEEP THE CIRCUIT OPERATIONAL.

REMOVE ALL ABANDONED RACEWAY, CONDUIT, WIRING, AND CABLING WHETHER ABANDONED PREVIOUS TO THIS PROJECT OR AS A RESULT OF THIS PROJECT. NOT ALL ABANDONED ITEMS ARE SHOWN ON THESE PLANS AND FIELD VERIFICATION OF DEMOLITION SCOPE EXTENT IS REQUIRED.

ALL HVAC UNITS ARE TO BE REMOVED BY MECHANICAL CONTRACTOR UNLESS NOTED OTHERWISE. REMOVE ALL ASSOCIATED RACEWAYS AND CONDUCTORS BACK TO SOURCE.

ALL ITEMS INDICATED TO REMAIN SHALL BE PROTECTED DURING ALL PHASES OF CONSTRUCTION.

8 UNLESS NOTED OTHERWISE REMOVE ALL LIGHTING FIXTURES DEVICES AND EQUIPMENT SHOWN DASHED. REMOVE CONDUIT AND WIRING BACK TO PANELBOARD OF ORIGIN OR TO THE FIRST ACTIVE DEVICE THAT REMAINS.

DURING DEMOLITION CONFIRM WHETHER EXISTING 277V EMERGENCY LIFE-SAFETY LIGHTING CIRCUIT CURRENTLY FEEDS ANY EXISTING LIGHT FIXTURES IN PROJECT SCOPE AND CONNECT NEW EM FIXTURES TO THIS CIRCUIT, EXTEND CIRCUITING PER NEW PLANS AS REQUIRED.

10 SALVAGE ALL FIXTURES AND DEVICES (INCLUDING, BUT NOT LIMITED TO: LIGHT FIXTURES, RECEPTACLES, WALL-PLATES, CEILING SPEAKERS, SECURITY, FIRE ALARM, ETC.) WHETHER SHOWN ON THE PLANS OR DISCOVERED IN THE FIELD. PROTECT ALL SALVAGED ITEMS FROM DAMAGE, AND COORDINATE ALL FIXTURES TO BE RETURNED TO OWNER. PROVIDE COST IN BID TO DISPOSE OF UNWANTED ITEMS.

REMOVE ALL FIRE ALARM DEVICES WHERE EXISTING WALLS AND CEILINGS ARE BEING REMOVED, WITH ASSOCIATED CONDUIT AND WIRING. EXISTING FIRE ALARM DEVICES AND SYSTEM NOT INDICATED FOR REMOVAL SHALL REMAIN ACTIVE THROUGHOUT DEMOLITION AND CONSTRUCTION UNTIL THE NEW SYSTEM IS TESTED AND OPERATIONAL. MAINTAIN ALL CLASS A FIRE ALARMS INITIATING AND INDICATING LOOPS WHERE EXISTING DEVICES ARE REMOVED.

12 FIELD VERIFY AVAILABLE CIRCUIT BREAKERS FOR NEW PLANS AFTER DEMOLITION HAS BEEN COMPLETED. PROVIDE UPDATED TYPEWRITTEN PANEL SCHEDULES (FOR PANELS IMPACTED BY WORK IN THIS PROJECT) AT THE COMPLETION OF CONSTRUCTION.

○ SHEET KEYNOTES

EXISTING ELECTRICAL GEAR IN THIS AREA IS EXPECTED TO CURRENTLY SERVE CIRCUITS IN THE PROJECT SCOPE. CONTRACTOR TO FIELD VERIFY WHETHER EXISTING CIRCUITS AND PATHWAYS TO PROJECT SCOPE MAY BE

SEE ELECTRICAL DETAILS (PICTURES) FOR EXISTING GEAR IN THIS AREA. THIS GEAR IS EXPECTED TO HAVE SUFFICIENT CAPACITY FOR NEW CIRCUITS. IF EXISTING PATHWAYS AND CIRCUITS FEEDING PROJECT SCOPE MAY NOT BE RE-USED, CONTRACTOR TO FIELD VERIFY EXISTING/ AVAILABLE CIRCUIT BREAKERS FOR THESE PANELS DURING DEMOLITION. EXACT CIRCUIT BREAKERS, AND PATHWAY FOR NEW CIRCUITS (PER NEW PLANS) MAY BE DETERMINED IN THE FIELD.

3 UNLESS INDICATED OTHERWISE, DEMOLISH ALL ELECTRICAL FIXTURES AND DEVICES IN THIS DIAGONALLY HATCHED REGION IN ACCORDANCE WITH THE GENERAL SHEET NOTES ON THIS

4 UNLESS INDICATED OTHERWISE, DEMOLISH ALL LIGHTING FIXTURES AND DEVICES IN THIS DIAGONALLY HATCHED REGION IN ACCORDANCE WITH THE GENERAL SHEET NOTES ON THIS

DEMOLISH EXISTING ELECTRICAL CONNECTIONS (AND 30A DISCONNECT) FOR ELECTRIC WATER HEATER. COORDINATE WITH PLUMBING

CONTRACTOR PRIOR TO DEMOLITION. ALL ELECTRICAL, TELECOM, OR AV EQUIPMENT IN THIS SPACE IS TO BE DEMOLISHED AND RELOCATED. COORDINATE ALL DETAILS WITH LOW-VOLTAGE INSTALLERS, AND OWNER REGARDING RE-USE, AND RE-ROUTING OF EXISTING EQUIPMENT, AND CABLING IN THIS SPACE TO NEW ELECTRICAL ROOM. SEE

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175 WEST 900 SOUTH

SLC, UT 84101

801.322.2724 WWW.ATLASARCHITECTS.COM

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SPECTRUM

324 S. State St., Suite 400

Salt Lake City, UT 84111

800-678-7077

801-328-5151 fax: 801-328-5155

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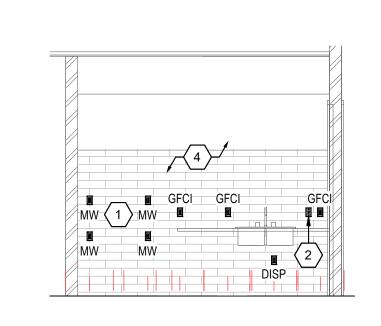
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BID SET

LEVEL 1 ELECTRICAL DEMO PLANS

ED101



2 ELECTRICAL BREAK ELEVATION
SCALE: 1/4" = 1'-0"

GENERAL SHEET NOTES

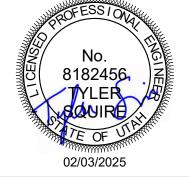
- OUTLETS ADJACENT TO WET AREAS OR WITHIN 6'-0" OF A SINK ARE TO BE GFCI PROTECTED.
- LOCATE ALL DISCONNECT SWITCHES ADJACENT TO EQUIPMENT IN ACCESSIBLE LOCATION. EACH DISCONNECT SWITCH LOCATION TO MEET ALL APPLICABLE WORKING CLEARANCE REQUIREMENTS.
- 3 LOCATIONS OF ALL MECHANICAL EQUIPMENT BASED ON INFORMATION PROVIDED BY OTHERS. COORDINATE EXACT LOCATIONS OF MECHANICAL EQUIPMENT WITH MECHANICAL EQUIPMENT INSTALLER PRIOR TO ROUGH-IN.
- CONFIRM LOCATIONS OF NEW ELECTRICAL RECEPTACLES INDICATED ON PLANS WITH THE ARCHITECT PRIOR TO ROUGH-IN. SEE ELECTRICAL AND ARCHITECTURAL ELEVATIONS.
- PROVIDE UPDATED TYPEWRITTEN PANEL SCHEDULES (FOR PANELS IMPACTED BY WORK IN THIS PROJECT) AT THE COMPLETION OF CONSTRUCTION.



RTLRS

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175 WEST 900 SOUTH SLC, UT 84101



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\bigcirc SHEET

- PROVIDE 120V POWER FOR MICROWAVE COORDINATE EXACT ELEVATIONS AND
- PROVIDE 120V POWER FOR DISPOSAL COORDINATE EXACT MOUNTING HEIGHT AND LOCATION OF TOGGLE SWITCH WITH ARCHITECT PRIOR TO ROUGH-IN.
- PROVIDE POWER FOR WATER MACHINE. COORDINATE PLACEMENT AND ELEVATION WITH
- PRIOR TO ROUGH-IN CONFIRM THE EXACT PLACEMENT AND ELEVATION OF ALL OUTLETS IN THIS BREAK AREA WITH OWNER PROVIDED EQUIPMENT. COORDINATE WITH ARCHITECTURAL PLANS AND ELEVATIONS.
- MACHINE, CONFIRM EXACT POWER
- SEE ELECTRICAL DETAILS (PICTURES), COORDINATE THE RELOCATION OF THE ELECTRICAL EQUIPMENT (FROM DEMOLITION PLANS) TO THIS ROOM WITH THE OWNER/
- EXPECTED TO HAVE SUFFICIENT CAPACITY FOR NEW CIRCUITS. IF EXISTING PATHWAYS AND CIRCUITS FEEDING PROJECT SCOPE MAY NOT BE RE-USED, CONTRACTOR TO FIELD VERIFY EXISTING/ AVAILABLE CIRCUIT BREAKERS FOR CIRCUIT BREAKERS, AND PATHWAY FOR NEW DETERMINED IN THE FIELD.

- PROVIDE TELEPHONE TERMINAL BOARD, SEE TELECOM CONDUIT RISER DIAGRAM.

NORTH

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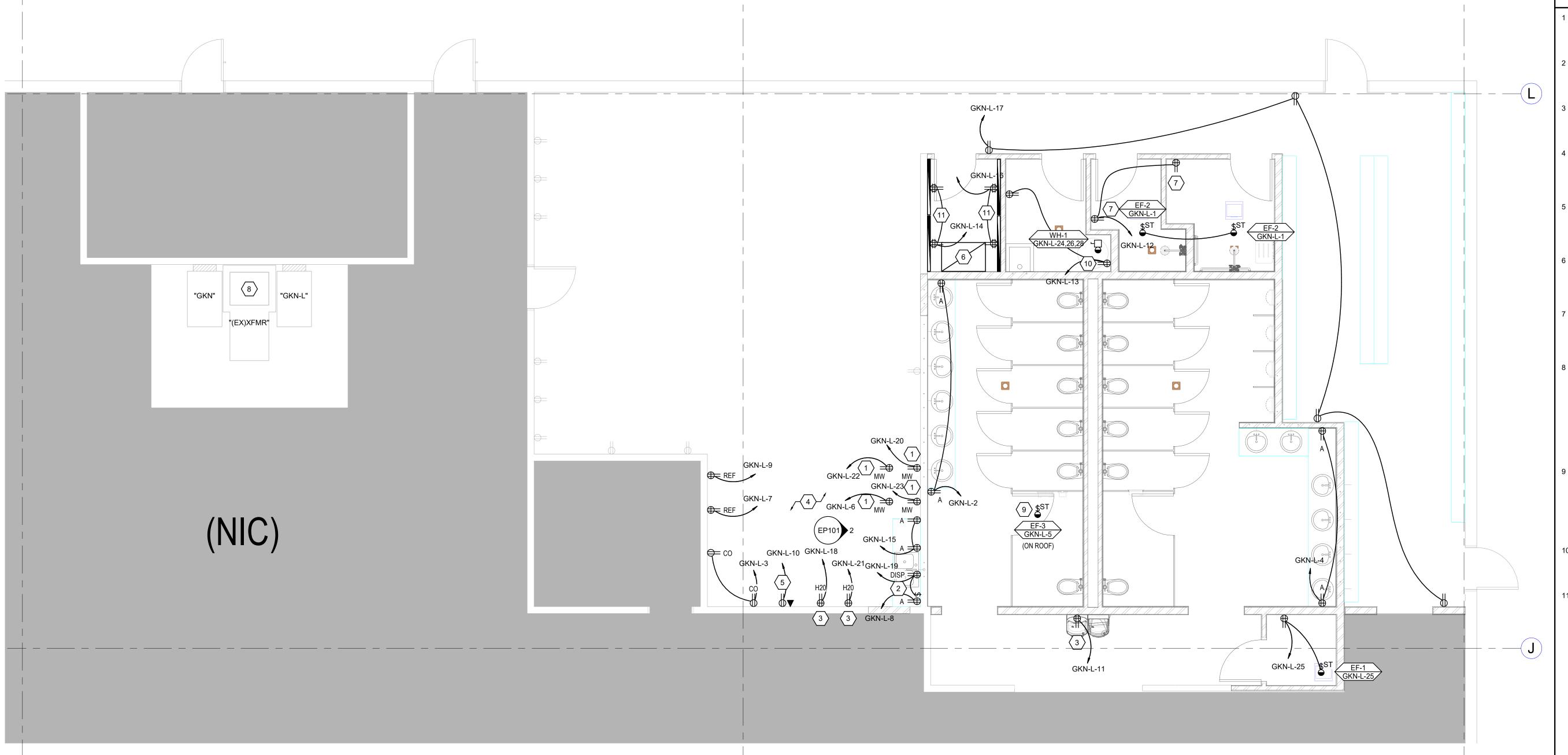
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LEVEL 1 POWER PLAN

EP101



- PLACEMENT WITH ARCHITECT PRIOR TO
- OWNER AND PLUMBING INSTALLER PRIOR TO ROUGH-IN. MOUNT RECEPTACLE PER NEC 422.5.
- PROVIDE POWER TO OWNER PROVIDED MARKETPLACE POINT OF SERVICE (POS) REQUIREMENTS WITH ACTUAL POS TO BE PROVIDED BY OWNER PRIOR TO ROUGH-IN.
- LOW-VOLTAGE INSTALLERS PRIOR TO ROUGH-IN.
- INCLUDE COST IN BID TO PROVIDE CONVENIENCE OUTLET ON WALL OR NEAR BENCH, CONFIRM EXACT WALL PLACEMENT AND ELEVATION WITH OWNER/ ARCHITECT PRIOR TO ROUGH-IN.
- 8 SEE ELECTRICAL DETAILS (PICTURES) FOR EXISTING GEAR IN THIS AREA. THIS GÉAR IS THESE PANELS DURING DEMOLITION. EXACT CIRCUITS (PER NEW PLANS) MAY BE
- EXISTING EXHAUST FAN ON ROOF IS TO BE UPGRADED. PROVIDE COST IN BID TO PROVIDE NEW ELECTRICAL CONNECTIONS AS INDICATED. COORDINATE EXACT ROOFTOP PLACEMENT WITH HVAC CONTRACTOR PRIOR TO ROUGH-IN. FIELD VERIFY ON-SITE IF EXISTING PATHWAY AND ELECTRICAL CONNECTIONS MAY BE RE-USED.
- 10 PROVIDE 120V POWER FOR 0.27KW RECIRCULATION PUMP. COORDINATE DETAILS INCLUDING EXACT PLACEMENT/ ELEVATION WITH PLUMBING CONTRACTOR PRIOR TO ROUGH-IN.



LEVEL 1 POWER PLAN

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VOLTS	S/PHAS	E/WIR	E:		PAN	EL SIZ	ZE & TYPE: MAIN SIZE AND	TYPE	:		FED	FROI	VI:	CABINET:	LOCATION:		NC	TES:							
120/208V, 3 PH 4 WIRE 22" W x 6" D, E						N x 6"	D, BOLT-ON 400 AMPERE MAIN CB (EX)XFMR SURFACE																		
						EL DIF	RECTORY, IDENTIFICATION, GROU	CTORY, IDENTIFICATION, GROUNDING BAR										IC RATING: 0							
CKT OCP LOAD (kVA)									Р	HASE	E LOAD				LO	AD (k\	O (kVA)				CK				
NO	AMP	POLE	BKR	LTG	PWR	СО	DESCRIPTION	A			ВС			DESCR	СО	PWR	LTG	BKR	POLE	AMP					
1	20	1		0.0	0.2	0.0	PWR: SHOWER FANS	0.2	0.4					CO: RESTRO	OM OUTLETS	0.4	0.0	0.0		1	20	2			
3	20	1		0.0	0.0	0.4	CO: CONVENIENCE OUTLETS			0.4	0.4			CO: RESTRO	OM OUTLETS	0.4	0.0	0.0		1	20				
5	20	1		0.0	0.7	0.0	PWR: ROOFTOP EXHAUST FAN					0.7	1.1	PWR: MIR	COWAVE	0.0	1.1	0.0		1	20	6			
7	20	1		0.0	1.1	0.0	PWR: BREAK FRIDGE	1.1	0.2					CO: KITCHEN/B	REAK OUTLETS	0.2	0.0	0.0		1	20	8			
9	20	1		0.0	1.1	0.0	PWR: BREAK FRIDGE			1.1	0.2			CO: POINT OF	SERVICE (POS)	0.2	0.0	0.0		1	20	1			
11	20	1		0.0	0.0	0.2	CO: WATER FOUNTAIN					0.2	0.4	CO: SHOWER F	ROOMS 109, 108	0.4	0.0	0.0		1	20	1			
13	20	1		0.0	0.0	0.4	CO: JANITOR 111	0.4	0.7					CO: ELECTRIC	AL 110, QUADS	0.7	0.0	0.0		1	20	1			
15	20	1		0.0	0.0	0.4	CO: KITCHEN/BREAK OUTLETS			0.4	0.7			CO: ELECTRIC	AL 110, QUADS	0.7	0.0	0.0		1	20	1			
17	20	1		0.0	0.0	0.7	CO: HALL & LOCKER AREA					0.7	0.8	PWR: WATER I	MACHINE (H20)	0.0	0.8	0.0		1	20	1			
19	20	1		0.0	0.8	0.0	PWR: DISPOSAL	0.8	1.1					PWR: MIR	COWAVE	0.0	1.1	0.0		1	20	2			
21	20	1		0.0	0.8	0.0	PWR: WATER MACHINE (H20)			0.8	1.1			PWR: MIR	COWAVE	0.0	1.1	0.0		1	20	2			
23	20	1		0.0	1.1	0.0	PWR: MIRCOWAVE					1.1	4.5	PWR: WATER I	HEATER (WH-1)	0.0	13.5	0.0		3	70	2			
25	20	1		0.0	0.1	0.2	CO: JANITOR 112, OUTLET	0.3	4.5					-								2			
27	20	1		0.0	0.0	0.0	SPARE			0.0	4.5			-	-							2			
29	20	1		0.0	0.0	0.0	SPARE					0.0	0.0	SPA	\RE	0.0	0.0	0.0		1	20	3			
31	20	1		0.0	0.0	0.0	SPARE	0.0	0.0					SPA	\RE	0.0	0.0	0.0		1	20	3			
33	20	1		0.0	0.0	0.0	SPARE			0.0	0.0			SPA	\RE	0.0	0.0	0.0		1	20	3			
35	20	1		0.0	0.0	0.0	SPARE					0.0	0.0	SPA	\RE	0.0	0.0	0.0		1	20	3			
37	20	1		0.0	0.0	0.0	SPARE	0.0	0.0					SPA	\RE	0.0	0.0	0.0		1	20	3			
39	20	1		0.0	0.0	0.0	SPARE			0.0	0.0			SPA	\RE	0.0	0.0	0.0		1	20	4			
41	20	1		0.0	0.0	0.0	SPARE					0.0	0.0	SPA	ARE	0.0	0.0	0.0		1	20	4			
TOTAL	_S:						CONNECTED kVA PER PHASE	•	10	9	9	ę	9		CONNEC	TED TO	TED TOTAL kVA = 29								
CONNECTED AMPS PER PHASE									31	7	9	7	9	AVERAC	SE CONNECTED AM	IPS PE	R PHA	SE =		79					
NEC D	IVERS	IFIED	LOAD	CALC	CULAT	IONS																			
LIC	SHTING	8 CO	NTINU	JOUS	LOAD	S:	- 100	% CO	NNEC	TED I	OAD	PLUS	S 25%	6	DIVE	RSIFIE	D TO1	AL kV	'A = 32	2					
			RE	CEPT	TACLE	S: 5.0	kVA @ 100% = 5.0 kVA - FIR:	ST 10I	kVA @	1009	%. RE	MAIN	DER	@ 50%	AVERAGE	E AMPS	S PER	PHAS	E = 89)					
	ALL	OTHE					DE O PANA MO.	TOR T	OTAL	S INC	LUDE	D IN	ALL	OTHER LOADS WITH 125% PER NEC					_ 33						

EQUIPMENT SCHED	UL

EQUIPMENT SCHEDULE KEY	
E - DIVISION 26	

- Q FURNISHED WITH EQUIPMENT, INSTALLED BY DIV. 26
- COORDINATE WITH THE DIVISION 23
- TEMPERATURE CONTROL INSTALLER
- AUTOMATIC CONTROL WIRING BY **DIVISION 23**

- PROVIDE NEW CIRCUIT BREAKER AND DISCONNECT AS INDICATED IN SCHEDULE.
- INDOOR UNITS FED FROM OUTDOOR UNIT. PROVIDE DISCONNECTS FOR BOTH. 3. CONTRACTOR TO PERFORM FINAL CONNECTION TO LINE VOLTAGE THERMOSTATS.
- 4. COORDINATE FAN CONTROL WITH HVAC CONTRACTOR.

ELEC NOTES

- 5. TOGGLE SWITCH W/ THERMAL OVERLOAD.
- 6. PROVIDE MANUAL STARTER WITH THERMAL OVERLOAD AND RELAY FOR ATC/BAS CONTROL. PROVIDE FUSED DISCONNECT ELEVATOR POWER MODULE WITH SHUNT TRIP.
- 8. PROVIDE LABEL ON DISCONNECT "DISCONNECT OUTDOOR UNIT PRIOR TO INDOOR."
- 9. PROVIDE DUAL-REDUNDANT 100% RATED VFD'S FOR AIR HANDLER.

GENERAL NOTES

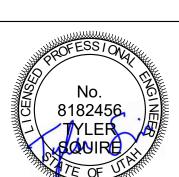
- 1. LOCATE ELECTRICAL EQUIPMENT IN ACCESSIBLE LOCATION, SUCH THAT IT IS WITHIN SIGHT OF THE
- EQUIPMENT IT IS SERVING, AND COMPLIES WITH N.E.C. REQUIRED CLEARANCES. 2. CONTRACTOR SHALL BE RESPONSIBLE TO COORDINATE AND SIZE FEEDER, STARTER, DISCONNECT AND OVERCURRENT PROTECTION IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS OF
- ACTUAL EQUIPMENT SUPPLIED. 3. ELECTRICAL CONTRACTOR SHALL REVIEW OTHER DIVISION DRAWINGS FOR ANY ADDITIONAL
- REQUIREMENTS PRIOR TO BID. 4. ELECTRICAL CONTRACTOR SHALL REVIEW OTHER DIVISION SUBMITTALS FOR ANY EQUIPMENT REQUIRING
- CONNECTION BY ELECTRICAL CONTRACTOR AND COORDINATE ALL REQUIREMENTS PRIOR TO ROUGH-IN. 5. LOCATE ALL DISCONNECT SWITCHES ADJACENT TO EQUIPMENT IN ACCESSIBLE LOCATION. EACH
- DISCONNECT SWITCH LOCATION TO MEET ALL APPLICABLE WORKING CLEARANCE REQUIREMENTS.

					LOAD	DATA	1			00	CPD	DISCONNECT		MOTOR CONTROLLER			NEMA	
LABEL	QTY	DESCRIPTION	НР	kW	MCA	FLA	v	PH	WIRE AND CONDUIT SIZE	DEVICE	FED FROM	PROVIDED BY	DEVICE	PROVIDED BY	DEVICE	SIZES	ENCLOSURE RATING	ELEC NOTES
EF-1	1	EXHAUST FAN	0.02	-	-	1	120	1	2 #12, #12 GR 0.75" CND	20/1 CB	GKN-L	Е	TOGGLE SWITCH	Е	-	-	-	4
EF-2	2	EXHAUST FAN	0.02	-	-	1	120	1	2 #12, #12 GR 0.75" CND	20/1 CB	GKN-L	Е	TOGGLE SWITCH	E	-	-	-	4
EF-3	1	EXHAUST FAN	0.22	-	-	5.8	120	1	2 #12, #12 GR 0.75" CND	20/1 CB	GKN-L	Е	TOGGLE SWITCH	E	-	-	-	4
WH-1	1	ELECTRIC WATER HEATE	R -	13.5	-	37.5	208	3	3 #4, #8 GR 1.25" CND	70/3 CB	GKN-L	E	100A/3P NF	E	-	-	-	1

GENERAL SHEET NOTES

- EXISTING PANELS SHOWN FOR CIRCUITING. SEE
- DEMOLITION PLAN NOTES.
- CONTRACTOR TO FIELD VERIFY WHETHER EXISTING CIRCUITS AND PATHWAYS TO PROJECT SCOPE MAY BE RE-USED.
- SEE ELECTRICAL DETAILS (PICTURES) FOR EXISTING GEAR NEAR PROJECT SCOPE. THIS GEAR IS EXPECTED TO HAVE SUFFICIENT CAPACITY FOR NEW CIRCUITS. IF EXISTING PATHWAYS AND CIRCUITS FEEDING PROJECT SCOPE MAY NOT BE RE-USED, CONTRACTOR TO FIELD VERIFY EXISTING/ AVAILABLE CIRCUIT BREAKERS FOR THESE PANELS (ON THIS SHEET) DURING DEMOLITION. EXACT CIRCUIT BREAKERS, AND PATHWAY FOR NEW CIRCUITS (PER NEW PLANS) MAY BE DETERMINED IN THE FIELD.
- PROVIDE UPDATED TYPEWRITTEN PANEL SCHEDULES (FOR PANELS IMPACTED BY WORK IN THIS PROJECT) AT THE COMPLETION OF CONSTRUCTION.

ARCHITECTS, INC 175 WEST 900 SOUTH SLC, UT 84101 801.322.2724



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02/03/2025 **SPECTRUM** 324 S. State St., Suite 400 Salt Lake City, UT 84111

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02.03.25

BID SET

ELECTRICAL SCHEDULES

EP601

ROUGH-IN OR INSTALLATION.

LOCATIONS.

LIGHT FIXTURES WITH THE ARCHITECT PRIOR TO

PRIOR TO ROUGH-IN, COORDINATE LIGHTING CONTROL FOR ZONES OUTSIDE OF DAYLIGHT WITH THE ARCHITECT/ OWNER. SIMILARLY, CONFIRM EXACT PLACEMENT OF ALL SWITCH

4 APPLICABLE ENERGY CODE IS IECC 2021. PROVIDE LIGHTING CONTROL SYSTEM AND

ENERGY CODE AND DESIGN INTENT OF CONSTRUCTION DOCUMENTS. PROVIDE

AUTOMATIC DIMMING IN RESPONSE TO

PROVIDE FIXTURE LEVEL EMERGENCY TRANSFER (ET) DEVICES FOR HALF-SHADED EMERGENCY FIXTURES INDICATED ON PLANS WITH: "EM/ET."

BE MANUALLY TURNED OFF.

THE DAYLIGHT ZONES. COMPLY WITH IECC 2021

C405.2 THRU C405.2.6, AND ENSURE LIGHTS MAY

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8182456 DEVICES THAT FUNCTION IN ACCORDANCE WITH 02/03/2025 DAYLIGHT CONTROLS FOR ALL FIXTURES WITHIN

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\bigcirc SHEET KEYNOTES

- DOWNLIGHTS CONTROLLED/ DIMMED SEPARATELY FROM LINEAR OVER SINK.
- ARCHITECTURAL DRAWINGS PRIOR TO ROUGH-IN.
- CONNECT NEW EMERGENCY LIGHT FIXTURES TO EXISTING EM LIGHTING CIRCUIT PREVIOUSLY FEEDING LIGHTING IN THE AREA.

- RECESS MOUNT LINEAR LIGHT FIXTURE IN GYP. CEILING, ABOVE BATHROOM SINK. COORDINATE CEILINGS AND ELEVATIONS FOR THIS AREA WITH

BR 5999 510

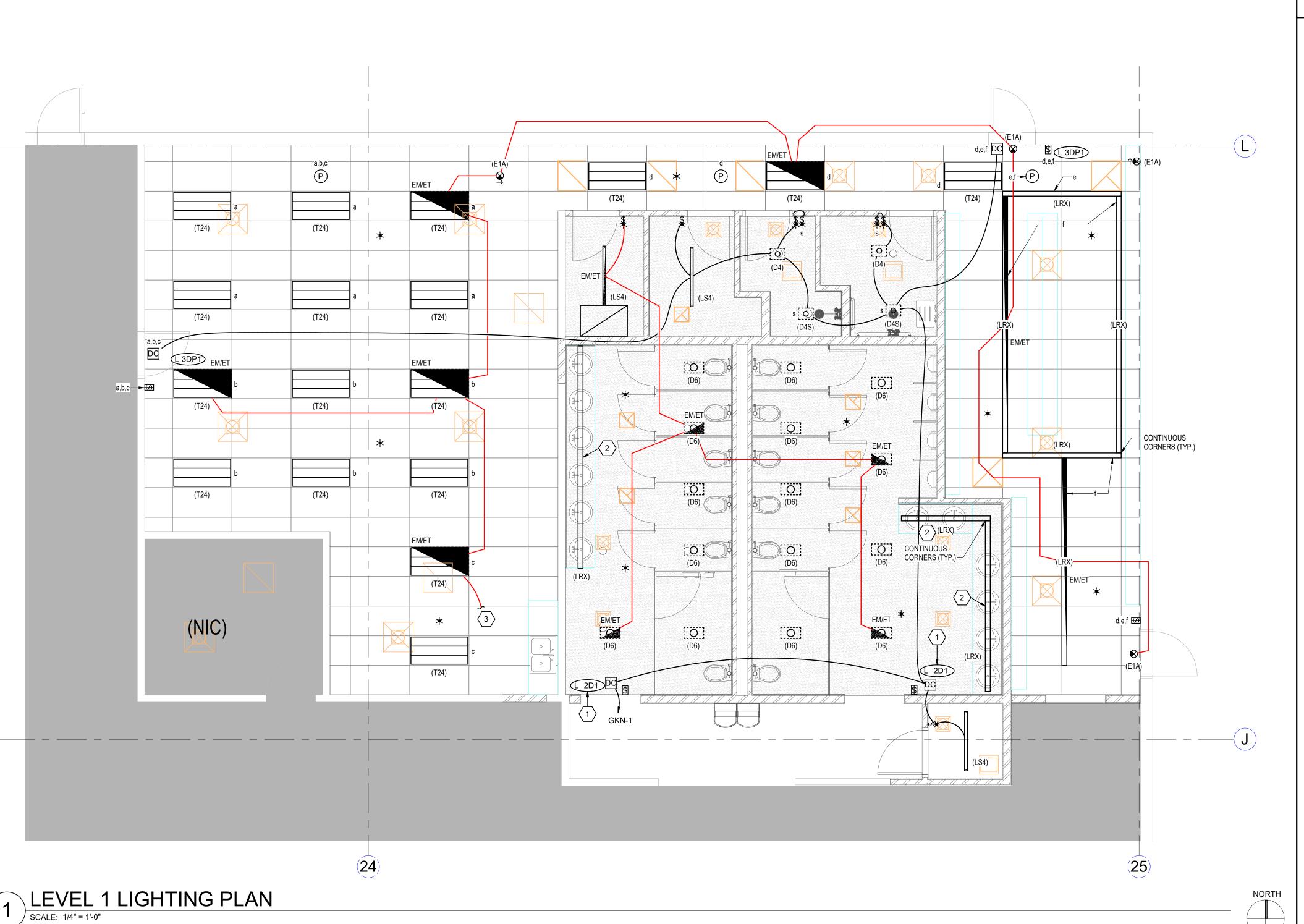
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BID SET

PLAN

LEVEL 1 LIGHTING

EL101



INTERIOR LIGHTING FIXTURE SCHEDULE

GENERAL NOTES

- SUBSTITUTIONS AND/OR EQUAL FIXTURES MUST RECEIVE APPROVAL PRIOR TO BIDDING, THEY MUST BE SUBMITTED TO THE ENGINEER NO LESS THAN 2 WEEKS PRIOR TO BID OPENING.
- SAMPLES MUST BE PROVIDED FOR ANY AND ALL FIXTURES UPON A/E REQUEST PRIOR TO RELEASING FIXTURES.
- ALL FIXTURES SHALL BE LISTED AND APPROVED FOR THEIR INTENDED USE AND LOCATION.
 VERIFY THE PROPER MOUNTING KITS OR ACCESSORIES TO FACILITATE INSTALLATION AS SHOWN AT EACH LOCATION ON THE DRAWINGS.
- . VERILL THE FROM EKINGONTING KITO OK AGGEGGGKIEG TO FAGIENATE INGTALLATION
- 5. COMPLY WITH THE "INTERIOR LIGHTING" SECTION OF THE SPECIFICATIONS.

DIAMETER

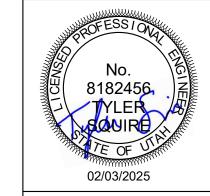
- 6. ALL LIGHT FIXTURES TO BE EITHER "DLC" OR "LIGHTING FACTS" LISTED OR TO BE APPROVED BY ARCHITECT/ENGINEER AND OWNER
- CONTRACTOR ALLOWANCE PRICES ARE ACCURATE WHEN THIS JOB WAS SPECIFIED, CONTRACTOR AND ELECTRICAL DISTRIBUTOR SHALL VERIFY THIS ALLOWANCE AND REPORT ANY PROBLEMS TO THE ENGINEER BEFORE THE BID. ALLOWANCE PRICE MAY OR MAY NOT INCLUDE LAMP(S) OR FREIGHT AS NOTED, AND DO NOT INCLUDE ANY TAXES.

				LUMINAIRE	1			RIVER		1
ID	DESCRIPTION	SIZE (NOMINAL)	DELIVERED DIRECT LUMENS	DELIVERED INDIRECT LUMENS	COLOR TEMP	CRI	TYPE	VOLTAGE	WATTS	MANUFACTURER (CATALOG SERIES)
(D4)	DESCRIPTION: 4" DOWNLIGHT MOUNTING: RECESSED, CEILING FINISH: SCBA OPTICS: MEDIUM WIDE BEAM, CLEAR REFLECTOR, MATTE DIFFUSE OPTIONS: EM: NONE	LENGTH: 12" WIDTH: 9" HEIGHT: 8" DIAMETER: 4"	1,500		3500K	80	LED (0-10V DIMMING) 1%	120/277V	15	GOTHAM (ICO4) PORTFOLIO (LD4B) LIGHTOLIER (4RNC4L)
(D4S)	DESCRIPTION: 4" SHOWER DOWNLIGHT; WET RATED MOUNTING: RECESSED, CEILING FINISH: SCBA OPTICS: 35° BEAM, CLEAR REFLECTOR, MATTE DIFFUSE OPTIONS: PROVIDE WATERPROOF TRIM/SEAL EM: NONE	LENGTH: 12" WIDTH: 9" HEIGHT: 8" DIAMETER: 4"	1,500		3500K	80	LED (0-10V DIMMING)	120/277V	15	GOTHAM (EVO4SH) PORTFOLIO (LD4B) LIGHTOLIER (4RNC4L)
(D6)	DESCRIPTION: 6" DOWNLIGHT MOUNTING: RECESSED, GRID CEILING FINISH: SCBA OPTICS: MEDIUM WIDE BEAM, CLEAR REFLECTOR, MATTE DIFFUSE OPTIONS: EM: PROVIDE ET SWITCH FOR HALF-SHADED FIXTURES ON PLANS	LENGTH: 16" WIDTH: 11" HEIGHT: 9" DIAMETER: 6"	2,000		3500K	80	LED (0-10V DIMMING) 1%	120/277V	20	GOTHAM (ICO6) PORTFOLIO (LD6B) LIGHTOLIER (6RNC6L)
(E1A)	DESCRIPTION: EXIT SIGN, EDGE LIT, SINGLE SIDED MOUNTING: CEILING, WALL FINISH: SCBA OPTICS: - OPTIONS: GREEN LETTERS EM: EMERGENCY BATTERY	LENGTH: 11" WIDTH: 3" HEIGHT: 10"			GREEN		LED	120/277V	5	ISOLITE (UEL) EVENLITE (SOV) EMERGENSEE (SEEXLRN)
(LRX)	DESCRIPTION: LINEAR LED; SPECS SHOWN PER FT.; 750LM/FT; 6W/ FT. MOUNTING: GRID AND GYP. CEILINGS (SEE PLANS) FINISH: SCBA OPTICS: LOW GLOSS REFLECTOR, FLUSH LENS OPTIONS: CONTINUOUS CORNERS EM: PROVIDE ET SWITCH FOR HALF-SHADED FIXTURES ON PLANS NOTE: FIELD VERIFY EXACT LENGTHS	LENGTH: XX" WIDTH: 4" HEIGHT: 4"	750		3500K	80	LED (0-10V DIMMING) 1%	120/277V	6	ARON (EZTX-FXX-4FA-750); KLUS GIZA EXTRUSION (A05556) NEORAY (S121-DR-LC750) SCOUT (SS-F-FM) & (SS-SL-SQM) APPROVED EQUAL
(LS4)	DESCRIPTION: LINEAR STRIP, DAMP LISTED MOUNTING: CEILING, PENDANT, WALL FINISH: SCBA OPTICS: DROP LENS OPTIONS: EM: PROVIDE ET SWITCH FOR HALF-SHADED FIXTURES ON PLANS	LENGTH: 48" WIDTH: 2.5" HEIGHT: 3"	4,000		3500K	80	LED (0-10V DIMMING)	120/277V	35	LITHONIA (ZL1D) METALUX (4SNLED) DAYBRITE (FSS4)
(T24)	DESCRIPTION: VOLUMETRIC TROFFER MOUNTING: GRID CEILING FINISH: SCBA OPTICS: OPTIONS: EM: PROVIDE ET SWITCH FOR HALF-SHADED FIXTURES ON PLANS	LENGTH: 48" WIDTH: 24" HEIGHT: 4"	4,000		3500K	80	LED (0-10V DIMMING) 1%	120/277V	35	LITHONIA (2ALL4) METALUX (24RLN) DAYBRITE (2CAXG)

ADDITIONAL LIGHT FIXTURE NOTES:

- GRID CEILING IS EXPECTED TO BE: ARMSTRONG DUNE # 1772 (2'X2'), SQUARE LAU - IN AND TEGULAR, WHITE FINE TEXTURE ARMSTRONG PRELUDE XL SUSPENSION GRID 15/16" ARMSTRONG CHANNEL MOLDING PERIMETER TRIM.
- 2. CONFIRM CEILING TYPE AND FIXTURE FINISHES WITH ARCHITECT PRIOR TO PLACING LIGHTING ORDERS.





SPECTRUM
ENGINEERS
324 S. State St., Suite 400
Salt Lake City, UT 84111
800-678-7077
801-328-5151
fax: 801-328-5155
www.spectrum-engineers.com

Salt Lake City, UT 84111 800-678-7077 801-328-5151 fax: 801-328-5155 www.spectrum-engineers.co

R AND TOILET ROOM

EL601

PRIOR TO QUIRED TEM. AGE NCY SENSOR TES	BREAK, LOCKER AND 5995 WEST AMELIA EARHAR SLC UTAH 84116	
	02.03.25	
	BID SET	
	LIGHTING SCHEDULES	

