# **SAN JACINTO RIVER AUTHORITY** LAKE CONROE DIVISION **OFFICE FACILITIES REPAIR CSP NO. 19-0041 CONTRACT NO. 19-0041**



VICINITY MAP N.T.S.





## DIRECTORS

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**ISSUE DATE: (02) (2019)** 





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User: \$(GETVARije?)/Volumes/ELC/Shared/L2 Engineering Projects MT/Engineering Projects/10459 - SJRA General/Projects/10459-006 WO 6 Final Engineering Design for Building Improvements of the Lake Conroe Division Office/03 CAD/DESIGN SET/C-1 Sheet Index-003-1.dwg











1. ADD KICKOUT (ELBOW) TO DOWNSPOUTS AND 18"X10.5"X3" CONCRETE SPLASHBLOCK AROUND FACILITY AS NECESSARY



1.	GENERA OF CONS
2.	GENERA PROCED
3.	PLANS A DRAWIN NEW CO
4.	DISPOSE
5.	HOURS
6.	FISHING

1.	THE CONSTRUCTION CONTRACT DOCUMENTS ARE BASED UPON THE AS-BUILT CONSTRUCTION DRAWINGS SUPPLIED BY THE OWNER. THE ARCHITECT HAS NOT FIELD VERIFIED ALL CONDITIONS. THE CONTRACTOR MUST FIELD VERIFY ALL DIMENSIONS AND ALL EXISTING CONDITIONS AFFECTING THE CONSTRUCTION AND NOTIFY THE ARCHITECT OF ANY DISCREPANCIES PRIOR TO COMMENCEMENT OF DEMOLITION.	
2.	DEMOLITION DRAWINGS INDICATE THE APPROXIMATE EXTENT AND NATURE OF THE DEMOLITION WORK. CONCEALED CONDITIONS ABOVE THE FINISHED CEILINGS AND CHASES MAY CONTAIN MATERIALS NOT NOTED. ADDITIONAL DEMOLITION AND/ OR REPAIR WORK MAY BE REQUIRED. EACH CONTRACTOR IS RESPONSIBLE FOR VISITING THE SITE PRIOR TO BIDDING TO DETERMINE THE EXTENT OF MODIFICATION REQUIRED TO ACCOMPLISH THE INTENT OF THESE DOCUMENTS. ALL COST ASSOCIATED TO ACHIEVE THIS INTENT SHALL BE INCLUDED IN THE BASE BID INCLUDING ABATEMENT AND DEMO WORK IN CHASES AND ABOVE CEILINGS.	OFFIC (R)
3.	ALL WORK SHALL BE DONE IN STRICT ACCORDANCE WITH ALL APPLICABLE LOCAL, CITY, STATE AND FEDERAL CODES. CONTRACTOR SHALL SECURE ALL REQUIRED PERMITS FROM THE CITY BUILDING INSPECTION DEPARTMENT.	
4.	CONTRACTOR SHALL BE RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES AND SAFETY TO THE PUBLIC AND TO PROPERTY BOTH PRIVATE AND PUBLIC.	
5.	ALL WORK SHALL BE PERFORMED IN A CLEAN AND WORKMANLIKE MANNER.	
6.	CONTRACTOR WILL REMOVE ALL EXISTING MECHANICAL DUCTWORK, EXTRIOR VENTS AND INDICATED PLUMBING FIXTURES ON DEMO PLAN. PROTECT AREAS AND MATERIALS ADJACENT TO THE WORK FROM DAMAGE. IF ITEMS TO REMAIN ARE DAMAGED BY DEMOLITION, CONTRACTOR(S) TO IMMEDIATELY NOTIFY ARCHITECT FOR CORRECTIVE ACTION. THE COST ASSOCIATED WITH SUCH OCCURRENCE WILL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.	OFFIC (Q)
7.	ALL EXISTING STRUCTURAL COLUMNS AND BEAMS TO BE PROTECTED AND MUST REMAIN BUT CLEAN.	
8.	ERECT TEMPORARY PARTITIONS, BARRICADES, WARNING DEVICES, AND CONTROLS.	
9.	PROVIDE PROTECTIVE COVERINGS, SHORING, BRACING, AND SUPPORTS FOR CONSTRUCTION DESIGNATED TO REMAIN.	
10	REMOVE AND DISPOSE OF WASTE MATERIALS OFF SITE.	
11.	SPRINKLE DEBRIS, AND USE TEMPORARY CLOSURES AS NECESSARY TO LIMIT DUST TO LOWEST PRACTICAL LEVEL.	
12.	BEGIN DEMOLITION AT TOP OF BUILDING AND PROCEED TO LOWEST LEVEL, NOT USING EXPLOSIVES.	
13	CARE SHALL BE EXERCISED IN THE REMOVAL OF WORK TO PREVENT THE RELEASE OF TOXIC SUBSTANCES. SHOULD TOXIC SUBSTANCES, SUCH AS ASBESTOS BE ENCOUNTERED, THE OWNER SHALL BE NOTIFIED UPON AUTHORIZATION THE DISPOSAL OF SAME SHALL CONFORM TO ALL GOVERNING CODES AND REGULATIONS. DISPOSAL SHALL BE DONE ONLY BY CONTRACTORS LICENSED FOR THIS WORK.	I OFFIC I (P)
14	DEMO PHASE INCLUDE CLEAN-UP AROUND EXISTING BUILDINGS OF DEBRIS.	
15.	REFERENCE MEP DOCUMENTS FOR ALL NOTES PERTAINING TO DEMOLITION OF MECHANICAL, ELECTRICAL, PLUMBING, FIRE & DATA, SMOKE SYSTEMS, ETC.	
16.	OPENING IN FLOORS, WALLS, CEILING, ROOF, ETC AS A RESULT OF REMOVED PIPING, FLUES, EQUIPMENT, FIXTURES, ETC SHALL BE PATCHED TO MATCH EXISTING BUILDING CONSTRUCTION. WORK SHALL BE PERFORMED BY CRAFTSMEN SKILLED IN THEIR RESPECTIVE TRADES.	
17.	PREPARE FLOOR FOR APPLICATION OF NEW FINISHES AS REQUIRED IN AREAS OF RECEIVING NEW FLOORING. MECHANICALLY LEVEL AS REQUIRED - VERIFY EXISTING FLOOR CONDITION IN FIELD, THROUGHOUT - PATCH AND PROVIDE FLOOR TOPPING, IF NECESSARY, AND SEAL AS REQUIRED THROUGHOUT. PREP FLOOR TO MEET FLOORING MANUFACTURERS RECOMMENDATIONS.	

3

AL CONTRACTOR SHALL VISIT THE PREMISES AND VERIFY ALL EXISTING CONDITIONS PRIOR TO START ISTRUCTION AND SHALL REPORT ANY DISCREPANCIES TO OWNER AND ARCHITECT.

DURES, INSURANCE, ETC. AS SET FORTH BY OWNER.

ONSTRUCTION.

OF OPERATION OUTSIDE OF NORMAL BUSINESS HOURS MUST BE COORDINATE WITH OWNER.



	SUPPLEMENTARY TO THE ARCHITECTURAL DRAWINGS. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO CHECK AND COORDINATE ALL THE CONTRACT DOCUMENTS BEFORE FABRICATION AND/OR INSTALLATION OF ANY WORK. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ARCHITECT OF ANY DISCREPANCIES OR ERRORS					X	NEW DOORS.
2.	REFER ALSO TO EACH DISCIPLINE'S INFORMATION SHEETS FOR ADDITIONAL GENERAL NOTES.					X	KEY NOTES
3.	FIELD VERIFICATION: PRIOR TO SCHEDULING OF WORK AND COMMENCING CONSTRUCTION, THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS SHOWN. THE CONTRACTOR SHALL NOTIFY THE ARCHITECT OF ANY DISCREPANCIES OF EQUIPMENT, DIMENSIONS OR MATERIALS ON DRAWINGS.	/				X	INDICATED W
4.	PRECEDENCE: DIMENSIONS SHALL HAVE PRECEDENCE OVER SCALE. LARGER SCALE DRAWINGS HAVE PRECEDENCE OVER SMALL SCALE DRAWINGS. GENERAL NOTES TAKE PRECEDENCE OVER DRAWINGS.				*	X/A3.0	ALL DIMENSIO
5.	DETAILS NOTED AS TYPICAL SHALL APPLY AT LIKE CONDITIONS. ALL OTHER CONDITIONS THAT ARE NOT						FINISH TO FI
6.	DO NOT SUBSTITUTE, REVISE OR CHANGE THE WORK WITHOUT THE WRITTEN CONSENT OF THE						EXISTING WAL
7.	ALL GLASS TO CONFORM TO CONSUMER SAFETY COMMISSION, PRODUCT SAFETY ACT 16 CFR 1201.				·		EXISTING WAL
8.	DIMENSIONING RULES: THE FOLLOWING RULES APPLY, UNLESS NOTED OTHERWISE. A. HORIZONTAL DIMENSIONS ARE SHOWN FROM FACE OF FINISH / CMU OR / SLAB						PROVIDE %" INSULATION.
	<ul> <li>B. DIMENSIONS NOTED "CLEAR", "HOLD" OR "CLR" MUST BE PRECISELY MAINTAINED.</li> <li>C. DIMENSIONS ARE NOT ADJUSTABLE WITHOUT APPROVAL OF THE OWNER/ARCHITECT, UNLESS NOTED</li> </ul>		G	RAPH		EGEND	
	<ul> <li>D. VERTICAL DIMENSIONS ARE FROM THE TOP OF FINISHED FLOOR.</li> <li>E. DIMENSIONS MARKED "VERIFY", "VERIFY IN FIELD" OR "VIF" SHALL BE FIELD VERIFIED BY THE CONTRACTOR AND DISCUSSED WITH THE OWNER PRIOR TO CONSTRUCTION.</li> <li>F. DO NOT SCALE DRAWINGS. IF ANY ITEM OF WORK CANNOT BE LOCATED, DISCUSS WITH OWNER PRIOR TO CONSTRUCTION.</li> </ul>	L					
9.	FRAMING: CONTRACTOR SHALL PROVIDE ALL REQUIRED BLOCKING, BACKING, FRAMES, HANGERS OR OTHER SUPPORT AS NECESSARY FOR ALL FIXTURES, EQUIPMENT, CABINETRY, FIRE EXTINGUISHER, FURNISHINGS AND ALL OTHER ITEMS REQUIRING THE SAME.			[		PROVIDE NEW D AND HARDWARE RE: A-4.0 FOR	OOR DETAILS
10.	ACCESS PANELS: ALL EQUIPMENT SWITCHES, CONTROLS AND VALVES THAT ARE CONCEALED MUST BE PROVIDED WITH ACCESS PANELS.						
11.	ALL GYPSUM BOARD SHALL BE TYPE "X", FIRE RATED. ALL GYPSUM BOARD IN TOILETS, JANITOR ROOMS, AT SINKS & PIPE CHASES TO BE TYPE "X" WATER RESISTANT.						=
12.	ALL EXPOSED CONDUITS, PIPES, SUPPORTS, ETC. ARE TO BE RUN PERPENDICULAR TO WALLS AND CEILINGS WITH CONSIDERATION TO NEATNESS.					(٢)	
13.	ALL WOODWORK, BLOCKING, GROUNDS, ROUGH BLOCKS AND MISCELLANEOUS BLOCKING TO BE FIRE RESISTANT TREATED.						
14.	ALL WALLS ARE TO BE FLOATED & FINISHED TO FLOOR.						
15.	FINISH ALL EXPOSED SURFACES OF NEW, RELOCATED OR MODIFIED WALLS, DOORS, MILLWORK, ETC. AS REQUIRED.						
16.	PROVIDE FIRESTOPPING AT ALL FLOOR PENETRATIONS, ROOF PENETRATIONS AND PENETRATIONS OF FIRI RATED WALLS.	E					
17.	ALL ITEMS RECESSED INTO RATED PARTITIONS (SUCH AS OUTLET BOXES, PANEL BOXES, ETC) SHALL HAVE THOSE OPENINGS PROTECTED WITH BACK-UP MATERIALS SO AS TO RETAIN THE INTEGRITY OF THE PARTITION RATING THROUGHOUT.	Ξ				OFFIC (Q)	E
18.	WHERE NEW PARTITIONS INTERSECT EXTERIOR WINDOW SYSTEM, INSTALL SOUND ATTENUATION TAPE.				Ë		
19.	MINOR DETAILS NOT USUALLY SHOWN OR SPECIFIED BUT NECESSARY FOR PROPER EXECUTION OF ANY PART OF THE WORK SHALL BE INCLUDED AS IF THEY WERE INDICATED IN THE DRAWINGS.	(	$\supset$				
20.	THE WORK PERFORMED AS PART OF THESE DOCUMENTS INCLUDES FINAL CLEANING OF THE ENTIRE SPACE BY THE CONTRACTOR. REMOVE RUBBISH, VACUUM CARPET, MOP TILE FLOORS, BROOM CLEAN MECH. ROOMS, CLEAN WINDOWS, MINI-BLINDS, RUBBER BASE, ALL MILLWORK, FIXTURES, ACCESSORIES AND DOORS.	1 - -	4/A-5.(				
21.	THE ARCHITECT/OWNER SHALL NOT BE RESPONSIBLE FOR ADDITIONAL CONSTRUCTION COST RESULTING FROM WORK STARTED PRIOR TO OBTAINING ALL GOVERNING AGENCIES APPROVALS.		V				
22.	THE CONTRACTOR IS RESPONSIBLE FOR THE ENTIRE INSTALLATION. THIS MAY INCLUDE ADDITIONAL ITEMS NOT INCLUDED IN THIS PLAN.	6					
23.	EQUIPMENT ITEMS SHOWN OR REFERENCED ON THE PLAN SHALL BE PROVIDED AND INSTALLED BY THE CONTRACTOR, UNLESS OTHERWISE NOTED.				Ī	OFFIC	E
24.	THE CONTRACTOR SHALL FIRE-PROOF AS REQUIRED BY CODE ALL NEW PENETRATIONS AND ALL ABANDONED PENETRATIONS AS MAY BE GENERATED BY THE WORK OR EXIST IN THE SPACE.						
25.	THE CONTRACTOR SHALL CONSTRUCT THE COMPLETE IMPROVEMENTS IN ACCORDANCE WITH THESE CONSTRUCTION DOCUMENTS, SPECIFICATIONS AND THE BID FORM. IT IS INTENDED THAT THE CONTRACTOR CONSTRUCT A COMPLETE AND USABLE FACILITY INCLUDING ALL WORK MENTIONED IN THE PLANS, SPECIFICATIONS AND BID FORM AND ALSO ALL WORK WHICH MAY BE REASONABLY INFERABLE FROM THE CONTRACT DOCUMENTS AS BEING NECESSARY TO PRODUCE THE INTENDED RESULTS.						
26.	WHEN PARTICULAR MATERIAL MANUFACTURER AND/OR MODEL NUMBERS ARE MENTIONED IN THE DRAWINGS, THE CONTRACTOR SHALL BASE THE BID ON THEIR USE. NO SUBSTITUTIONS WILL BE MADE UNLESS SUCH SUBSTITUTIONS CONFORM TO ALL APPLICABLE CODES AND ONLY IF THE CONTRACTOR HAS RECEIVED WRITTEN APPROVAL FROM THE OWNER OR ARCHITECT.	5					
27.	THE CONTRACTOR SHALL FURNISH THE OWNER WITH MAINTENANCE AND OPERATING MANUALS AND EQUIPMENT GUARANTEES FOR ALL WATER HEATERS, UNIT HEATERS, EXHAUST FANS, A/C/ EQUIPMENT, ELECTRICAL EQUIPMENT, AND ANY OTHER EQUIPMENT FOR WHICH THE MANUFACTURER NORMALLY SUPPLIES OPERATING MANUALS AND/OR EQUIPMENT GUARANTEES.				Ī		F
28.	ALL SPACES WITH FLOOR DRAIN (INCLUDING AREAWAYS) SHALL HAVE THEIR FLOORS PITCHED TO THOSE FLOOR DRAINS UNLESS OTHERWISE INDICATED ON THE DRAWINGS.						E
29.	THE GENERAL CONTRACTOR SHALL FURNISH AND INSTALL ALL CLIPS, ANGLES AND MISC. STEEL TO SECURE FRAMING TO STRUCTURE.				<b>⊥</b>	(0)	
30.	THE GENERAL CONTRACTOR SHALL FURNISH AND INSTALL ALL LINTELS, STRUTS, BRACKETS, HANGERS, ETC. WHEREVER NECESSARY TO SUPPORT OR BRACE ALL FINISHES, EQUIPMENT RECESSES, HEADS OVER OPENINGS, FURNITURE, ETC.	R				D	
31.	THE GENERAL CONTRACTOR SHALL VERIFY LOCATIONS OF ALL UNDERGROUND UTILITIES AND ELECTRICAL CONDUITS PRIOR TO STARTING ANY EXCAVATION OPERATIONS. SHOULD ANY CONDUITS BE ENCOUNTERED WHICH WERE NOT KNOW TO EXIST, THE GENERAL CONTRACTOR SHALL STOP WORK IN THAT AREA AND IMMEDIATELY NOTIFY THE ARCHITECT.	L D					
32.	AT WALL SURFACES TO BE PAINTED, WHERE PATCHING OCCURS IN THE WORK OF AN EXISTING PAINTED SURFACE, THE PATCHED AREA SHALL BE SPACKLED, FILLED, PRIMED AND INTERMEDIATE PAINT COATS APPLIED PRIOR TO APPLICATION OF FINAL FINISH PAINT COATS. APPLY FINAL FINISH PAINT COATS OVER THE ENTIRE WALL, THE WORK AREA SHALL INCLUDE THE SURFACE FROM THE JOINT AT THE WALL / FLOOR INTERSECTION TO THE JOINT AT THE WALL / CEILING INTERSECTION. IT SHALL EXTEND HORIZONTALLY FROM LEFT SIDE OF THE PATCH TO RIGHT SIDE OF THE PATCH AND SHALL INCLUDE THE ENTIRE PATCH. PROVIDE ADDITIONAL SPACKLING AND PAINT COATS UNTIL THE PATCH AREAS BLEND COMPLETELY WITH THE EXISTING ADJACENT WALL SURFACE. PATCHES AT CEILINGS SHALL BE TREATED IN SAME FASHION AS DESCRIBED ABOVE. PAINT PER SPEC 09900. CONTRACTOR TO COORDINATE WITH OWNER ON COLOR.	R		REI TO PAI	PAIR, PATO SUPPLY C NT PER SP	CH AND PAINT COLOR SAMPL PEC. 09900	ALL INTERIOR ES FOR FINAL S
	GENERAL PROJECT NOTES	2		EXI	STIN	 G FLOC	DR PLAN

1. COORDINATION: STRUCTURAL, MECHANICAL, PLUMBING AND ELECTRICAL DRAWINGS ARE

SEE DOOR SCHEDULE SHEET A-4.0

ATION







User: Marcela File: Z:\Urban area\OTHERS\2018\1842 SJRA Conroe\Sheets\Office\A-2.1 REST ENLARGED PLAN.dwg Date: Feb 18, 2019 — 7:11am

### NOTE:



	DOOR SCHEDULE									
	DOORS								HARDWARE	
No.	LOCATION	SIZE	THK.	MATERIAL	TYPE	DOOR FINISH	FRAME FIN.	MATERIAL	SET	
100	CORRIDOR	3'-0" X 7'-0"	MFR.	HOLLOW METAL	A	PAINTED	PAINTED	METAL	1	
101	CORRIDOR	3'-0" X 7'-0"	MFR.	HOLLOW METAL	A	PAINTED	PAINTED	METAL	1	
102	CONFERENCE	3'-0" X 7'-0"	MFR.	HOLLOW METAL	A	PAINTED	PAINTED	METAL	1	



<b>06</b> A.	100 ROUGH CARPENTRY SUMMARY: 1. BLOCKING AND NAILERS. 2. PLYWOOD.	H. EXTERIOR DOOR CONS 1. ANSI A250.8; SEA 2. CORE: POLYSTYRE 3. SPECIAL CONSTRU a) PROVIDE CON
Β.	DIMENSION LUMBER: 1. MANUFACTURED IN ACCORDANCE WITH PS 20; STAMPED AND GRADED IN ACCORDANCE WITH WWPA, WCLIB, OR NLGA GRADING RULES.	b) CLOSE TOP E c) CUT MORTISES IS NOT ACCEPTAB
	<ul> <li>2. MOISTURE CONTENT: KILN DRIED TO 19% MAXIMUM MOISTURE CONTENT.</li> <li>3. SPECIES: HEM-FIR, SPRUCE-PINE-FIR (SPF), OR DOUGLAS FIR LARCH, UNLESS INDICATED OR SPECIFIED OTHERWISE.</li> <li>4. ARCHITECTURAL LUMBER GRADES: UNEXPOSED NON-STRUCTURAL WOOD FRAMING AND BLOCKING INDICATED ON THE ARCHITECTURAL DRAWINGS SHALL BE GRADED AS FOLLOWS: <ul> <li>a) NON-STRUCTURAL FRAMING (2" TO 4" THICK, 2" TO 6" WIDE): "CONSTRUCTION - LIGHT FRAMING," "STUD," OR BETTER.</li> <li>b) BLOCKING AND NAILERS: "UTILITY - LIGHT FRAMING," OR BETTER.</li> </ul> </li> </ul>	I. FRAMES: 1. DESIGN: DOUBLE 2. GAGES: a) EXTERIOR FR b) INTERIOR FR 14 GAGE FOR FR
C.	PANEL MATERIALS: 1. PLYWOOD: APA RATED; CD GRADE; EXTERIOR; PLYWOOD, UNLESS APPROVED OTHERWISE; THICKNESSES AS INDICATED. 2. TERMINAL BACKBOARDS: APA AC GRADE EXTERIOR; FIRE RETARDANT TREATED.	J. FINISH: 1. INTERIOR FRAMES 2. EXTERIOR FRAMES WEIGHT), WITH MODIFI
D.	FASTENERS: HOT-DIPPED GALVANIZED OR COPOLYMER COATED STEEL FOR TREATED WOOD LOCATIONS.	SPECIFIÉD IN SECTION
E.	FIRE RETARDANT TREATMENT: 1. FIRE-RETARDANT TREAT ALL INTERIOR CONCEALED LUMBER AND PLYWOOD, AND OTHER WOOD AS INDICATED OR SPECIFIED.	K. INSTALLATION OF FRA 1. INSTALL FRAMES
	2. PRESSURE TREAT LUMBER IN ACCORDANCE WITH AWPA C-20 AND PLYWOOD IN ACCORDANCE WITH AWPA C-27. 3. ALL FIRE RETARDANT TREATED WOOD SHALL BEAR A UL "FR-S" LABEL, OR A LABEL FROM AN APPROVED INSPECTION AGENCY CERTIFYING THAT THE MATERIAL HAS A FLAME SPREAD RATING NO HIGHER THAN 25 WITH NO EVIDENCE OF SIGNIFICANT PROGRESSIVE COMBUSTION WHEN TESTED IN ACCORDANCE WITH ASTM E84.	<ol> <li>COORDINATE WITH</li> <li>INSTALLATION TOI</li> <li>TO CORNER.</li> <li>DOOR AND HARD'</li> </ol>
F.	INSTALLATION:	08710 DOOR HARDWARE
	1. BLOCKING AND NAILERS (WOOD BLOCKING): INSTALL WOOD BLOCKING TO RECEIVE MECHANICAL FASTENERS FOR SUPPORT OF PLUMBING AND ELECTRICAL FIXTURES AND EQUIPMENT, CABINETS, DOOR STOP PLATES, TOILET AND BATH ACCESSORIES, AND ALL OTHER WALL AND CEILING MOUNTED COMPONENTS. METAL BACKING MAY BE SUBSTITUTED AS SPECIFIED IN SECTION 09111.	A. SUPPLIER: FINISH H FURNISHING HARDWARE II
	<ul> <li>2. INTERIOR PLYWOOD SHEATHING:</li> <li>a) PLYWOOD BACKING: INSTALL PER REQUIREMENTS FOR WOOD BLOCKING IN APPLICATIONS BETTER SUITED TO PANEL</li> </ul>	B. INSTALLER: FINISH UNION JURISDICTIONS, EI
	MATERIALS. BACKING TO BE BETWEEN STUDS IN WALL CAVITY BEHIND GYP. BD. FINISH. b) TERMINAL BACKBOARDS: MECHANICALLY ATTACH FIRE-RETARDANT TREATED PLYWOOD TERMINAL BACKBOARD DIRECTLY OVER GYPSUM BACKING BOARD.	C. CODES: ALL FINISH
06	200 FINISH CARPENTRY	D. HARDWARE ITEMS: A
Α.	SUMMARY: 1. WOOD MILLWORK TRIM AND BASEBOARDS. 2. WOOD VENEER (AS SHOWED ON DRAWINGS)	08730 DOOR AND HARDWA
B.	MATERIALS: 1. FINISH MILLWORK LUMBER: AS SHOWED ON DRAWINGS. 2. VENEER SHEET MATERIAL: AS SHOWED ON DRAWINGS	1. MARK EACH ITEM APPROVED HARDWARE 2. INSTALL EACH HA FITTING ARE REQUIRE FINISHES IN ANOTHER
C.	FABRICATION: 1. SHOP CUT AND MILL ALL LUMBER TO THE SHAPES INDICATED. 2. TOLERANCES FOR OVERALL ASSEMBLY DIMENSIONS SHALL BE WITHIN 1/32 OF AN INCH. 3. SHOP FIT, ASSEMBLE AND FINISH MILLWORK TO THE GREATEST EXTENT POSSIBLE.	DURING THE FINISH O SURFACE MOUNTED IT 3. HARDWARE MOUN BUILDERS HARDWARE
D.	INSTALLATION: 1. MAKE ALL JOINTS TO CONCEAL SHRINKAGE; MITER ALL EXTERIOR CORNERS; COPE ALL INTERIOR CORNERS; MITER OR SCARF ALL END-TO-END JOINTS; INSTALL ALL TRIM PIECES AS LONG AS POSSIBLE, JOINTING ONLY WHERE SOLID SUPPORT IS OBTAINED. MAKE NO JOINTS CLOSER THAN 4 FEET FROM CORNERS.	CODE AND HANDICAP PROPER CLEARANCES OWNER'S REPRESENTA
00	2. SAND ALL EXPOSED SURFACES SMOOTH AND PROVIDE FINISH COATING AS SPECIFIED IN SECTION 09900.	a) LATCH AND b) DEAD LOCKS c) EMERGENCY
<b>О</b> А.	SUMMARY:	d) PUSH/PULL: e) PUSH PLATE: INDEPENDENT OF
	2. EXTERIOR DOORS AND FRAMES, WHEN EXTERIOR DOORS ARE INDICATED ON THE DRAWINGS.	f) KICK PLATES: g) TOP HINGE: b) BOTTOM HING
Β.	SUBMITTALS: 1. PRODUCT LITERATURE: SUBMIT MANUFACTURER'S PUBLISHED LITERATURE FOR DOORS AND FRAMES.	i) CENTER HING j) MULTIPLE HIN k) WALL STOPS:
С.	REFERENCES: 1. NATIONAL FIRE PROTECTION ASSOCIATION (NFPA): NFPA 80 – FIRE DOORS AND WINDOWS. 2. STEEL DOOR INSTITUTE (SDI): SDI–105 – RECOMMENDED ERECTION INSTRUCTIONS FOR STEEL FRAMES. 3. AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI): A250.8 – SDI–100 RECOMMENDED SPECIFICATIONS FOR STANDARD STEEL DOORS AND FRAMES.	n) WALL STOFS. I) THRESHOLDS: OF DOOR. SET I m) CLOSERS: I PROVIDED AND O
	<ul> <li>AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)</li> <li>a) A366 – SPECIFICATION FOR STEEL, CARBON, COLD ROLLED SHEET, COMMERCIAL QUALITY.</li> <li>b) A569 – SPECIFICATION FOR STEEL, CARBON (0.15 MAXIMUM PERCENT), HOT ROLLED SHEET AND STRIP, COMMERCIAL QUALITY.</li> </ul>	n) TRIM/PROTEC o) OTHER HARD OTHERWISE. 4. ADJUSTING AND ( PROPER OPERATION.
D.	QUALITY ASSURANCE:	09250 GYPSUM BOARD SYS
	<ul> <li>CONFORMETO REQUIREMENTS OF ANSI A230.0.</li> <li>REGULATORY REQUIREMENTS:         <ul> <li>a) INSTALLED FRAME AND DOOR ASSEMBLY SHALL CONFORM TO NFPA 80 FOR FIRE-RATED CLASS INDICATED.</li> <li>b) WHERE DOORS ARE NOTED WITH AN HOURLY FIRE RESISTANCE RATING, PROVIDE DOOR AND FRAME ASSEMBLIES LABELED BY UNDERWRITER'S LABORATORY (UL), OR ANOTHER TESTING LABORATORY APPROVED BY THE LOCAL CODE AUTHORITIES, TO MEET THE HOURLY FIRE RATING NOTED. ASSEMBLIES SHALL MEET CODE REQUIREMENTS FOR POSITIVE PRESSURE WHEN REQUIRED.</li> </ul> </li> </ul>	<ul><li>A. QUALITY CONTROL:</li><li>1. PROVIDE ASSEMBL</li><li>2. ASSEMBLIES SHAL</li><li>B. MATERIALS:</li></ul>

ACCEPTABLE MANUFACTURERS: MEMBERS OF THE STEEL DOOR INSTITUTE AND OF THE NATIONAL ASSOCIATION OF ARCHITECTURAL METAL MANUFACTURERS, SUBJECT TO COMPLIANCE WITH THE SPECIFIED REQUIREMENTS.

F. STEEL SHEET: COLD ROLLED ASTM A366, OR HOT-ROLLED PICKLED AND OILED SHEET CONFORMING TO ASTM A569.

G. INTERIOR DOOR CONSTRUCTION:

1. ANSI A250.8; SEAMLESS; MINIMUM 18 GAGE FACE SHEETS.

2. CORE: VERTICAL STEEL STIFFENERS WITH SOUND DEADENING FILL BETWEEN STIFFENERS, OR RESIN-IMPREGNATED KRAFT PAPER WITH HONEYCOMB CORE.

3. PROVIDE CONTINUOUSLY WELDED SEAMLESS EDGES. NO PLASTIC FILLERS WILL BE ACCEPTED.

STRUCTION: AMLESS; MINIMUM 16 GAGE FACE SHEETS.

- ENE OR POLYURETHANE FOAM CORE.
- CTION REQUIREMENTS:

TINUOUSLY WELDED SEAMLESS EDGES. NO PLASTIC FILLERS WILL BE ACCEPTED. DGES OF EXTERIOR DOORS FLUSH WITH STEEL FILLER CAP; SEAL JOINTS WATERTIGHT. FOR BUTTS USING APPROPRIATE TEMPLATES; UNIVERSAL NON-HANDED PREPARATION OF DOORS

RABBET. FRAMES SHALL BE FULLY WELDED OR KNOCKDOWN, AS DETAILED.

AMES: MINIMUM 14 GAGE. AMES: MINIMUM 16 GAGE FOR FRAMES OF DOOR OPENINGS UP TO AND INCLUDING 4 FEET IN WIDTH; AMES GREATER THAN 4 FEET IN WIDTH.

MANUFACTURER'S STANDARD RUST-INHIBITIVE PRIMER. HOT DIP GALVANIZED ZINC COATING CONFORMING TO ASTM A653 A60 (.60 OZ/SQ FT. COATING D EPOXY ESTER BAKED-ON PRIMER TO RECEIVE EPOXY/URETHANE COATING SYSTEM 09900.

AMES: IN ACCORDANCE WITH SDI-105 AND IN ACCORDANCE WITH LABELING REQUIREMENTS. WALL CONSTRUCTION FOR ANCHOR PLACEMENT. LERANCES; MAXIMUM DIAGONAL DISTORTION: 1/16 INCH MEASURED WITH STRAIGHT EDGE, CORNER

WARE INSTALLATION IS SPECIFIED IN SECTION 08730.

HARDWARE SHALL BE SUPPLIED BY RECOGNIZED BUILDERS' HARDWARE SUPPLIER WHO HAS BEEN IN SAME AREA AS THE PROJECT FOR A PERIOD OF NOT LESS THAN TWO YEARS.

HARDWARE SHALL BE INSTALLED ONLY BY EXPERIENCED TRADESMEN IN COMPLIANCE WITH TRADE THER AT THE DOOR AND FRAME FABRICATION PLANT OR AT THE PROJECT SITE.

HARDWARE SHALL COMPLY WITH APPLICABLE LOCAL AND/OR STATE BUILDING CODES.

AS SCHEDULED ON THE DRAWINGS.

### RE INSTALLATION

OF HARDWARE AS TO DESCRIPTION AND LOCATION OF INSTALLATION IN ACCORDANCE WITH SCHEDULE.

RDWARE ITEM IN COMPLIANCE WITH MANUFACTURER'S INSTRUCTIONS. WHEREVER CUTTING AND D TO INSTALL HARDWARE ONTO OR INTO SURFACES WHICH ARE LATER TO BE PAINTED OR WAY, INSTALL EACH ITEM COMPLETELY AND THEN REMOVE AND STORE IN A SECURE PLACE DPERATION. AFTER COMPLETION OF THE FINISHES, REINSTALL EACH ITEM. DO NOT INSTALL TEMS UNTIL FINISHES HAVE BEEN COMPLETED ON THE SUBSTRATE.

TING HEIGHTS: MOUNTING HEIGHTS ARE BASED ON RECOMMENDATIONS OF THE NATIONAL ASSOCIATION (NBHA). GENERALLY, MOUNT HARDWARE UNITS AT THE FOLLOWING LOCATIONS DOOR OPENING, EXCEPT AS OTHERWISE INDICATED ON THE DRAWINGS OR REQUIRED TO MEET PED REQUIREMENTS. VERIFY ANY CONFLICTS WITH LOCATION OF OTHER HARDWARE FOR FOR INSTALLATION PRIOR TO CUTTING OR MILLING FOR SPECIFIED HARDWARE. NOTIFY TIVE IMMEDIATELY IF SUCH CONFLICTS ARE DETERMINED.

LOCKSETS: 40 INCHES FINISH FLOOR TO CENTER OF KNOB.

52 INCHES FINISH FLOOR TO CENTER OF CYLINDER. EXIT CROSS BAR: 36 INCHES FROM FINISH FLOOR.

42 INCHES FINISH FLOOR TO CENTERLINE OF PUSH/PULL.

1/2 INCH FROM EDGE OF DOOR; 42 INCHES TO CENTER LINE OF PLATE, EXCEPT 45 INCHES WHERE THẾ PUSH/PULL.

MOUNT AT BOTTOM EDGE OF DOOR AND 1/2 INCH FROM OUTSIDE EDGE OF DOOR.;

5 INCHES FROM TOP OF DOOR TO TOP OF HINGE.

IGE: 10 INCHES FROM FINISH FLOOR TO BOTTOM OF HINGE. EQUAL DISTANCE BETWEEN TOP AND BOTTOM HINGES.

IGE LOCATIONS SHALL BE EQUALLY SPACED BETWEEN TOP AND BOTTOM HINGE.

CENTERLINE OF KNOB OR POINT OF FIRST CONTACT. MOUNT AT EXTERIOR DOORS SUCH THAT SLOPE BREAKPOINT ON THRESHOLD IS AT LEAD EDGE

IN FULL BED OF CAULKING MATERIAL.

MOUNT FOR MAXIMUM DEGREE OF OPENING OBTAINABLE CONSIDERING OTHER HARDWARE PENING CONDITIONS. SIZE CLOSERS FOR CONDITIONS AND CODE REQUIREMENTS.

CTION: KICKPLATE SHALL BE 2" LDW X HEIGHT INDICATED. DWARE ITEMS SHALL BE LOCATED AS RECOMMENDED BY NBHA, OR AS MAY BE SHOWN OR REQUIRED

CLEANING: ADJUST AND CHECK EACH OPERATING ITEM OF HARDWARE AND EACH DOOR TO ENSURE CLEAN DOOR AND HARDWARE.

### STEMS

LIES MEETING THE HOURLY FIRE RATINGS INDICATED.

L BE APPROVED BY THE LOCAL JURISDICTIONAL CODE AUTHORITIES.

### 1. GYPSUM BOARD:

5/8 INCH THICK UNLESS NOTED OTHERWISE. STANDARD BOARD: ASTM C36; PROVIDE TYPE 'X' IN FIRE-RATED PARTITIONS WHERE INDICATED, AND WHERE INCORPORATED AS A PART OF A FIRE-RATED ASSEMBLY.

c) WATER RESISTANT BOARD: ASTM C630.

a) TRIM: CONCEALED FLANGE SCREW-ON TYPE; METAL OR PVC AT CONTRACTOR'S OPTION; GA 216. REVEAL MOLDINGS: FRY REGLET CO., PITTCON INDUSTRIES, INC., GORDON INC, OR APPROVED; ALUMINUM EXTRUSIONS WITH TAPING FLANGES; SHAPES AS INDICATED.

c) JOINT COMPOUND, TAPE, AND FINISHING COMPOUND: ASTM C475 AND GA 216. d) SCREWS: ASTM C1002.

C. INSTALLATION:

1. INSTALLATION STANDARD: UNLESS SPECIFIED OTHERWISE, PERFORM WORK IN ACCORDANCE WITH GYPSUM ASSOCIATION 216, "RECOMMENDED SPECIFICATIONS FOR THE APPLICATION AND FINISHING OF GYPSUM WALLBOARD." 2. SCREW-FASTEN BOARD TO FRAMING, UNLESS APPROVED OTHERWISE. 3. SPACE CONTROL JOINTS AS INDICATED. WHEN NOT INDICATED, LOCATE AS DIRECTED BY OWNER'S REPRESENTATIVE. 4. INSTALL WATER RESISTANT BOARD AS A SUBSTRATE FOR SURFACES SCHEDULED TO RECEIVE BONDED FINISHES IN RESTROOMS. 5. WHERE GYPSUM BOARD IS INSTALLED TO PATCH OR RESURFACE EXISTING FIRE RATED WALLS, INSTALL SO AS TO MAINTAIN EXISTING FIRE RATING. 6. INSTALL SQUARE EDGE EXTERIOR GYPSUM SHEATHING BOARDS PARALLEL OR PERPENDICULAR TO FRAMING. INSTALL BOARDS PARALLEL TO FRAMING AT FIRE RATED WALLS. APPLY SHEATHING WITH JOINTS STAGGERED. ALL EDGES SHALL

BE FIRMLY SUPPORTED.

7. FINISHING (INTERIOR):

3 COAT SMOOTH WALL FINISH. GYPSUM BOARD SURFACES SHALL FORM A SMOOTH SURFACE FREE OF RIDGES, JOINT MARKS, FASTENER DÉPRESSIONS, AND JOINT FILLER LINES. TAPERED BOARD JOINTS SHALL BE TAPED, FILLED, AND FEATHERED TO 12 INCHES EITHER SIDE OF THE JOINT. NON-TAPERED BOARD JOINTS SHALL BE TAPED, FILLED, AND FEATHERED TO 18 INCHES EITHER SIDE OF THE JOINT.

c) SKIM COAT GYPSUM BOARD SURFACES IN SALES FLOOR AREAS.

### 09300 TILE

A. SUMMARY: INTERIOR TILE FINISHES.

B. MATERIALS:

- 1. FLOOR TILE a) RESTROOM AREAS: 12" X 12" COLOR SELECTED BY OWNER. PROVIDE SAMPLES 2. WALL TILE
- a) RESTROOM AREAS: AS INDICATED ON DRAWINGS.
- 3. GROUT FOR FLOOR TILE: COLOR SELECTED BY OWNER. PROVIDE SAMPLES GROUT FOR WALL TILE @ RESTROOM AREA: TO MATCH SELECTED TILE.

C. SUPPLIER:

- 1. CROSSVILLE INC.
- 2. DAL TILE. 3. SPECCERAMICS.

D. QUANTITY STATEMENTS

INSTALLATION BY CONTRACTOR. 2. QUANTITIES OF TILE PURCHASED WILL BE BASED ON THE APPROVED QUANTITY STATEMENT FURNISHED BY THE CONTRACTOR FOR THE EXACT AMOUNT REQUIRED FOR THE INSTALLATION. OVERAGE QUANTITIES WILL BE ADDED SEPARATELY BY THE OWNER FOR EACH TYPE OF TILE.

3. CONTRACTOR SHALL BE RESPONSIBLE FOR ACCURACY OF QUANTITY STATEMENTS. IN THE EVENT THAT INSUFFICIENT QUANTITY IS DISCOVERED AFTER ORDER HAS BEEN PLACED, PROCEED AS FOLLOWS: a) IMMEDIATELY NOTIFY THE OWNER'S REPRESENTATIVE IN WRITING OF THE ADDITIONAL QUANTITIES REQUIRED, WHEREUPON THE OWNER WILL, AT HIS COST, OBTAIN THE ADDITIONAL QUANTITIES.

- b) INSTALL ADDITIONAL QUANTITIES AT NO ADDITIONAL COST TO THE OWNER.
- c) PAY FOR UNUSUAL TRANSPORTATION COSTS INCURRED IN OBTAINING ADDITIONAL MATERIALS.
- SO THAT HE MAY OBTAIN ADDITIONAL TILE FOR OVERAGE STOCK. E. SUBMITTALS:
- 1. PRODUCT DATA: SUBMIT FOR EACH TYPE OF GROUT, ADHESIVE, ADDITIVE, ACCESSORY, AND MEMBRANE SPECIFIED. 2. SAMPLES:
- a) GROUT: SUBMIT CURED SAMPLES OF GROUT COLOR.
- F. QUALITY ASSURANCE: CONFORM TO ANSI STANDARD SPECIFICATIONS FOR THE INSTALLATION OF CERAMIC TILE.
- G. TILE TYPES: AS SCHEDULED ON THE DRAWINGS AND DESCRIBED ABOVE.
- H. SETTING MATERIALS FOR TILE:

1. THINSET MORTAR: LATEX-PORTLAND CEMENT IN ACCORDANCE WITH ANSI A118.4; 100% ACRYLIC LATEX ADDITIVE AT ALL LOCATIONS; MAPEI CORP "GRANI/RAPID" OR "KERABOND" WITH "UNIVERSAL KERALASTIC" BY LATICRETE INTERNATIONAL, C., "211 CRETE FILLER POWDER" WITH 4237 LATEX THIN-SET MORTAR ADDITIVE," OR APPROVED. METAL SCREED: AS MANUFACTURED BY SCHLUTER SYSTEMS, INC. (800/225-8902), OR CERAMIC TOOL COMPANY. (414/258-9066); DULL BRASS TILE EDGING TRIM; SIZES AS REQUIRED FOR INSTALLATION OF TOP OF SCREED FLUSH WITH TOP OF TILE, AS DETAILED.

- 3. CRACK ISOLATION MEMBRANE: ONE OF THE FOLLOWING. a) LATICRETE "BLUE 92 ANTI-FRACTURE MEMBRANE"
- b) THE NOBLE COMPANY "NOBLESEAL TS." REINFORCED CPE SHEET MEMBRANE. c) N.A.C. PRODUCTS INC. "ECB MEMBRANE;" SELF-BONDING REINFORCED MODIFIED ASPHALT SHEET MEMBRANE; 36" WIDTH.

I. PREPARATION: CLEAN SUBSTRATE SURFACES FREE OF GREASE, DIRT, DUST, ORGANIC IMPURITIES, CURING AGENTS, AND OTHER MATERIALS THAT WOULD IMPAIR BOND. CLEAN FLOORS WITH "BLAST-TRACK" UNIT IF NECESSARY.

J. SLAB LEVELING:

1. PROVIDE SLAB LEVELING AS SPECIFIED IN SECTION 03547.

K. INSTALLATION OF TILE BACKER AND ACCESSORIES:

1. INSTALL IN ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION INSTRUCTIONS. 2. INSTALL UNITS WITH EDGES FIRMLY SUPPORTED ON FRAMING MEMBERS. 3. ATTACH UNITS WITH SCREWS SPACED 6 INCHES ON CENTER ALONG FRAMING. 4. SPACE BOARDS 1/8 TO 3/16 INCH APART. STAGGER BOARD JOINTS WITH THOSE OF ADJACENT ROWS. FILL JOINTS BETWEEN GLASS MESH PANELS WITH BONDING MORTAR, EMBED REINFORCING, COVER OVER WITH MORE BONDING MORTAR AND TROWEL SMOOTH.

L. CRACK ISOLATION:

- 1. INSTALL CRACK ISOLATION MEMBRANE ON A UNIT PRICE BASIS IN ACCORDANCE WITH SECTION 01270. 2. CRACK ISOLATION MEMBRANE MAY BE REQUIRED AT THE FOLLOWING LOCATIONS: a) AT CONTROL AND CONSTRUCTION JOINTS IN CONCRETE FLOORS. b) AT CHANGES IN SUBSTRATE MATERIALS.
- c) SHRINKAGE CRACKS 1/16 INCH OR LARGER IN EXISTING SLABS. 3. EXTEND A MINIMUM OF 24 INCHES EACH SIDE OF CRACK OR JOINT.
- 4. SUBSTRATE EXAMINATION: MATERIALS. FURNISH A MINIMUM OF 7 DAYS NOTICE.

a) SUBSTRATES ARE SUBJECT TO EXAMINATION BY THE OWNER PRIOR TO INSTALLATION OF TILE OR SLAB-LEVELING b) THE EXAMINATION WILL DETERMINE THE NEED FOR CRACK ISOLATION MEMBRANE AT LOCATIONS NOT SCHEDULED ABOVE

1. TILE, WITH PERTINENT INSTALLATION AND MAINTENANCE INSTRUCTIONS, WILL BE FURNISHED BY OWNER FOR

d) TILE FURNISHED FOR OVERAGE MAY BE INSTALLED, IF NECESSARY. NOTIFY OWNER OF QUANTITY OF TILE INSTALLED

b) SCREEDS: SUBMIT SAMPLES OF EACH TYPE AND FINISH OF SCREED; MINIMUM 3 INCH LENGTH.



## **SPECIFICATIONS**

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- 1. INSTALL SCREEDS AT TILE FIELD EDGES AT THE LOCATIONS INDICATED 2. ACCURATELY CUT TO LENGTH FOR FLUSH TIGHTLY BUTTED JOINTS. PROVIDE MITER CUT ANGLE JOINTS. . INSTALL IN LONGEST POSSIBLE LENGTHS, EXCEPT THAT NO SCREED SECTION SHALL BE LONGER THAN 12 FEET OR SHORTER THAN 4 FEET. 4. INSTALL SCREEDS FREE FROM WAVES AND VARIATIONS IN HEIGHT, FLUSH WITH TOP OF ADJACENT TILE SURFACES. 5. SET SCREEDS DIRECTLY IN SETTING BED AS THE TILE INSTALLATION PROCEEDS. COMPLY WITH SCREED MANUFACTURER'S INSTRUCTIONS TO ACHIEVE MORTAR TIGHTLY COMPACTED BETWEEN SCREED AND TILE EDGE. N. INSTALLATION OF TILE: 1. INTERIOR FLOOR APPLICATION - THINSET OVER CONCRETE SUBSTRATE OR CRACK ISOLATION MEMBRANE. a) TCA SYSTEM: SIMILAR TO F113. 9. TOLERANCES b) INSTALLATION STANDARD: ANSI A108.5. c) SETTING MATERIALS: LATEX MODIFIED THINSET MORTAR; 3/32 INCH MINIMUM THICKNESS. 2. OVER GYPSUM (GREEN) BACKER BOARD: a) TCA SYSTEM: SIMILAR TO W244. b) INSTALLATION STANDARD: ANSI A108.5. c) SETTING MATERIALS: LATEX MODIFIED THINSET MORTAR; 3/32 INCH MINIMUM THICKNESS. 3. JOINT PATTERN: a) LAY OUT TILE PATTERN PRIOR TO COMMENCING TILE INSTALLATION. b) ACCURATELY LOCATE GROUT JOINTS ON LINES INDICATED; WHERE NOT INDICATED, ADJUST GROUT JOINTS WITHIN SPECIFIED TOLERANCES TO MINIMIZE USE OF CUT TILES AT FIELD EDGES. B. PANEL SYSTEM COMPONENTS: c) WHERE CUT TILES ARE NECESSARY, POSITION FLOOR TILE SUCH THAT CUT TILE AT EACH EDGE OF EACH RECTILINEAR FIELD IS NOT LESS THAN HALF OF A FULL SIZE UNIT. 1. PANEL MATERIAL: d) UNLESS OTHERWISE INDICATED, TILE JOINTS SHALL BE 1/8" WIDE. FINISH LEGEND. 4. CLEAN JOINTS OF MORTAR TO MINIMUM DEPTH OF 1/4 INCH TO ALLOW SUBSEQUENT GROUT INSTALLATION. 5. TOLERANCES: a) JOINT WIDTH VARIATION: PLUS OR MINUS 25% OF THE PROPOSED JOINT WIDTH. b) TAPER: PLUS OR MINUS 25% FROM ONE END TO THE OTHER. c) NO PORTION OF A TILE SURFACE SHALL VARY MORE THAN 1/16 INCH ABOVE OR BELOW AN ADJACENT TILE SURFACE. d) INSTALL TILE FIELDS LEVEL TO WITHIN TOLERANCE SPECIFIED FOR FINISHED SUBSTRATE. 6. SPECIAL FLOOR TILE INSTALLATION REQUIREMENTS: ) WASH BACKS OF EACH TILE TO REMOVE ALL DUST AND SOIL THAT WOULD COMPROMISE ADHESION DAMPEN SUBSTRATE AS NECESSARY TO PREVENT EXCESSIVE SUCTION. TROWEL MORTAR ONTO SURFACES TO RECEIVE TILE. C. INSTALLATION: c) APPLY MORTAR BOND COAT WITH NOTCHED TROWEL AS REQUIRED FOR PROPER LEVEL. d) SET TILE WITHIN TIME SPAN RECOMMENDED BY MORTAR MANUFACTURER. ) BACK BUTTER TILES PRIOR TO SETTING TO ACHIEVE MAXIMUM MORTAR COVERAGE OVER BACK OF TILE AND SUBSTRATE. f) SET TILES IN ACCURATE ALIGNMENT. BEAT IN WITH A WOOD BLOCK, RUBBER HAMMER, OR TWIST AS NECESSARY TO LEVEL TILES. O. GROUTING: . MIX GROUTS IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. GROUT ALL JOINTS, EXCEPT EXPANSION JOINTS, IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. FLOAT JOINTS TO A SLIGHTLY CONCAVE PROFILE. 3. REMOVE EXCESS GROUT FROM TILE SURFACES IN ACCORDANCE WITH THE GROUT AND TILE MANUFACTURER'S RECOMMENDATIONS. DO NOT USE EXCESS AMOUNTS OF WATER. WITH APPROPRIATE SOLVENT. 4. PROTECT ADJACENT SURFACES FROM DAMAGE IF ACID CLEANERS ARE USED. 5. DO NOT GROUT JOINTS INDICATED TO RECEIVE SEALANTS, INCLUDING INSIDE RIGHT ANGLE CORNER JOINTS BETWEEN SUBSTRATE. FLOORS AND WALLS OF COLUMN BASES. GROUT JOINTS PERPENDICULAR TO EXPANSION JOINTS SHALL BE FINISHED FLUSH WITH TILE EDGES. CURED GROUT JOINTS SHALL BE MADE FREE OF EFFLORESCENCE, PRIOR TO SEALING.
   CURE INSTALLATION IN ACCORDANCE WITH THE GROUT MANUFACTURER'S RECOMMENDATIONS. PROTECT TILE AND GROUT DURING CURING OPERATIONS. A. MATERIALS: P. EXPANSION JOINTS: 1. PLACE EXPANSION JOINTS AS INDICATED ON THE DRAWINGS. PLACE EXPANSION JOINTS AT CONTROL AND EXPANSION JOINTS IN EXISTING CONCRETE SLABS, AND AT INTERSECTIONS WITH WALLS AND COLUMNS. 3. JOINT SIZES: SET TO MATCH WIDTH OF TYPICAL GROUTED JOINT. 4. LEAVE EXPANSION JOINTS FREE OF MORTAR. 5. SEALANT MATERIALS AND INSTALLATION ARE SPECIFIED IN SECTION 07920. Q. GRIND AND POLISH QUARRY TILE IN COMPLIANCE WITH TILE MANUFACTURER'S RECOMMENDATIONS TO REMOVE LIPPAGE B. INSULATION: BETWEEN TILES AND PROVIDE AN EVEN PLANE. USE MACHINES, ABRASIVE PADS AND POLISHING COMPOUNDS AS RECOMMENDED. REDUCE GRITS OF SUCCESSIVE PADS TO PROVIDE SMOOTH, FINELY HONED, EVEN FLOORING. R. CLEANING: RECEIVE FIRESTOPPING. 1. WASH AND THOROUGHLY RINSE ALL TILE. LEAVE ALL TILE SURFACES CLEAN. AUTO-SCRUB FLOOR WITH SEALER MANUFACTURER'S RECOMMENDED CLEANER AS REQUIRED TO REMOVE ALL CONTAMINANTS. 2. ALLOW FLOOR TO DRY FOR A MINIMUM OF ONE DAY PRIOR TO SEALANT APPLICATION. 09900 PAINTING S. THE AND GROUT SEALING: APPLY TWO COATS OF SEALER IN ACCORDANCE WITH THE MANUFACTURER'S A. SUMMARY: RECOMMENDATIONS TO ACHIEVE MAXIMUM PENETRATION INTO TILE AND GROUTS. APPLY THIRD COAT IF REQUIRED TO ACHIEVE DESIRED GLOSS. T. SPECIAL PROTECTION REQUIREMENTS FOR TILE SURFACES: B. SUBMITTALS: I. AREAS SUBJECT ONLY TO FOOT TRAFFIC: LAY DOWN NON-STAINING CURING PAPER LAPPED AND SEALED AT JOINTS AND EDGES WITH NASHUA BRAND DUCT TAPE. DO NOT USE POLYETHYLENE OR PRODUCTS CONTAINING BITUMINOUS MATERIALS. 2. AREAS SUBJECT TO ROLLING TRUCKS, DOLLIES AND OTHER EQUIPMENT: IN ADDITION TO THE ABOVE, SUCH AREAS C. QUALITY ASSURANCE: SHALL BE FURTHER PROTECTED BY CONTINUOUS PLYWOOD OR HARDBOARD RUNWAYS. OTHER SURFACE IMPERFECTIONS. 09510 ACOUSTICAL CEILINGS A. SUBMITTALS: MANUFACTURER'S PRODUCT LITERATURE. B. MATERIALS: E. MATERIALS: 1. ACOUSTICAL LAY-IN CEILING PANELS: PRODUCTS AS SCHEDULED ON THE DRAWINGS. OTHERWISE INDICATED. 2. SUSPENSION SYSTEM: AS SCHEDULED, IN 2' X 4' GRIDS, AS SHOWN ON THE DRAWINGS. C. INSTALLATION: 1. INSTALL SYSTEM IN ACCORDANCE WITH ALL SEISMIC DESIGN REQUIREMENTS FOR ACOUSTICAL CEILINGS OF THE TEXAS BUILDING CODE. 2. INSTALL SYSTEM IN ACCORDANCE WITH ASTM C636, AS APPLICABLE.
  - . INSTALL GRID TO PRODUCE FINISHED CEILING TRUE TO LINES AND LEVELS INDICATED, WITHIN THE SPECIFIED
  - TOLERANCES. 4. INSTALL SUSPENSION SYSTEMS IN A MANNER TO SUPPORT ALL SUPERIMPOSED LOADS, WITH MAXIMUM PERMISSIBLE DEFLECTION OF 1/270 OF SPAN.

M. SCREED INSTALLATION:

5. HANG SYSTEM INDEPENDENT OF WALLS, COLUMNS, DUCTS, PIPES AND CONDUIT. WHERE DUCTS OR OTHER EQUIPMENT PREVENT THE REGULAR SPACING OF HANGERS, PROVIDE SECONDARY CARRYING MEMBERS FOR INDIRECT SUPPORT OF THE SUSPENSIONS SYSTEM, OR REINFORCE THE NEAREST ADJACENT HANGERS AND RELATED CARRYING CHANNELS AS REQUIRED TO SPAN THE REQUIRED DISTANCE.

6. PROVIDE ALL ANCHORS REQUIRED FOR THE INSTALLATION OF THE CEILING SYSTEM. DO NOT ANCHOR SYSTEM IN ANY MANNER THAT MIGHT CAUSE DAMAGE TO THE STRUCTURAL SYSTEM.

7. INSTALL EDGE MOLDING AT INTERSECTION OF CEILING AND VERTICAL SURFACES, USING LONGEST PRACTICAL LENGTHS. MITER CORNERS. PROVIDE EDGE MOLDINGS AT JUNCTIONS WITH OTHER INTERRUPTIONS. FABRICATE EDGE MOLDINGS TO FIT THE SURFACES ENCOUNTERED.

8. FIT ACOUSTIC LAY-IN PANELS IN PLACE, FREE FROM DAMAGED EDGES OR OTHER DEFECTS DETRIMENTAL TO APPEARANCE AND FUNCTION. FIT BORDER UNITS NEATLY AGAINST ABUTTING SURFACES.

a. VARIATION FORM FLAT AND LEVEL SURFACE: 1/8 INCH IN 10 FEET.

b. VARIATION FROM PLUMB OF GRID MEMBERS CAUSED BY ECCENTRIC LOADS: TWO DEGREES MAXIMUM. 10. HOLD-DOWN CLIPS: INSTALL HOLD-DOWN CLIPS AT ALL PANELS WITHIN 20 FEET OF AN EXTERIOR DOOR.

### 09775 FIBERGLASS-REINFORCED POLYESTER (FRP) WALL COVERING

A. SUMMARY: FIBERGLASS REINFORCED POLYESTER PANELS (FRP)

a) MARLITE BRAND CLASS III/C FIRE-RATED FRP BY MARLITE (DOVER, OH 330/343-6621); COLOR AS SCHEDULED IN THE

b) PANEL TYPE: FIBERGLASS REINFORCED POLYESTER PANELS, WITH EMBOSSED TEXTURED FACE.

c) THICKNESS: 3/32 INCH. d) SIZE: 48 INCHES X LENGTH REQUIRED FOR CONDITIONS INDICATED.

e) FIRE RATING: MAXIMUM 25/450 FLAME SPREAD / SMOKE DEVELOPED IN ACCORDANCE WITH ASTM E84. MOLDINGS: MANUFACTURER'S STANDARD PVC CAP, CORNER, AND DIVISION MOLDINGS; COLOR TO MATCH PANELS. OMIT BOTTOM TRIM WHERE PANEL ABUTS FLASH COVED BASE.

3. PANEL AND MOLDING INSTALLATION ADHESIVE: AS RECOMMENDED BY THE FRP PANEL MANUFACTURER. 4. SEALANT: FLEXIBLE WATERPROOF SILICONE SEALANT FOR BEDDING PANEL EDGES; WHITE COLOR.

1. ESTABLISH CENTERLINE OF EACH DISTINCT FLAT AREA TO BE COVERED. TRIM DIVISION MOLDINGS TO MATE WITH BASE MOLDINGS; INSTALL IN SOLID BED OF ADHESIVE, EITHER ON CENTERLINE, OR OFFSET 24 INCHES FROM CENTER, AS NECESSARY TO MAXIMIZE PANEL WIDTHS AT CORNERS. MOLDING SHALL BE INSTALLED STRAIGHT AND PLUMB.

2. CUT TOP CAP AND DIVISION OR CORNER MOLDINGS TO SHAPE, WITH EDGES TRIMMED TO FIT TO ADJACENT MOLDINGS. 3. APPLY SEALANT INTO INSTALLED MOLDINGS IN SEQUENCE WITH PANEL INSTALLATION.

4. APPLY ADHESIVE TO BACKS OF PANELS IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. 5. MAINTAIN LINES AND LEVELS OF PANEL EDGES AND MOLDINGS.

6. INSTALL PANELS TIGHT TO FLASH-COVED BASE TRIM.

7. ALLOW 1/8-INCH GAP BETWEEN TOP CAP, CORNER, OR DIVISION MOLDING POSTS, AND PANEL EDGE; ALL EDGES SHALL BE FIRMLY BEDDED TO THE MOLDINGS IN SEALANT. CUT OPENINGS FOR PENETRATIONS IN ACCURATE LOCATION WITH APPROXIMATE 1/8-INCH CLEARANCE AROUND PENETRATIONS.

8. PROMPTLY REMOVE SEALANT SQUEEZE OUT WITH A DAMP CLOTH, AS WORK PROGRESSES; REMOVE EXCESS ADHESIVE

9. INSTALL SEALANT BEHIND FLANGES AND AT PENETRATIONS THROUGH PANELING, AND BETWEEN TOP CAP OF PANEL AND

### 09820 ACOUSTICAL INSULATION AND SEALANTS

1. ACOUSTIC INSULATION: ASTM C665, TYPE I; UNFACED GLASS FIBER BATTS, BLANKETS, OR ROLLS; MINIMUM FIRE HAZARD CLASSIFICATION RATING OF 25/50 PER ASTM E84; MINIMUM 3-INCH THICK, UNLESS REQUIRED OTHERWISE TO MEET THE STC REQUIREMENTS INDICATED OR SPECIFIED; WIDTHS TO FRICTION-FIT BETWEEN STUDS, WHERE INDICATED FOR INSTALLATION IN STUD WALLS.

ACOUSTICAL SEALANT: NON-HARDENING, NON-SKINNING, FOR USE IN CONJUNCTION WITH GYPSUM BOARD; SIMILAR TO USG "ACOUSTICAL SEALANT."

3. ACCESSORIES: FURNISH OTHER ACCESSORIES SUCH AS FASTENERS AND RETAINERS, NOT SPECIFICALLY DESCRIBED, BUT REQUIRED FOR A COMPLETE INSTALLATION.

1. INSTALL IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS, AND AS INDICATED. 2. TRIM INSULATION NEATLY TO FIT SPACES. INSTALL WITHOUT GAPS OR VOIDS.

C. SEAL PENETRATIONS THROUGH ACOUSTICAL ASSEMBLIES, EXCEPT FOR PENETRATIONS IN FIRE RATED CONSTRUCTION TO

1. INTERIOR PAINTING OF NEW SURFACES. 2. PAINTING OF PREVIOUSLY UNPAINTED INTERIOR STEEL ELEMENTS AS INDICATED ON THE DRAWINGS.

1. SUBMIT A LIST OF EACH PAINT SYSTEM TO BE USED IN THE WORK. 2. SUBMIT TWO SAMPLES OF EACH COLOR AND PAINT SYSTEM INDICATED.

1. PAINT COATINGS SHALL BE FREE OF DUST, DIRT, FLOW LINES, STREAKS, SAGS, BLISTERS, PINHOLES, BUGS, RUNS, OR

2. IN ADDITION TO THE COATS SPECIFIED, PROVIDE ADDITIONAL COATS AS REQUIRED TO OBTAIN ADEQUATE HIDE.

D. MAINTENANCE MATERIALS: FURNISH A MINIMUM OF ONE GALLON OF EACH COLOR PAINT TO SRJA

PAINTS SPECIFIED IN THIS SECTION ARE PRODUCTS OF BENJAMIN MOORE PAINT COMPANY, AS SCHEDULED, UNLESS

2. PRODUCTS BY THE FOLLOWING MANUFACTURERS ARE ACCEPTABLE:

a) PITTSBURGH PAINTS.

b) PRATT & LAMBERT. c) THE SHERWIN-WILLIAMS COMPANY.

d) KELLY-MOORE PRESERVATIVE PAINT COMPANY.

e) PARKER/FRAZEE 3. PAINT MATERIALS ARE TO BE FULLY VOC COMPLIANT, AND OF THE HIGHEST QUALITY INTENDED FOR APPLICATION BY

PROFESSIONAL COMMERCIAL PAINTERS. 4. DIRECT-TO-METAL (DTM) ACRYLIC PRIMER:

a) ICI/DEVOE "DEVFLEX 4020" PRIMER.

b) SHERWIN WILLIAMS "DTM ACRYLIC PRIMER."

F. SURFACE PREPARATION:

1. PREPARE SURFACES BY REMOVING DIRT, DUST, GREASE, OIL, MOISTURE, AND OTHER CONTAMINANTS THAT WILL IMPAIR THE PROPER ADHESION OF THE FINISH.

2. WOOD - OPAQUE PAINT FINISH:

- a) SPOT COAT KNOTS, PITCH STREAKS, AND SAPPY SECTIONS WITH SEALER. b) FILL NAIL HOLES AND CRACKS. SAND FILLER SMOOTH AND LEVEL WITH WOOD SURFACE. 3. GYPSUM BOARD: REMOVE LIGHT DUST, AND DIRT.
- 4. EXISTING FINISHED SURFACES TO BE REPAINTED:

a) REMOVE LOOSE, BLISTERED, SCALED, OR CRAZED FINISHES TO BARE SUBSTRATE; FEATHER NEW WORK INTO EXISTING WORK. PREPARE SURFACES TO THE NEAREST BREAK LINE IF NECESSARY TO BLEND NEW FINISHES WITH OLD FINISHES

b) WASH AND RINSE SURFACES WITH TRISODIUM PHOSPHATE AND WATER OR OTHER SOLUTION REQUIRED TO REMOVE RÉMAINING FILM, WAX, OIL, GREASE, SMOKE OR FOREIGN MATTER WHICH WILL IMPAIR BOND, OR CAUSE BLEED THROUGH, OF NEWLY APPLIED FINISHES.

c) LIGHTLY SAND, OR APPLY A LIQUID DEGLOSSER ON EXISTING SEMI-GLOSS AND HIGH-GLOSS FINISHES BEFORE REFINISHING.

- 5. EXISTING UNPAINTED INTERIOR STEEL ELEMENTS (ABOVE 10 FEET) INDICATED TO RECEIVE PAINT: a) REMOVE LOOSE, AND SCALING RUST WITH WIRE BRUSH.
- b) LEAVE SURFACE FREE OF DUST AND DIRT THAT WILL IMPAIR BOND OF NEWLY APPLIED FINISH. 6. EXISTING UNPAINTED INTERIOR STEEL ELEMENTS (BELOW 10 FEET) INDICATED TO RECEIVE PAINT: a) SOLVENT CLEAN IN ACCORDANCE WITH STEEL STRUCTURES PAINTING COUNCIL (SSPC) SP-1.
- b) COMMERCIAL BLAST PER SSPC SP-6.
- G. SPECIAL APPLICATION REQUIREMENTS: 1. UNLESS SPECIFIED OR INDICATED OTHERWISE, FOLLOW PAINT MANUFACTURER'S LABEL DIRECTIONS FOR GENERAL APPLICATION PROCEDURES AND COVERAGE RATES.

2. DO NOT APPLY FINISHES ON SURFACES THAT ARE NOT SUFFICIENTLY DRY. MAKE SURE EACH COAT OF FINISH IS DRY AND HARD BEFORE A FOLLOWING COAT IS APPLIED UNLESS THE MANUFACTURER'S DIRECTIONS STATE OTHERWISE. 3. CONCRETE: REMOVE CONTAMINANTS BY HIGH-PRESSURE WASHING, WITH DETERGENT, AND WIRE BRUSHING.

- 4. OPAQUE FINISHES:
- APPLIED AS NECESSARY FOR COMPLETE HIDING OF SUBSTRATE COLORS. b) APPLY PRIMER COATS UN-TINTED. WHERE MORE THAN ONE COAT OF PAINT IS REQUIRED, TINT EACH SUCCEEDING COAT UP TO THE FINAL COAT SIMILAR IN TINT, BUT SLIGHTLY LIGHTER IN VALUE (SHADE). c) SAND LIGHTLY BETWEEN COATS IF NECESSARY TO ACHIEVE REQUIRED FINISH; SAND BETWEEN COATS APPLIED TO WOOD SUBSTRATES.

5. ROLLERS FOR APPLICATION, AND BACKROLLING OF LATEX PAINTS SHALL HAVE A NAP OF 3/8 INCH OR LESS. 6. WHERE ROLLER TEXTURE IS SCHEDULED FOR APPLICATION TO PLASTER AND GYPSUM BOARD SURFACES, FINISH COATS MAY BE ROLLER-APPLIED, OR SPRAY APPLIED AND BACKROLLED AT CONTRACTOR'S OPTION. 7. FACTORY PRIMED SURFACES: APPLY SCHEDULED FINISH SYSTEM, LESS PRIMER COAT, EXCEPT AS NECESSARY TO FOR PATCHING DAMAGE TO FACTORY PRIME COATING.

8. EXCEPT WHERE SCHEDULED OR INDICATED OTHERWISE, THE INTENT IS TO PAINT NEW ROOMS AND AREAS. EXISTING AREAS THAT HAVE NOT BEEN REMODELED OR DO NOT HAVE PATCHED SURFACES ARE NOT TO BE REPAINTED. WHERE EXISTING SURFACES HAVE BEEN REMODELED OR PATCHED THE ENTIRE ROOM IS TO BE REPAINTED, INCLUDING THE ASSOCIATED ACCESS PANELS, ELECTRICAL PANELS, HOLLOW METAL DOORS AND FRAMES (BOTH SIDES), AND SIMILAR ELEMENTS WITHIN THE ROOM.

H. INTERIOR PAINTING SYSTEMS:

1. GYPSUM BOARD, GYPSUM PLASTER, AND GFRG - LATEX SYSTEM: a) SYSTEM: THREE COATS – FIRST COAT ACRYLIC LATEX PRIMER SEALER (UNTINTED), SECOND AND THIRD COAT LATEX PAINT.

b) SHEEN: ROLLER TEXTURE, EGGSHELL SHEEN, EXCEPT PROVIDE FLAT SHEEN AT LIGHT COVES, CEILINGS, SKYLIGHT AREAS, CLERESTORY AREAS, INTERIOR FASCIAS, AND OTHER LIGHT SENSITIVE SURFACES. VERIFY LOCATIONS OF EACH SHEEN WITH OWNER'S REPRESENTATIVE BEFORE PROCEEDING WITH WORK. c) APPLICATION:

WALL SURFACES BETWEEN ADJACENT FABRIC COVERED PANELS AND MIRRORS. 2) PROVIDE PRIME COAT ONLY BEHIND PERMANENTLY MOUNTED MECHANICALLY ANCHORED MIRRORS, FABRIC PANELS, AND SIMILAR ELEMENTS.

3) DO NOT APPLY PRIMER OR PAINT COATINGS TO SURFACES TO RECEIVE ADHESIVELY MOUNTED MIRRORS OR TILE. 2. WOOD - OPAQUE FINISH LATEX SYSTEM:

a) SYSTEM: THREE COATS; FIRST COAT LATEX WOOD PRIMER, AND SECOND AND THIRD COAT LATEX ENAMEL. b) SHEEN: SEMI-GLOSS, UNLESS INDICATED OTHERWISE.

- APPLICATION: USE ON ALL WOOD OR MEDIUM DENSITY FIBERBOARD SURFACES INDICATED TO RECEIVE OPAQUE
- COATING NOT OTHERWISE SPECIFIED IN SECTIONS 06400 OR 08210. 3. FERROUS METAL AND GALVANIZED - ACRYLIC SYSTEM:

a) SYSTEM: THREE COATS; FIRST COAT ACRYLIC DTM PRIMER; SECOND AND THIRD COATS LATEX FINISH. THE PRIMER MAY BE OMITTED AT FACTORY PRIMED SURFACES, EXCEPT AS NECESSARY TO RECOAT DAMAGED OR ABRADED PREPRIMED SURFACES.

b) SHEEN: SEMI-GLOSS. UNLESS INDICATED OTHERWISE. APPLICATION: INTERIOR FERROUS METAL SURFACES INCLUDING HOLLOW STEEL METAL DOORS AND FRAMES, PIPE STEEL HAND AND GUARD RAILS, OVERHEAD DOORS AND FRAMES, ACCESS DOORS AND PANELS, AND FIRE EXTINGUISHER CABINETS.

4. STRIPES ON FLOORING:

- a. EPOXY COATING AS SPECIFIED, "SAFETY YELLOW" COLOR, ONE COAT. b. LOCATIONS: 1) PATHWAY AND CAUTION STRIPING AT LOCATIONS INDICATED ON THE DRAWINGS.

C. APPLY TO MATERIALS THAT HAVE BEEN PREPARED ACCORDING TO PAINT MANUFACTURER'S REQUIREMENTS. d. APPLY TO EXISTING CONCRETE PRIOR TO CONCRETE SEALING AS SPECIFIED IN SECTION 03300. IF THIS IS NOT POSSIBLE, REMOVE SEALER IN AREAS TO RECEIVE PAINT USING DEGREASER OR REMOVER AS RECOMMENDED BY SEALER MANUFACTURER. REAPPLY SEALER FOLLOWING CURING OF STRIPING PAINT.

I. COLORS: AS SCHEDULED ON THE DRAWINGS.

c) LEAVE SURFACE FREE OF DUST AND DIRT THAT WILL IMPAIR BOND OF NEWLY APPLIED FINISH.

a) APPLY NUMBER OF COATS SCHEDULED FOR EACH APPLICATION, EXCEPT THAT ADDITIONAL FINISH COATS SHALL BE

1) USE ON ALL EXPOSED GYPSUM BOARD, PLASTER, AND GFRG SURFACES, INCLUDING THE EXPOSED PORTIONS OF







EXPIRES 07-23-19

### SAN JACINTO RIVER AUTHORITY LAKE CONROE DIVISION



## LAKE CONROE DIVISION OFFICE FACILITIES REPAIR

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ISSUE	DATE	DESCRIPTION					
SJRA PR	OJECT NC	: 18-0097-3					
FILE NAM	/E: SP1.1	Specifications.dwg					
DRAWN BY: MW							
CHECKED	) BY:	MW					
SCALE:	SCALE: AS SHOWN						

## ARCHITECTURAL SPECIFICATIONS

HEET SP-1.2			
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**M-1** 

	MECHANICAL LEGEND
SYMBOL	DESCRIPTION
24"xl2"	DUCT SIZE (IN., INSIDE DIMENSION) WIDTH X DEPTH FOR RECTANGULAR DUCT
I8"Ф	ROUND DUCT SIZE (IN., INSIDE DIMENSION)
T	THERMOSTAT
FDEDES	FIRE DAMPER   SMOKE DAMPER   COMBINATION FIRE/SMOKE DAMPER
CFM	CUBIC FEET PER MINUTE
<i>0</i> .A.	OUTSIDE AIR
X	CEILING SUPPLY DIFFUSER
Ø	CEILING TRANSFER/RETURN DIFFUSER
	CEILING SUPPLY GRILLE
	RETURN AIR GRILLE (RAG)
Ø	EXHAUST FAN (RE: SCHEDULE)
$\square$	DUCT REDUCER
	VOLUME DAMPER
	RETURN AIR DUCT
A 12"¢ 300 CFM	AIR DEVICE, DUCT SIZE & CFM

![](_page_12_Figure_1.jpeg)

![](_page_12_Figure_2.jpeg)

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2

SCALE: NONE

3

### CONDENSATION WATER LEVEL SENSING DEVICES:

ON UNITS AND OTHER COILS ON A ROOF OR ABOVE A CEILING THAT DO NOT HAVE A SECONDARY DRAIN OR MEANS TO INSTALL A SECONDARY DRAIN PAN, A WATER LEVEL SENSING DEVICE SHALL BE INSTALLED INSIDE A PRIMARY DRAIN PAN. THIS DEVICE SHALL SHUT OFF THE APPLIANCE IN THE EVENT THAT THE PRIMARY DRAIN BECOMES RESTRICTED. INLINE OVERFLOW DEVICE INSTALLED IN THE PRIMARY DRAIN LINE SHALL NOT BE PERMITTED. SECTION 312.2.1- 2012 UNIFORM MECHANICAL CODE

## THERMOSTAT

SEVEN-DAY PROGRAMMABLE SOLID STATE ELECTRONIC THERMOSTAT SHALL BE FULLY MODULATING HEATING/COOLING TYPE WITH SWITCHABLE SUBBASE AND AUTOMATIC CHANGEOVER SUITABLE FOR ROOFTOP A/C AND HEATING UNITS -HONEYWELL OR EQUAL.

	AIR HANDLING UNIT SCHEDULE										
UNIT NO.	MFR.	MODEL	TONS	CFM	AIR	EER/IEER	VOLTS/PH	HEATING KW	AMPS	MCA	мос
AHU-I	CARRIER	40RUAA08T2A5-0A0A0	7.5	3000	550	11.2/12.9	208 - 3 - 60	20	57.6	84.1	90
AHU-2	CARRIER	40RUAA08T2A5-0A0A0	7.5	3000	450	11.2/12.9	208 - 3 - 60	20	57.6	84.1	90
AHU-3	CARRIER	40RUAA08T2A5-0A0A0	7.5	3000	550	11.2/12.9	208 - 3 - 60	20	57.6	84.1	90
NOTES:											

I. FOLLOW MANUFACTURER GUIDELINES FOR INSTALLATION, POWER & CONTROL CONNECTION AND REFRIGERANT LINE SIZING/ROUTING. 2. PROVIDE 7-DAY PROGRAMMABLE WALL MOUNTED THERMOSTAT.

3. PROVIDE INDOOR UNIT WITH SINGLE POINT CONNECTION.

4. PROVIDE UNIT WITH MERV-8 (I") DEEP FLAT FILTER.

5. INSTALL AUXILIARY DRAIN PAN WITH FLOAT SWITCH UNDER UNIT. 6. PROVIDE FULL SIZE CONDENSATE DRAIN LINES FROM UNIT TO NEAREST FLOOR DRAIN OR LAVATORY TAIL PIECE.

7. PROVIDE CONDENSATE PUMP IF REQUIRED. 8. OUTSIDE AIR SHALL HAVE MOTORIZED DAMPER INTERLOCKED WITH AHU.

9. SMOKE DETECTOR IN RETURN AND SUPPLY AIR DUCT.

CONDENSING UNIT SCHEDULE											
	MER	MODEL	TONG	SUPPLY	OUTSIDE	E ELECTRICAL					
	M N.	MODEL		CFM	AIR		VOLTS/PH	MCA-MOCP			
ACCU-I	CARRIER	38AUZD08A0A5-0A0A0	7.5	3000	-	11.2/12.9	208 - 3 - 60	33 - 50			
ACCU-2	CARRIER	38AUZD08A0A5-0A0A0	7.5	3000	-	11.2/12.9	208 - 3 - 60	33 - 50			
ACCU-3	CARRIER	38AUZD08A0A5-0A0A0	7.5	3000	-	11.2/12.9	208 - 3 - 60	33 - 50			

			EXH,	AUST F	AN SCH	HEDUL				
DECIC		MER	MODEL			CONEC	ELE	CTRICAL		NOTEG
DE510.	SERVICE	MEK.	MODEL	CEM	E.3.P MG	SUNES	VOLTS/PH	WATTS	RPM	NOTES
EF-I	WOMEN'S R.R.	ACME	VQ-200	196	0.25"	2.3	120 V/ I PH	127	740	1-4
EF-2	MEN'S R.R.	ACME	VQ-200	196	0.25"	2.3	120 V/ I PH	127	740	1-4
EF-3	RESTROOM	ACME	VQ-200	196	0.25"	2.3	120 V/ I PH	127	740	1-4
EF-4	KITCHEN HOOD				EXISTING TO	REMAIN AN	D REUSE	1		
EF-5	ATTIC/ROOF	ACME	PRNI26E	1560	0.25"	12	120 V/ I PH	1/4 HP	1625	1, 3, 5
EF-6	ATTIC/ROOF	ACME	PRNI26E	1560	0.25"	12	120 V/ I PH	1/4 HP	1625	1, 3, 5
EF-7	JANITOR	ACME	VQ-80	68	0.25"	3.8	120 V/ I PH	48	1280	1-4

NOTES:

I. PROVIDE BACKDRAFT DAMPER WITH BIRD SCREEN AND INTEGRAL DISCONNECT FOR EACH UNIT.

2. ROUTE EXHAUST DUCT TO ROOF, FLASH AND SEAL ROOF CAP. 3. AMCA SEAL & U.L. CERTIFIED.

4. INTERLOCK FOR OPERATION WITH LOCAL SWITCH OR LIGHT FIXTURE.

5. PROVIDE THERMOSTATICALLY CONTROLLED EXHAUST FAN (ON AT 110°F AND OFF AT 90°F).

AIR DEVICE SCHEDULE												
DESIG.	MFR.	MODEL	DESCRIPTION	FACE SIZE	MOUNTING TYPE	DAMPER	NOTES					
A	NAILOR	AUNI	SUPPLY DIFFUSER	24"X24"	LAY-IN	YES	1,2,5,6					
В	NAILOR	AUNI	SUPPLY DIFFUSER	24"X24"	DROP FACE	YES	1,2,5,6					
C	NAILOR	5145H	RETURN FILTER	24"X24"	LAY-IN	YES	1,3,5,6					
Norte												

NOTES: I. SEE HVAC PLANS FOR NECK SIZES/ GRILLE SIZE AND CFM'S.

2. ALL CEILING DIFFUSERS MUST BE 4-WAY THROW UNLESS NOTED OTHERWISE.

3. PROVIDE WITH FILTER IN RETURN GRILLE. 4. PROVIDE WITH DEX-AIR SCOOP DAMPER/EXTRACTOR.

5. PROVIDE WITH FACTORY INSTALLED FOIL BACK INSULATION.

6. TITUS, AIRMATE, KRUEGER & METALAIRE ARE CONSIDERED EQUIVALENT MANUFACTURERS.

	OU	tside a	IR CALCUL	ATION (IM	C 2009 EI	DITION)	
	A	В	C	D	E	F	6
SPACE	AREA (FT <sup>2</sup> )	DENSITY (#/1000 FT <sup>2</sup> )	# OCCUPANTS (AxB / 1000)	O/A RATE (CFM/PERSON)	O/A RATE (CFM/FT <sup>2</sup> )	REQUIRED O/A (DxC + ExA)	REQ'D. EXHAUST (CFM/UNIT)
				AHU-I			
CONFERENCE	25	50	56	5	0.06	350	-
STORAGE	165	-	-	-	0.12	20	-
RESTROOM	56	-	-	-	-	-	200
KITCHEN	138	10	2	7.5	0.18	40	410
			TOTAL OUTD	OOR AIR/EXHAUST RE	EQUIRED (CFM) AHU-I	410	610
				AHU-2			
OFFICE	1244	5	Г	5	0.06	110	-
CORRIDORS	350	-	-	-	0.06	21	-
			TOTAL OUTDOOR	AIR/EXHAUST REQUIRE	ED (CFM) FOR AHU-2	131	-
				AHU-3			
OFFICE	1000	5	5	5	0.06	85	-
RESTROOMS	270	-	-	-	-	-	400
CORRIDORS	820	-	-	-	0.06	50	
STORAGE	120	-	-	-	0.12	15	
			TOTAL OUTDOOR	AIR/EXHAUST REQUIRE	ED (CFM) FOR AHU-3	150	400

Bl	BUILDING AIR BALANCE												
TAG	SUPPLY CFM	OUTSIDE AIR CFM	EXHAUST CFM										
AHU-I	+ 3000	+ 550											
AHU-2	+3000	+ 450											
AHU-3	+3000	+ 550											
EF-I			-200										
EF-2			-200										
EF-3			-200										
EF-4			-410										
EF-7			-80										
TOTAL	+9000	1550	-1090										
BUILDING P	BUILDING POSITIVE PRESSURE = 460 CFM												

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#### <u>SECTION 15000</u> BASIC MECHANICAL REQUIREMENTS

### <u>MI- SCOPE:</u>

- A. THE CONTRACTOR SHALL PROVIDE ALL MATERIALS, LABOR, TOOLS, PLANT, INCIDENTALS AND CONTRACTUAL EXPENSES NECESSARY TO INSTALL AND MAKE READY FOR OWNER'S USE A COMPLETE HEATING, VENTILATION, AND AIR CONDITIONING (HVAC) SYSTEM AS CALLED FOR IN THE CONTRACT DOCUMENTS AND AS NOTED OR SPECIFIED HEREIN, TO THE SATISFACTION OF THE OWNER, ARCHITECT AND MECHANICAL ENGINEER.
- B. THE CONTRACTOR SHALL FURNISH AND INSTALL ALL WORK NECESSARY TO MAKE A COMPLETE SYSTEM WHETHER OR NOT SUCH DETAILS ARE MENTIONED IN THESE SPECIFICATIONS AS SHOWN ON THE PLANS, BUT WHICH ARE OBVIOUSLY NECESSARY TO MAKE A COMPLETE SYSTEM, EXCEPTING ONLY THOSE PORTIONS THAT ARE SPECIFICALLY MENTIONED HEREIN OR PLAINLY MARKED ON THE ACCOMPANYING DRAWINGS AS BEING INSTALLED UNDER ANOTHER SECTION OF THE SPECIFICATIONS.
- C. BEFORE STARTING ANY WORK. THE CONTRACTOR FOR THIS SECTION OF THE WORK SHALL EXAMINE A COMPLETE SET OF DRAWINGS AND SPECIFICATIONS FOR ALL TRADES, INCLUDING ARCHITECTURAL, STRUCTURAL, HVAC, ELECTRICAL, FIRE PROTECTION, AND PLUMBING. DIMENSIONS, SPACE REQUIREMENTS, AND POINTS OF CONNECTION TO ALL EQUIPMENT SHALL BE VERIFIED, AND ANY MINOR ADJUSTMENTS NECESSARY TO AVOID CONFLICT WITH THE BUILDING STRUCTURE AND THE WORK OF THE OTHER TRADES SHALL BE MADE. CONTRACTOR SHALL NOTIFY ARCHITECT IMMEDIATELY IF ANY MAJOR CONFLICTS OCCUR.

#### M2- WORKMANSHIP

ALL WORK SHALL BE PERFORMED BY COMPETENT MECHANICS USING PROPER TOOLS AND EQUIPMENT TO PRODUCE FIRST-QUALITY WORK. ALL WORK SHALL BE NEATLY INSTALLED, ACCESSIBLE FOR MAINTENANCE, COMPLETE WITH ALL ACCESSORIES REQUIRED, AND MEETING THE APPROVAL OF THE OWNER AND THE ARCHITECT.

#### M3- MATERIALS:

ALL PRODUCTS, EQUIPMENT, MATERIALS, AND ACCESSORIES SHALL BE OF FIRST-LINE QUALITY, GRADE AND TYPE SHOWN ON THE DRAWINGS AND SPECIFIED, OR EQUIVALENTS ACCEPTED BY THE ARCHITECT OR ENGINEER IN WRITING.

#### M4- SITE INSPECTION:

CONTRACTOR SHALL VISIT THE JOB SITE PRIOR TO SUBMITTING HIS BID AND THOROUGHLY FAMILIARIZE HIMSELF WITH ALL EXISTING CONDITIONS AND EXACT NATURE OF THE WORK, THE DRAWINGS ARE ESSENTIALLY DIAGRAMMATIC. SUBMISSION OF A BID ACKNOWLEDGES FULL RESPONSIBILITY FOR FURNISHING A COMPLETE AND FUNCTIONAL SYSTEM. NO CHANGES IN CONTRACT WILL BE MADE TO ACCOMMODATE OR ALLOW EXTRA FUNDS FOR ANY OMISSION WHICH RESULTS FROM A FAILURE TO THOROUGHLY MAKE THE EXAMINATION.

#### M5- CODES

THE ENTIRE INSTALLATION SHALL CONFORM TO THE REQUIREMENTS OF THE LATEST APPLICABLE EDITION OF THE CODES, ORDINANCES AND REGULATIONS INTERPRETED BY THE LOCAL AUTHORITY HAVING JURISDICTION.

#### MG- PERMITS:

THE CONTRACTOR SHALL OBTAIN AND PAY FOR ALL PERMITS, INSPECTIONS AND FEES. COPIES OF ALL PERMITS AND INSPECTION REPORTS SHALL BE SUBMITTED TO THE ARCHITECT.

MT- AS-BUILTS: CONTRACTOR SHALL PROVIDE A COMPLETE SET OF AS-BUILTS TRANSPARENCIES WITH ALL CHANGES NOTED THEREON AT THE COMPLETION OF THE PROJECT AND PRIOR TO FINAL ACCEPTANCE AND PAYMENT. THESE DRAWINGS SHALL HAVE ALL INSTALLATIONS REFERENCED BY DIMENSIONS TO A SET REFERENCE POINT OR POINTS.

#### M8- GUARANTEE

CONTRACTOR SHALL UNCONDITIONALLY GUARANTEE ALL LABOR AND MATERIALS ON ALL WORK AGAINST DEFECTS IN WORKMANSHIP AND MATERIALS FOR A PERIOD OF ONE YEAR AFTER COMPLETION. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DAMAGE TO ANY PART OF THE PREMISES CAUSED BY EQUIPMENT FURNISHED AND INSTALLED UNDER THIS SECTION OF THE SPECIFICATIONS FOR A PERIOD OF ONE (I) YEAR AFTER DATE OF ACCEPTANCE OF HIS WORK.

#### M9- OPERATING MANUALS:

CONTRACTOR SHALL FURNISH THE OWNER WITH ALL OPERATING MANUALS AND MAINTENANCE INSTRUCTIONS FOR THE EQUIPMENT INSTALLED. MANUALS SHALL BE BOUNDED IN THREE RING LOOSE-LEAF BINDERS AND INDEXED BY PRODUCT TYPE. A SECTION WITHIN THE MANUAL SHALL INCLUDE THE NAME, TELEPHONE NUMBER AND ADDRESS OF ALL LOCAL SUPPLIERS OF ALL MATERIAL AND EQUIPMENT INSTALLED TOGETHER WITH NAME, TELEPHONE NUMBER AND ADDRESS OF ALL CONTRACTORS OF THE PROJECT. PROVIDE 3 SETS OF MANUALS TO THE OWNER. CONTRACTOR SHALL AFFIX A MAINTENANCE LABELS TO ALL EQUIPMENT REQUIRING ROUTINE MAINTENANCE. PROVIDE TRAINING IF REQUIRED BY OWNER.

#### MIO- COORDINATION AND VERIFICATION

THE DRAWINGS ARE DIAGRAMMATIC AND INTENDED TO SHOW SCOPE. THE CONTRACTOR SHALL COORDINATE HIS WORK WITH OTHER TRADES TO PROVIDE THE BEST ARRANGEMENT OF ALL DUCTS, PIPES, CONDUIT, ETC.. THE LOCATION OF EXISTING PIPING AND DUCTWORK SHOWN IS APPROXIMATE. CONTRACTOR SHALL VERIFY THEIR LOCATION PRIOR TO BEGINNING WORK OF THIS SECTION AND SHALL MAKE MODIFICATIONS AND ADJUSTMENTS REQUIRED TO INSTALL THE WORK OF THIS SECTION.

- A. THE EXACT LOCATION OF ALL MECHANICAL EQUIPMENT SHALL BE VERIFIED WITH THE ARCHITECT AND STRUCTURAL ENGINEER PRIOR TO COMMENCEMENT OF WORK
- B. COORDINATE THE LOCATION OF ALL ROOF MOUNTED OPENINGS AND THE EXACT LOCATION OF ALL ROOF MOUNTED EQUIPMENT WITH THE STRUCTURAL AND ARCHITECTURAL PLANS PRIOR TO ANY INSTALLATION. PROVIDE THE EQUIPMENT WEIGHTS, PLATFORMS AND CURB SIZES. COORDINATE WIRING, FUSED DISCONNECT SWITCHES AND CONDUIT REQUIREMENTS WITH THE ELECTRICAL CONTRACTOR. THESE ITEMS SHALL
- ALSO BE INSTALLED BY THE ELECTRICAL CONTRACTOR.
- CONTRACTOR SHALL ALSO COORDINATE ALL GAS, INDIRECT WASTE, AND DRAIN PIPING WITH THE PLUMBING CONTRACTOR PRIOR TO THE COMMENCEMENT OF WORK.

#### MII- EXTERIOR OPENINGS:

COORDINATE LOCATIONS OF ALL EXTERIOR WALL AND ROOF OPENINGS WITH ALL RELEVANT TRADES AND PROVIDE WATERTIGHT FLASHING WHEREVER PENETRATIONS OCCUR. EXACT LOCATIONS AND SIZES MAY BE DEPENDENT UPON EQUIPMENT SELECTIONS. COORDINATE SIZES AND LOCATIONS OF ALL OPENINGS WITH APPROPRIATE EQUIPMENT REQUIREMENTS.

#### MI2- CUTTING AND PATCHING:

ALL CUTTING AND PATCHING REQUIRED OF THE STRUCTURE SHALL BE PROVIDED UNDER OTHER SECTIONS OF THE WORK. PROVIDE NECESSARY TO THE PROJECT SUPERINTENDENT.

#### MI3- CLEANUP:

UPON COMPLETION OF THE WORK UNDER THIS SECTION. THE CONTRACTOR SHALL REMOVE ALL SURPLUS MATERIALS, EQUIPMENT AND DEBRIS INCIDENTAL TO THIS WORK AND LEAVE THE PREMISES CLEAN AND ORDERLY

#### MI4- EQUIPMENT ACCESS

PERMANENT ACCESS TO EQUIPMENT SHALL BE PROVIDED AND A MINIMUM OF 30" CLEAR WORKING SPACE IN FRONT OF ACCESS PANELS TO THE COMPRESSOR, BLOWER ASSEMBLY AND AIR FILTER SECTION OF THE EQUIPMENT SHALL BE PROVIDED. ADDITIONAL SPACE SHALL BE PROVIDED WHEN RECOMMENDED BY THE EQUIPMENT MANUFACTURER FOR MAINTENANCE.

#### MI5- FILTERS:

FILTERS SHALL BE U.L. RATED AND APPROVED. CONTRACTOR SHALL PROVIDE NEW FILTERS FOR ALL HVAC EQUIPMENT BEFORE INITIAL START-UP. THESE FILTERS SHALL BE REPLACED WITH NEW FILTERS AT TIME OF FINAL ACCEPTANCE BY OWNER.

#### MI4- DUCTWORK:

- A. DUCTWORK SHALL BE FABRICATED WITH GALVANIZED STEEL CONSTRUCTION AND INSTALLED IN ACCORDANCE WITH THE MOST RESTRICTIVE OF STATE CODES, LOCAL CODES, ASHRAE AND SMACNA STANDARDS. SIZES NOTED ARE CLEAR INTERNAL DIMENSIONS. B. FOR EXPOSED DUCTWORK PROVIDE INTERNAL DUCT LINING FOR SUPPLY AND RETURN AIR DUCT FROM EACH AIR CONDITIONING UNIT FOR
- SOUND ATTENUATION. DUCTWORK TO BE INCREASED IN EACH DIMENSION TO INCORPORATE THICKNESS OF LINING. LINING TO BE MINIMUM 1.5" THICK, 1-1/2 LBS/CU.FT. DENSITY. JOHNS-MANVILLE "SPIRACOUSTIC PLUS" OR EQUAL.
- PROVIDE AIR VOLUME EXTRACTORS, SPLITTER DAMPERS OR ADJUSTABLE TURNING VANES AT ALL BRANCH TAKE-OFFS AS REQUIRED FOR PROPER AIR BALANCING. D. VOLUME DAMPERS SHALL BE PROVIDED IN EACH BRANCH DUCT TO EACH DIFFUSER AND REGISTER, FULL DUCT SIZE AND ACCESSIBLE. IF
- DUCTS ARE INSTALLED ABOVE A GYPSUM BOARD CEILING. DIFFUSERS SHALL BE PROVIDED WITH OPPOSED BLADE DAMPERS. DOUBLE THICKNESS TURNING VANES SHALL BE USED ON ALL DUCT TURNS OF 90°.
- DUCT RUNOUTS TO DIFFUSERS AND DUCT/PIPING CONNECTIONS TO EQUIPMENT SHALL BE SIZED TO MATCH NECK OR EQUIPMENT INTAKE/DISCHARGE SIZES, UNLESS OTHERWISE NOTED. G. PROVIDE FIRE DAMPERS AND/OR COMBINATION FIRE SMOKE DAMPERS WHERE DUCTS PENETRATE THROUGH RATED WALLS OR CEILINGS
- WHERE REQUIRED BY CODE.
- H. ALL DUCT JOINTS SHALL BE SEALED AIR TIGHT WITH APPROVED DUCT SEALER AND DUCT TAPE.
- FLEXIBLE DUCT USED FOR CONDITIONED AIR SHALL BE U.L. APPROVED, VINYL COATED, WIRE REINFORCED FIBERGLASS, I" EXTERNAL INSULATION, THERMAFLEX TYPE MKE, CLASS I OR EQUAL. J. DUCTWORK OR OPEN PLENUM WHICH IS VISIBLE THRU AIR OUTLETS SHALL BE PAINTED FLAT BLACK ON THE VISIBLE PORTIONS. SHEET METAL
- DUCT WORK EXPOSED TO OPEN CEILING SHALL BE INTERNALLY LINED. K. FINAL LOCATION OF CEILING DIFFUSERS SHALL BE PER THE ARCHITECTURAL REFLECTED CEILING PLAN OR AS PER FIELD REQUIREMENTS.
- PAINT AS DIRECTED BY ARCHITECT.

## MIT- INSULATION:

M22- CONTROLS A. EACH HVAC SYSTEM SHALL BE PROVIDED WITH AN AUTOMATIC SPACE TEMPERATURE CONTROL DEVICE CAPABLE OF BEING SET TO MAINTAIN SPACE TEMPERATURE SET POINTS FROM 55°F TO 85°F AND HAVE THE ABILITY TO OPERATING THE SYSTEM HEATING AND COOLING IN SEQUENCE. CONTROLS SHALL BE ADJUSTED TO PROVIDE A TEMPERATURE RANGE OF AT LEAST 5°F AND UP TO 10°F BETWEEN FULL HEATING AND COOLING, AND HAVE THE CAPABILITY OF TERMINATING ALL HEATING AT A TEMPERATURE OF NO MORE THAN 70°F AND COOLING AT NOT LESS THAN 78°F. B. THERMOSTATS SHALL HAVE NUMERIC SETPOINTS IN °F, ADJUSTABLE SETPOINT STOPS ACCESSIBLE TO ONLY AUTHORIZED PERSONNEL, AND

SHALL BE MOUNTED AT 48" ABOVE FINISHED FLOOR. C. CONTROLS SHALL BE PROVIDED THAT TEMPORARILY OPERATE THE SYSTEM AS REQUIRED DURING OFF HOURS TO MAINTAIN A SETBACK HEATING AND COOLING THERMOSTAT SETPOINT. D. ALL LINE AND LOW VOLTAGE WIRING SHALL BE INSTALLED IN CONDUIT. ALL CONDUITS SHALL BE FURNISHED AND INSTALLED BY THE

M23- VIBRATION ISOLATION: ALL EQUIPMENT SHALL BE SECURELY FASTENED TO THE BUILDING STRUCTURE WITH CODE APPROVED VIBRATION ISOLATORS AND EARTHQUAKE RESTRAINTS.

M25- OUTSIDE AIR: MINIMUM VENTILATION RATES SHALL COMPLY WITH THE LATEST EDITION OF ASHRAE REQUIREMENTS. CONTROLS SHALL BE PROVIDED TO ALLOW OUTSIDE AIR DAMPERS OR DEVICES TO BE OPERATE AT THE REQUIRED VENTILATION RATES. OUTSIDE AIR INTAKES SHALL BE A MINIMUM OF 10'-O" FROM ROOF JACKS AND EXHAUSTS, VENTS AND INTAKES SHALL BE COVERED WITH 1/2" MESH GALVANIZED SCREEN.

A. INSULATION SHALL BE U.L. LISTED IN COMPLIANCE WITH FLAME-SPREAD RATING OF NOT MORE THAN 25 AND SMOKE DENSITY NOT EXCEEDING 50, PER THE MECHANICAL CODE. INSTALLATION SHALL BE IN ACCORDANCE WITH ALL MECHANICAL CODE REQUIREMENTS. B. INSULATE ALL INTERIOR CONDITIONED SUPPLY AND RETURN AIR DUCTWORK WITH 1-1/2" THICK, 0.75 LB. PER CU. FT. DENSITY FIBERGLASS INSULATION WITH VAPOR BARRIER AND A MINIMUM R-VALUE = 8.0 FOR SUPPLY DUCTS AND A MINIMUM R-VALUE = 4.0 FOR RETURN DUCTS. C. CONDITIONED SUPPLY AND RETURN AIR DUCTWORK EXPOSED TO THE WEATHER SHALL BE INTERNALLY LINED WITH FIBERGLASS DUCT LINER MINIMUM R-VALUE = 8.0 FOR SUPPLY AND A MINIMUM R-VALUE = 4.0 FOR RETURN DUCTS.

### MIS- EXTERIOR INSTALLATION

ALL EQUIPMENT, DUCTS, PIPING, DEVICES AND MATERIALS INSTALLED OUTSIDE THE BUILDING OR OTHERWISE EXPOSED TO THE WEATHER SHALL BE COMPLETELY WEATHER-PROOFED.

#### MI9- MECHANICAL VENTILATION:

EACH MECHANICAL VENTILATION SYSTEM (SUPPLY AND/OR EXHAUST) SHALL BE EQUIPPED WITH A MEANS OF SHUT-OFF WHEN VENTILATION IS NOT REQUIRED, AND BACKDRAFT DAMPERS WHICH CAN BE CLOSED ON FAN SHUTDOWN SHALL BE PROVIDED FOR AIR INTAKES AND/OR DISCHARGES.

#### M20- GRAVITY VENTILATION:

EACH GRAVITY VENTILATION SYSTEM, EXCEPT FOR COMBUSTION AIR OPENINGS, SHALL BE PROVIDED WITH AUTOMATIC DAMPERS IN ALL OPENINGS TO THE OUTSIDE.

### M2I- SMOKE DETECTORS:

EACH AIR HANDLING SYSTEM ABOVE 2000 CFM SHALL BE PROVIDED WITH SUITABLE SMOKE DETECTORS IN THE RETURN DUCT AS REQUIRED BY CODE, INTERLOCKED WITH FAN STARTER(S) FOR AUTOMATIC SHUT-OFF.

ELECTRICAL CONTRACTOR.

#### M24- CONDENSATE DRAIN:

A 3/4" MINIMUM CONDENSATE DRAIN FROM EACH AIR CONDITIONING UNIT TO A CODE APPROVED RECEPTOR SHALL BE PROVIDED. CONDENSATE PIPING SHALL BE TYPE 'L' COPPER. PROVIDE UNISTRUT PIPE CLAMPS AT PIPE SUPPORTS AS REQUIRED (NOT TO EXCEED 6 FEET O.C.). PROVIDE DIELECTRIC SEPARATION BETWEEN ALL DISSIMILAR MATERIALS. ALL INTERIOR CONDENSATE DRAIN PIPING SHALL BE INSULATED.

#### M26- ACCESS DOORS:

WHERE NECESSARY IN DUCTWORK OR CASINGS, SUITABLE ACCESS DOORS AND FRAMES TO PERMIT INSPECTION, OPERATION AND MAINTENANCE OF ALL CONTROLS, MOTOR BEARINGS, OR OTHER APPARATUS CONCEALED BEHIND THE SHEET METAL WORK SHALL BE PROVIDED. ACCESS DOORS IN DUCTS MAY BE OF SINGLE PANEL CONSTRUCTION OF NOT LESS THAN NO. 18 GAUGE GALVANIZED STEEL AND SHALL HAVE SPONGE RUBBER GASKETS WITH HINGES AND LATCHES.

#### M27- BALANCING AND ADJUSTING:

A. ALL AIR SYSTEMS SHALL BE ADJUSTED BY AN INDEPENDENT BALANCING CONTRACTOR THAT IS A MEMBER OF THE ASSOCIATED AIR BALANCING COUNCIL (AABC) OR THE NATIONAL ENVIRONMENTAL BALANCING BUREAU (NEBB). SUBMIT BALANCE REPORT TO OWNER PRIOR TO RECEIVING FINAL PAYMENT. ADDITIONAL BALANCING DAMPERS AND/OR PULLEY CHANGES SHALL BE PROVIDED AS REQUIRED TO BALANCE SYSTEMS AT NO INCREASE IN CONTRACT PRICE.

B. EACH PIECE OF EQUIPMENT AND ALL SYSTEMS SHALL BE ADJUSTED AND RE-ADJUSTED TO INSURE PROPER FUNCTION OF ALL CONTROLS, MAINTENANCE OF TEMPERATURES, ADEQUACY OF FLOWS AND CAPACITIES, ELIMINATION OF NOISE AND VIBRATION, AND SHALL BE LEFT IN PROPER OPERATING CONDITION. OPERATING POWER REQUIREMENTS FOR EACH ITEM OF EQUIPMENT SHALL NOT EXCEED THE RATED MOTOR HORSEPOWER.

### 2015 COMMERCIAL ENERGY CONSERVATION CODE COMPLETION REQUIREMENTS:

THE FOLLOWING REQUIREMENTS ARE MANDATORY PROVISIONS AND ARE NECESSARY FOR COMPLIANCE WITH THE CODE.

DRAWINGS: CONSTRUCTION DOCUMENTS SHALL REQUIRE THAT WITHIN 90 DAYS AFTER THE DATE OF SYSTEM ACCEPTANCE RECORD DRAWINGS OF THE ACTUAL INSTALLATION BE PROVIDED TO THE BUILDING OWNER OR THE DESIGNATED REPRESENTATIVE OF THE BUILDING OWNER. RECORD DRAWINGS SHALL INCLUDE AS A MINIMUM THE LOCATION AND PERFORMANCE DATA ON EACH PIECE OF EQUIPMENT, GENERAL CONFIGURATION OF DUCT AND PIPE DISTRIBUTION SYSTEM INCLUDING SIZES AND THE TERMINAL AIR OR WATER DESIGN FLOW RATES.

MANUALS: CONSTRUCTION DOCUMENTS SHALL REQUIRE THAT AN OPERATING MANUAL AND A MAINTENANCE MANUAL BE PROVIDED TO THE BUILDING OWNER OR THE DESIGNATED REPRESENTATIVE OF THE BUILDING OWNER WITHIN 90 DAYS AFTER THE DATE OF SYSTEM ACCEPTANCE. THESE MANUALS SHALL BE IN ACCORDANCE WITH INDUSTRY ACCEPTED STANDARDS (SEE APPENDIX E) AND SHALL INCLUDE AT A MINIMUM, THE FOLLOWING:

- PIECE OF EQUIPMENT REQUIRING MAINTENANCE. CLEARLY IDENTIFIED.
- C. NAMES AND ADDRESSES OF AT LEAST ONE LOCAL SERVICE AGENCY
- OPERATE, INCLUDING SUGGESTED SETPOINTS.

### 2015 ENERGY CODE: SHUTOFF DAMPER CONTROLS:

OUTDOOR AIR INTAKE AND EXHAUST OPENINGS AND STAIRWAY SHAFT VENTS SHALL BE PROVIDED WITH CLASS I MOTORIZED DAMPERS. THE DAMPERS SHALL HAVE AN AIR LEAKAGE RATE NOT GREATER THAN 4 CFM/FT<sup>2</sup> (20.3 L/S.M<sup>2</sup>) OF DAMPER SURFACE AREA AT I.O INCH WATER GUAGE (249 PA) AND SHALL BE LABELED BY APPROVED AGENCY WHEN TESTED IN ACCORDANCE WITH AMCA 500D FOR SUCH PURPOSE.

OUTDOOR INTAKE AND EXHAUST DAMPERS SHALL BE INSTALLED WITH AUTOMATIC CONTROLS CONFIGURED TO CLOSE WHEN THE SYSTEMS OR SPACES SERVED ARE NOT IN USE OR DURING UNOCCUPIED PERIOD WARM-UP AND SETBACK OPERATION, UNLESS THE SYSTEM SERVED REQUIRE OUTDOOR OR EXHAUST AIR IN ACCORDANCE WITH THE INTERNATIONAL MECHANICAL CODE OR THE DAMPERS ARE OPENED TO PROVIDE INTENTIONAL ECONOMIZER COOLING. STAIRWAY AND SHAFT VENT DAMPERS SHALL BE INSTALLED WITH AUTOMATIC CONTROLS CONFIGURED TO OPEN UPON ACTIVATION OF ANY FIRE ALARM INITIATING DEVICE OF THE BUILDINGS FIRE ALARM SYSTEM OR THE INTERRUPTION OF POWER TO THE DAMPER.

EXCEPTION: GRAVITY (MOTORIZED) DAMPERS SHALL BE PERMITTED TO BE USED AS FOLLOWS:

IN BUILDINGS LESS THAN THREE STORIES IN HEIGHT ABOVE GRADE PLANE. IN BUILDINGS OF ANY HEIGHT LOCATED IN CLIMATE ZONES I, 2 AND 3. 3. WHERE THE DESIGN EXHAUST CAPACITY IS NOT GREATER THAN 300 CFM (142 L/S)

GRAVITY (NONMOTORIZED) DAMPER SHALL HAVE AN AIR LEAKAGE RATE NOT GREATER THAN 20 CFM/FT<sup>2</sup> (101.6 L/S.M<sup>2</sup>) WHERE NOT LESS THAN 24 INCHES (610 MM) IN EITHER DIMENSION AND 40 CFM/FT<sup>2</sup> WHERE LESS THAN 24 INCHES IN EITHER DIMENSION. THE RATE OF LEAKAGE SHALL BE DETERMINED AT I.O INCH WATER GAUGE WHEN TESTED IN ACCORDANCE WITH AMCA 500D FOR SUCH PURPOSE. THE DAMPERS SHALL BE LABELED BY AN APPROVED AGENCY.

A. SUBMITTAL DATA WITH EQUIPMENT SIZES AND SELECTED OPTIONS FOR EACH

B. OPERATION MANUALS AND MAINTENANCE MANUALS FOR EACH PIECE OF EQUIPMENT REQUIRING MAINTENANCE, EXCEPT EQUIPMENT NOT FURNISHED AS PART OF THE PROJECT. REQUIRED ROUTINE MAINTENANCE ACTIONS SHALL BE

D. HVAC CONTROL SYSTEM, MAINTENANCE AND CALIBRATION INFORMATION, INCLUDING WIRING DIAGRAMS, SCHEMATICS, AND CONTROL SEQUENCE DESCRIPTIONS. DESIRED OR FIELD DETERMINED SETPOINTS SHALL BE PERMANENTLY RECORDED ON CONTROL DRAWINGS, AT CONTROL DEVICES OR FOR DIGITAL CONTROL SYSTEMS IN PROGRAMMING COMMENTS. PROVIDE A COMPLETE NARRATIVE OF HOW EACH SYSTEM IS INTENDED TO

### SECTION C403.2.4.3 SHUTOFF DAMPERS

![](_page_14_Picture_105.jpeg)

## SAN JACINTO RIVER AUTHORITY LAKE CONROE DIVISION

Date: 02/18/2019

![](_page_14_Picture_107.jpeg)

## LAKE CONROE DIVISION OFFICE FACILITIES REPAIR

2-18-19 FOR PERMIT ISSUE DATE DESCRIPTION SJRA PROJECT NO: 18-0097-3 FILE NAME: MECHANICAL.dwg DRAWN BY: A.M. CHECKED BY: P.M. SCALE: AS SHOWN

M-4

Mechanical **Specifications** 

SHEE

![](_page_14_Picture_112.jpeg)

![](_page_15_Figure_0.jpeg)

ELECTRICAL LIGHTING PLAN, KEYED NOTES & LIGHT FIXTURE SCHEDULE

Date: Feb 18, 2019 — 11:40pm User: amali File: C:\Users\amali\OneDrive — apmengineers.com\APM\APM 2018 Projects\1834\_SJRA\ELECTRICAL.dwg

SEQ.

![](_page_15_Picture_7.jpeg)

![](_page_16_Figure_0.jpeg)

ELECTRICAL POWER PLAN, KEYED NOTES & FIXTURE SCHEDULE

Date: Feb 18, 2019 — 11:40pm User: amali File: C:\Users\amali\OneDrive — apmengineers.com\APM\APM 2018 Projects\1834\_SJRA\ELECTRICAL.dwg

			<u> </u>								_	120/208 VOL 15, 3 PH, 4
2K AIC OCATION: <u>OUTSIDE</u>	MOUN	NTING:	(X) SURI ( ) FLUS	FACE H	BUS:	[X] NEL [X] GR	JTRAL OUND					NEMA 400 AMP M
LOAD DESCRIPTION	WIRE	LOAD VA	BKR SIZE	CKT NR.		PHASE A B	E C	CKT NR.	BKR SIZE	LOAD VA	WIRE	LOAD DESCRIPTION
PANEL A2	600 MCM	23030		I		•	+	2		22270	600 MCM	PANEL A3
PANEL A2	600 MCM	23030	400/3	3		- 0	+ -	4	400/3	22270	600 MCM	PANEL A3
PANEL A2	600 MCM	23030		5			<b>₽</b>	6		22270	600 MCM	PANEL A3
SPACE ONLY	-	-	-	٦		•		8	-	-	-	SPACE ONLY
SPACE ONLY	-	-	-	٩		•		0	-	-	-	SPACE ONLY
SPACE ONLY	-	-	-				•	12	-	-	-	SPACE ONLY

IOK AIC			(X) SURI	=ACE	[X] NEL	JTRAL					NEM	A 3
LOCATION: OUTSIDE	MOUN	IIING:	[] FLUS	Н	805: [X] GR	OUND					400 AMP	MC
LOAD DESCRIPTION	WIRE	LOAD VA	BKR SIZE	CKT NR.	PHASE A B	E C	CKT NR.	BKR SIZE	LOAD VA	WIRE	LOAD DESCRIPTION	
RECEPT'S - OFFICE A	12	540	20/1	I		+ -	2	20/1	900	12	EXHAUST FANS	
RECPT'S - OFFICE B & F	12	900	20/1	3		<u> </u>	4	20/1	720	12	RECEPT'S - OFFICE A	•
RECPT'S - OFFICE C & D	12	1440	20/1	5		<b>_</b>	6	20/1	1000	12	SERVER RECEPT'S	
LIGHTING (2)	12	1450	20/1	٦		<u> </u>	8	20/1	1000	12	SERVER RECEPT'S	
LIGHTING (2)	12	1347	20/1	٩		<u> </u>	10	20/1	1100	12	COPIER	
LIGHTING (2)	12	1450	20/1	II		<b>•</b>	12	20/1	1100	12	COPIER	
RECPT'S - OFFICE Q & R	12	1440	20/1	13	-^		14	20/1	1080	12	RECEPT'S - OFFICE P	,
RECPT'S - OFFICE N & O	12	1260	20/1	15			16	20/1	900	12	RECEPT'S - OFFICE H	ł
RECPT'S - OFFICE L & K	12	1440	20/1	17		•	18	20/1	1440	12	RECEPT'S - OFFICE   \$	S
RECPT'S - OFFICE G	12	900	20/1	19		<u> </u>	20	20/1	540	12	RECEPT'S - KIT. & CON	IF.
DISPOSAL	12	900	20/1	21		<u> </u>	22	20/1	1500	12	APPLIANCE RECEPTACL	.ES
DISHWASHER	12	1100	20/1	23		•	24	20/1	1500	12	APPLIANCE RECEPTACL	.ES
RESTROOM RECEPT'S	12	540	20/1	25			26	20/1	1000	12	REFRIGERATOR	
RECEPT'S CONFERENCE	12	900	20/1	27			28	20/1	-	-	SPARE	
RECEPT'S CONF. & M	12	720	20/1	29		•	30	20/1	-	-	SPARE	
PANEL A4	3	6750		31			32	20/1	-	-	SPARE	
PANEL A4	3	6750	100/2	33			34	2010	2250	10	WATER HEATER	
PROJECTORS	12	1100	20/1	35		•	36	30/2	2250	10	WATER HEATER	
RANGE	8	4500	50/0	37			38	20/1	660	12	CONF. QUAD / T.V.	
RANGE	8	4500	50/2	39		<u> </u>	40		4500	8	GEN. LOAD TEST	
MICROWAVE	12	1200	20/1	41			42	50/2	4500	8	GEN. LOAD TEST	

NOTES:

() FIELD VERIFY EQUIPMENT LOCATION TO PROVIDE OUTLET AND CIRCUITRY REQUIRED.

2 CONTROLLED BY A 20A/3P, N3R, MECH. HELD LIGHTING CONTACTOR AND 7-DAY, N3R TIME CLOCK WITH 10 HOUR BATTERIES AND REMOTE TIME SWITCHES.

PANEL A3 (E	EXIS	TINE	<u>3)</u>									120/208 VOLTS, 3 PH, 4 W
IOK AIC			[X] SURI	FACE		[X] NEU	TRAL				-	NEMA 3R
LOCATION: OUTSIDE	MOUI	NTING:	[] FLUS	H	BUS: [X] GROUND						400 AMP MCB	
LOAD DESCRIPTION	WIRE	LOAD VA	BKR SIZE	CKT NR.		PHASE A B (		CKT NR.	BKR SIZE	LOAD VA	WIRE	LOAD DESCRIPTION
ACCU-2	6	2		Ι		<b>,</b>		2		2	6	ACCU-I
ACCU-2	6	2	60/3	3				4	60/3	2	6	ACCU-I
ACCU-2	6	2	-	5				6		2	6	ACCU-I
ACCU-3	6	2		٦	-1	<b>,</b>		8		6670	4	AHU-2
ACCU-3	6	2	60/3	٩				10	2	6670	4	AHU-2
ACCU-3	6	2						12		6670	4	AHU-2
AHU-I	6	6670		13	-1	<b>,</b>		14		6670	4	AHU-3
AHU-I	6	6670	2	15				16	2	6670	4	AHU-3
AHU-I	6	6670		17				18		6670	4	AHU-3
PANEL A6	8	2400	50/0	19	-1	<b>,</b>		20	20/1	1000	12	MISC. EQUIPMENT
PANEL A6	8	2400	50/2	21			<u> </u>	22	20/1	1000	12	MISC. EQUIPMENT
SPACE ONLY	-	-	-	23			<b>●</b> _^	24	-	-	-	SPACE ONLY
SPACE ONLY	-	-	-	25	e	<b>,</b>		26	-	-	-	SPACE ONLY
SPACE ONLY	-	-	-	27				28	-	-	-	SPACE ONLY
SPACE ONLY	-	-	-	29			<b>●</b> _^	30	-	-	-	SPACE ONLY
SPACE ONLY	-	-	-	31	e	<b>,</b>		32	-	-	-	SPACE ONLY
SPACE ONLY	-	-	-	33				34	-	-	-	SPACE ONLY
SPACE ONLY	-	-	-	35			<b>●</b>	36	-	-	-	SPACE ONLY
SPACE ONLY	-	-	-	37	e	,	<u> </u>	38	-	-	-	SPACE ONLY
SPACE ONLY	-	-	-	39			<u> </u>	40	-	-	-	SPACE ONLY
SPACE ONLY	-	-	-	41			<b>_</b>	42	-	-	-	SPACE ONLY
TOTAL CONNECTED LOAD	: 66.8 K	W + 2.5 k	<w (25%<="" td=""><td>MOTOR</td><td>) / 208</td><td>V, 3Φ =</td><td>192.5 AN</td><td>1PS</td><td></td><td></td><td></td><td></td></w>	MOTOR	) / 208	V, 3Φ =	192.5 AN	1PS				

NOTES:

() REPLACE EXISTING 100A/3P BREAKER WITH NEW 80A/3P BREAKER. (2) COOLING (LESS) IS NON COINCIDENT WITH HEATING (USED)

			<u>.</u>							_	
OK AIC	MOUN		[] SURF	ACE	RIG	[X] NEUTRAL					NEMA 3
OCATION: OUTSIDE		i ino:	[X] FLUS	5H		[X] GROUND					100 AMP ML
LOAD DESCRIPTION	WIRE	LOAD VA	BKR SIZE	CKT NR.		PHASE A B	CKT NR.	BKR SIZE	LOAD VA	WIRE	LOAD DESCRIPTION
SEPTIC SYSTEM	12	1200	20/2	Ι		•	2	20/1	1000	12	MISC. EQUIPMENT
SEPTIC SYSTEM	12	1200	20/2	3			4	20/1	1000	12	MISC. EQUIPMENT
SPARE	-	-	20/I	5		•	6	20/1	1000	12	MISC. EQUIPMENT
SPARE	-	-	20/I	٦			8	20/1	1000	12	MISC. EQUIPMENT
SPARE	-	-	20/I	٩		•	10	50/0	3550	8	PANEL A5
SPARE	-	-	20/I	II			12	50/2	3550	8	PANEL A5
SPACE ONLY	-	-	-	13		•	14	-	-	-	SPACE ONLY
SPACE ONLY	-	-	-	15			16	-	-	-	SPACE ONLY
SPACE ONLY	-	-	-	17		•	18	-	-	-	SPACE ONLY
SPACE ONLY	-	-	-	19			20	-	-	-	SPACE ONLY
SPACE ONLY	-	-	-	21		•	22	-	-	-	SPACE ONLY
SPACE ONLY	-	-	-	23		<b>↓</b>	24	-	-	-	SPACE ONLY

PANEL A5 (E	EXIS	TINE	<u>;)</u>								120/240 VOLTS,   PH, 3 k
IOK AIC			(X) SUR	FACE		X] NEUTRAL				-	NEMA 3F
LOCATION: MECH. ROOM	MOUR	NTING:	[] FLUS	ЭН	BUS: [	X] GROUND					100 AMP MLC
LOAD DESCRIPTION	WIRE	LOAD VA	BKR SIZE	CKT NR.	F	PHASE B	CKT NR.	BKR SIZE	LOAD VA	WIRE	LOAD DESCRIPTION
TEL. OUTLET	10	2000	30/1	I			2	30/1	2000	10	TEL. OUTLET
RECEPTACLES	12	360	20/1	3			4	20/1	360	12	RECEPTACLES
EF-5 \$ EF-6	12	1440	20/1	5			6	20/1	720	12	EDF
SPARE	-	-	20/1	٦			8	20/1	-	-	SPARE
SPACE ONLY	-	-	-	٩			10	-	-	-	SPACE ONLY
SPACE ONLY	-	-	-	1			12	-	-	-	SPACE ONLY

TOTAL LOAD: 7.1 KW	X I.25	/ 240 √, I¢ =	37 AMPS
--------------------	--------	---------------	---------

IOK AIC			[X] SUR	FACE		[X] NEU	TRAL					NEMA 3
LOCATION: <u>OUTSIDE</u>	MOUN	NTING:		ЭН	BUS:	[X] GR0						
LOAD DESCRIPTION	WIRE	LOAD VA	BKR SIZE	CKT NR.		PHASE A E	3	CKT NR.	BKR SIZE	LOAD VA	WIRE	LOAD DESCRIPTION
MISC. EQUIPMENT	12	1000	20/1	1		<b>.</b>		2	20/1	532	12	BLDG. LIGHTING *
ACCT'G ROOM COPIER	12	1100	20/1	3				4	20/1	1080	12	EXTERIOR RECEPTACLES
ACCT'G ROOM COPIER	12	1100	20/1	5		<b>•</b>		6	-	-	-	SPACE ONLY
SPACE ONLY	-	-	-	٦				8	-	-	-	SPACE ONLY
SPACE ONLY	-	-	-	٩		<b>•</b>		10	-	-	-	SPACE ONLY
SPACE ONLY	-	-	-					12	-	-	-	SPACE ONLY

\* CONTROLLED BY A NEW 7-DAY, N3R, TIME CLOCK WITH 10 HOUR BATTERIES

PANEL LI (E)	XIST	'ING)	)								120/208 VOLTS, 3 PH, 4 W
IOK AIC			[X] SUR	FACE	[X] NEL	ITRAL				-	NEMA 3R
LOCATION: OUTSIDE	MOUN	NTING:	[] FLUS	ЭН	BUS: [X] GR	OUND					100 AMP MLO
LOAD DESCRIPTION	WIRE	LOAD VA	BKR SIZE	CKT NR.	PHASE A B (	C	CKT NR.	BKR SIZE	LOAD VA	WIRE	LOAD DESCRIPTION
COOLANT HEATER	12	1500	20/1	I	-^	+ -	2	20/1	720	12	RECEPTACLES
BATTERY CHARGER	12	800	20/1	3	-^•	-	4	20/1	-	-	SPARE
SPARE	-	-	20/1	5		<b>~</b>	6	20/1	-	-	SPARE
SPACE ONLY	-	-	-	٦	-^	-	8	-	-	-	SPACE ONLY
SPACE ONLY	-	-	-	٩	- <u> </u>	-	10	-	-	-	SPACE ONLY
SPACE ONLY	-	-	-	11		<b>—</b>	12	-	-	-	SPACE ONLY
SPACE ONLY	-	-	-	13	-^	-	14	-	-	-	SPACE ONLY
SPACE ONLY	-	-	-	15	•	-	16	-	-	-	SPACE ONLY
SPACE ONLY	-	-	-	17		<b>~</b>	18	-	-	-	SPACE ONLY
SPACE ONLY	-	-	-	19	-^	-	20	-	-	-	SPACE ONLY
SPACE ONLY	-	-	-	21	- <u> </u>	-	22	-	-	-	SPACE ONLY
SPACE ONLY	-	-	-	23		<b>_</b>	24	-	-	-	SPACE ONLY
SPACE ONLY	-	-	-	25		-	26	-	-	-	SPACE ONLY
SPACE ONLY	-	-	-	27	- <u> </u>	+ -	28	-	-	-	SPACE ONLY
SPACE ONLY	-	-	-	29		<b>_</b>	30	-	-	-	SPACE ONLY
TOTAL LOAD: 3 KW X 1.25 / 208 V, 30 = 10.4 AMPS											

NOTES:

ELECTRICAL LOAD	ANA	₹ĽÝ	515			
	AMPS AT 208 ∨, 3¢					
Description of Load	φ <b>Α</b>	φ <b>Β</b>	φC	φ <b>N</b>		
6 (INTERIOR): 4097 W X 1.25 =	14	14	14	14		
6 (EXTERIOR): 532 W X 1.25 =	2	2	2	2		
ACLES: 91 x 180 W EACH =	46	46	46	46		
2.3 KW TOTAL =	6	6	6	6		
CES: 16.2 KW TOTAL =	45	45	45	45		
EATER :   @ 4.5 KW =	ß	ß	13	I		
@ 2.4 KW =	٦	٦	٦	I		
TOR LOAD TEST: I @ 9 KW =	25	25	25	25		
UIPMENT (COPIER, ETC.): 20.1 KW TOTAL =	56	56	56	56		
9: 105.3 FLA TOTAL = *	-	-	-	-		
: 60 KW TOTAL =	167	167	167	-		
25% LARGEST MOTOR=	٦	٦	٦	I		
TOTAL CONNECTED LOAD=	388	388	388	194		
	-					

\* COOLING (LESS) IS NON COINCIDENT WITH HEATING (USED).

![](_page_17_Picture_22.jpeg)

SEQ.

\$	SINGLE POLE SWITCH, 20 A, I
<b>\$</b> oc	SWITCH WITH OCCUPANCY SEN
\$ <sup>3</sup>	3-WAY SWITCH, <b>\$</b> <sup>4</sup> = 4-WAY,
\$ <sub>m</sub>	MOTOR CONTROL SWITCH
\$ <sub>k</sub>	KEY OPERATED SWITCH, \$p =
	REC
ф	DUPLEX RECEPTACLE 20A, 12
Φ•	DUPLEX RECEPTACLE MOUNTE
$\sim$	MOTOR ( F = EXHAUST FAN )
Φ	SINGLE RECEPTACLE 125 VOL
$\otimes$	250 VOLT, 10, SPECIAL PURPO
	HUBBELL #165262-ORANGE D
۲	FLUSH FLOOR DUPLEX RECEP
Ø	FLUSH FLOOR JUNCTION BOX
GFI	GROUND FAULT INTERRUPTER
Фс	CLOCK HANGER OUTLET (MOL
D	DROP CORD RECEPTACLE
۲	A/V OUTLET. G.C. TO PROVID
	DISCONNECT SWITCH
L	JUNCTION BOX
•	PRE-WIRED DEVICE
	CONDUIT HOME RUN (LA = PA CONDUIT AND NO HASH MARK
NOTES: I. ALL CONDUITS CONCEAL 2. REFER TO ARCHITECTUR ELECTRIC BOX DEBTILS	ED IN WALLS . AL DRAWINGS FOR LOCATIONS

$\checkmark$	RECESSED CAN
<b>Q</b>	WALL MOUNTED LIGHT FIXTURE
× 🛞	EXIT LIGHT CEILING MOUNTED WITH OR WITHOUT DIRECTIONAL ARROWS AS INDICATED
<b>P</b>	EXTERIOR WALL MOUNTED EMERGENCY LIGHT WITH BATTERY BACKUP
QQ	TWO-HEADED WALL OR CEILING MOUNTED EMERGENCY LIGHT WITH BATTERY BACKUP
	SWITCHES
\$	SINGLE POLE SWITCH, 20 A, 120 OR 277 VOLT
<b>\$</b> 0c	SWITCH WITH OCCUPANCY SENSOR
<b>\$</b> <sup>3</sup>	3-WAY SWITCH, $\$^4 = 4$ -WAY, $\$^2 = 2$ POLE, $\$^L =$ SWITCH WITH LIGHTED TOGGLE
\$ <sub>m</sub>	MOTOR CONTROL SWITCH
\$ <sub>k</sub>	KEY OPERATED SWITCH, $\boldsymbol{\$}_p$ = SWITCH WITH PILOT LIGHT, W.P. = WEATHER PROOF
	RECEPTACLES & OUTLETS
ф	DUPLEX RECEPTACLE 20A, 125V, 3 WIRE GROUNDED TYPE
φ	DUPLEX RECEPTACLE MOUNTED HORIZONTALLY AT 8" ABOVE COUNTERTOP TO E
$\overline{O}$	MOTOR (F = EXHAUST FAN )
φ	SINGLE RECEPTACLE 125 VOLT - 1 Ø (AMPS AS NOTED)
$\heartsuit$	250 VOLT, IØ, SPECIAL PURPOSE OUTLET (AMPS AS NOTED)
<b>#</b>	HUBBELL #165262-ORANGE DUPLEX RECEPTACLE
۲	FLUSH FLOOR DUPLEX RECEPTACLE OUTLET
0	FLUSH FLOOR JUNCTION BOX (OUTLET NOTED IF REQUIRED)
GFI	GROUND FAULT INTERRUPTER
θc	CLOCK HANGER OUTLET (MOUNTED AT 7'-O" A.F.F. UNLESS OTHERWISE NOTED)
D	DROP CORD RECEPTACLE
۲	A/V OUTLET. G.C. TO PROVIDE CONDUIT WITH A/V CABLE TO A/V SYSTEM AT OFFICE DESK
	DISCONNECT SWITCH
L	JUNCTION BOX
•	PRE-WIRED DEVICE
	CONDUIT HOME RUN (LA = PANEL NAME, 1,2,3 = CIRCUIT NUMBERS) HASH MARKS INDICATE NO. OF CONDUCTORS IN

EXISTING ELECTRICAL RISER DIAGRA	Μ
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SYMBOL

<u>NOTE:</u>

![](_page_18_Figure_3.jpeg)

TO SERVICE POLE

ELECTRICAL LEGEND

LIGHTING

2'X4' OR 2'X2' LED LIGHT FIXTURE ('X' DESIGNATES FIXTURE TYPE)

2'X4' LED LIGHT FIXTURE ON EMERGENCY AND/OR NIGHT LIGHT SYSTEM

DESCRIPTION

THERE ARE NO CHANGES BEING MADE TO EXISTING SERVICE, METERING, DISCONNECT SWITCHES, PANELS, ETC. AND ASSOCIATED FEEDERS.

![](_page_18_Figure_8.jpeg)

600 AMP AUTOMATIC TRANSFER SWITCH

CONTRACTOR

![](_page_18_Figure_9.jpeg)

CONTRACTOR SHALL VISIT THE SITE PRIOR TO BID DATE AND THOROUGHLY FAMILIARIZE HIMSELF WITH ALL EXISTING INSTALLATIONS. D	ETERMINE THE
EXTENT OF NEW WORK TO PERFORM THIS CONTRACT. NO ALLOWANCES WILL BE MADE FOR FAILURE TO COMPLY WITH THIS REQUIREMENT	OR LACK OF
FAMILIARIZATION WITH EXISTING INSTALLATION.	

2. ALL WORK SHALL COMPLY WITH 2017 EDITION OF THE NATIONAL ELECTRIC CODE, LOCALLY ADOPTED BUILDING CODE AND CITY OF CONROE CODE OF ORDINANCES, CHAPTER 14-222-226

3. ALL MATERIAL SHALL BE NEW, UNDAMAGED AND UNBLEMISHED EXCEPT AS NOTED.

4. OBTAIN ALL PERMITS REQUIRED TO DO THIS WORK AND PAY ANY FEES REQUIRED FOR SUCH PERMITS.

5. ALL WORK SHALL BE GUARANTEED FOR A PERIOD OF ONE YEAR FROM THE TIME OF OWNER ACCEPTANCE, WORK OR EQUIPMENT FOUND TO BE SUBSTANDARD OR FAULTY SHALL BE CORRECTED DURING THIS PERIOD AT NO COST TO THE OWNER. LAMPS ARE EXCLUDED FROM THIS GUARANTEE.

6. SEAL CONDUIT PENETRATIONS THROUGH WALLS WITH U.L.-LISTED FIRE RETARDANT SEALANT SUCH AS CHASE FOAM CTC-PR855.

7. ALL WORK SHALL BE GROUNDED TO COMPLY WITHOUT EXCEPTION WITH ALL PROVISIONS OF ARTICLE 250 OF 2017 EDITION OF THE NATIONAL ELECTRIC CODE. PROVIDE GREEN GROUND CONDUCTOR TO ALL RECEPTACLES.

8. PROVIDE TEMPORARY SERVICE AS REQUIRED FOR CONSTRUCTION POWER AND REMOVE SUCH TEMPORARY SERVICE WHEN WORK IS COMPLETE.

9. MAKE ALL ARRANGEMENTS WITH LOCAL POWER COMPANY AND DO ALL WORK NECESSARY TO PROVIDE PERMANENT SERVICE TO THE BUILDING. 10. SAFETY SWITCHES SHALL BE GENERAL DUTY AS MANUFACTURER AS PANEL BOARDS, ETC.

II. PANEL BOARDS (NO LOAD CENTERS) SHALL BE SQUARED D, GE, OR CULTER-HAMMER AND BUSSING SHALL BE COPPER ONLY ( NO ALUMINUM BUSSING). 12. ALL FUSES ARE CURRENT LIMITING FOR MINIMUM FAULT CURRENT LET-THRU.

13. CONDUIT RUN IN BUILDING SHALL BE CONCEALED IN WALLS OR ABOVE CEILING AND SHALL BE E.M.T. (USE GALVANIZED WHERE EXPOSED). UNDERGROUND FEEDERS RUN UNDER SLAB OR GRADE (AT THE PROPER DEPTH) CAN BE SCHEDULE 40 PVC WITH GROUND WIRE SIZED IN ACCORDANCE WITH THE NATIONAL ELECTRIC CODE.

14. ALL WIRES SHALL BE COPPER USING TYPE "THHN" UNLESS OTHERWISE INDICATED ON THE PLANS.

15. COORDINATE COLOR AND STYLE OF WIRING DEVICES (HUBBELL) WITH THE ARCHITECT.

16. COORDINATE ALL CONTROL REQUIREMENTS FOR THE HVAC SYSTEMS WITH THE CONTRACTORS. PROVIDE POWER (TO A/C CONTROL PANEL WHEN USED) AND EMPTY 3/4" CONDUIT (WITH PULL-STRING) FOR CONTROL WIRING.

17. COORDINATE LOCATION OF TELEPHONE OUTLETS WITH THE OWNER. PROVIDE 3/4" CONDUIT (W/ PULL-STRING) FOR PHONE WIRING.

18. PROVIDE SPECIFIED LIGHT FIXTURES WITH FINAL LOCATIONS PER THE ARCHITECT.

19. ALL SWITCHES @ +48" TO € A.F.F AND ALL RECEPTACLES @ +18" A.F.F. UNLESS OTHERWISE INDICATED.

20. COORDINATE ALL ELECTRICAL WORK WITH OTHER TRADES TO AVOID ANY CONFLICTS.

21. DIMMERS IF ANY SHALL BE LUTRON "NOVA" SERIES SLIDE TYPE OR APPROVED EQUAL.

22. RENOVATIONS & ADDITIONS:

a. PRIOR TO SUBMITTING BIDS, THE CONTRACTOR SHALL VISIT THE SITE TO BECOME AWARE OF EXISTING CONDITIONS.

b. WHERE LOAD IS BEING ADDED TO AN ELECTRICAL SYSTEM, THE CONTRACTOR SHALL PROVIDE DATA IN ACCORDANCE WITH NEC 220.87 - DETERMINING EXISTING LOADS.

C. PLAN INSTALLATION OF NEW WORK AND CONNECTIONS TO EXISTING WORK TO ENSURE MINIMUM INTERFERENCE WITH REGULATION OPERATION. ALL SYSTEM SHUTDOWNS AFFECTING OTHER AREAS SHALL BE COORDINATED WITH THE OWNER.

d. DISCONNECT, REMOVE, OR RELOCATE ELECTRICAL MATERIALS AS NOTED AND AS REQUIRED BY CHANGES IN CONSTRUCTION.

e. THE CONTRACTOR SHALL CUT, CHASE AND REPAIR WALLS, FLOORS, AND CEILINGS NECESSARY FOR THE INSTALLATION OF THIS WORK. NO DRILLING OR CUTTING OF CONCRETE BEAMS, JOISTS, OR STRUCTURAL STEEL, NOR WELDING TO STRUCTURAL STEEL, SHALL BE PERMITTED, EXCEPT WHEN DULY AUTHORIZED BY THE ARCHITECT.

F. RELOCATE EXISTING ELECTRICAL WORK AS NOTED ON THE DRAWINGS AND REQUIRED FOR NEW CONSTRUCTION.

q. EXERCISE CARE IN THE REMOVAL AND STORAGE OF EXISTING EQUIPMENT TO BE REUSED. EQUIPMENT SHALL BE CLEANED AND TOUCHED-UP PRIOR TO PROJECT COMPLETION.

h. ALL DEMOLISHED EQUIPMENT SHALL BE OFFERED TO THE OWNER PRIOR TO DISPOSAL.

I. CIRCUIT BREAKERS IF ADDED TO EXISTING PANEL BOARDS SHALL MATCH THE EXISTING CIRCUIT BREAKER TYPE, MANUFACTURER, AND AMPERE INTERRUPTING CAPACITY RATING.

ELECTRICAL DEMOLITION NOTES:

ARCHITECTURAL PLANS FOR AREAS AND EQUIPMENT TO BE DEMOLISHED.

WHETHER SUCH CIRCUITS ARE INDICATED OR NOT.

CIRCUIT CONTINUITY OF ALL EXISTING FIXTURES AND DEVICES THAT REMAIN.

BOARDS AND SHALL FUNCTION PROPERLY AT THE COMPLETION OF WORK.

INSTALLED IN THE FACILITY UNLESS OTHERWISE NOTED.

AFTER THE NEW ELECTRICAL INSTALLATION IS COMPLETE.

SCALE: NONE 4

- REFER TO ARCHITECTURAL DEMOLITION PLANS FOR AREAS OF DEMOLITION. DEMOLITION, AS SHOWN OR NOTED ON THE ARCHITECTURAL PLANS IS BASED ON LIMITED FIELD INVESTIGATION.
- 2. COORDINATE DEMOLITION WORK SHOWN ON THE ARCHITECTURAL DRAWINGS. REFER TO THE
- 3. THE CONTRACTOR SHALL REMOVE THE EXISTING ELECTRICAL WORK NECESSARY TO PROVIDE THE INTENDED ARRANGEMENT OF WALLS AND CEILINGS, AND SHALL RECONNECT ALL CIRCUITS INTERRUPTED BY THIS DEMOLITION WHERE THOSE CIRCUITS ARE UTILIZED BEYOND THE DEMOLITION,
- 4. ACCURACY OF ORIGINAL PLANS HAS NOT BEEN VERIFIED. THE CONTRACTORS SHALL MAINTAIN
- 5. DISCONNECTED ITEMS THAT ARE TO REMAIN SHALL BE RECONNECTED TO THEIR RESPECTIVE PANEL
- 6. EXISTING CIRCUITS, IF INDICATED, ARE DIAGRAMMATIC ONLY. VERIFY EXACT CONDUIT LOCATION AND ROUTING OF EXISTING CONDUIT RUNS AND NUMBER OF CONDUCTORS. AND PROVIDE ADDITIONAL CONDUITS / CONDUCTORS AS NECESSARY TO ACCOMPLISH THE DESIGN INTENT.
- 7. CIRCUIT BREAKERS, IF ADDED TO THE EXISTING PANEL BOARDS SHALL MATCH THE EXISTING BREAKER TYPE, MANUFACTURER AND AIC RATING. PROVIDE NEW TYPED, UPDATED DIRECTORIES IN THE EXISTING PANEL BOARDS TO REFLECT CHANGES MADE BY THIS RENOVATION.
- 8. ANY ADDITIONS TO SYSTEMS SHALL MATCH THE MANUFACTURER'S EXISTING SYSTEMS PRESENTLY
- 9. EXISTING SYSTEMS SHALL REMAIN UNLESS NOTED FOR REMOVAL OR RELOCATION. ALL SYSTEMS SHALL BE CHEEKED TO ENSURE THEY ARE IN PROPER WORKING ORDER BEFORE ANY DEMOLITION IS STARTED. SYSTEMS NOT FOUND TO BE IN GOOD WORKING ORDER SHALL BE REPORTED TO THE ARCHITECT & OWNER IN WRITING PRIOR TO THE DEMOLITION. ALL SYSTEMS SHALL BE CHECKED TO ENSURE THAT THEY ARE WORKING PROPERLY AFTER THE DEMOLITION WORK IS FINISHED AND

![](_page_18_Picture_62.jpeg)

![](_page_18_Picture_63.jpeg)

**ENGINEERING & DESIGN** Email: amalik@apmengineers.com Tel: 832 . 332 . 1521 **TX FIRM REGISTRATION # F-17728** 

![](_page_18_Picture_65.jpeg)

Date: 02/18/2019

### SAN JACINTO RIVER AUTHORITY LAKE CONROE DIVISION

![](_page_18_Picture_68.jpeg)

## LAKE CONROE DIVISION OFFICE FACILITIES REPAIR

	2-18-19	FOR PERMIT				
ISSUE	DATE	DESCRIPTION				
SJRA PROJECT NO: 18-0097-3						
FILE NAME: ELECTRICAL.dwg						
DRAWN E	3Y:	A.M.				
CHECKED	BY:	P.M.				
SCALE:		AS SHOWN				

Electrical Riser, Legend & Specifications

SHEE

![](_page_18_Picture_73.jpeg)

SFQ

![](_page_18_Picture_75.jpeg)

![](_page_19_Figure_0.jpeg)

Date: Feb 18, 2019 — 11:45pm User: amali File: C:\Users\amali\OneDrive — apmengineers.com\APM\APM 2018 Projects\1834\_SJRA\PLUMBING.dwg

PLUMBING SPECIFICATIONS:	
<u>GENERAL:</u>	
1. ALL MORE SHALL BE IN COMPLIANCE WITH: A INTERNATIONAL PLUMBING CODE (IPC) 2009 EDITION WITH CURRENT AMENDMENTS	
B INTERNATIONAL ENERGY CONVERSATION CODE (IECC) 2015 EDITION	
C CITY OF CONROL CODE OF ORDINANCES, ARTICLE IV. SECTION 14-281-283.	
D. OWNER'S SPECIFICATIONS AND INSTRUCTIONS.	VACUUM BREAKER -
2. CONCEAL PIPING WHENEVER POSSIBLE UNLESS NOTED OTHERWISE.	
3. FIELD-VERIFY ALL MEASUREMENTS AND CONDITIONS BEFORE PROCEEDING WITH WORK.	
4. PROVIDE ALL ADDITIONAL STEEL HANGER MATERIALS, RODS AND CLAMPS AS REQUIRED FOR COORDINATION WITH WORK OF OTHER TRADES	
5. THE CONTRACTOR IS RESPONSIBLE FOR FIRE STOPPING AT ALL PENETRATIONS OF FIRE-RATED FLOORS DESIGNATED IN ARCHITECTURAL	HEAT TRAP AS REQ PER IECC 504.4
6. ALL THERMOPLASTIC PLASTIC PIPING BELOW GRADE SHALL BE INSTALLED ACCORDING TO ASTM D2321 AND THE PIPING MANUFACTURER'S INSTRUCTION	
7. THE PLUMBING DRAWINGS ARE SCHEMATIC IN NATURE AND ADJUSTMENTS TO PIPE SIZE AND ROUTING MAYBE NECESSARY. COORDINATE ALL PIPING INSTALLATION WITH OTHER CONTRACTORS.	RELIEF DRAIN LINE, MATCH P & T VALVI DISCHARGE
PLUMBING FIXTURES:	
I. CONTRACTOR SHALL FIELD-VERIFY ELEVATIONS AND DIMENSIONS OF FINISHED FLOORS AND WALLS. INSTALL ALL DRAINS, ROUGH-INS AND CARRIERS IN ACCORDANCE WITH PROPOSED ELEVATIONS AND FINISHED SURFACES.	
2. MOUNTING HEIGHT OF ALL WALL-HUNG OR COUNTER-MOUNTED FIXTURES SHALL BE COORDINATED WITH ARCHITECT PRIOR TO INSTALLATION OF ROUGH-IN WORK.	3/4" PAN DRAIN LIN
3. AT ALL FIXTURES AND EQUIPMENT, WITH ASSOCIATED TRIM OR ACCESSORIES, PROVIDED BY OTHER TRADES AND REQUIRING PLUMBING CONNECTIONS: THIS CONTRACTOR SHALL FIELD COORDINATE EXACT REQUIREMENTS OF, MAKE PROVISIONS FOR, AND SUPPLY ALL MATERIALS AND LABOR FOR MAKING FINAL CONNECTIONS.	
4. CONTRACTOR SHALL REFER TO EQUIPMENT MANUFACTURER'S SHOP DRAWINGS AND/OR INSTALLATION INSTRUCTIONS FOR FINAL COORDINATION OF ALL ROUGH-IN OPENINGS PRIOR TO BEGINNING WORK.	NOTES:
5. ALL FIXTURE AND EQUIPMENT STUB-OUTS, INCLUDING BOTH WATER AND FUEL SUPPLIES SHALL BE PROVIDED WITH A STOP VALVE.	I. HEATERS
<ol> <li>ROUGH-IN OPENINGS SHALL BE FITTED WITH CHROME PLATED, HEAVY GAGE BRASS ESCUTCHEON PLATES FITTED TIGHT TO THE PIPE.</li> <li>ALL FIXTURES, PIPE, AND FITTINGS NOT USED EXCLUSIVELY FOR NON-POTABLE SERVICES, E.G. IRRIGATION, FIRE PROTECTION, ETC SHALL BE LEAD FREE IN ACCORDANCE WITH THE FEDERAL REDUCTION OF LEAD IN DRINKING WATER ACT.</li> </ol>	2. CONSERVA 2. CONTRACI WATER HE
8. ALL EXPOSED BRASS SHALL BE CHROME PLATED.	PREVENTE 3 A TEMPER
4. HANDICAPPED ACCESSIBILITY ADA COMPLIANCE A ALL HANDICAPPED ACCESSIBLE EIXTURES SHALL BE OF APPROVED TYPE WITH REQUIRED CONTROLS AND INSTALL TO HEIGHT AND	SHALL BE
CLEARANCE, AS PRESCRIBED BY THE AMERICANS WITH DISABILITIES ACT (ADA). FIXTURES SHALL COMPLY WITH ALL FEDERAL, STATE, AND LOCAL ADA CODE REQUIREMENTS. REFER TO ARCHITECTURAL DRAWINGS FOR ALL DIMENSIONED ADA MOUNTING HEIGHTS AND SPECIFIED CLEARANCES	4. DRAIN PAI DEEP, 24 ( 5. RELIEF VA
B. ALL WHEELCHAIR LAVATORIES EXPOSED PIPING SHALL BE INSULATED. OFFSET DRAIN FITTINGS ARE REQUIRED TO PROVIDE MINIMUM CLEARANCES.	TO AN AP (SEE NOTE
C. ORIENT ADA WATER CLOSET FLUSH WITH OPERATOR ON LARGE SIDE OF CLOSURE.	6. IF NO IN CONTRACT
10. PLUMBING FIXTURES SHALL BE OF WATER CONSERVATION TYPE IN ACCORDANCE WITH SENATE BILL 587 FOR WATER-SAVING PERFORMANCE . PRIVATE LAVATORY AND SINK (EXCEPT SERVICE) FAUCETS SHALL BE RESTRICTED TO 2.2 GPM, PUBLIC LAVATORY FAUCETS TO 0.5 GPM AND SHOWER HEADS TO 2.5 GPM	PAN DRAIL ANOTHER
<ul> <li>II. SEAL ALL SPACES BETWEEN PLUMBING FIXTURES AND MOUNTING SURFACES WITH LATEX CAULK WIPED SMOOTH AND FLUSH WITH FIXTURES.</li> <li>I2. PROVIDE ASSE 1070 COMPLIANT THERMOSTATIC MIXING VALVE AT ALL PUBLIC USE LAVATORIES, INSTALLER SHALL ENSURE THAT OUTLET TEMPERATURE DOES NOT EXCEED UP E</li> </ul>	STORAG
<ul> <li>13. PROVIDE ASSE IOIG COMPLIANT MIXING VALVE AT ALL SHOWER OR COMBINATION TUB/SHOWER FIXTURES. USE PRESSURE BALANCING TYPE</li> <li>VALVES IN RESIDENTIAL UNITS AND COMBINATION THERMOSTATIC/PRESSURE TYPE IN COMMERCIAL UNITS. HANDLE STOPS SHALL BE</li> <li>PROVIDED AND SET TO A MAXIMUM MIXED SETTING OF 110° F.</li> </ul>	
14. AIR GAPS AT INDIRECT WASTE CONNECTION SHALL NOT BE LESS THAN I INCH.	
I. PROVIDE CLEANOUTS AT THE BASE OF ALL SANITARY STACKS	
2. PROVIDE CLEANOUTS AT THE UPPER TERMINAL OF ALL HORIZONTAL DRAINAGE PIPES AND AT A MAXIMUM OF 100 FEET APART IN PIPES EXCEEDING SUCH LENGTHS	TEMPERED
<ol> <li>PROVIDE CLEAN-OUT AT EACH CHANGE OF DIRECTION GREATER THAN 45° IN THE BUILDING DRAIN.</li> <li>CLEANOUT SHALL BE SIZED AT 4" DIAMETER FOR 4" DIAMETER PIPE OR LARGER AND SHALL MATCH THE PIPE SIZE FOR 3" DIAMETER PIPE</li> </ol>	FAUCET HOT WATER
OR SMALLER. 5. VENTS SHALL COME TO A POINT AT LEAST 6" ABOVE THE FLOOD LEVEL RIM OF THE FIXTURE SERVED BEFORE OFFSETTING	
HORIZONTALLY, UNLESS OTHERWISE INDICATED ON PLAN. 6. VENTS INSTALLED LESS THAN 6" ABOVE THE FLOOD LEVEL RIM OF A FIXTURE SHALL USE APPROVED DRAINAGE FITTINGS AND GRADE TO	THERMOSTA MIXING VAL
DRAIN. 7. A VENT CONNECTED TO A HORIZONTAL DRAINAGE PIPE SHALL HAVE ITS INVERT TAKEN OFF ABOVE THE CENTERLINE OF SUCH PIPE	
DOWNSTREAM OF THE TRAP SERVED. 8. LOCATE VENTS AT A MINIMUM DISTANCE OF 6" FROM FIXTURE TRAP WEIR.	NOTES:
9. VENTS SHALL TERMINATE NOT LESS THAN 10 FEET FROM, OR NOT LESS THAN 3 FEET ABOVE AN OPERABLE WINDOW, DOOR, OPENING OR AIR	2. VAL
INTARE. IO. MINIMUM SLOPE OF DRAINAGE PIPING IS 1/4" PER FEET (2%) FOR 3" DIA PIPE OR SMALLER AND 1/8" PER FEET (1%) FOR 4" DIA. PIPE OR	3. LIM 4. INST
LARGER. II. DO NOT COMBINE INDIRECT WASTE PIPES WITH OTHER INDIRECT WASTE PIPES AND KEEP SUSPENDED ABOVE FLOOR TO FACILITATE	5. VAL
CLEANING 12 PIPING INSTALLED BELOW & SLAB ON GRADE OR MAT FOUNDATION SHALL NOT BE LESS THAN 2" DIA	
<ul> <li>13. ALL WASTE AND SEWER FITTINGS SHALL BE INSTALLED ACCORDING TO SECTION 708.0 OF THE PLUMBING CODE. CHANGES IN DIRECTION SHALL BE MADE BY APPROVED FITTINGS OF APPROPRIATE SWEEP. SANITARY TEES ARE ACCEPTABLE ONLY FOR HORIZONTAL-TO-VERTICAL CONNECTIONS. DOUBLE SANITARY TEES ARE PROHIBITED FROM SERVING WATER CLOSETS.</li> </ul>	LAVATO
WATER LINES:	
I. RUN ALL WATER LINES LEVEL.	
2. UNLESS OTHERWISE SHOWN ON DRAWINGS:	
A. CONTRACTOR SHALL BE RESPONSIBLE FOR SIZING WATER DISTRIBUTION PIPE IN CHASES ETC. TO INDIVIDUAL FIXTURES. RISERS SHALL MAINTAIN SIZE AS SPECIFIED IN EQUIPMENT SCHEDULE	
B. WHEN PIPING SERVES FLUSH VALVES, COLD WATER PIPE SHALL BE EXTENDED FULL-SIZE TO END OF PIPE CHASE RUN.	
3. WATER HAMMER ARRESTORS SHALL BE PROVIDED AT EACH WATER DISTRIBUTION BRANCH CONTAINING FIXTURES WITH QUICK ACTING VALVES AND SHALL BE INSTALLED AS CLOSE AS POSSIBLE TO THE VALVES SERVED SIZING AND INSTALLATION SHALL BE PERFORMED BY CONTRACTOR ACCORDING TO MANUFACTURE'S INSTRUCTIONS	
4. INSTALL HEAT TRAPS ON A WATER HEATER SUPPLY AND DISCHARGE PIPING IN NON-CIRCULATING SYSTEMS (UNLESS SUCH EQUIPMENT	
CONTAINS INTEGRAL HEAT TRAPS).	
5. PROVIDE HOT WATER PIPE INSULATION PER IECC TABLE C403.2.10 FOR THE FOLLOWING:	
A. ALL HOT WATER PETIRING FROM ANY WATER HEATER TO THE TERMINATION OF EACH FIXTURE SUPPLY.	
D. ALL TUT MATER RETURN FIFTING IN ANT CIRCULATING STOTEM. C. BOTH THE INI ET AND OUTLET PIPING OF A GTORAGE TANK WATER HEATER WHICHEVER OPTION IS LESS	
I. FOR THE FIRST & FEET OF THE WATER HEATER	
2. FROM THE WATER HEATER TO THE HEAT TRAPS	
D. ON HEAT TRACED PIPING, PER HEAT TRACE MANUFACTURER'S INSTRUCTIONS: USE I" INSULATION FOR I" DIAMETER PIPE OR SMALLER AND 1.6" INSULATION FOR PIPE LARGER THAN I" DIA INSULATION MATERIAL SHALL HAVE A CONDUCTIVITY NOT EXCEEDING 0.28 BTILL!!	

PLUMBING SPECIFICATIONS

INCH SQ. FT-F)

7

![](_page_20_Figure_4.jpeg)

LUMBING.dwg

EDI	₽					
	' <b>_</b>					
		ONS		REMARKS		
SAN. 2"		с.м. 1⁄2"	H.W.	INSULATE ALL EXPOSED DRAIN AND WATER PIPING UNDER LAVATORY. PROVIDE PIPE INCREASERS AND/OR VALVES AS REQUIRED.		2
3"	2"	<u>/</u> 2"	<u>/</u> 2"	MEETS ADA ANSI/ICC AII7.I REQUIREMENTS ASME AII2.18.1/CSA BI25.I, AND ASSE IOI6 CERTIFIED. PROVIDE ALL FITTINGS, VALVES AND SUPPLIES TO COMPLETE INSTALLATION.		L SQUARED ENGINEERING MUNICIPAL COMMERCIAL RESIDENTIAL
2"	½"	Kg"	Ľ2"	FURNISH WITH ALL REQUIRED FITTINGS, VALVES AND SUPPLIES.		
-	-	3⁄4"	3⁄4"	FURNISH WITH ALL REQUIRED FITTINGS, VALVES AND SUPPLIES.		ENGINEERING & DESIGN Email: amalik@apmengineers.com Tel: 832 . 332 . 1521 TX EIDM DEGISTRATION # E-17728
. CONF	IRM STYL	E ANI	) FIN	ISH WITH OWNER PRIOR TO		
COMPL	IANCE MI		ра. а	LL ADA COMPLIANT FIXTURES		PRASHANT R MALIK PRASHANT R MALIK 106152 CENSED S/ONALENG
					3	Date: 02/18/2019
						SAN JACINTO RIVER AUTHORITY LAKE CONROE DIVISION
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WITH S	50LVENT	-WEL	DED	JOINTS.		
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