

SOLANO COMMUNITY COLLEGE DISTRICT



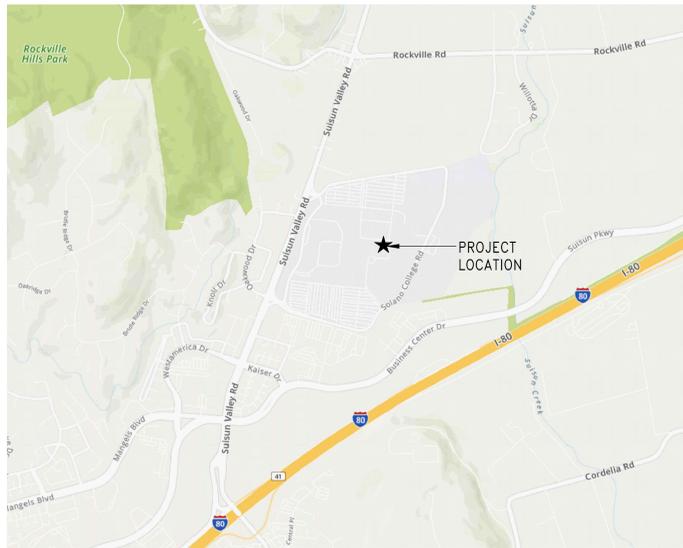
4000 SUISUN VALLEY RD
FAIRFIELD, CA 94534

B-1600 MECHANICAL ROOM HYDRONIC UPGRADES

THIS DRAWING IS 30" X 42" AT FULL SIZE. 15" X 21" AT HALF SIZE. © 2015 BY SALAS O'BRIEN ENGINEERS, INC.

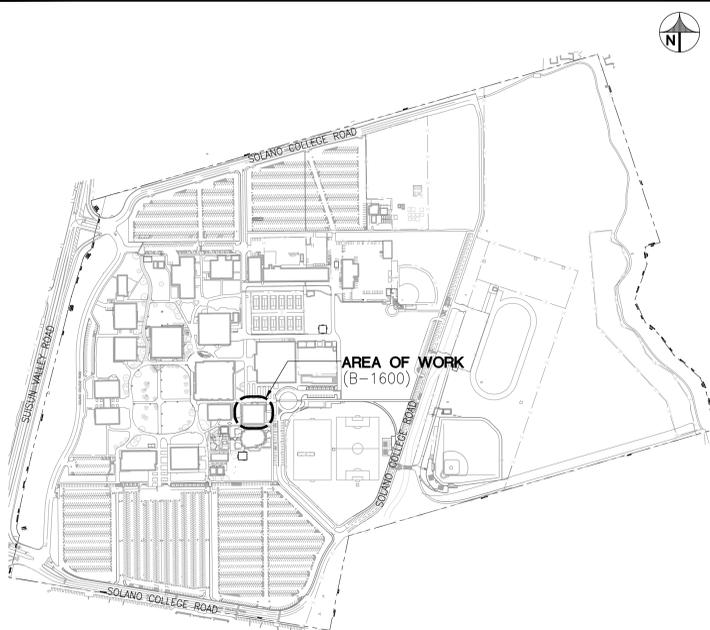
VICINITY MAP

SCALE: N.T.S.



SITE PLAN

SCALE: N.T.S.



GENERAL NOTES

- ALL WORK, MATERIALS, AND METHODS TO BE USED FOR SEISMIC RESTRAINTS SHALL BE AS DETAILED ON THE APPROVED DRAWINGS.
- ALL WORK SHALL CONFORM WITH ALL APPLICABLE LOCAL, STATE, AND NATIONAL CODES.
- PIPE HANGERS AND SUPPORTS SHALL BE SUPERSTRUT OR EQUAL INCLUDING CHANNEL, HANGERS, STRAPS, ISOLATORS, INSULATION, SHAW PIPE SHIELDS, INC., PORTABLE PIPE HANGERS, INC.
- ALL DIMENSIONS ARE APPROXIMATE. THE DRAWINGS ARE DIAGRAMMATIC TO THE EXTENT THAT ALL FITTINGS, OFFSETS, ETC. ARE NOT SHOWN. THESE DRAWINGS ARE FOR THE GUIDANCE OF THE CONTRACTOR. CONTRACTOR SHALL VERIFY ALL DIMENSIONS IN THE FIELD FOR FABRICATION OF THE PIPING, PENETRATIONS, CONDUIT, WIRING, AND ALL COMPONENTS INTO A COMPLETE AND OPERABLE SYSTEM.
- WHERE DISCREPANCIES OCCUR BETWEEN THE PLANS AND SPECIFICATIONS CONTRACTOR SHALL NOTIFY OWNER OF ANY DISCREPANCIES IN WRITING. ANY ADJUSTMENT OF THE CONTRACT DOCUMENTS WITHOUT A DETERMINATION BY THE OWNER SHALL BE AT THE CONTRACTOR'S OWN RISK AND EXPENSE. THE MOST STRINGENT REQUIREMENTS SHALL APPLY AS DETERMINED BY THE OWNER.
- CONTRACTOR SHALL PERFORM ALL WORK IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS.
- PRIOR TO SUBMITTING PROPOSAL, BIDDER SHALL EXAMINE ALL GENERAL CONSTRUCTION DRAWINGS AND SHALL HAVE HAD VISITED THE CONSTRUCTION SITE. BIDDER SHALL BE FAMILIAR WITH THE EXISTING CONDITIONS UNDER WHICH THEY WILL HAVE TO OPERATE AND WHICH WILL IN ANY WAY AFFECT THE WORK UNDER THIS CONTRACT. NO SUBSEQUENT ALLOWANCE WILL BE MADE IN THIS CONNECTION IN BEHALF OF THE CONTRACTOR FOR ANY ERROR OR NEGLIGENCE ON THEIR PART.
- THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR THE PROPER RESTORATION OF ALL EXISTING SURFACES REQUIRING PATCHING, PLASTERING, PAINTING AND/OR OTHER REPAIR DUE TO THE INSTALLATION OF WORK UNDER THE TERMS OF THIS SPECIFICATION. CLOSE ALL OPENINGS, REPAIR ALL SURFACES, ETC., AS REQUIRED.
- THE CONTRACTOR SHALL FIELD VERIFY THE EXISTING BUILDING CONDITIONS AND NOTIFY THE OWNER'S REPRESENTATIVE IN WRITING OF ANY DISCREPANCIES BETWEEN THE CONTRACT DOCUMENT AND EXISTING CONDITIONS.
- THE CONTRACTOR SHALL, DURING THE COURSE OF CONSTRUCTION, PROTECT ADJACENT AREAS FROM DAMAGE, NOISE, CONSTRUCTION, AIRBORNE DUST AND FUMES AS A RESULT OF THE WORK.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE WORK OF ALL SUB-CONTRACTORS AND SHALL BE SOLELY RESPONSIBLE FOR AND HAVE CONTROL OVER CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES IN ACCORDANCE WITH THE GENERAL CONDITIONS OF THE CONTRACT.
- IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE THE OWNER WITH A COMPLETE SET OF RECORD DRAWING, INCLUDING THE WORK OF ALL SUBCONTRACTORS.
- ALL PRODUCTS AND MATERIALS USED ON THIS PROJECT SHALL BE FREE OF ASBESTOS.
- NO PRODUCT WILL BE ACCEPTED ON THE JOB SITE WITHOUT PRIOR REVIEW BY THE OWNER. THE CONTRACTOR SHALL SUBMIT CATALOG SHEETS OF ALL FIXTURES, PIPING, VALVES AND ETC., FOR REVIEW.
- ALL PRODUCT SUBSTITUTIONS SHALL HAVE PRIOR REVIEW BEFORE INSTALLATION. THE CONTRACTOR SHALL PAY ALL COSTS INCURRED FOR REVIEW, DESIGN AND INSTALLATION OF SUBSTITUTIONS. ACCEPTANCE OF SUBSTITUTIONS BY THE OWNER'S REPRESENTATIVE DOES NOT ALTER THE REVIEW REQUIREMENT.
- THE INSTALLATION OF PIPING AND EQUIPMENT SHALL BE MADE IN A MANNER TO CLEAR BEAMS AND OBSTRUCTIONS. DO NOT CUT INTO OR REDUCE THE SIZE OF PLATES OR ANY LOAD CARRYING MEMBERS WITHOUT APPROVAL OF THE ARCHITECT AND ENGINEER OF RECORD. COORDINATE WITH WORK OF OTHERS TO PREVENT INTERFERENCE.
- SUPPORT AND RESTRAIN PIPING PER CALIFORNIA MECHANICAL CODE AND ACCORDING TO MANUFACTURER'S RECOMMENDATIONS. ALL SUPPORTING RODS, STRUT AND OTHER HARDWARE SHALL BE HOT DIPPED GALVANIZED UNLESS OTHERWISE SPECIFIED.
- ALL SOLDER AND PLUMBING FIXTURES SHALL CONFORM TO NON LEAD STANDARDS.
- ALL PIPING IN THIS CONTRACT SHALL BE LABELED ACCORDING TO ANSI A13.1, CHAPTER 13, CPC AND NFPA 99. FURNISH FLOW ARROWS INDICATING DIRECTION OF FLOW FOR LIQUID PHASE MATERIALS. PIPE LABELS SHALL BE VISIBLE FROM FLOOR LEVEL. ALL VALVES IN THIS CONTRACT OTHER THAN MEDICAL VACUUM SHALL BE LABELED WITH BRASS TAGS. ALL MEDICAL VACUUM VALVES SHALL BE LABELED PER CHAPTER 13, CPC AND NFPA 99.
- ALL TEMPORARY AND REMODELING WORK SHALL BE CONSIDERED A PART OF THIS CONTRACT AND NO EXTRA CHARGES WILL BE ALLOWED. THIS SHALL INCLUDE MINOR ITEMS OF MATERIAL OR EQUIPMENT NECESSARY TO MEET THE REQUIREMENTS AND INTENT OF THE PROJECT.
- CONTRACTOR TO LEGALLY DISPOSE OF OR RECYCLE PROJECT DEBRIS.
- ALL DEVICES & EQUIPMENT ARE NEW, UNLESS OTHERWISE NOTED.
- SALVAGED EQUIPMENT SHALL BE TURNED OVER TO OWNER. COORDINATE WITH OWNER FOR STORAGE LOCATION.
- MAINTAIN FIRE RATING OF ALL ASSEMBLIES PENETRATED.
- SEAL ALL EXTERIOR PENETRATIONS WATER-TIGHT.
- UNLESS OTHERWISE NOTED, ARRANGE, PAY FOR, COORDINATE AND PROVIDE ALL PERMITS NECESSARY FOR A COMPLETE AND OPERABLE SYSTEM.
- ALL CONSTRUCTION AND DEMOLITION SHALL BE IN ACCORDANCE WITH CHAPTER 33 OF THE CBC AND CFC, AND THE WRITTEN SITE SAFETY PLAN.

INTENT:

THE INTENT OF THESE DRAWINGS AND SPECIFICATIONS IS THAT THE WORK OF THE ALTERATION, REHABILITATION OR RECONSTRUCTION IS TO BE IN ACCORDANCE WITH TITLE 24, CALIFORNIA CODE OF REGULATIONS. SHOULD ANY EXISTING CONDITION SUCH AS DETERIORATION OR NONCOMPLYING CONSTRUCTION BE DISCOVERED WHICH IS NOT COVERED BY THE CONTRACT DOCUMENTS WHERE THE FINISHED WORK WILL NOT COMPLY WITH TITLE 24, CALIFORNIA CODE OF REGULATIONS, A CDD OR A SEPARATE SET OF PLANS AND SPECIFICATIONS, DETAILING AND SPECIFYING THE REQUIRED WORK SHALL BE SUBMITTED AND APPROVED BY OWNER AND ENGINEER BEFORE PROCEEDING WITH THE WORK.

APPLICABLE CODES

- UNLESS OTHERWISE INDICATED OR SPECIFIED, PERFORM THE WORK IN CONFORMANCE WITH THE LATEST EDITIONS OF ALL APPLICABLE REGULATORY REQUIREMENTS, INCLUDING, BUT NOT LIMITED TO, THE FOLLOWING:
- CALIFORNIA BUILDING STANDARDS ADMINISTRATIVE CODE (PART 1, TITLE 24); 2025
 - CALIFORNIA BUILDING CODE VOL. 1 AND 2 (PART 2, TITLE 24); 2024 IBC WITH 2025 CA AMENDMENTS
 - CALIFORNIA ELECTRICAL CODE (PART 3, TITLE 24); 2023 NEC WITH 2025 CA AMENDMENTS
 - CALIFORNIA MECHANICAL CODE (PART 4, TITLE 24); 2024 UMC WITH 2025 CA AMENDMENTS
 - CALIFORNIA PLUMBING CODE (PART 5, TITLE 24) 2024 UPC WITH 2025 CA AMENDMENTS
 - CALIFORNIA ENERGY CODE (PART 6, TITLE 24); 2025
 - CALIFORNIA HISTORICAL BUILDING CODE, (PART 8, TITLE 24); 2025
 - CALIFORNIA FIRE CODE (PART 9, TITLE 24); 2024 IFC WITH 2025 CA AMENDMENTS
 - CALIFORNIA EXISTING BUILDING CODE (PART 10, TITLE 24); 2024 INTERNATIONAL EXISTING BUILDING CODE WITH 2025 CA AMENDMENTS
 - CALIFORNIA GREEN BUILDING STANDARDS CODE OR CAL GREEN (PART 11, TITLE 24); 2025
 - CALIFORNIA REFERENCED STANDARDS CODE (PART 12, TITLE 24); 2025
 - PUBLIC SAFETY (CCR TITLE 19), STATE FIRE MARSHAL; CURRENT REVISION
 - NFPA 72, NATIONAL FIRE ALARM AND SIGNALING CODE, 2025 EDITION
- * ALL PARTS OF THE 2025 CALIFORNIA BUILDING CODE BECOME EFFECTIVE JANUARY 1, 2026
- ACI 318-14, BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE
- AISC MANUAL OF STEEL CONSTRUCTION
- ASCE/SEI 7-16, MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES WITH SUPPLEMENT NO. 1
- NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION

SUMMARY OF WORK

- THE INTENT OF THIS PROJECT IS TO REPLACE DEFICIENT HYDRONIC HEATING/COOLING EQUIPMENT AND PIPING SECTIONS IN THE MECHANICAL ROOM OF BUILDING 1600. UPGRADES TO THE HYDRONIC SYSTEM CONSIST OF REPLACEMENT OF MAJORITY OF THE PIPING, THE IN-KIND REPLACEMENT OF THE CHW PUMP, AND THE REPLACEMENT AND UPGRADE OF THE HHW PUMP TO MATCH THE BUILDING NEEDS.
- PER COLLEGE REQUIREMENTS, CONSTRUCTION COMPLETION INCLUDING AS-BUILT DOCUMENTATION, PROJECT CLOSEOUTS, ETC. SHALL BE COMPLETED NO LATER THAN JUNE 12TH, 2026 (I.E. PRIOR TO SOLANO CC SUMMER SESSION).
- PER THE COLLEGE, BUILDING 1600 IS TO BE UNOCCUPIED FOR THE ENTIRETY OF CONSTRUCTION PHASE. PARTIAL OCCUPANCY IS EXPECTED STARTING ON JUNE 15TH, 2026.

PHOTOGRAPHIC CONSTRUCTION RECORDS

THE CONTRACTOR SHALL PROVIDE PRECONSTRUCTION DIGITAL PHOTOGRAPHS AND VIDEO RECORDINGS PRIOR TO COMMENCEMENT OF WORK ON THE SITE. BEFORE CONSTRUCTION MAY START, CONTRACTOR SHALL DOCUMENT ANY EXISTING CONDITIONS THAT ARE NOT COVERED BY THE CONTRACT DOCUMENTS (DAMAGED CONCRETE, WALLS, LANDSCAPE, ETC.). FAILURE TO DOCUMENT EXISTING DAMAGE WILL RESULT IN CONTRACTOR REPAIRS TO SURFACE TO MATCH ADJACENT AFTER CONSTRUCTION ACTIVITIES. ADDITIONAL PRECONSTRUCTION PHOTOGRAPHS/VIDEOS SHALL BE TAKEN AT LOCATIONS TO BE DESIGNATED BY THE OWNER'S REPRESENTATIVE.

CONTRACTOR SHALL MAKE A VIDEO RECORDING OF ALL PROPOSED ROUTINGS FOR INFRASTRUCTURE WORK, NOTING CONDITIONS OF EXISTING SURFACES AND ADJACENT IMPROVEMENTS. ONE COPY OF COMPLETE VIDEO SHALL BE TRANSMITTED TO THE OWNER'S REPRESENTATIVE.

CONSTRUCTION PHOTOGRAPHS

THE CONTRACTOR SHALL PROVIDE CONSTRUCTION PHOTOGRAPHS SHOWING THE PROGRESS OF THE WORK AND AS MAY BE DIRECTED BY THE OWNER'S REPRESENTATIVE. PHOTOGRAPHS/VIDEOS SHALL BE FORMATTED, IDENTIFIED, AND DELIVERED AS DESCRIBED ABOVE FOR DIGITAL PHOTOS AND VIDEOS. STARTING ONE MONTH AFTER THE DATE OF THE PRECONSTRUCTION PHOTOGRAPHS AND CONTINUING AS LONG AS THE WORK IS IN PROGRESS, APPROXIMATELY 40 MONTHLY PHOTOGRAPHS SHALL BE TAKEN, CATALOGED AND CROSS REFERENCED TO DRAWINGS/PLANS.

ANY WORK TO BE CONCEALED (BURIED, BEHIND WALLS, ABOVE CEILING, BELOW SLAB, ETC.) SHALL BE PHOTO DOCUMENTED AFTER ANY TESTING AND INSPECTION AND PRIOR TO CONCEALING TO CLEARLY INDICATE THE WORK. DOCUMENT ON PLANS THE LOCATION AND ORIENTATION FOR EACH PHOTO DOCUMENTING CONCEALED WORK.

FOR FINAL COMPLETION, DOCUMENT ALL PUNCH LIST ITEM COMPLETION BY PHOTOGRAPH OR VIDEO. DELIVER CONSTRUCTION PHOTOGRAPHS AND VIDEOS WITHIN 10 DAYS OF CREATION. ALL PHOTOS AND VIDEOS SHALL BE OF SUFFICIENT QUALITY TO CLEARLY DEPICT WORK.

STATEMENT OF GENERAL CONFORMANCE

THESE DRAWINGS AND/OR SPECIFICATIONS AND/OR CALCULATIONS FOR THE ITEMS LISTED BELOW HAVE BEEN PREPARED BY OTHER DESIGN PROFESSIONALS OR CONSULTANTS WHO ARE LICENSED AND/OR AUTHORIZED TO PREPARE SUCH DRAWINGS IN THIS STATE. THESE DOCUMENTS HAVE BEEN EXAMINED BY ME FOR DESIGN INTENT AND HAVE BEEN FOUND TO MEET THE APPROPRIATE REQUIREMENTS OF TITLE-24, CALIFORNIA CODE OF REGULATIONS AND THE PROJECT SPECIFICATIONS PREPARED BY ME.

THE LIST DRAWING INDEX HAVE BEEN COORDINATED WITH MY PLANS AND SPECIFICATIONS AND ARE ACCEPTABLE FOR INCORPORATION INTO THE CONSTRUCTION OF THIS PROJECT FOR WHICH I AM THE INDIVIDUAL DESIGNATED TO BE IN GENERAL RESPONSIBLE CHARGE (OR FOR WHICH I HAVE BEEN DELEGATED RESPONSIBILITY FOR THIS PORTION OF THE WORK)

Evan Sarver 02/24/2026
Signature of the Architect/Engineer Date
EVAN EVERETT SARVER
Print Name
M40066 09/30/2026
License Number Expiration Date

DSA ADMINISTRATIVE REQUIREMENT

THIS PROJECT IS EXEMPT FROM DSA REVIEW BASED ON DSA IR A-22, SECTION 4.1.1, RELATED TO "EXEMPT SCOPE".

ALTERATION OR RECONSTRUCTION PROJECTS TO EXISTING SCHOOL BUILDINGS CONTRACTED IN 2025 WITH CONSTRUCTION COST LESS THAN OR EQUAL TO \$134,000 ARE EXEMPT FROM SS, FLS, AND ACS PLAN REVIEW, APPROVAL, AND CONSTRUCTION OVERSIGHT IN ACCORDANCE WITH CAC SECTION 4-308.

DUE TO THE DEFERRED MAINTENANCE NATURE OF THE PROJECT (I.E. IN-KIND REPLACEMENT OF MECHANICAL PIPING, HYDRONIC SPECIALTIES, AND CHW PUMP) SPECIFIC TO THE B-1600 MECHANICAL ROOM, THE OVERALL CONSTRUCTION COST IS EXPECTED TO BE LESS THAN \$134,000.

DRAWING INDEX

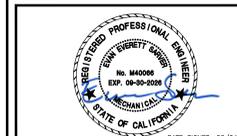
SHEET NO.	DESCRIPTION
G-0.0	COVER SHEET
M-0.1	MECHANICAL SYMBOLS & ABBREVIATIONS
M-4.1	B-1600 MECHANICAL ROOM UPGRADES
M-5.1	MECHANICAL DETAILS



Engineered for Impact

305 South 11th Street
San Jose, California 95112-2218
877.725.2755 | 877.925.1477 (f)
WWW.SALASO'BRIEN.COM

National Strength.
Local Action.



SOLANO COMMUNITY COLLEGE DISTRICT



4000 SUISUN VALLEY RD
FAIRFIELD, CA 94534

B-1600
MECHANICAL ROOM
HYDRONIC UPGRADES

MARK	DATE	DESCRIPTION
	12/10/25	50% CD
	02/24/26	100% CD

SOBE PROJECT NO:	2510-00648
DATE:	02/24/26
DRAWN BY:	
CHECKED BY:	EES
APPROVED BY:	EES

SHEET TITLE
COVER SHEET

SCALE: AS NOTED
THIS DRAWING IS 30" X 42" AT FULL SIZE

G-0.0
SHEET OF -

THIS DRAWING IS 30" X 42" AT FULL SIZE. 15" X 21" AT HALF SIZE. © 2015 BY SALAS O'BRIEN ENGINEERS, INC.

SYMBOLS

ABBREVIATIONS

<p>GENERAL</p> <ul style="list-style-type: none"> EXTENT OF DEMOLITION NEW TO EXISTING CONNECTION REVISION NUMBER WORK ITEM (MECHANICAL) DETAIL NUMBER DESIGNATION EQUIPMENT DESIGNATION SECTION DESIGNATION TO BE DEMOLISHED TO BE DEMOLISHED <p>PIPING</p> <ul style="list-style-type: none"> ARROW INDICATES DIRECTION OF FLOW EXISTING PIPING (ABOVE GRADE OR FLOOR) EXISTING PIPING (BELOW GRADE OR FLOOR) NEW PIPING (ABOVE GRADE OR FLOOR) NEW PIPING (BELOW GRADE OR FLOOR) PIPE TO BE REMOVED (ABOVE GRADE OR FLOOR) PIPE TO BE REMOVED (BELOW GRADE OR FLOOR) <p>PIPING SPECIALTIES</p> <ul style="list-style-type: none"> AUTOMATIC AIR VENT MANUAL AIR VENT AIR SEPARATOR ALIGNMENT GUIDE ANCHOR BACK FLOW PREVENTER BALL JOINT DIRT POCKET EXPANSION JOINT EXPANSION LOOP FLEXIBLE CONNECTOR FILTER DRYER FLOWMETER FILTER DRYER FLOWMETER HOSE CONNECTOR HOSE BIBB METER POT FEEDER PRESSURE GAUGE AND COCK PUMP STRAINER STRAINER, W/BLOW OFF TEST PORT (PETE'S PLUG) THERMOMETER THERMOMETER, WELL STEAM TRAP SUCTION DIFFUSER 	<p>VALVES</p> <ul style="list-style-type: none"> BALL BUTTERFLY GATE GATE, ANGLE GLOBE GLOBE, ANGLE THREE WAY CONTROL IN PIT <p>VALVES, SPECIAL DUTY</p> <ul style="list-style-type: none"> CHECK, SWING GATE CIRCUIT SETTER NEEDLE PRESSURE REDUCING (NUMBER & SPECIFY) PRESSURE REGULATOR RELIEF (R) OR SAFETY (S) SEISMIC VALVE MAKE UP WATER ASSEMBLY BACK PRESSURE PLUG VALVE TRIPLE DUTY VALVE (STOP CHECK & BALANCE W/PRESSURE TAPS) REDUCED PRESSURE BACKFLOW PREVENTER FLOW CONTROL ORIFICE PLATE 	<p>AIR CONDITIONING</p> <ul style="list-style-type: none"> CW(R)(S) CONDENSER WATER (RETURN)(SUPPLY) CHW(R)(S) CHILLED WATER (RETURN)(SUPPLY) D DRAIN HC(R)(S) HOT/CHILLED WATER (RETURN)(SUPPLY) PCHW(R)(S) PRIMARY CHILLED WATER (RETURN)(SUPPLY) SCHW(R)(S) SECONDARY CHILLED WATER (RETURN)(SUPPLY) TCHW(R)(S) TERTIARY CHILLED WATER (RETURN)(SUPPLY) <p>CONTROLS</p> <ul style="list-style-type: none"> ANALOG INPUT ANALOG OUTPUT BYPASS TIMER CONTROLLER DIFFERENTIAL PRESSURE TRANSMITTER DIGITAL (ON/OFF) INPUT DIGITAL (ON/OFF) OUTPUT FLOW ELEMENT FLOW TRANSMITTER FLOW SWITCH FLOWMETER FLOWMETER, ORIFICE HUMIDITY CONTROLLER HUMIDITY TRANSMITTER MOTOR/ACTUATOR MOTOR STARTER PRESSURE INDICATOR PID CONTROL LOOP (REPRESENTATION) PRESSURE SWITCH PRESSURE TRANSMITTER REHEAT COIL RELAY COIL SENSOR TEMPERATURE SENSOR TEMPERATURE ELEMENT TEMPERATURE INDICATOR TEMPERATURE TRANSMITTER THERMOSTAT OR TEMPERATURE SENSOR (DDC) (36" TO 48" AFF.) HEATING COIL COOLING COIL DIRECT EXPANSION COIL GAS FIRED HEAT EXCHANGER VARIABLE FREQUENCY DRIVE
------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

<p>AT AUTOMATIC AIR VENT</p> <p>AAV AUTOMATIC AIR VENT</p> <p>ABD ABANDONED</p> <p>AC AIR CONDITIONING UNIT DESIGNATION</p> <p>ACC AIR COOLED CONDENSER</p> <p>ACM ASBESTOS CONTAINING MATERIAL</p> <p>ACP ASBESTOS CEMENT PIPE</p> <p>AD ACCESS DOOR</p> <p>AFF ABOVE FINISHED FLOOR</p> <p>AH AIR HANDLER</p> <p>AHU AIR HANDLING UNIT</p> <p>AHUC AIR HANDLING UNIT CONTROLLER</p> <p>AI ANALOG INPUT</p> <p>ALM ALARM</p> <p>ANSI AMERICAN NATIONAL STANDARDS INSTITUTE</p> <p>AO ANALOG OUTPUT</p> <p>APD AIR PRESSURE DROP (N.W.G.)</p> <p>ARCH ARCHITECTURAL</p> <p>AS AIR SEPARATOR</p> <p>ASJ ALL SERVICE JACKET</p> <p>ASME AMERICAN SOCIETY OF MECHANICAL ENGINEERS</p> <p>ASSY ASSEMBLY</p> <p>ASTM AMERICAN SOCIETY FOR TESTING & MATERIALS</p> <p>ATR ALL-THREADED ROD</p> <p>B BOILER</p> <p>BAS BUILDING AUTOMATION SYSTEM</p> <p>BAV BALANCING VALVE</p> <p>BDD BACKDRAFT DAMPERS</p> <p>BFP BACKFLOW PREVENTER</p> <p>BFV BUTTERFLY VALVE</p> <p>BHP BRAKE HORSEPOWER</p> <p>BLDG BUILDING</p> <p>BOD BOTTOM OF DUCT</p> <p>BOP BOTTOM OF PIPE</p> <p>BTU BRITISH THERMAL UNIT</p> <p>BTUH BRITISH THERMAL UNIT PER HOUR</p> <p>BUR BUILT-UP ROOFING</p> <p>BV BALL VALVE</p> <p>CA CENTERLINE</p> <p>CC, C/C COMPRESSED AIR COOLING COIL</p> <p>CD CONDENSATE DRAIN</p> <p>CFF CAP FOR FUTURE</p> <p>CFM or f CUBIC FEET PER MINUTE</p> <p>CFT CHEMICAL FEED TANK</p> <p>CHCP CHILLER CONTROL PANEL</p> <p>CHW(R)(S)(T) CHILLED WATER (RETURN)(SUPPLY)(TEMP)</p> <p>CL CENTER LINE</p> <p>CLG CEILING</p> <p>CLR CENTERLINE RADIUS</p> <p>CO CLEAN-OUT</p> <p>COL COLUMN</p> <p>CONC CONCRETE</p> <p>CONN CONNECT OR CONNECTION</p> <p>CONT CONTINUATION</p> <p>CONTR. CONTRACTOR</p> <p>CP CONTROL PANEL</p> <p>CR CONDENSATE RETURN</p> <p>CRAC COMPUTER ROOM AIR CONDITIONER</p> <p>CT COOLING TOWER</p> <p>CTL CONTROL</p> <p>CU COPPER</p> <p>CV CONTROL VALVE</p> <p>CW CITY WATER</p> <p>CWP CONDENSER WATER PUMP</p> <p>CW(R)(S)(T) CONDENSER WATER (RETURN)(SUPPLY) (TEMPERATURE)</p> <p>D DRAIN</p> <p>DA DEAERATOR</p> <p>DB DRY BULB</p> <p>DCW DOMESTIC CITY WATER</p> <p>DDC DIRECT DIGITAL CONTROL</p> <p>DHW(R) DOMESTIC HOT WATER (RETURN)</p> <p>DI DISCRETE INPUT</p> <p>DIA DIAMETER</p> <p>DISC DISCONNECT</p> <p>DN DOWN</p> <p>DO DISCRETE OUTPUT</p> <p>DP DIFFERENTIAL PRESSURE</p> <p>DPS DIFFERENTIAL PRESSURE SWITCH</p> <p>DPT DIFFERENTIAL PRESSURE TRANSDUCER</p> <p>DWDI DOUBLE WIDTH, DOUBLE INLET</p> <p>DWG DRAWING</p> <p>DWH DOMESTIC WATER HEATER</p> <p>DX DIRECT EXPANSION</p> <p><E> EXISTING</p> <p>EAT(E) EXHAUST AIR (TEMPERATURE)</p> <p>EAD EXHAUST AIR DUCT</p> <p>EAT ENTERING AIR TEMPERATURE</p> <p>EER ENERGY EFFICIENCY RATIO</p> <p>EER EXHAUST FAN</p> <p>EJ EXPANSION JOINT</p> <p>EL EXPANSION LOOP</p> <p>ELEV ELEVATION</p> <p>ELEC ELECTRICAL</p> <p>EMCS ENERGY MANAGEMENT & CONTROL SYSTEM</p> <p>EMS ENERGY MANAGEMENT SYSTEM</p> <p>EOD EXTENT OF DEMOLITION</p> <p>E/P ELECTRO/PNEUMATIC TRANSDUCER</p> <p>EQ EQUAL</p> <p>EQUIP. EQUIPMENT</p> <p>ESP EXTERNAL STATIC PRESSURE (N.W.G.)</p> <p>ET EXPANSION TANK</p> <p>EWLC ELECTRONIC WATER LEVEL CONTROLLER</p> <p>EWS EMERGENCY EYEWASH AND SHOWER</p> <p>EWT ENTERING WATER TEMPERATURE</p> <p><F> FUTURE</p> <p>F FAHRENHEIT</p> <p>FA FACE AREA</p> <p>FA FORCED AIR FURNACE</p> <p>FC FLEXIBLE CONNECTION</p> <p>FCO FLOOR CLEAN OUT</p> <p>FCU FAN COIL UNIT</p> <p>FD FIRE DAMPER</p> <p>FDC FIRE DEPARTMENT CONNECTION</p> <p>FDD FLUE DISCHARGE DEFLECTOR</p> <p>FHC FIRE HOSE CABINET</p> <p>FLA FULL LOAD AMPS</p> <p>FLEX FLEXIBLE</p> <p>FLR FLOOR</p> <p>FM FLOW METER</p> <p>FMS FACILITY MONITORING SYSTEM</p> <p>FO(R)(S) FUEL OIL (RETURN)(SUPPLY)</p> <p>FOV FUEL OIL VENT</p> <p>FPF FINS PER FOOT</p> <p>FRP FIBER REINFORCED POLYMER</p> <p>FS FLOW SWITCH</p> <p>FSD COMBINATION FIRE AND SMOKE DAMPER</p> <p>FT FLOW TRANSMITTER or FEET</p> <p>G GAS</p> <p>GA GAUGE</p> <p>GAL GALLONS</p> <p>GALV GALVANIZED</p> <p>GF GAS FURNACE</p> <p>GPM GALLONS PER MINUTE</p> <p>GSM GALVANIZED SHEET METAL</p> <p>GV GATE VALVE</p> <p>H HUMIDIFIER</p> <p>HB HOSE BIBB</p> <p>HC HEATING COIL</p> <p>HDR HEADER</p> <p>HGR HANGER</p> <p>HHW(R)(S)(P)(T) HEATING HOT WATER (RETURN)(SUPPLY)(PUMP) (TEMPERATURE)</p> <p>HP HORSE POWER</p> <p>HPCR HIGH PRESSURE CONDENSATE RETURN</p> <p>HPS HIGH PRESSURE STEAM</p> <p>HT HEIGHT</p> <p>HVAC HEATING VENTILATING AND AIR CONDITIONING</p> <p>HWP HOT WATER PUMP</p> <p>HX HEAT EXCHANGER</p> <p>HZ HERTZ; CYCLES PER SECOND</p> <p>IA INSTRUMENT AIR</p> <p>ICW INDUSTRIAL COLD WATER</p> <p>ID INSIDE DIAMETER</p> <p>IE INVERT ELEVATION</p> <p>IN. INCH</p> <p>IN.W.G. INCHES WATER GAGE (PRESSURE)</p> <p>IRR. IRRIGATION LINE</p> <p>KW KILOWATT</p> <p>LAT LEAVING AIR TEMPERATURE</p> <p>LBS POUNDS</p> <p>LPS LOW PRESSURE STEAM</p> <p>LWCO LOW WATER CUT OFF</p> <p>LWT LEAVING WATER TEMPERATURE</p> <p>MA(T) MIXED AIR (TEMPERATURE)</p> <p>MAV MANUAL AIR VENT</p> <p>MAX MAXIMUM</p> <p>MBH 1,000 BTU PER HOUR</p> <p>MCA MINIMUM CIRCUIT AMPACITY</p> <p>MCC MOTOR CONTROL CENTER</p> <p>MD MANUAL VOLUME DAMPER</p> <p>MECH MECHANICAL</p> <p>MFR MANUFACTURER</p> <p>MH MANHOLE</p> <p>MIN MINIMUM</p> <p>MMBTUH MILLIONS BTU PER HOUR</p> <p>MOCP MAXIMUM OVER CURRENT PROTECTION</p> <p>MOT MOTORIZED</p> <p>MPG MEDIUM PRESSURE GAS</p> <p>MR MECHANICAL ROOM</p> <p>MT, MTD, MTG MOUNT, MOUNTED, MOUNTING</p> <p>MU MAKE-UP</p> <p>NEW NEW</p> <p>N.C. NORMALLY CLOSED</p> <p>NFPA NATIONAL FIRE PROTECTION ASSOCIATION</p> <p>NIC NOT IN CONTRACT</p> <p>NOX NITROGEN OXIDE</p> <p>N.O. NORMALLY OPEN</p> <p>NPSH(R) NET POSITIVE SUCTION HEAD (REQUIRED)</p> <p>N.T.S. NOT TO SCALE</p> <p>OA(G) OUTSIDE AIR (GRILLE)</p> <p>OA(T) OUTSIDE AIR (TEMPERATURE)</p> <p>OAD OUTSIDE AIR DAMPER</p> <p>OAI OUTSIDE AIR INTAKE</p> <p>OBD OPPOSED BLADE DAMPER</p> <p>O.C. ON CENTER</p> <p>OD OUTSIDE DIMENSION or OUTSIDE DIAMETER</p> <p>OS&Y OUTSIDE STEM & YOKE GATE VALVE</p> <p>OV OUTLET VELOCITY</p> <p>OX OXYGEN</p> <p>OWS OPERATOR'S WORK STATION</p> <p>PL PLATE</p> <p>P PUMP</p> <p>PCHW(R)(S)(T) PRIMARY CHILLED WATER (RETURN)(SUPPLY) (TEMPERATURE)</p> <p>PCHWP PRIMARY CHILLED WATER PUMP</p> <p>PCR PUMPED CONDENSATE RETURN</p> <p>PD PRESSURE DROP</p> <p>PE PNEUMATIC TO ELECTRIC RELAY</p> <p>PG PIPE GUIDE</p> <p>PHW(R)(S) PRIMARY HOT WATER (RETURN)(SUPPLY)</p> <p>PAID PROCESS & INSTRUMENTATION DIAGRAM</p> <p>PIV POST INDICATING VALVE</p> <p>PLY or PLYWD PLYWOOD</p> <p>PM POWER METER</p> <p>POC POINT OF CONNECTION</p> <p>PRS PRESSURE REDUCING STATION</p> <p>PRV PRESSURE REDUCING VALVE</p> <p>PS PRESSURE SWITCH</p> <p>PSI(G) POUNDS PER SQUARE INCH (GAUGE)</p> <p>PS-N PIPE SUPPORT DESIGNATION</p> <p>PTDF PRESSURE TREATED DOUGLAS FIR</p> <p>PVC POLYVINYL CHLORIDE</p> <p>PW POOL WATER</p> <p>R RELAY</p> <p><RE> REMOVE EXISTING</p> <p><RR> REMOVE/RELOCATE</p> <p><RRR> REMOVE & REPLACE WITH <N></p> <p>RA RETURN AIR</p> <p>RAD RETURN AIR DUCT</p> <p>RAG RETURN AIR GRILLE</p> <p>RA(T) RETURN AIR (TEMPERATURE)</p> <p>RD ROOF DRAIN</p> <p>REQ'D REQUIRED</p> <p>RF RETURN AIR FAN</p> <p>RFG REFRIGERANT</p> <p>RH RELATIVE HUMIDITY</p> <p>RHC REHEAT COIL</p> <p>RIM RIM ELEVATION</p> <p>RIP RETIRED-IN-PLACE</p> <p>RLA RATED LOAD AMPS</p> <p>RO REVERSE OSMOSIS</p> <p>RFM REVOLUTIONS PER MINUTE</p> <p>RV RELIEF VALVE</p> <p>RW RECLAIMED WATER</p> <p>RWL RAIN WATER LEADER</p> <p>SAD SUPPLY AIR DUCT</p> <p>S.A.D. SEE ARCHITECTURAL DRAWINGS</p> <p>SAG SUPPLY AIR GRILLE</p> <p>SA(T) SUPPLY AIR (TEMPERATURE)</p> <p>SCBA SELF-CONTAINED BREATHING APPARATUS</p> <p>S.C.D. SEE CIVIL DRAWINGS</p> <p>SCHW(R)(S)(T) SECONDARY CHW (RETURN)(SUPPLY)(TEMPERATURE)</p> <p>SCHWP SECONDARY CHW PUMP</p> <p>SD STORM DRAIN</p> <p>SDCO STORM DRAIN CLEAN-OUT</p> <p>S.E.D. SEE ELECTRICAL DRAWINGS</p> <p>SEER SEASONAL ENERGY EFFICIENCY RATIO</p> <p>SENS SENSIBLE</p> <p>SF SUPPLY FAN</p> <p>SHHW(R)(S)(T) SECONDARY HEATING HOT WATER (RETURN)(SUPPLY) (TEMPERATURE)</p> <p>SIM. SIMILAR</p> <p>S.L.D. SEE LANDSCAPE DRAWINGS</p> <p>SM SHEET METAL</p> <p>SMD SMOKE DAMPER</p> <p>SMH STEAM MANHOLE</p> <p>SOVL SOLENOID VALVE</p> <p>SP STATIC PRESSURE</p> <p>SPD SUMP PUMP DISCHARGE</p> <p>S.P.D. SEE PLUMBING DRAWINGS</p> <p>SPECS SPECIFICATIONS</p> <p>SRV SAFETY RELIEF VALVE</p> <p>SS SANITARY SEWER</p> <p>S/S START/STOP</p> <p>S.S.D. SEE STRUCTURAL DRAWINGS</p> <p>SST STAINLESS STEEL</p> <p>ST STANDARD</p> <p>STD STANDARD</p> <p>STM STEAM</p> <p>STRUCT STRUCTURAL</p> <p>STS STATUS</p> <p>SW SWITCH</p> <p>SXR SQUARE TO ROUND TRANSITION</p> <p>T THERMOSTAT OR TEMPERATURE SENSOR (DDC)</p> <p>TBA TO BE ABANDONED</p> <p>TBR TO BE REMOVED</p> <p>TCHW(R)(S)(T) TERTIARY CHW (RETURN)(SUPPLY)(TEMPERATURE)</p> <p>TCHWP TERTIARY CHW PUMP</p> <p>TCP TEMPERATURE CONTROL PANEL</p> <p>TDH TOTAL DYNAMIC HEAD</p> <p>TDV TRIPLE DUTY VALVE</p> <p>TEMP TEMPERATURE</p> <p>TG TRANSFER AIR GRILLE</p> <p>T&G TONGUE & GROOVE</p> <p>TH THERMOMETER</p> <p>TI TEMPERATURE INDICATOR</p> <p>TOD TOP OF DUCT</p> <p>TP TEST PLUG (PETE'S PLUG)</p> <p>TR THROUGH ROOF</p> <p>TRANS TRANSITION</p> <p>TS TEMPERATURE SENSOR</p> <p>TSP TOTAL STATIC PRESSURE (N.W.G.)</p> <p>TYP TYPICAL</p> <p>UH UNIT HEATER</p> <p>U.O.N. UNLESS OTHERWISE NOTED</p> <p>V OR VT VENT</p> <p>VAC VACUUM</p> <p>VAV VARIABLE AIR VOLUME</p> <p>VB VACUUM BREAKER</p> <p>VFD VARIABLE FREQUENCY DRIVE</p> <p>VSD VARIABLE SPEED DRIVE</p> <p>VI VIBRATION ISOLATOR</p> <p>V.I.F. VERIFY IN FIELD</p> <p>VR VENT RISER</p> <p>VT VENT</p> <p>VTR VENT THROUGH ROOF</p> <p>W WASTE</p> <p>W WITH</p> <p>WB WET BUIL</p> <p>WC WATER COLUMN</p> <p>WP WEATHER PROOF</p> <p>WPD WATER PRESSURE DROP (FT WATER)</p> <p>WT WEIGHT</p> <p>XFMR TRANSFORMER</p> <p>XMTR TRANSMITTER</p>

MECHANICAL SCHEDULE

HYDRONIC PUMP SCHEDULE

BUILDING	HHW/CHW SERVICE	MAKE	MODEL	SIZE	IN/OUT CONN.	GPM	TDH (Ft)	HP	RPM	VOLT/PH/HERTZ	OPER. WEIGHT (LBS)	SUCTION DIFFUSER		CHECK VALVE	NOTES
												DIMENSION (Sys.x Pump)	MAKE/MODEL		
B-1600	<E> CHWP	BELL & GOSSETT	E-1510	2BD	2-1/2" x 2"	170	50	5	1800	460/360	-	-	-	-	4
	<E> HHWP	BELL & GOSSETT	E-1510	1.25BC	1-1/2" x 1-1/4"	80	60	2	1800	460/360	-	-	-	-	4
	HHWP	BELL & GOSSETT	E-1532	1.25 BC	1-1/2" x 1-1/4"	80	52	3	1800	460/360	164	3" x 1-1/2"	B&G DA-3	3"	1-3, 5-9
	CHWP	BELL & GOSSETT	E-1510	2BD	2-1/2" x 2"	170	50	5	1800	460/360	210	4" x 2-1/2"	B&G EC-3	4"	1-3, 5-8

NOTES:

- TUNGSTEN CARBIDE SEALS
- ODP INVERTER DUTY MOTOR
- PROVIDE SUCTION DIFFUSER AS INDICATED. VIF SYSTEM AND PUMP NPS. SUCTION DIFFUSER SHALL INCLUDE STRAIGHTENING VANES, 3/16" PERFORATED STRAINER, PRESSURE/TEMPERATURE PORTS, AND AN ADJUSTABLE SUPPORT FOOT.
- EXISTING PUMP TO BE DEMOLISHED. RETAIN EXISTING DISCONNECT SWITCH, ELECTRICAL FEEDERS, BMS/COMM. WIRING, CONDUITS AND HOUSEKEEPING PAD
- PROVIDE FLEXIBLE PIPE CONNECTORS AT PUMP SUCTION AND DISCHARGE.
- PROVIDE LINE SIZE SWING CHECK VALVE
- VERIFY EXISTING DISCONNECT SWITCH, ELECTRICAL FEEDERS, MOTOR STARTER, BREAKER AND OVERLOAD PROTECTION ARE SIZED ADEQUATELY FOR THE NEW ELECTRIC MOTOR
- REPLACE EQUIPMENT AS NECESSARY TO MATCH NEW ELECTRIC MOTOR, RECONNECT AND RE-INTEGRATE CONTROLS TO BUILDING MANAGEMENT SYSTEM.
- PROVIDE PUMP BASE OPTION WITH THE SPECIFIED E-1532 HHWP

Salas O'Brien

Engineered for Impact

305 South 11th Street
San Jose, California 95112-2218
877.725.2755 | 877.925.1477 (f)
WWW.SALASO'BRIEN.COM

National Strength. Local Action.



SOLANO COMMUNITY COLLEGE DISTRICT

SOLANO COMMUNITY COLLEGE

4000 SUISUN VALLEY RD
FAIRFIELD, CA 94534

B-1600 MECHANICAL ROOM HYDRONIC UPGRADES

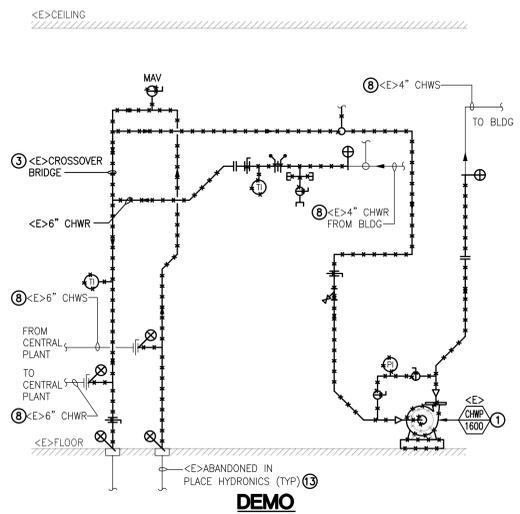
MARK	DATE	DESCRIPTION
	12/10/25	50% CD
	02/24/26	100% CD

SOBE PROJECT NO: 2510-00648
DATE: 02/24/26
DRAWN BY:
CHECKED BY: EES
APPROVED BY: EES

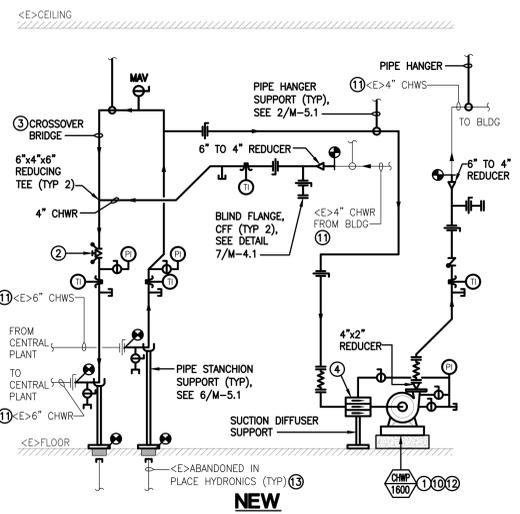
SHEET TITLE
MECHANICAL SYMBOLS & ABBREVIATIONS

SCALE: AS NOTED
THIS DRAWING IS 30" X 42" AT FULL SIZE

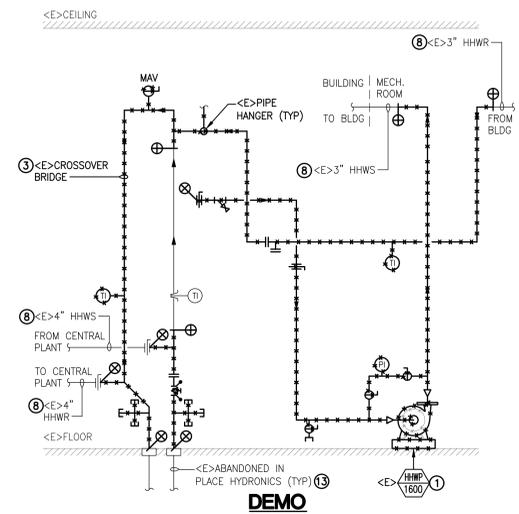
THIS DRAWING IS 30" X 42" AT FULL SIZE. 15" X 21" AT HALF SIZE. © 2015 BY SALAS O'BRIEN ENGINEERS, INC.



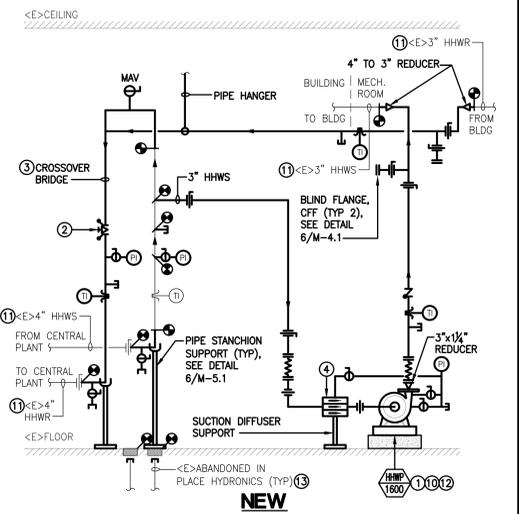
1 BUILDING 1600 MECHANICAL ROOM - ZONE 1 CHW UPGRADES
SCHEMATIC



2 BUILDING 1600 MECHANICAL ROOM - ZONE 1 HHW UPGRADES
SCHEMATIC



5 BUILDING 1600 CHW & HHW RISER UPGRADE
SCHEMATIC

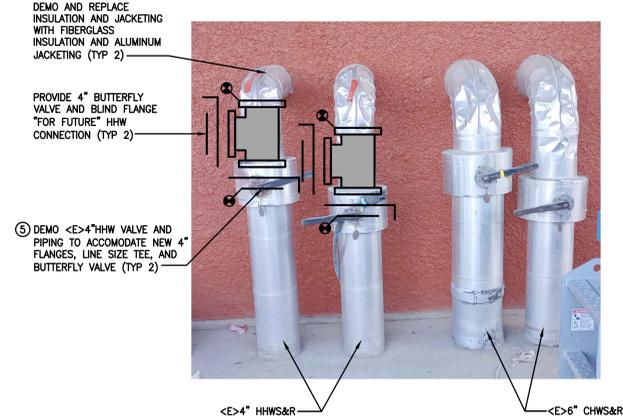


BUILDING 1600 CHW BILL OF MATERIAL				
Quantity	Unit	NPS	Component Description	Detail
6	EA	4"	Butterfly Valves	
1	EA	6"	Balancing Valve	
1	EA	4"	Check Valve	
1	EA	1/4"	Manual Air Vent	
4	EA	1/4"	Ball Valve	
2	EA	4"	Blind Flange	
3	EA	1/4"	Test ports	
4	EA	1/4"	Temperature Indicator	Include Thermowell
3	EA	1/4"	Pressure Indicator	
10	LF	6"	Insulation	Rigid glass fiber, 2" thickness
10	LF	6"	Jacketing	PVC plastic, 10 mil
10	LF	6"	Sch. 40 Steel Piping	ASTM A53, Grade B / See GSN D
4	EA	6"	Sch. 40 Steel 90° elbow	ASTM A234 Wrought Steel
2	EA	6" to 4"	Sch. 40 Steel pipe reduction	ASTM A234 Wrought Steel
20	LF	4"	Insulation	Rigid glass fiber, 2" thickness
20	LF	4"	Jacketing	PVC plastic, 10 mil
20	LF	4"	Sch. 40 Steel Piping	ASTM A53, Grade B / See GSN D
4	EA	4"	Sch. 40 Steel 90° elbow	ASTM A234 Wrought Steel
2	EA	4"	Sch. 40 Steel 45° elbow	ASTM A234 Wrought Steel
3	LF	1/4"	Sch. 40 Steel Piping	ASTM A53, Grade B / See GSN D
1	EA	1/4"	Sch. 40 90° elbow	ASTM B16.3 Malleable iron screwed
3	EA	1/4"	Sch. 40 Steel Tee	ASTM B16.3 Malleable iron screwed
26	EA	4"	Flange, Bolts & Gasket Kit	
2	EA	4"x4"x4"	Sch. 40 Steel Line Size Tee	ASTM A234 Wrought Steel
2	EA	6"x4"x6"	Sch. 40 Steel reducing Tee	ASTM A234 Wrought Steel
5	EA	4"	Cal-Silicate Inserts	
2	EA	4"	Pipe Hanger Support	2<E>
1	EA	4"	Pipe Stanchin Support	
2	EA	6"	Pipe Stanchin Support	

3 BUILDING 1600 MECHANICAL ROOM CHW UPGRADE BILL OF MATERIAL
SCHEMATIC

BUILDING 1600 HHW BILL OF MATERIAL				
Quantity	Unit	NPS	Component Description	Detail
6	EA	3"	Butterfly Valves	
1	EA	4"	Balancing Valve	
1	EA	3"	Check Valve	Swing type
6	EA	1/4"	Ball Valve	
5	EA	1/4"	Test ports	
1	EA	1/4"	Manual Air Vent	
2	EA	3"	Blind Flange	
3	EA	1/4"	Pressure Indicator	
4	EA	1/4"	Temperature Indicator	Include thermowell
10	LF	4"	Insulation	Rigid glass fiber, 2" thickness
10	LF	4"	Jacketing	PVC plastic, 10 mil
10	LF	4"	Sch. 40 Steel Piping	ASTM A53, Grade B
4	EA	4"	Sch. 40 Steel 90° elbow	ASTM A234 Wrought Steel
2	EA	4" to 3"	Sch. 40 Steel Pipe reduction	ASTM A234 Wrought Steel
20	LF	3"	Insulation	Rigid glass fiber, 2" thickness
20	LF	3"	Jacketing	PVC plastic, 10 mil
20	LF	3"	Sch. 40 Steel Piping	ASTM A53, Grade B
4	EA	3"	Sch. 40 Steel 90° elbow	ASTM A234 Wrought Steel
1	EA	3"	Suction Diffuser	Threaded union
2	EA	3"	Flexible connections	
24	EA	3"	Flange, Bolts & Gasket Kit, ANSI 150	
3	LF	1/4"	Sch. 40 Steel Piping	ASTM A53, Grade B
2	EA	1/4"	Sch. 40 Steel Tee	ASTM B16.3 Malleable iron screwed
2	EA	4"x3"x4"	Sch. 40 Steel reducing Tee	ASTM A234 Wrought Steel
2	EA	3"	Sch. 40 Steel Line Size Tee	ASTM A234 Wrought Steel
6	EA	3"	Cal-Silicate Inserts	2<E>, 1<A>
3	EA	3"	Pipe Hanger Support	
1	EA	3"	Pipe Stanchin support	
2	EA	4"	Pipe Stanchin support	

4 BUILDING 1600 MECHANICAL ROOM HHW UPGRADE BILL OF MATERIAL
SCHEMATIC



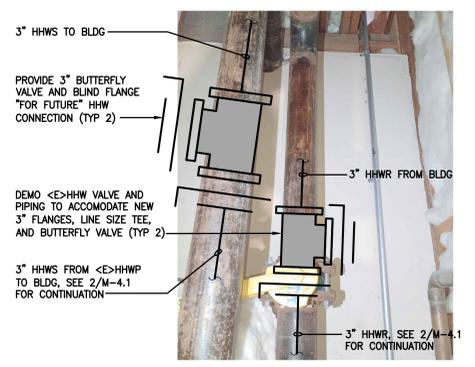
5 BUILDING 1600 CHW & HHW RISER UPGRADE
SCHEMATIC

NOTES:

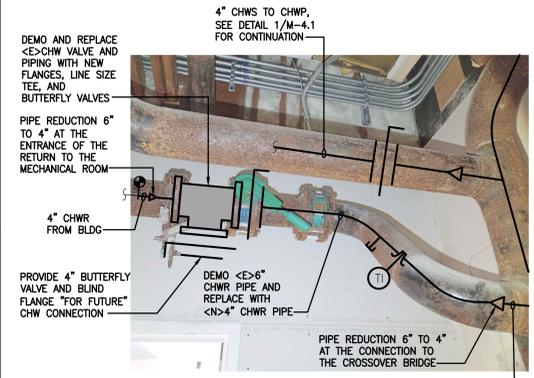
- BOM IS APPROXIMATE (AND SHALL BE DEEMED THE MIN. NEEDS). CONTRACTOR SHALL BE RESPONSIBLE FOR ANY WELD NECKS, FLANGES, WELD-O-LETS, THERMOWELLS, AND ANY MATERIAL NOT IDENTIFIED ON THE BOM ABOVE THAT ARE DEEMED NECESSARY FOR A COMPLETE AND CODE COMPLIANT INSTALLATION.
- BASE BID SHALL INCLUDE THE QUANTITIES, AS WELL AS LABOR, OVERHEAD AND PROFIT RELATING TO THIS BILL OF MATERIALS, AND ANY MATERIAL NOT IDENTIFIED ON THE BOM ABOVE THAT ARE DEEMED NECESSARY FOR A COMPLETE AND CODE COMPLIANT INSTALLATION.
- REFER TO PROJECT MANUAL FOR EQUIPMENT AND MATERIAL SPECIFICATIONS.

NOTES:

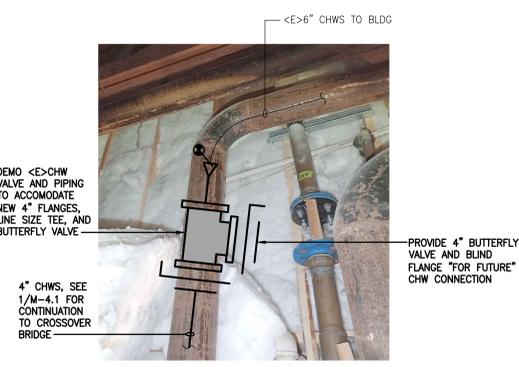
- BOM IS APPROXIMATE (AND SHALL BE DEEMED THE MIN. NEEDS). CONTRACTOR SHALL BE RESPONSIBLE FOR ANY WELD NECKS, FLANGES, WELD-O-LETS, THERMOWELLS, AND ANY MATERIAL NOT IDENTIFIED ON THE BOM ABOVE THAT ARE DEEMED NECESSARY FOR A COMPLETE AND CODE COMPLIANT INSTALLATION.
- BASE BID SHALL INCLUDE THE QUANTITIES, AS WELL AS LABOR, OVERHEAD AND PROFIT RELATING TO THIS BILL OF MATERIALS, AND ANY MATERIAL NOT IDENTIFIED ON THE BOM ABOVE THAT ARE DEEMED NECESSARY FOR A COMPLETE AND CODE COMPLIANT INSTALLATION.
- REFER TO PROJECT MANUAL FOR EQUIPMENT AND MATERIAL SPECIFICATIONS.



6 BUILDING 1600 MECHANICAL ROOM HHW TEMP. EQUIPMENT CONNECTIONS
SCHEMATIC



7 BUILDING 1600 MECHANICAL ROOM CHW TEMP. EQUIPMENT CONNECTIONS
SCHEMATIC



7 BUILDING 1600 MECHANICAL ROOM CHW TEMP. EQUIPMENT CONNECTIONS
SCHEMATIC

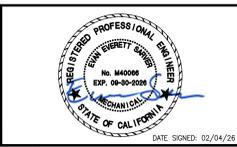
GENERAL SHEET NOTES

- NO DISSIMILAR METAL CONNECTIONS WITHIN THE MECHANICAL ROOM ARE ACCEPTABLE. WHETHER EXISTING OR NEW, CONTRACTOR SHALL IDENTIFY DISSIMILAR METAL CONNECTIONS, THEN DEMO AND REPLACE USING LIKE MATERIALS OR DIELECTRIC FITTINGS TO INSULATE AND PROTECT FROM GALVANIC CORROSION.
- PROVIDE AIR VENTING PROVISIONS AT HIGH POINT OF HYDRONIC SUPPLY AND RETURN PIPING (HHW & CHW) WITHIN THE MECHANICAL ROOM.
- PROVIDE 3/4" DRAIN PORTS AT LOW POINTS IN THE PIPING SYSTEM. INCLUDE A BALL VALVE AND TERMINATE WITH HOSE FITTING ADAPTER.
- CLEAN, PREP, PRIME AND PAINT ALL <E> AND <A> HYDRONIC PIPING WITHIN THE MECHANICAL ROOM. PROVIDE INSULATION, VAPOR BARRIERS (CHW), PVC JACKETING, AND PIPE ID MARKERS WITH FLOW ARROWS.

REFERENCE SHEET NOTES

- DEMO AND REPLACE HYDRONIC PUMP. RETAIN AND REINSTALL <E> DISCONNECT SWITCH, ELECTRICAL FEEDERS, BMS/COMM. WIRING, CONDUITS AND HOUSEKEEPING PAD. REFER TO HYDRONIC PUMP SCHEDULE ON M-0.1 FOR IN-KIND REPLACEMENT.
- DEMO SECTION OF PIPING AND PROVIDE NEW BALANCING VALVE AT THE HYDRONIC RETURN PIPING OF THE PRIMARY LOOP. B-1600 REQUIRES 170 GPM OF CHW SERVICE AND 80 GPM OF HHW SERVICE. BALANCE BUILDING PRIMARY LOOPS WITH CHILLER AND BOILER PLANTS OPERATING AT FULL LOAD RESPECTIVELY.
- DEMO SECTION OF SUPPLY AND RETURN PIPING FOR THE INSTALL OF PRIMARY/SECONDARY CROSSOVER BRIDGE. PROVIDE LINE SIZE TEES AND PIPING TO COMPLETE THE CROSSOVER BRIDGE. REFER TO DETAIL 7/M-5.1.
- PROVIDE SUCTION DIFFUSER AT PUMP. REFER TO M-0.1 FOR SIZING.
- AT BUILDING EXTERIOR RISERS, DEMOLISH EXISTING ISOLATION VALVE AND PROVIDE LINE SIZED TEE WITH ISOLATION VALVES AT THE CAMPUS HYDRONIC LOOP SIDE AND THE BRANCH PORT OF THE TEE. PROVIDE BLIND FLANGE AT BRANCH PORT (FOR FUTURE). SEE DETAIL 5/M-4.1.
- NOT USED.
- NOT USED.
- REPLACE EXISTING RUSTED/DEGRADED HYDRONIC PIPING WITHIN MECHANICAL ROOM. PIPING TO BE RETAINED SHALL BE WIRE BRUSHED CLEAN FROM ANY MINOR SURFACE RUST.
- NOT USED.
- PROVIDE POST-CONSTRUCTION TAB OF HYDRONIC PUMP(S) AND EXISTING BUILDING HHW/CHW COILS. REFER TO HYDRONIC PUMP SCHEDULE ON M-0.1 FOR PUMP FLOW (GPM) AND PRESSURE (TDH) DESIGN PARAMETERS.
- CAULK AND SEAL ALL PENETRATIONS THROUGH WALLS AND CEILINGS. FIRE-RATED ASSEMBLIES SHALL BE CAULKED AND SEALED WITH FIRE STOP CAULK. REFER TO DETAIL 5/M-5.1. PROVIDE ESCUTCHEON PLATES AT ALL PENETRATIONS. REFER TO DETAIL 8/M-5.1.
- INTERCEPT AND EXTEND EXISTING CONDUIT AND WIRES AS NECESSARY TO FEED NEW MOTOR. SIZES OF CONDUIT AND WIRES TO MATCH EXISTING. VERIFY EXISTING MOTOR STARTER, BREAKER, OVERLOAD PROTECTION ARE SIZED ADEQUATELY FOR THE NEW ELECTRIC MOTOR. REPLACE EQUIPMENT AS NECESSARY TO MATCH NEW ELECTRIC MOTOR REQUIREMENTS.
- DEMO <E> ABANDONED IN PLACE PIPING 1" MIN. BELOW <E> FINISHED FLOOR. INSERT PLUG INTO <E> ABANDONED PIPE DOWN TO NEAREST CHANGE OF DIRECTION. FILL WITH GROUT AND ABANDON IN PLACE. FINISH GROUT FLUSH TO ADJACENT FINISHED FLOOR.

Salas O'Brien
Engineered for Impact
305 South 11th Street
San Jose, California 95112-2218
877.725.2755 | 877.925.1477 (f)
WWW.SALASO'BRIEN.COM
National Strength. Local Action.

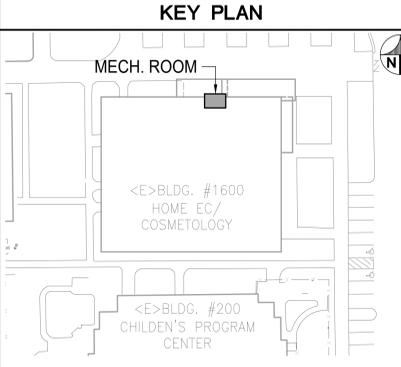


SOLANO COMMUNITY COLLEGE DISTRICT
SOLANO COMMUNITY COLLEGE
4000 SUISUN VALLEY RD
FAIRFIELD, CA 94534
B-1600 MECHANICAL ROOM HYDRONIC UPGRADES

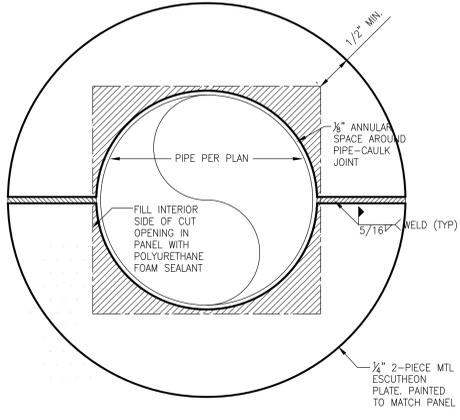
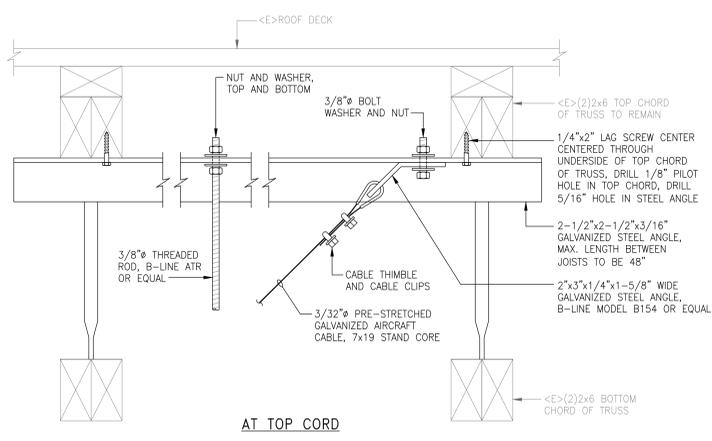
MARK	DATE	DESCRIPTION
	12/10/25	50% CD
	02/24/26	100% CD

SOBE PROJECT NO: 2510-00648
DATE: 02/24/26
DRAWN BY:
CHECKED BY: EES
APPROVED BY: EES

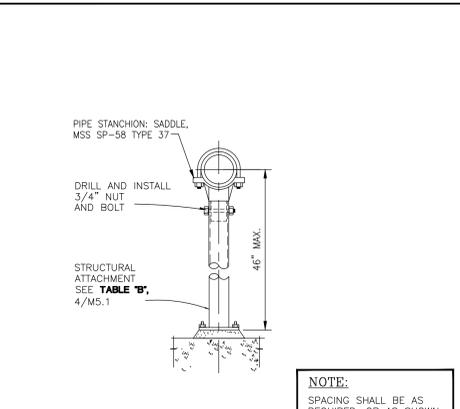
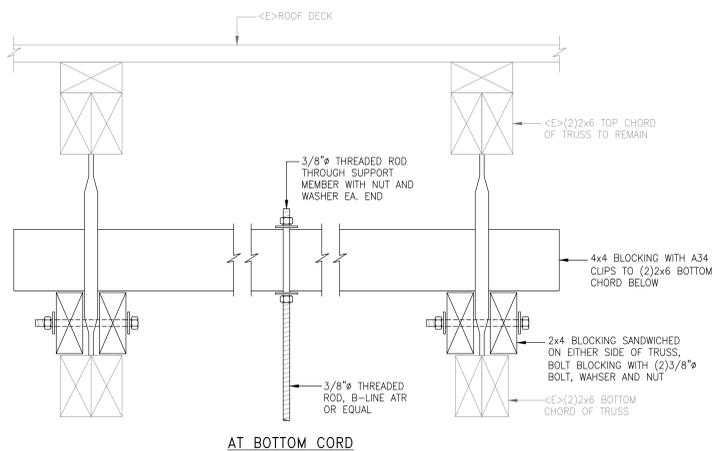
SHEET TITLE
BUILDING 1600 MECHANICAL ROOM UPGRADES
SCALE: AS NOTED
THIS DRAWING IS 30" X 42" AT FULL SIZE
M-4.1
SHEET OF



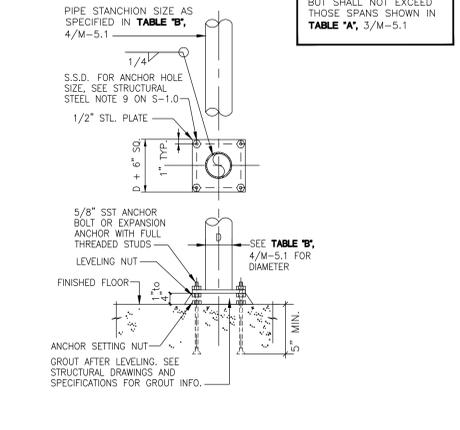
THIS DRAWING IS 30" X 42" AT FULL SIZE. 15" X 21" AT HALF SIZE. © 2015 BY SALAS O'BRIEN ENGINEERS, INC.



8 ESCUTCHEON PLATE
SCALE: N.T.S.



9 PIPE HANGER/BRACING ANCHORAGE
SCALE: N.T.S.

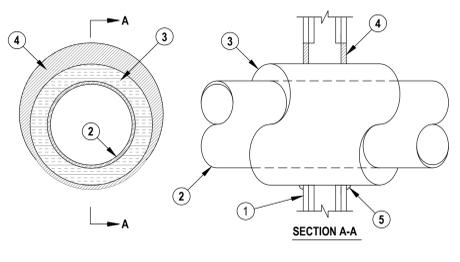
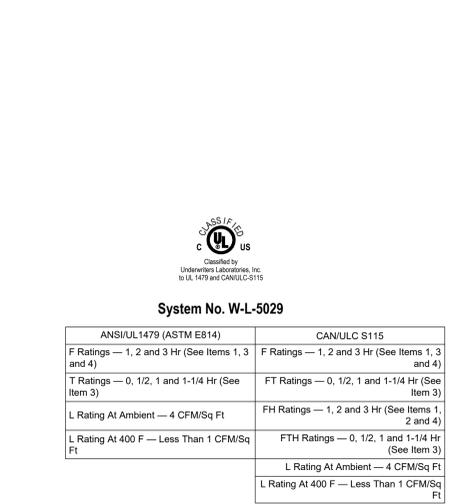


6 PIPE SUPPORT STANCHION
SCALE: N.T.S.

PIPE SIZE (INCHES) (OR INSULATION SHIELD SIZE)	NOMINAL PIPE STANCHION DIAMETER (D) (SCHEDULE 40 - INCHES)
4	3
6	3
8	3
10	3
12	3
14	4
16	4
18	6
20	6
24	6

- NOTES:**
- PIPE SHALL NOT HAVE POCKETS FORMED IN THE SPAN DUE TO THE PIPE, MEDIUM IN THE PIPE, INSULATION, VALVES, AND FITTINGS.
 - PROVIDE A MINIMUM OF ONE PIPE HANGER PER PIPE LENGTH.

4 TABLE "B" PIPE STANCHION DIAMETER
SCALE: N.T.S.



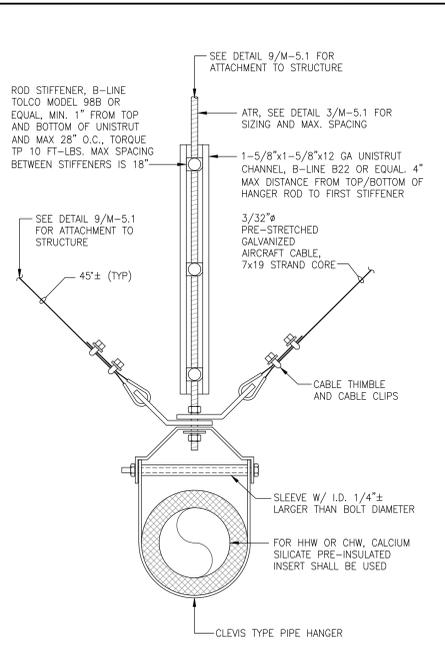
- System No. W-L-5029**
- | ANSI/UL 1479 (ASTM E814) | CAN/ULC S115 |
|--------------------------------------------------|------------------------------------------------------------|
| F Ratings — 1, 2 and 3 Hr (See Items 1, 3 and 4) | F Ratings — 0, 1/2, 1 and 1-1/4 Hr (See Item 3) |
| T Ratings — 0, 1/2, 1 and 1-1/4 Hr (See Item 3) | FH Ratings — 0, 1/2, 1 and 1-1/4 Hr (See Items 1, 2 and 4) |
| L Rating At Ambient — 4 CFM/Sq Ft | FTH Ratings — 0, 1/2, 1 and 1-1/4 Hr (See Item 3) |
| L Rating At 400 F — Less Than 1 CFM/Sq Ft | L Rating At Ambient — 4 CFM/Sq Ft |
| | L Rating At 400 F — Less Than 1 CFM/Sq Ft |
- Wall Assembly — The 1, 2 or 3 hr fire-rated gypsum board/stud wall assembly shall be constructed of the materials and in the manner specified in the individual U300, U400, V400 or W400 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:
A. Studs — Wall framing may consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in. (51 by 102 mm) lumber spaced 16 in. (406 mm) OC. Steel studs to be min 2-1/2 in. (64 mm) wide for 1 and 2 hr F and FH rating and 3-1/2 in. (89 mm) wide for 3 hr F and FH rating and spaced max 24 in. (610 mm) OC.
B. Gypsum Board — Min 5/8 in. (16 mm) thick with square or tapered edges. The gypsum board type, thickness, number of layers, fastener type and sheet orientation shall be as specified in the individual Wall and Partition Design. Max diam of opening is 18-5/8 in. (473 mm).
The hourly F and FH Ratings of the freestop system are equal to the hourly fire rating of the wall assembly in which it is installed.
 - Through Penetrants — One metallic pipe or tubing to be installed within the freestop system. Pipe or tubing to be rigidly supported on both sides of wall assembly. The following types and sizes of metallic pipes or tubing may be used:
A. Steel Pipe — Nom 12 in. (305 mm) diam (or smaller) Schedule 10 (or heavier) steel pipe.
B. Iron Pipe — Nom 12 in. (305 mm) diam (or smaller) cast or ductile iron pipe.
C. Copper Tubing — Nom 6 in. (152 mm) diam (or smaller) Type L (or heavier) copper tubing. When the hourly F or FH Rating of the freestop system is 3 hr, the nom diam of copper tube shall not exceed 4 in. (102 mm).
D. Copper Pipe — Nom 6 in. (152 mm) diam (or smaller) Regular (or heavier) copper pipe. When the hourly F or FH Rating of the freestop system is 3 hr, the nom diam of copper pipe shall not exceed 4 in. (102 mm).
See Pipe and Equipment Covering — Materials (BRGU) category in the Building Materials Directory for names of manufacturers. Any pipe covering material meeting the above specifications and bearing the UL Classification Marking with a Flame Spread Index of 25 or less and a Smoke Developed Index of 50 or less may be used.
The hourly T, FT, FTH Ratings of the freestop system are 1/2 hr for 1 hr rated walls and 1 hr for 2 hr rated walls. For 3 hr rated walls, the hourly T, FT and FTH Ratings when steel and iron pipes are used are 1 hr. For 3 hr rated walls, the hourly T, FT and FTH Ratings when copper penetrants are used are 1-1/4 hr for 2 in. (51 mm) thick pipe covering and 0 hr for pipe covering thickness less than 2 in. (51 mm).
 - Pipe Covering — (Not Shown) — As an alternate to item 3, max 2 in. (51 mm) thick cylindrical calcium silicate (min 14 pcf) units sized to the outside diam of the pipe or tube may be used. Pipe insulation secured with stainless steel bands or min 18 AWG stainless steel wire spaced max 12 in. (305 mm) OC. When the alternate pipe covering is used, the T and FT Rating shall be as specified in item 3 above.
See Pipe and Equipment Covering — Materials (BRGU) category in the Building Materials Directory for names of manufacturers. Any pipe covering material meeting the above specifications and bearing the UL Classification Marking with a Flame Spread Index of 25 or less and a Smoke Developed Index of 50 or less may be used.
 - Fill (Void or Cavity Material) — Sealant — For 1 and 2 hr F and FH Rating, min 5/8 in. (16 mm) thickness of fill material applied within the annulus, flush with both surfaces of wall. For 3 hr F and FH Rating, min 1 in. (25 mm) thickness of fill material applied within the annulus, flush with both surfaces of wall. At the point contact location between pipe covering and gypsum board, a min 1/2 in. (13 mm) diam bead of fill material shall be applied at the pipe covering/gypsum board interface on both surfaces of wall.
HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — FS-One Sealant or FS-One MAX Intumescent Sealant
* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.

5 FIRE STOP/ PIPE PENETRATION
SCALE: N.T.S.

NOMINAL PIPE SIZE (INCHES)	SUPPORT ROD SIZE AND MAXIMUM LOAD PER ROD		MAXIMUM PIPE SPAN (FEET)
	ROD SIZE (INCHES)	MAX LOAD (POUNDS)	
3/8 to 3/4	3/8	610	5
1	3/8	610	5
1 1/4	3/8	610	5
1 1/2	3/8	610	5
2	3/8	610	10
2 1/2	1/2	1130	10
3	1/2	1130	10
4	5/8	1430	10
6	3/4	1940	10

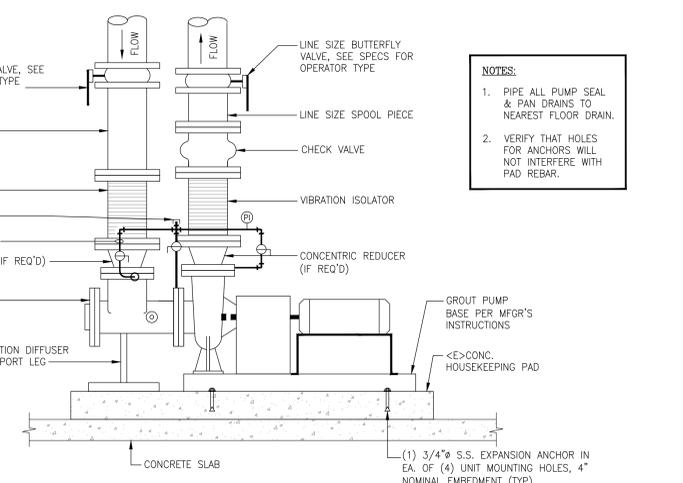
- NOTES:**
- PIPE SHALL NOT HAVE POCKETS FORMED IN THE SPAN DUE TO SAGGING OF THE PIPE BETWEEN SUPPORTS CAUSED BY THE WEIGHT OF THE PIPE, MEDIUM IN THE PIPE, INSULATION, VALVES, AND FITTINGS.
 - PROVIDE A MINIMUM OF ONE PIPE HANGER PER PIPE LENGTH.

3 TABLE "A" PIPE HANGER ROD SIZE & MAX LOAD/ROD
SCALE: N.T.S.

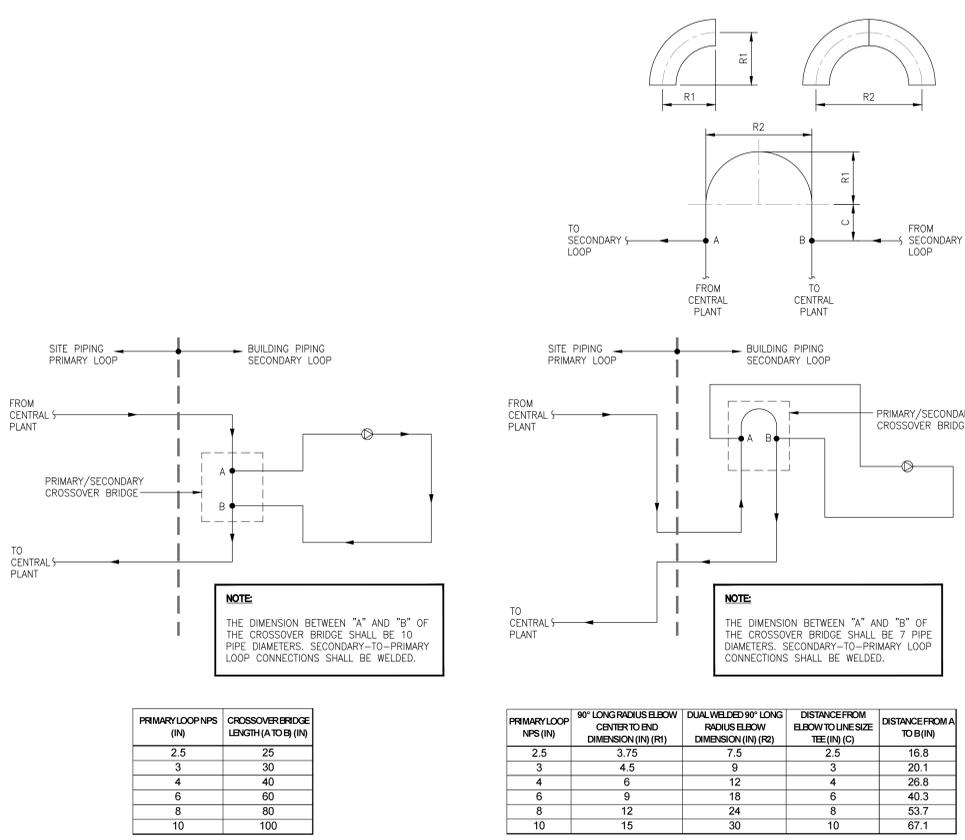


- NOTES:**
- PROVIDE ROD STIFFENERS ONLY WHERE ROD LENGTH FROM SEISMIC BRACING TO UPPER ATTACHMENT EXCEEDS 18".
 - SEISMIC RESTRAINTS ARE NOT REQUIRED FOR ALL PIPING SUSPENDED BY INDIVIDUAL HANGERS 12" OR LESS IN LENGTH FROM TOP OF PIPE TO BOTTOM OF ATTACHMENT TO STRUCTURE.
 - CLEVIS HANGERS CANNOT BE USED FOR LONGITUDINAL RESTRAINTS, ONLY TRANSVERSE.

2 CLEVIS HANGER
SCALE: N.T.S.



1 TYPICAL PUMP ELEVATION
SCALE: N.T.S.



7A - CROSSOVER BRIDGE AT STRAIGHT PIPING
7B - CROSSOVER BRIDGE WITH 180° LONG RADIUS FITTING

7 CROSSOVER BRIDGE DETAIL
SCALE: N.T.S.

PRIMARY LOOP NPS (IN)	CROSSOVER BRIDGE LENGTH (A TO B) (IN)
2.5	25
3	30
4	40
6	60
8	80
10	100

PRIMARY LOOP NPS (IN)	90° LONG RADIUS ELBOW CENTER TO END DIMENSION (IN) (R1)	DUAL WELDED 90° LONG RADIUS ELBOW DIMENSION (IN) (R2)	DISTANCE FROM ELBOW TO LINE SIZE TEE (IN) (C)	DISTANCE FROM A TO (IN) (B)
2.5	3.75	7.5	2.5	16.8
3	4.5	9	3	20.1
4	6	12	4	26.8
6	9	18	6	40.3
8	12	24	8	53.7
10	15	30	10	67.1



Salas O'Brien
Engineered for Impact
305 South 11th Street
San Jose, California 95112-2218
877.725.2755 | 877.925.1477 (f)
WWW.SALASO'BRIEN.COM
National Strength. Local Action.



SOLANO COMMUNITY COLLEGE DISTRICT
SOLANO COMMUNITY COLLEGE
4000 SUISUN VALLEY RD
FAIRFIELD, CA 94534
B-1600 MECHANICAL ROOM HYDRONIC UPGRADES

MARK	DATE	DESCRIPTION
	12/10/25	50% CD
	02/24/26	100% CD

SOBE PROJECT NO: 2510-00648
DATE: 02/24/26
DRAWN BY:
CHECKED BY: EES
APPROVED BY: EES

SHEET TITLE
MECHANICAL DETAILS

SCALE: AS NOTED
THIS DRAWING IS 30" X 42" AT FULL SIZE

M-5.1
SHEET OF