REQUEST FOR QUALIFICATIONS (RFQ)/ REQUEST FOR PROPOSALS (RFP) #2122-323

HVAC Preventative Maintenance Services

at the

District Operations Center

Proposals must be received no later than

June 30, 2022 at 2:00 PM

Submit Response To:

Rancho Santiago Community College District
Facility Planning, District Construction and Support Services
2323 N. Broadway, Suite 112
Santa Ana, CA 92706-1640

Questions or Clarifications:

All questions must be submitted in writing via email to: FacilitiesRFP@rsccd.edu

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1.0 RFQ/RFP Introduction.

1.1 Purpose. This RFQ/RFP is for the Rancho Santiago Community College District's ("District") selection and retention of a firm to provide routine scheduled maintenance ("Preventative Maintenance Services") and "on-call" "as-needed" repair services ("Repair Services") for HVAC equipment situated at the District Operations Center in Santa Ana. Completion of Preventative Maintenance Services and Repair Services will be in accordance with the terms of the Agreement for HVAC Preventative Maintenance and Repair Service ("HVAC Agreement"). Timely submitted RFP Responses will be evaluated in accordance with the Evaluation Criteria set forth in this RFP.

2.0 RFQ/RFP Procedures and Instructions.

2.1 District Modifications to RFQ/RFP. The District expressly reserves the right to modify any portion of this RFQ/RFP prior to the latest date/time for submission of RFQ/RFP Responses, including without limitations, the cancellation of this RFQ/RFP. Modifications, if any, made by the District to the RFQ/RFP will be in writing via a written addendum and posted to the District's website. Addendum, if issued to this RFQ/RFP will not be distributed by the District to any Respondent. Respondents are responsible to periodically review the District's website to access any Addenda to this RFQ/RFP. Failure to acknowledge all addenda issued by the District will result in rejection of a RFQ/RFP Response for non-responsiveness.

2.2 No Oral Clarifications/Modifications to RFQ/RFP. The District will not provide any oral clarifications or modifications to the RFQ/RFP. No Respondent shall rely on any oral clarification or modification to the RFQ/RFP. The District's posting of any and all addenda will be deemed the District's distribution and it is the sole responsibility of any potential Respondent to check the District's website prior to the due date of the RFQ/RFP.

2.3 Errors/Discrepancies/Clarifications to RFQ/RFP. If a Respondent: (i) encounters errors or discrepancies in this RFQ/RFP or portions hereof; or (ii) seeks clarification of any portion of the RFQ/RFP, the Respondent shall immediately notify the District via email: FacilitiesRFP@rsccd.edu. Responses of the District to the notice of any errors or discrepancies herein, or a clarification will be in writing; if in the sole judgement of the District, any clarification response affects the RFQ/RFP or other Respondents, the District will issue the clarification response by a written addendum and posted to the District's website (www.rsccd.edu/bidopportunities, then search for the RFQ/RFP number). All requests for clarification of this RFQ/RFP must be submitted and received no later than **2:00 P.M. Thursday, June 2, 2022**. Responses to all questions received prior to the deadline will be provided to all Contractors. After this deadline, the District will not answer, address, and/or review any questions submitted thereafter.

2.4 Mandatory Pre-Proposal Conference. The District will conduct a Mandatory Pre-Proposal Conference on **Wednesday, May 25, 2022**, beginning promptly at **9:00 A.M**., at the District Operation Center, located at 2323 North Broadway, Santa Ana, CA 92706 at the flagpole in front of the building. A RFQ/RFP Response submitted by any Respondent whose representative(s) did not attend the

Mandatory Pre-Proposal Conference, in its entirety, will be rejected by the District as being non-responsive.

Due to COVID-19, the District is following CAL/OSHA and the CDC industry standard guidelines and requires all attendees to wear appropriate PPE, including face coverings, and to maintain a minimum six (6) foot distance from any person(s).

2.5 Americans with Disabilities Acts (ADA). It is the intention of the District to comply with the Americans with Disabilities Acts (ADA) in all respects. If, as an attendee or a participant at this Optional Pre-Proposal Conference and Site Walk, you require special assistance, the District will attempt to accommodate you in every reasonable manner. Please contact FacilitiesRFP@rsccd.edu at least three business days prior to the meeting to inform us of your particular needs so that appropriate accommodations may be made.

2.6 Prevailing Wage Rates. The HVAC Preventative Maintenance Services subject to this RFQ/RFP constitutes "maintenance work" under Labor Code §1771; prevailing wage rates must be paid for labor to complete HVAC Preventative Maintenance Services. Pursuant to California Labor Code §1773, the Director of the Department of Industrial Relations of the State of California has determined the generally prevailing rates of wages in the locality in which the work is to be performed. Copies of these determinations, entitled 'PREVAILING WAGE SCALE" are available for review at http://www.dir.ca.gov/dlsr/statistics_research.html The Respondent awarded the HVAC Preventative Maintenance Services Agreement shall (i) pay workers wage rates not less than the prevailing wage rate established for the classification, trade or work performed by each worker; (ii) maintain complete and accurate payroll records for workers engaged in the Work; and (iii) if requested by the District, provide Certified Payroll records as required by applicable laws. The Contractor and Subcontractors shall not permit any worker to provide more than eight (8) hours of work per day or forty (4) house per week without additional compensation as mandated by law. The Contractor shall be subject to all penalties and assessments provided by law or regulation for violation(s) of the prevailing wage rate or hours of work requirements. The Contractor awarded shall post a copy of applicable prevailing wage rates for the Work at conspicuous locations at the Site of Work.

2.7 Public Records. Except for materials deemed Trade Secrets (as defined in California Civil code 33426.1) and materials specifically marked "Confidential" or "Proprietary", all materials submitted in response to this RFQ/RFP are deemed property of the District and public records upon submission to the District. The foregoing notwithstanding, the District may reject for non-responsiveness the RFQ/RFP Response of a Respondent who indiscriminately notes that its RFQ/RFP Response or portions thereof are "Trade Secret", "Confidential" or "Proprietary" and exempt from disclosure if disclosure is by law, by an order of the Court, or which occurs through inadvertence, mistake or negligence on the part of the district or its agents or representatives. If the District is required to defend or otherwise respond to any action or proceeding wherein request is made for the disclosure of the contents of any portion of a RFQ/RFP Response deemed exempt from disclosure hereunder, by submitting a response to this RFQ/RFP, each Respondent agrees to defend, indemnify and hold harmless the

District in any action or proceeding from and against any liability, including without limitation attorneys' fees arising therefrom. The party submitting materials sought by any other party shall be solely responsible for the cost and defense in any action or proceeding seeking to compel disclosure of such materials; the District's sole involvement in any such action shall be that of a stakeholder, retaining the requested materials until otherwise ordered by a court of competent jurisdiction.

2.8 Contractors' License. The District will only consider RFQ/RFP Responses submitted by Respondents who are currently licensed in good standing by the California Contractors' State License Board as a **C-20 (Warm-Air Heating, Ventilating and Air-Conditioning)** Contractor. The RFQ/RFP Response of a Respondent who is not so licensed will be rejected for non-responsiveness.

2.9 Respondent DIR Registered Contractor Status. Respondent must be properly and currently registered with the California Department of Industrial Relations ("DIR") when submitting a Response. A Respondent who is not a DIR Registered Contractor when the Response is submitted will be rejected for non-responsiveness.

2.10 To the extent applicable, the CONTRACTOR and all subcontractors performing the work for the PROJECT must comply with the Labor Code sections 1725.5 and 1771.1 and must be properly and currently registered with the California Department of Industrial Relations ("DIR") and qualified to perform public works pursuant to Labor Code section 1725.5 throughout the duration of this AGREEMENT. Failure to comply with these requirements shall be deemed a material breach of this AGREEMENT and grounds for termination for cause. To the extent applicable, the CONSULTANT and all subcontractors shall furnish certified payroll records as required pursuant Labor Code section 1776 directly to the Labor Commissioner in accordance with Labor Code section 1771.4 on at least on a monthly basis (or more frequently if required by the DISTRICT or the Labor Commissioner) and in a format prescribed by the Labor Commissioner. Monitoring and enforcement of the prevailing wage laws and related requirements will be performed by the Labor Commissioner/ Department of Labor Standards Enforcement (DLSE).

2.11 Certified Payroll Records ("CPRs"). The Contractor shall complete CPRs and directly submit completed CPRs to the labor Commissioner every month during the Term of the agreement in such form, format and with such information as required by the Labor Commissioner. During the Work and pursuant to Labor Code §1771.4(a)(4), the DIR shall monitor compliance with the prevailing wage rate requirements and enforce the Contractor's prevailing wage rate obligations.

2.12 Minimum Experience Requirement. To qualify, Respondents must have five (5) years' experience servicing HVAC Maintenance Agreements for commercial facilities and/or educational facilities.

2.13 Proposals. Proposals shall remain firm for one hundred twenty (120) days after the date of the District's opening of RFP Responses. If the District's Board of Trustees has not taken action to award the HVAC Preventative Maintenance Services Agreement prior to expiration of the one hundred twenty (120) days that pricing proposals are to remain firm, the District may, in the sole and exclusive

discretion request that Respondents hold their respective pricing proposals firm for an additional maximum one hundred twenty (120) day period. In such event, only those Respondents who affirmatively and unequivocally committed in writing to holding firm their respective pricing proposals will be further considered for award of the HVAC Preventative Maintenance Services Agreement; the RFP Response of Respondents who do not so affirmatively and unequivocally commit in writing to hold firm pricing proposals will thereupon be deemed non-responsive and not further considered.

2.14 Best and Final Offers. The District reserves the right, after the opening of RFQ/RFP Responses to request all or some of the Respondents to submit "Best and Final Offers" ("BAFO"). The RFQ/RFP Response of a Respondent who has been requested by the District to submit a BAFO, but fails or refuses to submit the BAFO in accordance with the District's request will be rejected for non-responsiveness.

2.15 District Negotiations. The District reserves the right (whether or not the District elects to engage in the BAFO process) negotiations with one or more Respondents regarding pricing, contract terms or other aspects of the requirements of the HVAC Preventative Maintenance Services Agreement.

2.16 RFQ/RFP Response Costs. All costs and expenses incurred by a Respondent to prepare and submit a response to this RFQ/RFP and all other related activities shall be borne solely and exclusively by the Respondent.

3.0 HVAC Preventative Maintenance Services Agreement.

Incorporated as Attachment 1 to this RFQ/RFP is a form of Agreement for HVAC Preventative Maintenance Services Maintenance ("HVAC Agreement") which the District anticipates executing with the successful Respondent selected through this RFQ/RFP. All Respondents must thoroughly review the HVAC Agreement and indicate in Tab 5 of the RFQ/RFP Response acceptance of the entirety of the HVAC Agreement or the portions of the HVAC Agreement for which modifications are proposed by a Respondent. If a Respondent proposes modifications to the HVAC Agreement, the District will not consider any such proposed modifications unless the Respondent sets forth in its RFQ/RFP Response the entirety of the text of the proposed modification. If a Respondent does not identify proposed modifications to the HVAC Agreement in the Respondent's RFQ/RFP Response and such Respondent is awarded the HVAC Agreement, the Respondent is deemed to have accepted the entirety of the HVAC Agreement and shall execute the HVAC Agreement in the form attached hereto.

4.0 RFQ/RFP Response.

4.1 RFP Activities; Timeline. The following is a description of the principal activities to be completed under this RFQ/RFP and the date for anticipated completion of each activity. The following notwithstanding, the District expressly reserves the right to amend the extent, nature or scope of RFQ/RFP activities and/or the time for completing RFQ/RFP activities.

Event / Occurrence	Deadline
District Issues RFQ/RFP	May 19, 2022
Deadline for Respondents' submission of clarification requests/ RFQ/RFP Questions	June 2, 2022 at 2:00pm
Respondents' submission of RFQ/RFP Response	**June 30, 2022 at 2:00pm**
District review of RFQ/RFP Responses	July 5-8, 2022
Interviews (at the District's discretion)	July 11-15, 2022
District to finalize recommendation for District Board of Trustees	July 15, 2022
District Board of Trustees action to award HVAC Preventative Maintenance Services Agreement	August 8, 2022

4.2 Submission of RFQ/RFP Response.

4.2.1 Latest Date/Time for Submission of RFQ/RFP Response
Please refer to the RFQ/RFP schedule in Section 4.1 for the latest date/time for submissions of RFQ/RFP Responses. RFQ/RFP Responses which are not actually received in the office of the District's Facility Planning, District Construction and Support Services, at or prior to the latest date/time for submission of RFQ/RFP Responses, will be rejected by the District for non-responsiveness.

4.2.2 Location for Submission of RFQ/RFP Response. RFQ/RFP Responses shall be submitted:

A. Electronically to FacilitiesRFP@rsccd.edu

4.3 RFP Submission Format.

4.3.1 RFQ/RFP Response. Responses submitted electronically as stated above.

4.3.2 Additional Materials. Respondents are not prohibited, but are discouraged, from submitting materials in addition to those specifically responding to the matters noted in Paragraph 4.4 below. If a Respondent elects to submit materials with its RFQ/RFP Response which are in addition to the matters described in Paragraph 4.4 below, the Respondent shall separately bind all such additional materials separately from the RFQ/RFP Response addressing the matters set forth in Paragraph 4.4 below.

4.4 RFQ/RFP Response.

4.4.1 RFQ/RFP Response Format/Contents. Each RFQ/RFP Response must conform to the following described format and must include the content described below. Failure of a Respondent to submit its RFQ/RFP Response in a format and with content conforming to the following requirements will be a basis for the District's rejection of such RFQ/RFP Response for non-responsiveness.

4.4.2 Cover Sheet. Identify the submittal as the Response to this RFQ/RFP and an identification of the firm submitting the RFQ/RFP Response along

with the firm's address, telephone/fax numbers and email addresses of the firm's principal contacts for this RFQ/RFP.

4.4.3 Letter of Interest. Include a brief letter expressing the interest of the Respondent in providing the HVAC Preventative Maintenance services contemplated by this RFQ/RFP and the HVAC Preventative Maintenance Contract along with a brief statement of the qualifications of the Respondent to provide the HVAC Preventative Maintenance services described in the attached HVAC Preventative Maintenance Contract. Provide contact information, including the telephone number, fax number and email address from the personnel of the Respondent who will be receiving notices and other communications from the District regarding the RFQ/RFP. The letter of interest should be bound with other materials responding to the RFQ/RFP.

4.4.4 Table of Contents. Include a Table of Contents reflecting the Respondent's responses to each of the items set forth below.

4.4.5 Tab 1; Statement of Qualifications and Statement of Non-Conflict of Interest. Complete the Qualifications Statement incorporated into this RFQ/RFP as Exhibit B and Exhibit C.

4.4.6 Tab 2: Relevant Experience. Provide details of the Respondent's skills, experience and expertise to provide the Maintenance Services and Repair Services contemplated by this RFP and the HVAC Agreement. This portion of the RFP Response must contain three subparts:

(i) General description of the Respondent's capabilities as a firm to perform and complete Maintenance Services and Repair Services.

(ii) Specific qualifications, experience and skills of the Respondent's personnel proposed to provide Maintenance Services and Repair Services, including without limitation, educational background, industry background, academic certifications and manufacturer certifications.

(iii) Identify not more than five (5) and not fewer than two (2) current contracts or assignments for HVAC Preventative Maintenance Services and Repair Services similar in scope to that contemplated by this RFQ/RFP to which the Respondent is a party and primarily responsible for undertaking and completing such HVAC Preventative Maintenance Services and Repair Services; contracts or assignments in this portion of Tab 2 should preferably be in connection with commercial facilities.

4.4.7 Tab 3; Insurance Certificates. Provide copies of Certificates of Insurance and endorsements for the Respondent confirming the minimum coverage limits for each policy of insurance as set forth below.

Required Insurance Policy Certificate	Minimum Coverage Amount
Workers Compensation	In accordance with law
Employee Liability	One Million Dollars ($1,000,000)

Comprehensive General Liability (including property damage)	One Million Dollars ($1,000,000) per occurrence/ Two Million Dollars ($2,000,000) in aggregate
Automobile Liability	One Million Dollars ($1,000,000) combined single limit

Prior to commencing work, the selected firm must provide the District with certificates of insurance that includes the following: the Rancho Santiago Community College District and its Board, Officers and employees, shall be named as additional insured parties on General Liability and Automobile policies. Endorsements must be submitted with the certificate(s).

4.4.8 Tab 4; HVAC Preventative Maintenance Services Agreement Comments. Included with this RFQ/RFP is the HVAC Preventative Maintenance Services Agreement (HVAC Agreement). Respondents must thoroughly review the HVAC Agreement included herewith and must in their respective RFQ/RFP responses identify any term or condition of the HVAC Agreement which the Respondent requests modification, by amendment to existing provisions, addition of additional provisions or deletion of existing provisions. Where any requested modification consists of amendments to existing provisions or additional provisions, the response to this RFQ/RFP must set forth the text of the requested amendment or addition. Any Respondent whose RFQ/RFP Response does not identify modifications to terms or conditions of the attached HVAC Agreement will be deemed to have agreed to all terms and conditions set forth therein; if awarded the HVAC Agreement, such Respondent must execute the HVAC Agreement in the form and content attached hereto subject only to elements of such Respondent's RFP Response accepted by the District.

4.4.9 Tab 5; Proposal Pricing. Attachment 2 outlines all the Proposal Forms that must be completed by each Respondent and incorporated into Tab 5 of each Respondent's RFQ/RFP Response.

5.0 Evaluation of RFQ/RFP Responses and Award.

5.1 Evaluation Criteria. RFQ/RFP Responses will be evaluated in accordance with the following evaluation criteria and the relative weighting of evaluation criteria.

Criteria	Weight
Compliance with RFQ/RFP Requirements & Responsiveness	5
Proposed HVAC Preventative Maintenance Services Pricing	30
Proposed Repair Services Pricing (Labor Cost)	10
Respondent Technical Expertise	20
Prior HVAC Maintenance/Repair Experience	20
Acceptance of HVAC Preventative Maintenance Services Agreement without Proposed Modifications	10
Principal Place of Business in Orange County, California	5

5.2 Selection Committee. Members of the Selection Committee will review and score each RFQ/RFP Response. The RFQ/RFP Response score for each

Respondent will be based on the Selection Committee's collective cumulative score.

5.2.1 Interviews. Upon completing review and scoring of RFQ/RFP Responses, the District will request that the Respondents submitting the three (3) highest scored RFQ/RFP Responses to participate in an interview with the Selection Committee.

5.3 Selection Committee Recommendation. The Selection Committee will make a recommendation to the Board of Trustees for award of the HVAC Preventative Maintenance Services Agreement to the Respondent submitting the highest scored RFQ/RFP Response based on the Evaluation Criteria set forth above. The foregoing notwithstanding, the Selection Committee may make a recommendation for award of the HVAC Services Agreement to a Respondent who did not submit the highest scored RFP Response provided that such recommendation is supported by substantiating of the basis for such an award.

5.4 Notice of Intent to Award HVAC Preventative Maintenance Services Agreement. At least five (5) days prior to the date of the District's Board of Trustees meeting to consider award of the HVAC Agreement, the District will issue a Notice of Intent to Award the HVAC Agreement, identifying the Respondent to whom the District intends to award the HVAC Agreement and the date/time/place of the District's Board of Trustees meeting at which award of the HVAC Agreement will be considered.

5.5 Bid Protest. Any Respondent submitting a RFQ/RFP Response to the District may file a protest of the District's Intent to Award the HVAC Preventative Maintenance Services Agreement provided that each and all of the following are complied with: (i) the bid protest is in writing; (ii) the bid protest is filed and received by the District's Assistant Vice Chancellor, Facility Planning, District Construction and Support Services located at 2323 North Broadway, Suite 112, Santa Ana, CA 92706 not more than three (3) calendar days following the date of issuance of the District's Notice of Intent to Award the Services Agreement; and (iii) the written bid protest sets forth, in detail, all grounds for the bid protest, including without limitation all facts, supporting documentation, legal authorities and argument in support of the grounds for the bid protest; any matters not set forth in the written bid protest shall be deemed waived. All factual contentions must be supported by competent, admissible and creditable evidence. Any bid protest not conforming to the foregoing shall be rejected by the District as invalid. If the District does not issue a Notice of Intent to Award for the HVAC Preventative Maintenance Services Agreement at least five (5) calendar days prior to the date of the Board of Trustees meeting to consider award of the Contract, the latest date/time for timely submission of bid protests shall be 12:00 P.M. of the second (2nd) business day preceding the date of the Board of Trustees meeting to consider award of the HVAC Preventative Maintenance Services Agreement. In such event, a bid protest submitted thereafter shall be deemed rejected without further action of the District. Any bid protest not conforming with the foregoing shall be rejected by the District as invalid.

Provided that a bid protest is filed in strict conformity with the foregoing, the District's Assistant Vice Chancellor, Facility Planning, District Construction and Support Services or such individual(s) as may be designated by him/her, shall review and evaluate the basis of the bid protest. The District's Assistant Vice Chancellor, Facility Planning, District Construction and Support Services or other

individual designated by him/her shall provide the Respondent submitting the bid protest with a written statement concurring with or denying the bid protest. Action of the District's Assistant Vice Chancellor, Facility Planning, District Construction and Support Services is final and not subject to appeal to any other employee or office of the District or the District's Board of Trustees. The rendition of a written statement by the District's Assistant Vice Chancellor, Facility Planning, District Construction and Support Services (or his/her designee) addressing disposition of the bid protest is an express condition precedent to the institution of any legal or equitable proceedings relative to the bidding process, the District's intent to award the HVAC Preventative Maintenance Services Agreement, the District's disposition of any bid protest or the District's decision to reject all RFQ/RFP Responses. In the event that any such legal or equitable proceedings are instituted and the District is named as a party thereto, the prevailing party(ies) shall recover from the other party(ies), as costs, all attorneys' fee and costs incurred in connection with any such proceeding, including any appeal arising therefrom.

5.6 Award of HVAC Preventative Maintenance Services Agreement. Authority to award the HVAC Agreement is vested solely in the District's Board of Trustees. Award of the HVAC Agreement will be considered in an open public meeting of the Board of Trustees conducted in accordance with applicable law. The District reserves the right to waive minor irregularities in RFQ/RFP Responses.

6.0 Disabled Veteran Business Enterprise Participation Goals

The Rancho Santiago Community College District supports a participation goal of at least three percent (3%) of the overall dollar amount expended each year to Disabled Veterans Business Enterprises (DVBE). If Consultant is selected to provide services to the District, Consultant will be required to sign and return a Certification form (copy included with these RFQ/P documents) certifying that they will provide the District with information regarding the use of any DVBE contractors or consultants on the project.

Information about DVBE resources can be found on the Executive Branch's website at http://www.dgs.ca.gov or by calling the Office of Small Business and DVBE Certification at 916-375-4940. **Please note that DVBE documentation is included in this RFQ/RFP but is not required to be submitted in the Response.** The DVBE documentation will be required if the Consultant is chosen to provided services as a result of an RFQ/RFP process. Please review **Exhibit E** – **Statement of Intent to Meet DVBE Participation Goal.**

7.0 Local Hire and Local Business Questionnaire.

Respondents shall certify by completing **Attachment 2-10 Local Hire and Local Business Information.** The Rancho Santiago Community College District is interested in furthering opportunities for Local Hires and Local Businesses and the Board of Trustees has established a goal of 50% participation of "Local Hires" and 25% participation of "Local Businesses" for various capital construction projects.

ATTACHMENT 1: HVAC PREVENTATIVE MAINTENANCE SERVICES AGREEMENT

This Contract is entered into this ____ day of _____, 2022 by and between Rancho Santiago Community College District ("District") and _____ ("Respondent" and/or "Contractor") who are collectively referred to herein as "the Parties." This Contract is entered into with reference to the following Recitals, all of which are incorporated herein by this reference.

RECITALS

WHEREAS, the District issues a Request for Qualifications/Request for Proposals ("the RFQ/RFP") pursuant to which the District requested Proposals to provide Preventative Maintenance Services for HVAC Equipment serving the District Operations Center ("Maintenance Services") and to provide "as needed" repairs of the HVAC Equipment ("Repair Services"); Maintenance Services and Repair Services are collectively referred to herein as "HVAC Services".

WHEREAS, the Contractor submitted a written response to the RFQ/RFP ("the RFQ/RFP Response"); by this reference, the RFQ/RFP Response is incorporated herein.

WHEREAS, the Contractor is engaged in the business of providing HVAC Services for institutional and commercial HVAC systems; the Contractor is duly qualified licensed and otherwise authorized to engage in the business of providing HVAC operations and preventative maintenance service.

WHEREAS, the Contractor is duly licensed as a Contractor in the C-20 (Warm-Air Heating, Ventilating and Air-Conditioning) classification by the Contractors State License Board.

WHEREAS, the terms and conditions for the Contractor's completion of Services are set forth in this Contract.

NOW THEREFORE, for good and valuable consideration, the receipt and adequacy of which is acknowledged by the Parties, the Parties agree as follows:

1. General.

1.1. Contractor's Employees. All HVAC Services shall be completed by employees of the Contractor who are experienced, skilled, authorized and certified (if required by a HVAC Equipment manufacturer) to complete the HVAC Services. The Contractor shall maintain an adequate staff of professional personnel with competency, expertise and qualifications to complete HVAC Services. The Contractor shall provide substantiation of its employees' experience, skills, authorization or certification upon request of the District. Prior to starting work at the college, a resume, including experience, copies of current license(s) and other related information shall be submitted on each employee for review by the District. If the District objects to any Contractor personnel assigned to complete HVAC Services, upon request of the District, the Contractor shall replace such personnel without cost or expense to the District. While on District property, Contractor employees shall comply with all applicable rules, regulations and/or polices relating to use/access to District property and personal conduct. Contractor personnel violating applicable policies, regulations or laws are subject to penalties imposed by the policy, regulation or law violated. A current valid California State Driver's License for all Contractor employees operating a vehicle at the District Operations Center is required. Third party contracting shall not be allowed.

1.2. HVAC Services Standards. The Contractor shall complete all HVAC Services in accordance with: (i) with applicable industry/professional "best practices"; (ii) HVAC Equipment manufacturer requirements and recommendations; (iii) the terms of this Agreement, including without limitation the HVAC Preventative Maintenance Services set forth in Exhibit A; and (iv) applicable laws, rules and regulations.

1.3. Permits and Licenses. At all times when providing HVAC Services, the Contractor shall maintain all licenses, certifications, permits, governmental authorizations or approvals required by any federal, state, regional or local governmental agency to provide the HVAC Services and perform other obligations of the Contractor under this Agreement. The foregoing includes without limitation: (i) CLSB Contractors' license in the C-20 classification; and (ii) Department of Industrial Relations ("DIR") contractor registration.

1.4. HVAC Equipment Damage or Destruction. The District is responsible for damage or destruction to the HVAC Equipment, provided that damage or destruction is not the result of the Contractor's: (i) negligent or willful conduct; or (ii) breach of obligations under this Agreement. The Contractor is responsible for costs, expenses, and losses resulting from (i) or (ii) above, which arise out of or are related to repairs or replacement of damaged or destroyed HVAC Equipment and the loss of services provided by the damaged or destroyed HVAC Equipment.

1.5. Employment of Labor.

1.5.1. Prevailing Wage Rates. If any portion of the HVAC Services are deemed by the Department of Industrial Relations, Division of Labor Standards Enforcement ("DLSE") require the payment of applicable prevailing wage rates, the Contractor is solely responsible for compliance with the obligation to make payment of at least the applicable prevailing wage rate and all other administrative requirements associated with prevailing wage rate payments, including without limitation: (i) compliance with DIR contractor registration requirements; and (ii) completion/filing of Certified Payroll Records. Compensation due the Contractor under this Agreement is not subject to adjustment if the Contractor is required to comply with prevailing wage rate requirements for any personnel providing HVAC Services. Monitoring and enforcement of the Contractor's prevailing wage rate obligations will be by DLSE.

1.5.2. Contractor Personnel Compensation. The Contractor is solely responsible for timely and full payment of: (i) compensation and other employment benefits due Contractor personnel and (ii) taxes and other similar payroll burdens.

1.5.3. Uniforms; Identification Badges. All Contractor personnel shall wear Contractor furnished uniforms while at the District Operations Center. The uniforms shall have patches on them that identify person's name and the Contractor's company name and logo. Contractor personnel may also be required to wear identification badges issued by the Contractor or the District.

1.5.4. Contractor Personnel Training and Education. The Contractor shall ensure that personnel have the skills to adapt to changing technology and to efficiently complete HVAC Services by access to and completion of relevant training and education services. Upon request of the District, the Contractor shall furnish reasonably satisfactory written evidence confirming that the Contractor's personnel are so skilled and have access to continuing training/education resources which are utilized to develop new/additional skills or to augment/refine existing skills. The District is not responsible for training

Contractor personnel. Costs, fees, expenses and charges for training and education of Contractor personnel providing HVAC Services shall be borne by the Contractor without adjustment of the compensation due the Contractor under this Agreement. Contractor personnel providing HVAC Maintenance Services or Repair Services shall be certified, accredited and otherwise authorized by the HVAC Equipment manufacturer in accordance with certification, accreditation or authorization requirements of the HVAC Equipment manufacturer.

1.6. Safety and Environmental.

1.6.1. Contractor Personnel. The Contractor shall provide all personnel performing HVAC Services with required safety training and safety equipment. HVAC Services shall only be completed by personnel who are properly trained, skilled, certified and authorized to complete the HVAC Service assigned to such personnel.

1.6.2. Waste Materials Handling and Disposal. The Contractor is solely responsible for disposal of waste materials, including without limitation, lubricants, absorbents, and cleaning products in accordance with District requirements and in strict compliance with manufacturer recommendations and applicable law.

1.6.3. Work Area Safety. The Contractor is solely responsible for implementing safety measures when completing HVAC Services, including without limitation, warning signs and barricades. The Contractor shall keep work areas in a neat and clean condition.

1.6.4. Accident and Hazard Reporting. The Contractor shall report any accidents or hazardous conditions to the District's Facilities Director within one hour and shall submit an accident report or hazardous condition report on forms approved by the District. The Contractor shall report to the District's Facilities Director trouble call emergencies or items in need of prompt attention within one hour. The Contractor shall report any conflict between requested work and safety requirements to the District's Facilities Director, or authorized District Representative, for resolution before performing the work.

1.6.5. Building and HVAC Equipment Access. The District will provide Contractor personnel with access to the District Operations Center during working days of Mondays-Fridays and working hours of 6:30 AM to 5:00 PM. Contractor personnel access to the Building on weekends, holidays or after working hours shall be through the District's Representative.

1.7. District Representative. The District will assign a District employee as the District Representative in connection with this Agreement and the Contractor's completion of HVAC Services. HVAC Services and other obligations of the Contractor shall be completed in accordance with directives or authorizations of the District Representative or her/his designee.

1.7.1. Building Access Keys**.** The District will provide the Contractor's personnel with access to the Buildings necessary for completing the Contractor's obligations under this Contract. The Contractor shall follow the District's Key and Electronic Access Control Procedures. If the Buildings access provided by the District Representative includes keys, the Contractor is solely responsible for costs arising out of lost, misplaced or stolen keys, including without limitation

replacement keys and re-keying locks for security purposes, as reasonably determined by the District. The Contractor will be required to sign a release form. If the Contractor loses a key or fails to return a key to the District, the Contractor shall be fined $5,000 for each key lost. The Contractor is solely responsible for: (i) informing all personnel with access to, or authority to use, any Building access keys, of the limitation on the use of such keys solely and exclusively in connection with completing Services under this Contract; (ii) prohibiting personnel from disseminating or duplicating any building keys; and (iii) all losses, damages, costs or other liabilities arising out of the unauthorized dissemination or duplication of any building keys.

2. HVAC Preventative Maintenance Services

2.1. General. The Contractor shall furnish all labor, materials, parts, equipment, tools, and services necessary to complete Preventative Maintenance Services for each item of HVAC Equipment identified to this Agreement in accordance with the HVAC Preventative Maintenance Services described in **Exhibit A** to this Agreement.

2.1.1. HVAC Equipment. HVAC Equipment subject to Preventative Maintenance Services are in Exhibit A to this Agreement. During the Term of this Agreement, the District may amend the HVAC Equipment identified in Exhibit A by deleting or adding HVAC Equipment by written notice to the Contractor. If the District deletes HVAC Equipment from Exhibit A, no compensation shall be due the Contractor for Maintenance Services relating to the deleted item of HVAC Equipment. If the District adds HVAC Equipment to Exhibit A, the compensation due the Contractor under this Agreement shall be equitably adjusted to reflect the reasonable cost to complete Maintenance Services for added items of HVAC Equipment.

2.1.2. Hours/Days of Maintenance Services. Maintenance Services will be provided between 6:30 AM and 5:00 PM Mondays through Fridays, except for District holidays (“Regular Hours”). The foregoing notwithstanding, the District may direct or authorize the Contractor to complete Maintenance Services on days or at times outside the Regular Hours (“Alternative Hours”). No payment will be made for overtime/premium time labor charges unless authorized in writing in advance by the District Representative.

2.2. Maintenance Services.

2.2.1. Maintenance Intervals. The Contractor shall complete Maintenance Service for each item of HVAC Equipment at the intervals noted in the Scope of Work and the HVAC Equipment manufacturer recommendations.

2.2.2. Maintenance Service Records. The Contractor shall maintain records of all Maintenance Services for each item of HVAC Equipment, including without limitation the following: (i) service date; (ii) service technician(s); (iii) service description (including observations of operating condition and replacement parts); and (iv) recommended follow-up actions.

3. Repair Services.

3.1. General. General requirements relating to the Contractor's completion of Repair Services are set forth below. The Contractor shall furnish all labor, materials, parts, equipment, tools and services necessary to complete Repair Services.

3.1.1. Repair Logs. The Contractor shall maintain a Repair Log for each item of HVAC Equipment subject to repair services noting Repair Services performed, including without limitation, service dates, service personnel, detailed description of nature and scope of Repair Services and parts replaced with each Repair Service. The form and required content of the Contractor's Repair Log are subject to District review and acceptance; the Contractor shall modify the form of the Repair Log as necessary for the District to accept the entirety thereof. At the conclusion of each Repair Service, the Contractor's Repair Service personnel shall complete the Repair Log for the Repair Service completed. The Contractor shall provide the District Representative with hard copy written Repair Logs or electronic/digital files of Repair Logs for each Repair Service within three (3) business days of the completion of a Repair Service. No payment will be made by the District for any Repair Service unless the Contractor completes and delivers Repair Logs for such Repair Service pursuant to the foregoing. The District will upload the repair log into the Onuma Preventative Maintenance system to track the repair work.

3.1.2. Replacement Parts. If any Repair Service includes the replacement of any parts, components or other separable assemblies of an item of HVAC Equipment, the removed and replaced part shall be made available to the District Representative for inspection. The Contractor shall dispose of any removed or replaced parts as directed or authorized by the District. Disposal of removed or replaced parts are included with the Repair Service charge; no additional payment is due the Contractor for disposal of removed or replaced parts.

3.2. Repair Services Response Time. The Contractor shall complete repairs and other maintenance activities as requested by the District ("Repair Requests"). Repair Requests will be in writing and will generally note the repair required and whether the Repair Request is a General Repair Request, an Urgent Repair Request or an Emergency Repair Request. The Contractor shall dispatch personnel with the skills and experience to complete a Repair Request along with the parts, equipment, tools and other items necessary to complete the Repair Request as follows:

General Repairs	Response time within 24 hours, 7:00 A.M. - 4:00 P.M., Mondays - Fridays, except for holidays.
Urgent Repairs	Response time within 4 hours, 7:00 AM - 8:00 PM, Mondays - Fridays, except holidays; Repair Request submitted to Contractor prior to 5:00 PM Mondays - Fridays require Contractor response time no later than 12:00 PM the following working day.
Emergency Repairs	Response time within 2 hours, 24 hours per day, 7 days per week, holidays included.

4. Term.

The Initial Term of this Agreement commences as of the date set forth above and terminates **Fifty-Eight (58) months** thereafter; per the below schedule:

Year One: 9/1/2022 – 6/30/2023

Year Two: 7/1/2023 – 6/30/2024

Year Three: 7/1/2024 – 6/30/2025

Year Four: 7/1/2025 – 6/30/2026

Year Five: 7/1/2026 – 6/30/2027

5. Contract Payments and Contract Adjustments.

5.1. General. Payments to the Contractor for completion of HVAC Services shall be as set forth herein. Payments due the Contractor pursuant to the following are inclusive of all expenses, charges, fees or costs for labor, materials, equipment and services to complete the Contractor's obligations hereunder. The foregoing include without limitation, labor burdens and benefits, administrative, clerical and other indirect support, taxes and other similar charges and profit.

5.2. Maintenance Services.

5.2.1. Contractor Compensation. The compensation to the Contractor for completing such Maintenance Service for the item of HVAC Equipment will be the fixed, lump sum price indicated in Attachment 2-2, with the fixed, lump sum price inclusive of all labor, materials, tools, equipment, services and any other item of a tangible or intangible nature.

5.2.2. Maintenance Services Liquidated Damages. The Contractor acknowledges that completion of the Maintenance Services by the Contractor is critical for continuous, efficient operations of the HVAC Equipment. The Contractor agrees that if the Contractor fails or refuses to complete Maintenance Services in accordance with the District accepted Maintenance Plan, the District will sustain losses, damages and costs that are difficult to ascertain. Accordingly, the District and the Contractor agree that if a scheduled Maintenance Service is not completed by the Contractor when scheduled in the HVAC Maintenance Plan, the Contractor shall be liable to the District for Liquidated Damages in the per diem amount of Five Hundred Dollars ($500) ("Maintenance Liquidated Damages") from the date scheduled for Maintenance Service until such Maintenance Service is completed. The District and Contractor acknowledge and agree that the Maintenance Liquidated Damages are: (i) reasonable under the circumstances existing at the time this Agreement is entered into; (ii) not penalty; (iii) not a limitation on the Contractor's liability for injuries or death to persons, property damage, other damages or other losses sustained as a result of the Contractor's failure to timely conduct and complete scheduled Maintenance Services; or (iv) not a waiver, limitation or other restriction on the District's right to terminate this Agreement for the Contractor's default in performance of a material obligation of the Contractor.

5.2.3. Contractor Billings For Maintenance Services. Upon completing Maintenance Services, the Contractor may bill the District for the costs due for the completed Maintenance Services. The Contractor's billings shall be in such form, format and with such substantiating data as required by the District. The District will make payment of the undisputed portion of such billing within thirty (30) of the District's receipt thereof. The Contractor shall invoice monthly installments and shall include all labor, equipment, and materials necessary to complete the scheduled Preventative Maintenance Services and tasks.

5.3. No Repairs or Contract Adjustments (Allowance) Without Authorization. There shall be no Work (repairs) undertaken or contract adjustments without approval by the District. The Contractor may provide notice to the District: (i) reasonably believes that

the implementation of any repair work will require an Allowance Expenditure; or (ii) reasonably believes that it is entitled to a Contract Adjustment; Any such notice must set forth in reasonable detail all bases asserted by the Contractor in support of its position that it is entitled to an allowance expenditure or Contract Adjustment of the Contract Price, or that any specified adjustment of the Contract Price is not adequate. THE CONTRACTOR MUST PROVIDE SUCH NOTICE PRIOR TO COMMENCING ANY WORK.

5.3.1. Consequences of Failure to provide Notice. The purpose of the written notice required is to permit the District to evaluate the Contractor's basis for believing that it is entitled to an allowance expenditure for repairs, or a further adjustment, to the Contract Price and, as appropriate: (i) order any such adjustment or further adjustment to the Contract Price; (ii) order the Contractor to proceed without any adjustment or further adjustment to the Contract Price; (iii) modify the Work to resolve the matter; or (iv) forego a change in the Work. Therefore, if the Contractor fails to provide such notice prior to commencing any work including repairs, the Contractor shall be deemed and construed to have waived any and all rights to any adjustment in the Contract Price. THE GIVING OF AN APPLICABLE NOTICE SHALL BE A CONDITION PRECEDENT TO THE CONTRACTOR HAVING ANY RIGHT, WHETHER PURSUANT TO A CLAIM FILED OR OTHERWISE TO SEEK OR OBTAIN AN ADJUSTMENT (OR FURTHER ADJUSTMENT) OF THE CONTRACT PRICE.

5.3.2. District shall not be liable for the cost of any extra work, repairs, or substitutions, changes, additions, omissions, or deviations from the Scope of Work documents unless the authorized District representative has approved the cost in writing by an Allowance Expenditure or Contract Adjustment. The provisions of the Contract Documents shall apply to all such changes, additions, and omissions with the same effect as if originally embodied in the Scope of Work documents.

5.3.3. Work Modifications. Extra work, allowance work, repairs, a modification, or reduction of requirements or of methods of performing the Construction which differ from the work or requirements set forth in the Contract Documents ("Work Modifications").

5.3.3.1. Cost Components to be included in repair work estimates. The District may require that reasonable additional or modified cost components or information be included in any necessary cost estimate, but, otherwise, each estimate prepared by the Contractor in response to a Request for Price or in connection with a Change Order Request or Allowance Expenditure must include the following cost components and conform to all associated requirements specified below:

5.3.3.1.1. Labor Costs: Itemize all job classifications for labor necessary to complete the proposed change(s), direct hourly wage rates, and the estimated total number of hours in each job classification required to complete the change(s). The labor rates must conform to the current Department of Labor rates and justified with a labor rate detail sheet. Separately itemize any employer-paid payroll taxes, insurance, benefits and other costs attributable to such labor. Do not include on-site management, off-site management, supervision and/or administration in this cost component, as the

compensation for such costs shall be deemed to be included within the Contractor's general markup.

5.3.3.1.2. Material Costs: Itemize (in sufficient detail to identify) all materials necessary to complete the proposed change(s), quantities required, taxes, and any delivery costs. The amounts itemized in this cost component must be reduced by the full amount of any credits and/or discounts given in connection with obtaining the material.

5.3.3.1.3. Equipment Costs: Itemize all equipment necessary to complete the proposed change(s), hourly costs of rental or operations, and total number of hours required. Separately itemize any rented or leased equipment from any owned equipment. Separately itemize any equipment cost that is based on a per-load amount. Do not include in this cost component any hand tools, equipment with a value of less than $1,000, or equipment with a daily rental rate of less than $500, as the compensation for such items shall be deemed to be included within the Contractor's general markup. Also, do not include in this cost component the rental of any equipment if other suitable equipment already is available at the Site, unless the use of such equipment would unreasonably delay the Work or any Work by Others.

5.3.3.1.4. Contractor Markup: Specify an amount, in no event in excess of twelve percent (12%) of the Labor Costs, Materials Costs and Equipment Costs indicated above, for self-performed work, which shall be deemed and construed to fully compensate the Contractor for overhead, profit and all other direct and indirect costs (other than bond markup) attributable to the proposed change(s), including, without limitation, any and all costs of research; negotiations; preparation of estimates and other documents; insurance; home-office overhead; on-site and off-site supervision; interference, delay, acceleration and other effects on the Work; guarantees; protection facilities; materials handling; supplies; safety equipment; and hand tools, equipment with a value of less than $1,000, and equipment with a daily rental rate of less than $500.

5.3.3.1.5. Subcontractor Markup: Notwithstanding the foregoing, any portion of the work necessary to complete the proposed change(s) to be performed by any Subcontractor must not include a markup by the Subcontractor in excess of fifteen percent (15%) (fifteen percent (15%) total as well if any tier subcontractor is utilized).

5.3.3.1.6. Contractor Markup on Subcontractor: Specify an amount, in no event in excess of five percent (5%), of the total labor, materials and equipment included within such subcontracted work.

5.3.3.1.7. Bonds and Insurance Markup: Specify an amount, in no event in excess of one percent (1%) of the Labor Costs, Materials Costs and Equipment Costs indicated above, to compensate the Contractor for any additional insurance and bonding costs incurred in connection with the work necessary to complete the proposed change(s). Do not include any such amount if no additional bonding costs will be incurred. *Bonds and Insurance Markup is not allowed when using the District's Allowance budget*

as the cost of bonds and insurance are included in the total contract price.

5.3.3.2. Format. All Record(s) of Change to the Contract shall utilize the following format. The most stringent guidelines will apply to all forms.

		EXTRA	CREDIT
(1)	Material (attach itemized quantity and unit cost plus sales tax)	_____	_____
(2)	Actual Labor Cost (attach itemized hours and rates)	_____	_____
(3)	Equipment (attach itemized quantity and unit cost plus sales tax)	_____	_____
(4)	Subtotal (1+2+3)	_____	_____
(4a)	Subcontractor Subtotal: Amount of Item (1+2+3) that is Subcontractor-performed work	_____	_____
(4b)	Contractor Subtotal: Amount of Item (1+2+3) that is Contractor Self-Performed work	_____	_____
(5)	Subcontractor Markup: For Subcontractor-performed work: (Subcontractor's overhead and profit not to exceed 15% of Item (4a) above. If sub-tier contractor (of any tier) is utilized to perform scope, overhead and profit for subcontractor and sub-tier (of any tier) shall not exceed 15% of Item (4a) above.)	_____	_____
(6)	Contractor Markup (for Self-performed work): Contractor's overhead not to exceed 12% of Item (4b) above	_____	_____
(7)	Contractor Markup (on Subcontractor-performed work): Contractor's overhead and profit not to exceed 5% of Item (4a) above)	_____	_____
(8)	Subtotal (4+5+6+7)	_____	_____
(9)	Bond and Insurance Markup (Not to Exceed 1%). *Exclude fee on Allowance Expenditures*	_____	_____
(10)	Total Contract Adjustment or Allowance Expenditure	_____	_____

5.3.3.3. *Discounts and Refunds from Change Order Costs*. The Contractor must make reasonable efforts to obtain or otherwise secure any and all discounts, rebates, refunds and/or offsets that may be available with respect to materials, equipment and supplies necessary, or no longer necessary, in connection with any change(s) in the Work or other requirements of the Contract. The Contractor must include in each estimate prepared in accordance with this Article 17 any such discounts, rebates, refunds and/or offsets as reasonably may be available. In the case of any change(s) completed on a time-and-materials basis or a unit-pricing basis, the Contractor must document any and all discounts, rebates, refunds and/or offsets.

5.3.3.4. *Substantiation of Subcontractor Pricing Included in Estimates*. If an estimate includes any work by a Subcontractor of any tier or materials provided by any materialman, the Contractor must furnish to the District: (i) a detailed estimate, prepared and signed, as applicable, by the Subcontractor or materialman, of the cost for labor, material, equipment, markup, et cetera; and (ii) such information as reasonably substantiates wage rates, bond premiums or other amounts included in the estimate, including, without limitation, any markup by the Subcontractor.

5.3.3.5. *Substantiation of Time-and-Materials and Unit-Price Costs.*

5.3.3.5.1. *Requirements for Notice*. The Contractor must not commence performance of any portion of the Work authorized to be performed on a time-and-materials basis or a unit-price basis unless the Contractor gives notice at least twenty-four hours in advance to the District that such Work will be commencing, so that they may be present during performance of such Work.

5.3.3.5.2. *Requirements for Daily Time-and-Materials Tickets*. The Contractor must obtain the District's signature on a copy of the "Time-and-Materials Ticket", in a format acceptable to the District, for each day during the performance of the Work, specifying: 1) the identification number assigned to that portion of the Work; 2) the location and description of such Work; 3) the job classifications and names of the workers performing such Work; 4) the materials used in performing such Work; and 5) the equipment used in performing such Work, other than tools and equipment included within the Contractor's general markup. The Contractor must prepare the time and material tickets on a form that is reasonably acceptable to the District and that permits the District to tear off and retain a copy of the form after signing it. The Contractor must provide copies of the daily time and material tickets to the District at least once per week until the Work being performed on a time-and-materials basis or unit-price basis has been fully completed. Upon request, the Contractor must also submit any other relevant information as the District may require, including, without limitation, copies of wage rates as included in certified payroll records, receipts, payment invoices, shipping invoices, bills of lading, *etc*. If the Contractor fails to provide documentary evidence or other information sufficient to substantiate the amount and/or costs of Work performed on a time-and-materials basis or unit-price basis, the District, in its reasonable discretion, may determine such amounts and/or costs. THE CONTRACTOR MUST PROVIDE WRITTEN NOTICE TO THE DISTRICT IF AND WHEN THE COST OF ANY WORK PERFORMED ON A TIME-AND-MATERIALS BASIS REACHES EIGHTY PERCENT OF ANY MAXIMUM AMOUNT SPECIFIED IN THE APPLICABLE CHANGE ORDER OR ALLOWANCE *EXPENDITURE.*

5.3.3.5.3. *Requirements for Separate Accounting Records*. If the Contractor performs any Work (whether pursuant to the original Contract, any Record of Change) on a time-and-materials basis or a unit-price basis, the Contractor must adequately document all labor, materials and equipment used and/or consumed in connection with such Work. The Contractor must prepare and maintain

separate cost-accounting records, in accordance with generally-accepted accounting standards and principles, for each portion of the Work performed on a time-and-materials basis or unit-price basis, and shall make such accounting records available to the District, the State, and other parties to the same extent as required pursuant to the Contract Documents for other accounting records related to the Work.

5.3.3.6. Should Contractor claim than any instruction, request, drawing, specification, action, condition, omission, default, or other situation (i) obligates the District to pay additional compensation to the Contractor; or (ii) constitutes a waiver of any provision in the Contract, CONTRACTOR SHALL NOTIFY THE DISTRICT, IN WRITING, OF SUCH CLAIM AS SOON AS POSSIBLE, BUT IN NO EVENT WITHIN MORE THAN TEN (10) BUSINESS DAYS FROM THE DATE CONTRACTOR HAS ACTUAL OR CONSTRUCTIVE NOTICE OF THE CLAIM. CONTRACTOR SHALL ALSO PROVIDE DISTRICT WITH SUFFICIENT WRITTEN DOCUMENTATION SUPPORTING THE FACTUAL BASIS OF THE CLAIM under Article 20. Contractor shall be required to certify under penalty of perjury the validity and accuracy of any claims submitted. The Contractor's failure to notify the District within the ten (10) business day period shall be deemed a waiver and relinquishment of the claim against the District. If such notice be given within the specified time, the procedure for its consideration shall be as stated above in this Section.

5.3.3.7. All costs associated with the Work Modification may be in terms of time, money or both.

5.4. Repair Services Charges. Payment for Repair Services will be made only if the District Representative has specifically requested a Repair Service. No payment will be made by the District and no payment is due the Contractor for any Repair Service completed by the Contractor without prior direction or authorization from the District Representative.

5.4.1. Repair Services Billing Records and Requirements. The Contractor shall implement stringent billing practices for Repair Services, including separate service tickets or other written documentation of: (i) HVAC Equipment; (ii) Contractor personnel providing Repair Services; (iii) time incurred to complete a Repair Service; (iv) replaced parts; and (iv) detailed description of any other item or service for which payment is requested.

5.4.2. Repair Services Billings.

5.4.2.1. Separate Billings. Each separate request for Repair Services shall be subject to a separate Repair Services billing from the Contractor. Billings for Repair Services Charges must be received by the District within sixty (60) days of the date of completion of each Repair Service.

5.4.2.2. Repair Services Charges. Payment for Repair Services will be based on time reasonably necessary for the Contractor's Repair Service personnel to complete a Repair Service request, multiplied by the applicable hourly rate set forth in Attachment 2-3 hereto. Billing for Contractor Repair Service Personnel shall be in increments of one-quarter (1/4) of an hour and only for the duration of time actually providing Repair Services on a Campus. If the District determines that the time charged for completing a Repair Service is

excessive, the Contractor's billing is subject to reduction in such amount as reasonably determined by the District based on the nature of the Repair Service and the time reasonably necessary to complete such Repair Service by qualified, skilled and experienced Repair Service personnel. In addition to payment for time of Repair Services personnel to complete a Repair Service, the Contractor will be paid for the costs for parts, materials and other similar items. Billing for such parts, materials or other similar items is limited to the allowable percentage mark-up on the Contractor's cost for such parts, materials or other similar items or the manufacturer's list price for such parts, materials or other similar items, whichever is less.

5.4.3. District Payment. Within thirty (30) days of the receipt of a Repair Service billing, the District will make payment of the undisputed portion thereof to the Contractor.

5.4.4. Contractor Billing Invoices. The Contractor shall submit billing invoices for payments for completed Repair Services in such form, format and substantiating data as required by the District. The District will make payment of the undisputed portion of a Repair Services billing invoice within thirty (30) days of the District's receipt thereof.

5.5. Withholding or Deduction of Compensation to the Contractor. The District may withhold or deduct any portion of the compensation due the Contractor under this Agreement in such sums as determined by the District or required by applicable law for: (i) levies or other similar instruments; (ii) losses, damages or costs resulting from the Contractor's failure to fully and timely complete its obligations hereunder. Withholdings pursuant to (ii) above will be released only after the Contractor fully cures its failure to timely or fully complete obligations hereunder and after deducting losses, damages or costs resulting from the Contractor's failure to timely and fully complete obligations hereunder. Notwithstanding any compensation withheld or deducted from the Contractor pursuant to the foregoing, the Contractor remains liable to the District for losses, damages or costs resulting from (ii) above which exceed any amount withheld and deducted from the Contractor.

6. Insurance; Indemnity.

6.1. Contractor Insurance. At all times during the Term of this Agreement, the Contractor shall obtain and maintain the insurance coverages noted herein; each required policy of insurance shall be in the minimum coverage amount noted herein.

6.2. Workers Compensation Insurance; Employer's Liability Insurance. The Contractor shall obtain Workers Compensation Insurance covering all employees of the Contractor engaged in operations under this Agreement. The Workers Compensation Insurance shall cover claims under workers' compensation, disability benefits and other similar employee benefit laws applicable to the Contractor's operations under this Agreement. The Employer's Liability Insurance shall cover bodily injury or death by accident or disease to any employee which arises out of the employee's employment by the Contractor. The Employer's Liability Insurance may be obtained as a separate policy of insurance or as additional coverage under the Workers Compensation Insurance policy. The minimum coverage amount under the Workers Compensation Insurance shall be in accordance with applicable law. The minimum coverage amount under the Employers Liability Insurance shall be One Million Dollars ($1,000,000).

6.3. Commercial General Liability Insurance. The Commercial General Liability Insurance obtained by the Contractor shall cover the types of claims set forth below which may

arise out of or result from the operations of the Contractor under this Agreement. The Commercial General Liability Insurance shall cover: (i) claims for damages for bodily injury, sickness, disease or death of persons other than the Contractor's employees; (ii) claims for damages due to injury or death of persons or damage to property, including the loss of use thereof; (iii); contractual liability applicable to the obligations under this Agreement; and (iv) completed operations. The Commercial General Liability Insurance policy shall name the District including, without limitation, District officers, directors, employees, representatives, the District's Board of Trustees and individual members of the Board of Trustees, as additional named insureds thereunder. The minimum coverage limits under the Commercial General Liability Insurance shall be One Million Dollars ($1,000,000) with Two Million Dollars ($2,000,000) aggregate.

6.4. Automobile Liability. The Automobile Liability insurance policy shall cover claims for damages arising out of bodily injury or death of persons or damage to property arising out of Contractor's ownership, maintenance or use of motor vehicles. The Contractor's Automobile Liability insurance may be a combined single limit policy with minimum coverage limits of One Million Dollars ($1,000,000).

6.5. Certificates of Insurance; Policy Requirements. Prior to the commencement of the Term of this Agreement, the Contractor shall deliver to the District Representative Certificates of Insurance evidencing each of the insurance coverages required to be obtained and maintained by the Contractor. Each policy of insurance obtained by the Contractor hereunder shall provide, by endorsement or otherwise, that the policy of insurance will not be permitted to lapse or expire, or to be materially modified without at least thirty (30) days advance written notice to the District. All insurance shall be issued by insurers authorized by California law to issue policies of insurance with a current A.M. Best rating of at least A/VII.

6.6. Deductibles; Premiums. The Contractor is solely responsible for the full and timely payment of premiums for policies of insurance the Contractor is required to obtain and maintain under this Agreement. In the event of a loss under a policy of insurance obtained and maintained by the Contractor hereunder, the Contractor shall be solely responsible for payment of the deductible, if any, associated with such loss.

6.7. District Rights. If the Contractor fails or refuses to obtain and maintain any policy of insurance required hereunder, the District may, but is not obligated to, obtain such policy of insurance on behalf of the Contractor. If the District obtains a policy of insurance on behalf of the Contractor pursuant to the foregoing, the Contractor shall be responsible for payment of all premiums associated with such policy of insurance and an administrative fee equal to twenty-five percent (25%) of the premium costs

6.8. District Insurance. During the Term of this Agreement, the District will maintain insurance against the perils, losses and claims described herein, provided that the District may, in its discretion, elect to self-insure, obtain commercially available insurance policy(ies) or obtain insurance coverages through one or more Joint Powers Authorities.

6.8.1. General Liability Insurance. The District will obtain General Liability Insurance covering the risks of death or bodily injury to persons and damage to property.

6.8.2. Property Casualty Insurance. The District will obtain Property Casualty Insurance which will include coverage for the risks of loss, damage or destruction to the District's buildings and/or campuses. The foregoing notwithstanding, the District's Property Casualty Insurance will not provide coverage for the risk of

loss, damage or destruction of items of personal property leased, rented or owned by the Contractor. The Contractor is solely responsible, without additional payment or compensation from the District, for the costs to replace or repair any personal property owned, rented or leased by the Contractor.

6.9. Payment Bond. Prior to commencement of the Work, the Contractor shall furnish a Labor and Material Payment Bond as security for payment of persons or entities performing HVAC Repair Services or furnishing materials/equipment in connection with Contractor's performance of the HVAC Maintenance Services. The penal sum of the Payment Bond shall be One Hundred Percent (100%) of the Contract Price under this Agreement. The failure or refusal of the Contractor to furnish the Labor and Material Payment Bond is a default by the Contractor of a material obligation of the Contractor under this Agreement. The Surety issuing the Labor and Material Payment Bond shall be: (i) an Admitted Surety Insurer as that term is defined in California Code of Civil Procedure §995.120; and (ii) A.M. Best rated A-/VII or better.

6.10. Contractor Indemnification. To the fullest extent permitted by law, Contractor shall indemnify, defend and hold harmless the District and, as applicable, its employees, officers, directors, Board of Trustees, individual members of the Board of Trustees, agents and representatives ("the Indemnified Parties") from any and all claims, demands, actions, losses, responsibilities or liabilities of any kind, type or nature for: (i) injury or death of the Contractor's employees; (ii) injury or death of persons or damage to property, or (iii) other costs or charges, directly or indirectly arising out of or attributable, in whole or in part, to the negligent, grossly negligent or willful conduct of the Contractor and/or its employees, agents and representatives. The foregoing shall include, without limitation, attorneys' fees and costs incurred by the Indemnified Parties and shall survive the Contractor's completion of obligations under this Agreement or the earlier termination hereof until barred by the applicable Statute of Limitations.

7. Termination

7.1. Termination for Default. Either the District or the Contractor may terminate this Agreement upon seven (7) days written notice to the other if there is a default by the other Party in its performance of a material obligation hereunder including, without limitation: (i) the breach of any material obligation hereunder; (ii) an assignment by Contractor for the benefit of creditors; (iii) one Party files or has filed against the other party a proceeding for protection under state insolvency laws or the United States Bankruptcy Code; or (iv) either Party conducts operations under this Agreement in violation of the Laws. Upon the Initiating Party's issuance of the written notice pursuant to the foregoing, the defaulting Party shall have seven (7) days to undertake and complete a cure of the matters set forth in the District's written notice, provided that if the nature of the matters set forth in the District's notice reasonably requires more than seven (7) days to complete the cure, this Agreement shall not be terminated so long as the Defaulting Party diligently prosecutes the cure to completion. If the Defaulting Party fails to take cure actions set forth above or to diligently and completely prosecute cure actions, this Agreement shall be deemed terminated, without further action of the District or the Contractor, as of the eighth (8th) day after the date of the Initiating Party's written notice. If the District exercises the right of termination hereunder, the Contract Payments due from the District to the Contractor as of the effective date of termination, if any, shall be based upon HVAC Services provided prior to the effective date of the termination of this Agreement, reduced by the District's losses, damages, or other costs resulting from the cause(s) for termination of this Agreement.

7.2. District Termination of Agreement for District Convenience. The District may, at any time during the Term or an Extended Term, by written notice to the Contractor, elect to terminate this Agreement, in whole or in part, for the District's convenience. The termination of this Agreement for the District's convenience shall be effective thirty (30) days after the date of the District's notice of termination for the District's convenience, unless a longer period is set forth in the District's written notice. In such case, the Contractor shall be entitled to payment for HVAC services actually performed as of the effective date of such termination for convenience of the District. If this Agreement is terminated in part pursuant to the foregoing, the Contractor shall continue to fully and timely perform all other obligations not subject to such partial termination.

7.3. Contractor's Obligations Upon Termination of Agreement. Upon the expiration of the Term or the earlier termination of this Agreement for default or the District's convenience, the Contractor shall assemble and deliver to the District all work product, instruments of service and other items of a tangible nature (whether in the form of documents, drawings, maintenance manuals, equipment specifications, samples or electronic files) prepared by or on behalf of the Contractor in connection with its performance of this Agreement. The Contractor shall deliver the originals of all work product, instruments or service and other items of a tangible nature within ten (10) days of the District's request for such materials. Notwithstanding any payment due from the District to the Contractor as of the District's termination of this, the District is not obligated to disburse such payment and the Contractor is not entitled to receipt of such payment until after the Contractor has fully complied with the foregoing.

7.4. District's Right to Suspend HVAC Services. The District may, without cause, and without invalidating or terminating this Agreement, order the Contractor, in writing, to suspend, delay or interrupt HVAC Services whole or in part for such period of time as the District may determine. The Contractor shall resume and complete the HVAC Services suspended by the District in accordance with the District's directive, whether issued at the time of the directive suspending the HVAC Services or subsequent thereto. If the District exercises the right to suspend HVAC Services, the compensation due the Contractor for HVAC Services is not subject to adjustment. The Contractor shall not be subject to Maintenance Services Liquidated Damages if the District directed suspension affects completion of the Maintenance Services in accordance with the Maintenance Services Plan.

8. Miscellaneous.

8.1. Governing Law; Interpretation. This Agreement shall be governed and interpreted in accordance with California law. This Agreement shall be interpreted as a whole in accordance with its fair meaning and not strictly for or against the Contractor or the District. Marginal headings in this Agreement are for convenience of reference only and shall not enlarge or diminish any rights or obligations of the District or the Contractor. In the event of conflicts or inconsistencies between the terms of this Agreement and any portion of the RFQ/RFP Response, the terms of this Agreement shall govern and control.

8.2. Cumulative Rights and Remedies. Duties and obligations set forth in this Agreement are in addition to and not in lieu of duties and obligations arising by operation of law and applicable to the transaction contemplated in this Agreement. No action or failure to act by the District shall be deemed a waiver of any right or remedy afforded the

District under this Agreement or by operation of law nor a waiver of any default or breach by the Contractor of its obligations under this Agreement.

8.3. Prohibition on Harassment.

8.3.1. District's Policy Prohibiting Harassment. The District is committed to providing a campus and workplace free of sexual harassment and harassment based on factors such as race, color religion, national origin, ancestry, age, medical condition, marital status, disability or veteran status. Harassment includes without limitation, verbal, physical or visual conduct which creates an intimidating, offensive or hostile environment such as racial slurs; ethnic jokes; posting of offensive statements, posters or cartoons or similar conduct. Sexual harassment includes without limitation the solicitation of sexual favors, unwelcome sexual advances, or other verbal, visual or physical conduct of a sexual nature.

8.3.2. Contractor's Adoption of Anti-Harassment Policy. Contractor shall adopt and implement all appropriate and necessary policies prohibiting any form of discrimination in the workplace, including without limitation harassment on the basis of any classification protected under local, state or federal law, regulation or policy. Contractor shall take all reasonable steps to prevent harassment from occurring, including without limitation affirmatively raising the subject of harassment among its employees, expressing strong disapproval of any form of harassment, developing appropriate sanctions, informing employees of their right to raise and how to raise the issue of harassment and informing complainants of the outcome of an investigation into a harassment claim.

8.4. Contractor Independent Contractor Status. In performing its obligations under this Agreement, the Contractor is an independent Contractor to the District. Neither the Contractor nor any of Contractor's employees are entitled to rights or benefits as employees of the District.

8.5. Maintenance of Books and Records. The Contractor shall maintain books and accounting records of expenses and revenue in connection with its operations under this Agreement. Books and accounting records shall be contemporaneously maintained in accordance with generally accepted accounting principles applied in a consistent manner. Books and accounting records, along with underlying source data, shall be available to the District for review, inspection or reproduction upon reasonable advance request at the Contractor's principal place of business or at the District Administrative Offices. The Contractor shall maintain its books and accounting records relating to HVAC Services under this Agreement for five (5) years after expiration of the Term hereof or the earlier termination of this Agreement.

8.6. Time. Time is of the essence in the performance and completion of obligations hereunder. The foregoing notwithstanding, performance of the Parties under this Agreement shall be excused if force majeure events that are unforeseeable and unavoidable casualties or other unforeseen causes beyond the control, and without fault or neglect, of the District or the Contractor. Force majeure events include unanticipated and unavoidable labor disputes, unusual and unanticipated delays in transportation of equipment or materials reasonably necessary for completion and proper execution of HVAC Services, unanticipated unusually severe weather conditions, acts of God, accident, riots, war, terrorist act, epidemic, pandemic (including the COVID-19 pandemic), public health orders and/or civil commotion. The financial resources of the Contractor and other Contractor resources necessary to complete HVAC Services shall not be deemed force majeure events.

8.7. Confidential/Proprietary Information. The Contractor and its personnel may, in the course of completing obligations hereunder: (i) prepare materials consisting of or incorporating District confidential/proprietary information; or (ii) have access to District confidential/proprietary information. Except as required by a valid order of a court of competent jurisdiction, the Contractor and its personnel shall not disburse, distribute or disseminate to any person or entity in any and in whole or in part any District confidential/proprietary information.

8.8. Severability. If any term or condition of this Agreement is deemed invalid, unenforceable or void by a court of competent jurisdiction, such term or condition shall be deemed severed from this Agreement and all remaining terms and conditions shall remain in full force and effect.

8.9. Notices. Notices under this Agreement shall be delivered by United States Mail, Certified, Return Receipt Requested with postage fully prepaid or by email. Notices delivered by United States Mail shall be deemed effective the third (3rd) working day after the postmark date. Notices delivered by email before 12:00 PM on District workdays shall be deemed effective four (4) hours after delivery to the recipient's email server. Emails delivered to the recipient's email server after 12:00 PM on a District work day or on District holiday days shall be deemed effective as of 12:00 PM the ensuing workday. The recipients and addresses for notices may be modified by the Parties by notice to the other. Notices shall be addressed as follows:

8.10. Notices shall be addressed as follows:

If to the District	If to the Contractor
Carri M. Matsumoto, Assistant Vice Chancellor Rancho Santiago Community College District Facility Planning, District Construction and Support Services 2323 North Broadway, Suite 112 Santa Ana, California 92706-1640	

The recipients and addresses for notices may be modified by the Parties by notice to the other. Notices shall be transmitted by United States Mail, Certified, Return Receipt Requested with postage fully prepaid. Notices shall be deemed effective the third (3rd) business day after the postmark date.

8.11. Disputes

8.11.1. Mandatory Mediation. All claims, demands, disputes and other matters in controversy between the District and the Contractor arising out of or relating to the HVAC Operations Services under this Agreement (collectively "Claims") are subject to mandatory non-binding mediation conducted under the auspices of the American Arbitration Association ("AAA") prior to either the District or the Contractor initiating binding arbitration procedures.

8.11.2. Government Code Claim Requirements. Pursuant to Government Code §930.6, Claims asserted by the Contractor against the District for money or damages, including without limitation Claims remaining after completion of the non-binding mediation resolution procedures described above are deemed a "suit for money or damages" and shall be subject to the provisions of Government Code §§945.4, 945.6 and 946 ("Government Code Claims Process"). An express condition precedent to the Contractor's initiation of binding arbitration

proceedings relating to Claims is the Contractor's compliance with the Government Code Clams Process, including without limitation, presentation of the Claims and action thereon by the District or deemed rejected by the District in accordance with Government Code §900, et seq.

8.11.3. AAA Arbitration. Claims remaining after the mandatory mediation and Government Code Claims Process shall be resolved by binding arbitration conducted before a retired judge in accordance with the AAA rules in effect as of the date that a Demand for Arbitration is filed, except as expressly modified herein. The locale for any arbitration commenced hereunder shall be the regional office of the AAA closest to the Site.

8.11.4. Demand for Arbitration. A Demand for Arbitration shall be filed and served within a reasonable time after the occurrence of the claim, dispute or other disagreement giving rise to the Demand for Arbitration, but in no event shall a Demand for Arbitration be filed or served after the date when the institution of legal or equitable proceedings based upon such claim, dispute or other disagreement would be barred by the applicable statute of limitations.

8.11.5. Discovery. The discovery rights and procedures provided for in California Code of Civil Procedure §1283.05 shall be applicable to arbitration proceedings commenced hereunder and the same shall be deemed incorporated herein by this reference.

8.11.6. Arbitration Award. The award rendered by the Arbitrator(s) ("Arbitration Award") shall be final and binding upon the District and the Contractor only if the Arbitration Award is: (i) supported by substantial evidence; (ii) based on applicable legal standards in effect that the time the Arbitration Award is issued; and (iii) supported by written findings of fact and conclusions of law in conformity with California Code of Civil Procedure §1296. Any Arbitration Award that does not conform to the foregoing is invalid and unenforceable. The District and Contractor hereby expressly agree that the Court shall, subject to California Code of Civil Procedure §§1286.4 and 1296, vacate the Arbitration Award if, after review, the Court determines either that the Arbitration Award does not fully conform to the foregoing. The confirmation, enforcement, vacation or correction of an arbitration award rendered hereunder shall be made by the Superior Court of the State of California for the County of Orange. The substantive and procedural rules for such post-award proceedings shall be as set forth in California Code of Civil Procedure §1285 et seq.

8.11.7. Arbitration Award. The award rendered by the Arbitrator(s) ("Arbitration Award") shall be final and binding upon the District and the Contractor only if the Arbitration Award is: (i) supported by substantial evidence; (ii) based on applicable legal standards in effect that the time the Arbitration Award is issued; and (iii) supported by written findings of fact and conclusions of law in conformity with California Code of Civil Procedure §1296. Any Arbitration Award that does not conform to the foregoing is invalid and unenforceable. The District and Contractor hereby expressly agree that the Court shall, subject to California Code of Civil Procedure §§1286.4 and 1296, vacate the Arbitration Award if, after review, the Court determines either that the Arbitration Award does not fully conform to the foregoing. The confirmation, enforcement, vacation or correction of an arbitration award rendered hereunder shall be made by the Superior Court of the State of California for the County of Orange. The substantive and

procedural rules for such post-award proceedings shall be as set forth in California Code of Civil Procedure §1285 et seq.

8.11.8. Arbitration Fees and Expenses. The expenses and fees of the Arbitrator(s) shall be divided equally among all of the parties to the arbitration. Each party to any arbitration commenced hereunder shall be responsible for and shall bear its own attorneys' fees, witness fees and other costs or expenses incurred in connection with such arbitration. The foregoing notwithstanding, the Arbitrator(s) may award arbitration costs, including Arbitrators' fees but excluding attorneys' fees, to the prevailing party.

8.11.9. Limitation on Arbitrator. The Superior Court for the State of California for the County of Los Angeles has the sole and exclusive jurisdiction, and an arbitrator has no authority, to hear and/or determine a challenge to the commencement or maintenance of an arbitration proceeding on the grounds that: (i) the subject matter of the arbitration proceeding is barred by the applicable statute of limitations; (ii) the subject matter of the arbitration proceeding is barred by a provision of the California Government Claims Act; (iii) the subject matter of the arbitration proceeding is outside the scope of the arbitration clause; (iv) the Contractor has failed to satisfy all conditions precedent to commencement or maintenance of ab arbitration proceeding; or (v) waiver of the right to compel arbitration; (vi) grounds exist for the revocation of the arbitration agreement.

8.12. Limitation on Special/Consequential Damages. In the event of the District's breach or default of its obligations under the Agreement, the damages, if any, recoverable by the Contractor shall be limited to general damages which are directly caused by the breach or default of the District and shall exclude any and all special or consequential damages, if any. The Contractor expressly acknowledges the foregoing limitation to recovery of only general damages from the District if the District is in breach or default of its obligations under the Contract Documents; the Contractor expressly waives and relinquishes any recovery of special or consequential damages from the District.

8.13. Counterparts. This Agreement may be executed in counterparts, each of which shall be deemed an original.

8.14. No Assignment. Neither the District nor the Contractor shall assign this Agreement without the prior consent of the other. The District's consent to the Contractor's assignment may be granted, denied or conditioned in the sole discretion of the District.

8.15. Entire Agreement. This Agreement (Attachment A), the RFQ/RFP, the RFQ/RFP Response and the following Attachments constitute the entire Agreement and understanding between the Parties concerning the subject matter hereof:

Instructions to RFQ/RFP
Attachment 1: HVAC Preventative Maintenance Services Agreement
Exhibit A: Scope of Work
Exhibit B: Qualifications
Exhibit C: Statement of Non-Conflict of Interest
Exhibit D: Labor and Materials Payment Bond
Exhibit E: Statement of Intent to Meet DVBE Participation Goals
Attachment 2: Proposal Forms
Attachment 2-1: Proposal Certifications
Attachment 2-2: Proposal Form
Attachment 2-3: HVAC Repair Services Hourly Rates

Attachment 2-4: Prevailing Wage and Related Requirements Certification
Attachment 2-5: Insurance Documents & Endorsements
Attachment 2-6: Workers' Compensation Certification
Attachment 2-7: Contractor's Certificate Regarding Drug-free Workplace Certification
Attachment 2-8: Contractor's Certificate Regarding Alcoholic Beverage and Tobacco-free Campus Policy
Attachment 2-9: Criminal Background Investigation/Fingerprinting Certification
Attachment 2-10: Local Hire and Local Business Information
Attachment 2-11: Supplemental Conditions
Exhibit F: Site Maps
Exhibit G: Plans and Specifications

The foregoing notwithstanding, if there is any conflict or inconsistency between the terms of this Agreement and any portion of the RFQ/RFP Response, the terms of this Agreement shall govern and prevail. This Agreement supersedes and replaces all prior verbal and written negotiations, understandings and/or agreements of the Parties relating to the subject matter hereof. This Agreement may be amended only by written instrument duly executed by or on behalf of the Parties.

IN WITNESS HEREOF, the Parties have executed this Agreement as of the date set forth above.

CONTRACTOR: By: _____ Print Name: _____ Its: _____ Date: _____ Address: _____ _____ Phone: _____ Tax ID: _____ E-mail: _____ DIR NO: _____		**DISTRICT:** RANCHO SANTIAGO COMMUNITY COLLEGE DISTRICT By: _____ Title: Iris I. Ingram, Vice Chancellor Business Services Date: _____

COPIES TO:

GENERATING OFFICE
Rancho Santiago Community College District

2323 N. Broadway, Suite 112
Santa Ana, CA 92706
Carri M. Matsumoto, Assistant Vice Chancellor
Facility Planning, District Construction and Support Services

Exhibit A: Scope of Work

RFQ/RFP #2122-323 HVAC Preventative Maintenance Services at the District Operations Center

General Scope of Services

This scope of work provides the equipment list and schedule for the Rancho Santiago Community College District's HVAC system at the District Operations Center. The selected Contractor is to provide comprehensive preventative maintenance and repair services for all equipment listed in this scope of work. The selected contractor will notify the District of any and all repairs needed or recommended. The repairs will be performed per proposed hourly rate submitted by the contractor in the RFQ/RFP response. The District will authorize repairs and allowance expense after proper notification by the contractor.

Task Checklist and Outline

All preventative maintenance tasks are to be documented in the RSCCD's Onuma Preventative Maintenance program. The selected contractor will provide a task list for all equipment listed in work scope that documents the completion of the task per the provided schedule. Forms shall include inspection procedures required to maintain the systems at maximum performance and meet manufacture's maintenance requirements.

It is the successful contractor's responsibility to develop a preventative maintenance program based on the requirements below along with the equipment manufacturer's recommended maintenance procedures.

District Operations Center HVAC Equipment List Summary (Refer to detailed list for additional information)

Quantity	Unit Description	Manufacture	Model No.	Serial No.	Room	PM Schedule
1	Boiler	RayPak	H9-1532B	1604420683	503	(2) times a year
1	Hot Water Pump	Bell & Gossett	1 1/48C	TBD	503	(4) times a year
1	Condenser Water Pump	Bell & Gossett	1510	1B086LFF41	504	(2) times a year
1	Chilled Water Pump	Bell & Gossett	1510	1BF087LF	504	(2) times a year
1	Water Cooled Chiller	Multistack	MS80T1H2W-V	JD-06-25	504	(12) times a year
1	Air Handler w/ 2 Supply Fans and Motors	Temtrol	WF-DH137PL	77982	502	(4) times a year
2	Economizer	Custom	N/A	N/A	505	(4) times a year
1	Cooling Tower	Evapco	LPT5612	14691556	504	(12) times A year
2	CRAC Air Handler	Liebert	PX018UA1CPS155		250	(2) times a year
2	CRAC Condenser Unit	Liebert	MSM040E1YD0W225		250	(2) times a year
As noted below	Various Exhaust Fans + Makeup Air Fan	Various	Various	Unknown	Various	(1) time a year
1	DX Split AC Unit	Liebert PDX	MM018A-P000	209N60571	1st Fl	(2) times per year
1	Tankless Water Heater	Noritz	NRC 111		503	(1) time per year

1	Domestic Water Pump	Syncroflo	22DL03XX-3V-SWF-	340547	1st Fl	(2) times a year
As noted below	Filters	Various	N/A	N/A	Various	As noted below
6	VFD	ABB	Various	Various	Various	(1) time per year
49	Fire/Smoke Dampers	Various	Various	Various	Various	(1) time per year
35	VAV Boxes	Various	Various	Various	Various	(1) time per year
60	VAV Reheat & Valves	Various	Various	Various	Various	(1) time per year

Detailed List of Equipment

1. Boiler

A. Manufacturer: Ray Pak, Model: H9-1532B, Serial No.: 1604420683, Quantity: 1

B. Preventative Maintenance: **2** times per year (semiannual) Check boiler and system for leaks.

1) Check flame signal strength for both pilot and main flame. Check igniter and burner operation.
2) Check main burner fuel safety shutoff valves for leakage. Check high pressure/temperature interlocks.
3) Manually lift safety valve by hand.
4) Check pressure reducer valve (PRV).
5) Inspect burner components.
6) Check flame failure system components.
7) Check piping and wiring of all interlocks and shutoff valves. Recalibrate all instruments, indicating and recording gauges. Perform a slow drain test for low water cut-off.
8) Check combustion control system.
9) Test boiler safety valves according to ASME.

2. Hot Water Inline Pump

A. Manufacturer: Bell & Gossett, Model: #1 1/48C, Serial No.: TBD, Quantity: 1

B. Preventative Maintenance: **4** times per year (1x per quarter)

1) Lubricate drive motors utilizing means and methods prescribed by the equipment manufacturer.
2) Check all electrical connections and service as needed.
3) Check variable frequency drives and service per manufacturer's recommendations (if applicable).
4) Check motor starters, contactors and overloads for proper operation and condition, service, repair or replace as needed.
5) Check motor temperatures.
6) Check water seals.
7) Verify operation and accuracy of controls. Interlocks and input and output devices associated with the pump.

3. Condenser Water Pump

A. Manufacturer: Bell & Gossett, Model #1510, Serial No.: 1B086LFF41, Quantity: 1

B. Preventative Maintenance: **2** times per year (semiannual)

1) Lubricate drive motors utilizing means and methods prescribed by the equipment manufacturer.
2) Check all electrical connections and service as needed.
3) Check variable frequency drives and service per manufacturer's recommendations (if applicable).
4) Verify operation and accuracy of controls, interlocks and input and output devises associated with the pump.
5) Submit report stating existing conditions and any additional repairs or modifications that may be required.
6) Check motor temperatures.

7) Check water seals.
8) Check motor starters, contactors and overloads for proper operation and condition service, repair or replace as needed.

4. Chilled Water Pump

A. Manufacturer: Bell & Gossett, Model: 1510, Serial No.: 1BF087LF, Quantity: 1
B. Preventative Maintenance: **2** times per year (semiannual)
   1) Lubricate drive motors utilizing means and methods prescribed by the equipment manufacturer.
   2) Check all electrical connections and service as needed.
   3) Check motor starters, contactors and overloads for proper operation and condition, service, repair or replace as needed.
   4) Check variable frequency drives and service per manufacturer's recommendations (if applicable).
   5) Verify operation and accuracy of controls, interlocks and input and output devises associated with the pump.
   6) Submit report stating existing conditions and any additional repairs or modification that may be required.
   7) Check motor temperatures.
   8) Check water seals.

5. Multistack Chiller System (Water Cooled System) – ONLY FILTER CLEANING

A. Manufacturer: MULTSTACK Model: MS80T1H2W-V, Serial No.: JD-06-25, Quantity: 1
B. Preventative Maintenance: **Monthly** 12 times per year
   1) Clean filter cartridges
   2) Check auto blow down settings
   3) Turn-of chillers and condensers, drain the condenser and header pipe
   4) Remove the filters
   5) Install backup clean filters and re-fill the system and restart the system
   6) Clean filters with hose, power washer, or wire brush
   7) Check pressure differential between inlet and outlets of condensors

6. Air Handler

A. Manufacturer: Temtrol, Model: WF-DH137PL, Serial No.: 77982, Quantity: 1
B. Preventative Maintenance: **4** times per year (1x per quarter)
   1) Perform a visual inspection and check for unusual noise or vibration.
   2) Check for particulate accumulation on filters.
   3) Check associated Variable Speed Drive and service per manufacturer's recommendations. Contractor is to provide a separate task list for annual VFD inspections. Inspections must be conducted by a manufacturer certified technician. **(See inventory table for frequency)**
   4) Inspect cooling coils and clean as required.
   5) Inspect drain pan, condensate drain line and trap. Clean and renew pan chemical.
   6) Check piping serving unit for damage or deterioration, replace or repair as needed, and repair or replace damaged insulation on piping.
   7) Check operation of chilled water control valves, check position feedback for accuracy, and calibrate, repair or replace as needed.
   8) Inspect fan wheels for damage. Clean at least one per year and as needed.
   9) Inspect drive sheaves for wear and damage. Repair or replace as needed.
   10) Check belt condition, alignment, and tension. Repair or replace as required.
   11) Lubricate motor and blower bearings as required **(twice per year).**
   12) Check bearing and motor mounting. Service as needed.
   13) Check motor operating voltage and amperages. Record readings.
   14) Check variable frequency drive and service per manufacturer's recommendations.
   15) Check electrical connections, motor starters, relay overload and associated electrical equipment for condition and proper operation. Service, repair or replace as needed.

16) Check dampers for proper operation and adjust, if necessary or applicable.
17) Check equipment interlocks in the ALC controls.
18) Replace and properly secure any doors or access panels removed during inspection.
19) Maintain service records and record conditions for each piece of equipment. Attach reports with service ticket closeout.
20) Submit report stating existing conditions and any additional repairs or modifications that may be required.

7. Economizer

A. Manufacturer: N/A, Quantity: 1
B. Preventative Maintenance: **4** times per year (1x per quarter)
   1) Perform a visual inspection, check all louvers and dampers for unusual noise or vibration.
   2) Blades should be checked in a closed position to insure tight closured.
   3) Check all blades for freedom of movement. Blades should be disconnected from their operators and manually checked.
   4) Check all linkage, pins, bushings, connection bars and operator connectors for proper alignment, fit, wear, corrosion or rust.
   5) Check motor dampers through an operation cycle to ensure the HVAC system controls are properly sending and receiving commands.

8. Cooling Tower

A. Manufacturer: Evapco, Model: LPT5612, Serial No.: 14691556, Quantity: 1
B. Preventative Maintenance: **12** times per year (1x per month).
   1) Inspect, clean and service makeup valve and valve control.
   2) Lubricate fan drive motor (one (1) time per year.
   3) Verify operation and accuracy of controls, interlocks, input and output devices associated with the tower and tower operation.
   4) Check associated Variable Speed Drive and service per manufacturer's recommendations. Contractor is to provide a separate task list for annual VFD inspections. Inspections must be conducted by a manufacturer certified technician. (See inventory table for frequency)
   5) Check all electrical connections (one (1) time per year).
   6) Inspect blown down or drain valve. Clear all debris and ensure proper operation.
   7) Submit report stating existing conditions and any additional repairs or modifications that may be required.
   8) Drain, flush, and refill monthly.
   9) Remove foreign matter and scale.
   10) Check fan rotation.
   11) Check all motors and belts.

9. Computer Room Air Conditioning Unit (CRAC) Air Handler Unit

A. Manufacturer: Liebert, Model: PX018UA1CPS155, Serial No. N/A, Quantity: 2
B. Preventative Maintenance: **2** times per year (semiannual)
   1) Perform Monthly and Semi Annual per manufacture's recommendations
   2) Check oil level and check for oil leaks
   3) Check compressor mounts
   4) Clean coil and check fans for debris
   5) Check/Re-torque wire connections
   6) Check all refrigerant lines for leaks and vibration isolation
   7) Check blower fan impeller, check sail switch
   8) Check motor amp draw and compare with nameplate
   9) Charge refrigerant pressures
   10) Check operation sequence/set points
   11) Perform a visual inspection and check for unusual noise or vibration.
   12) Check tension, condition and alignment of blower belts. Adjust or replace as necessary.
   13) Check condition of condensate removal system and components. Service or repair as needed.

14) Check all operating and safety controls.
15) Replace and properly secure any doors or access panels removed during inspection.
16) Change filters

10. Computer Room Air Conditioning Unit (CRAC) Condenser Unit

A. Manufacturer: Liebert, Model: MSM040E1DOW225, Serial No. N/A, Quantity: 2
B. Preventative Maintenance: **2** times per year (semiannual)
   1) Perform Monthly and Semi Annual per manufacture's recommendations
   2) Check/Replace filters
   3) Clean coil and condensate pan, condensate drain
   4) Check/Test filter clog switch operation
   5) Check blower fan impeller, check sail switch
   6) Check motor amp draw and compare with nameplate
   7) Check contactors for pitting
   8) Check condenser fan motor mounts, motor(s), and blade(s) for damage.
   9) Check refrigerant system pressures and temperatures.
   10) Check oil level in compressor (where applicable).
   11) Check control systems and devised for proper operation.
   12) Check fan blades and fan housing. Clean or replace as needed to ensure proper operation.
   13) Inspect blower assembly components for wear or damage. Correct or repair as needed. Lubricate motor and blower bearings if applicable.
   14) Submit report stating existing conditions and any additional repairs or modifications that may be required.

11. Building Static Exhaust Fans

A. Manufacturer: Greenheck, Model: LBP, Serial Nos.: Unknown, Quantity: 2
B. Preventative Maintenance: **1** time per year
   1) Check operation of the units.
   2) Check associated Variable Speed Drive and service per the manufacturer's recommendations.
   3) Check electrical wiring and electrical components for proper operation.
   4) Check operation of the control circuit and the system interlocks.
   5) Inspect fan wheel or blades for damage.
   6) Inspect shaft and motor bearings.
   7) Verify proper pulley alignment.
   8) Inspect belts and replace as required.
   9) Verify proper fan belt tension.
   10) Lube all motors and bearings.
   11) Brush clean fan wheel or blades.
   12) Check all associated dampers and damper assemblies for proper operation. Clean and lubricate per manufacturer's recommendations. This includes the gravity dampers, intake, and exhaust dampers. On motor driven dampers, exercise the dampers. Check for full range of motion without binding. Check position feedback for accuracy. Service and repair as needed.
   13) Measure motor voltage and amperage.
   14) Verify integrity of housing and connections.
   15) Inspect starter/contractor and associated wiring including electrical connections for tightness. Replace or repair as needed.
   16) Check associated Variable Speed Drive and service per manufacturer's recommendations. Contractor is to provide a separate task list for annual VFD inspections. Inspections must be conducted by a manufacturer certified technician. (See inventory table for frequency)
   17) Assess field-serviceable bearing. Lubricate as necessary.
   18) Visually inspect exposed ductwork and external piping.
   19) Maintain service records and record conditions for each piece of equipment.
   20) Submit report stating existing conditions and any additional repairs or modifications that may be required.

12. Electrical Room Exhaust Fans

A. Manufacturer: Broan, Model: L300, Serial Nos.: Unknown, Quantity: 4 (one per floor)
B. Preventative Maintenance: **1** time per year
   1) Check operation of the units.
   2) Check electrical wiring and electrical components for proper operation.
   3) Check operation of the control circuit and the system interlocks.
   4) Inspect fan wheel or blades for damage.
   5) Inspect shaft and motor bearings.
   6) Lube all motors and bearings.
   7) Brush clean fan wheel or blades.
   8) Measure motor voltage and amperage.
   9) Verify integrity of housing and connections.
   10) Assess field-serviceable bearings. Lubricate as necessary.
   11) Visually inspect exposed ductwork and external piping.
   12) Maintain service records and record conditions for each piece of equipment.

13. Kitchen Exhaust Fan

A. Manufacturer: Greenheck, Model: USA-160-IMJK-OD, Serial No.: 98C06213, Quantity: 1
B. Preventative Maintenance: **1** time per year
   1) Check operation of the unit.
   2) Check electrical wiring and electrical components for proper operation.
   3) Check operation of the control circuit and the system interlocks.
   4) Inspect fan wheel or blades for damage.
   5) Inspect shaft and motor bearings.
   6) Verify proper pulley alignment.
   7) Inspect belts and replace as required.
   8) Verify proper fan belt tension.
   9) Lube all motors and bearings.
   10) Brush clean fan wheel or blades.
   11) Measure motor voltage and amperage.
   12) Verify integrity of housing and connections.
   13) Inspect starter/contractor and associated wiring including electrical connections for tightness, replace or repair as needed.
   14) Assess field-serviceable bearings. Lubricate as necessary.
   15) Visually inspect exposed ductwork and external piping.
   16) Maintain service records and record conditions for each piece of equipment.

14. 1st Floor Restroom Exhaust Fan

A. Manufacturer: Greenheck, Model: CSP-250, Serial No.: 97K07074, Quantity: 1
B. Preventative Maintenance: **1** time per year
   1) Check operation of the unit.
   2) Check electrical wiring and electrical components for proper operation.
   3) Check operation of the control circuit and the system interlocks.
   4) Inspect fan wheel or blades for damage.
   5) Inspect shaft and motor bearings.
   6) Verify proper pulley alignment.
   7) Inspect belts and replace as required.
   8) Verify proper fan belt tension.
   9) Lube all motors and bearings.
   10) Brush clean fan wheel of blades.
   11) Measure motor voltage and amperage.
   12) Verify integrity of housing and connections.
   13) Inspect starter/contractor and associated wiring including electrical connections for tightness. Replace or repair as needed.
   14) Assess field-serviceable bearings. Lubricate as necessary.
   15) Visually inspect exposed ductwork and external piping.
   16) Maintain service records and record conditions for each piece of equipment.

15. Main Building Restroom Exhaust Fan

A. Manufacturer: Marathon, Model: 6VN182TTDB4D26A, Serial No.: None, Quantity: 1
B. Preventative Maintenance: **1** time per year
   1) Check operation of the unit.
   2) Check electrical wiring and electrical components for proper operation.
   3) Check operation of the control circuit and the system interlocks.
   4) Inspect fan wheel or blades for damage.
   5) Inspect shaft and motor bearings.
   6) Verify proper pulley alignment.
   7) Inspect belts and replace as required.
   8) Verify proper fan belt tension.
   9) Lube all motors and bearings.
   10) Brush clean fan wheel or blades.
   11) Measure motor voltage and amperage.
   12) Verify integrity of housing and connections.
   13) Inspect starter/contractor and associated wiring including electrical connections for tightness, replace, or repair as needed.
   14) Assess field-serviceable bearings. Lubricate as necessary.
   15) Visually inspect exposed ductwork and external piping.
   16) Maintain service records and record conditions for each piece of equipment.

16. Edison Makeup Air Fan

A. Manufacturer: Dayton, Model: CG03, Serial No.: U5P2D, Quantity:1
B. Preventative Maintenance: **1** time per year
   1) Check operation of the unit.
   2) Check electrical wiring and electrical components for proper operation.
   3) Check operation of the control circuit and the system interlocks.
   4) Inspect fan wheel or blades for damage.
   5) Inspect shaft and motor bearings.
   6) Verify proper pulley alignment.
   7) Inspect belts and replace as required.
   8) Verify proper fan belt tension.
   9) Lube all motors and bearings.
   10) Brush clean fan wheel or blades.
   11) Measure motor voltage and amperage.
   12) Verify integrity of housing and connections.
   13) Inspect starter/contractor and associated wiring including electrical connections for tightness.
   14) Assess field-serviceable bearings. Lubricate as necessary.
   15) Visually inspect exposed ductwork and external piping.
   16) Maintain service records and record conditions for each piece of equipment.

17. Electrical Room 1st Floor DX Unit

A. Manufacturer: Liebert, Model: MM018A-P0000, Serial No.: 209N60571, Quantity: 1
B. Preventative Maintenance: **2** times per year
   1) Perform a visual inspection, check for unusual noise or vibration.
   2) Check condenser coil for fin damage. Straighten bent fins as needed.
   3) Check all operating and safety controls.
   4) Replace and properly secure any doors or access panels removed during inspection.
   5) Maintain service records and record conditions for each piece of equipment.
   6) Check refrigerant circuit for leaks.
   7) Check refrigerant system pressures and temperatures.
   8) Check condenser fan motor mounts, motor(s), and blade(s) for damage. Repair as needed. Lubricate motor bearings if applicable.
   9) Check control systems and devices for proper operation.
   10) Change filters (20x20x1) (See Filter Requirements Table).

11) Check condition of condensate removal system and components. Service or repair as needed.

18. Tankless Water Heater Model: Noritz NRC111

A. Manufacturer: Noritz, Quantity: 1

B. Preventative Maintenance: **1** time per year

1) Check venting system for any leaks or corrosion.
2) Check burner flame for a proper blue color and consistency.
3) Check and clean gas manifold
4) Check for obstruction in flow of combustion and ventilation air.
5) Operate pressure relief valve once a year.
6) Check and clean water line filters
7) Clean flame rod, sensor and ignition plug annually
8) Inspect and clean fan
9) Descale water tank annually

19. Domestic Water Pumping System

A. Manufacturer: SyncroFlo Quantity: 1

B. Preventative Maintenance: **2** time per year

1) Check for excessive noise and vibration
2) Visually inspect motor casing and base for abnormalities
3) Visually inspect electrical connections
4) Lubricate motor and pump bearings
5) Check temperatures and operating pressure
6) Check pump bearings for unusual operating temperatures
7) Check pump seal for excessive leakage

20. Air Filter Change Requirements

1) Filter changing frequency and filter types are listed in the Filter Requirements Chart.

FILTER REQUIREMENTS			
Quantity	**Size**	**Type**	**Replacement Frequency**
(5)	24x24x2	Standard/Pleated	(4) times per year
(35)	12x24x2	Standard/Pleated	(4) times per year
(5)	24x24x12	MERV 13 Pleated Filter	(1) time per year
(35)	12x24x12	MERV 13 Pleated Filter	(1) time per year

21. Variable Speed Drives (VFD)Preventive Maintenance

A. Manufacturer: ABB, Quantity: 5

B. Preventive Maintenance: **1** time per year

1) Variable frequency drives are to be serviced per manufacturer recommendations.
2) VFD's manufacturer, model and serial number and location are listed in VFD chart.

ABB Preventive Maintenance Minimum Recommendations

Recommended annual actions by the user	
Connections and environment	
Cabinet door filters IP54	**R**
Quality of supply voltage	**P**
Spare parts	
Spare parts	**I**
DC circuit capacitors reforming, spare modules and spare capacitors	**P**
Inspections by user	
IP22 and IP42 air inlet and outlet meshes	**I**
Tightness of terminals	**I**
Dustiness, corrosion and temperature	**I**
Heat sink cleaning	**I**
Other	
ABB-SACE Air circuit breaker maintenance	**I**

Legend

- **I** **Inspection** (visual inspection and maintenance action if needed)
- **P** **Performance** of on/off-site work (commissioning, tests, measurements or other work)
- **R** **Replacement**

Variable Frequency Drive Inventory

Quantity	Description	Manufacture	Model No.	Serial No.	Located/Area Servicing	PM Schedule
1	VFD #1	ABB	ACH550-VCR-072A-4	Missing	Air Handler	(1) time a year
1	VFD #2	ABB	ACH550-VCR-072A-4	Missing	Air Handler	(1) time a year
1	VFD #3	ABB	ACH5401600532	Missing	Exhaust Ventilator #1	(1) time a year
1	VFD #4	ABB	ACH401600532	1984601219	Exhaust Ventilator #2	(1) time a year
1	VFD #5	ABB	ACH550-VCR-072A-4	Missing	Cooling Tower	(1) time a year

22. <u>Smoke Duct Fire Dampers and Actuators</u>

A. Manufacturer: Various, Quantity: (49) (25 – Electric; 24 – Mechanical)

B. Preventive Maintenance: **1** time per year

1) Observe damper motors and actuators through an operating cycle to check for defects or binding.
2) Linkages from actuators should be adjusted to insure blades fully open and close within the stroke or travel of the actuator
3) Blades should be checked in closed position to be sure all close tightly. Adjust as necessary.
4) Damaged blades should be replaced. Dirt, soot, lint should be removed
5) Check blade edge and side seal. Replace as necessary
6) Check pins, bushings for wear, rust and corrosion
7) Lubricate all mechanisms and moving parts
8) Caulking where used to make damper frames tight to structure should be checked and repaired as needed
9) See Fire Damper Chart Below

Fire Duct Damper Chart

DAMPER	TYPE	DAMPER	TYPE	DAMPER	TYPE	DAMPER	TYPE
1-001	Electric	2-001	Electric	3-001	Mechanical	4-001	Electric
1-002	Electric	2-002	Electric	3-002	Mechanical	4-002	Electric
1-003	Electric	2-003	Electric	3-003	Electric	4-003	Mechanical
1-004	Mechanical	2-004	Electric	3-004	Electric	4-004	Electric
1-005	Mechanical	2-005	Mechanical	3-005	Mechanical	4-005	Mechanical
1-006	Electric	2-006	Mechanical	3-006	Mechanical	4-006	Mechanical
1-007	Electric	2-007	Mechanical	3-007	Mechanical	4-007	Mechanical
1-008	Electric	2-008	Mechanical	3-008	Mechanical	4-008	Electric
1-009	Mechanical	2-009	Mechanical	3-009	Mechanical	4-009	Electric
		2-010	Mechanical	3-010	Electric	4-010	Electric
		2-011	Mechanical	3-011	Electric	4-011	Electric
		2-012	Mechanical	3-012	Electric		
		2-013	Mechanical	3-013	Electric		
		2-014	Mechanical				
		2-015	Electric				
		2-016	Electric				

23. HVAC Variable Air Volume (VAV) Boxes, Reheat Coils and Hot Water Valves

A. Manufacture: Various Quantity: (95) (60)- Reheat (35) - No Reheat

B. Perform annual preventive maintenance tasks per VAV PM Task List Chart below

Note: The District will assist Contractor with building automation control adjustments to complete PM tasks.

VAV Preventive Maintenance Task List

Component	Action	Annually
VAV Box – Duct Connections	Check VAV box duct connections for leakage or movement. Verify that hangers and mountings are secure.	X
VAV Box Zone Temperature Sensor (Thermostat)	Verify function and accuracy (compared to calibrated value). Check signal to controller to verify corresponding control, damper action, and minimum setting.	X
VAV Box – Airflow Sensor	Verify function of flow sensor (compared to calibrated value) and corresponding control of box damper. Clean sensor per manufacturer's recommendations.	X
VAV Box – Controls	Verify function by technology type and per manufacturer's recommendations: Pneumatic – check for air leaks in hoses and fittings. Electronic – check for proper electrical connections. Direct Digital Control (DDC) – check for proper connections corresponding to damper action.	
VAV Box – Damper	Check seals and alignment in duct.	X
VAV Box – Damper Linkage and Control	Check linkage for tension and position relative to control point. Lubricate per manufacturer's recommendation. Verify minimum and maximum positions are correct.	X
VAV Box – Filter (if present)	Check, clean, and/or replace filters on all fan-powered VAV boxes. Change per manufacturer's recommendations.	X
VAV Box – Hydronic Reheat (if present)	Check and clean reheat coil using spray cleaner, wire brush and air pressure. **Check control valve and fittings for water leaks**, and check coil for cleanliness and fin condition.	X

District Operations Center VAV Inventory List

		BOX INFORMATION								REHEAT VALVES			
Item#	Floor / Rm #	Zone # (Tag #)	Served By	AAR Addres	CM Address	Box Size	Cool Max CFM	Heat Max CFM	Cool/Heat Min CFM	Valve+Actuator #	Valve Size	Config. Type	Proportional/ Float./On-Off
1	1st Floor / 2446	VAV1-1	AHU-1	11	1	10	730	100	100	B-211+LR24	1/2"	2-Way	Floating
2	1st Floor / 2183	VAV1-2	AHU-1	11	2	8	500	80	80	B-210+LR24	1/2"	2-Way	Floating
3	1st Floor / 2324	VAV1-3	AHU-1	11	3	10	970	210	210	B-211+LR24	1/2"	2-Way	Floating
4	1st Floor / 2194	VAV1-4	AHU-1	11	4	16	2910	460	460	B-213+LR24	1/2"	2-Way	Floating
5	1st Floor / 2244	VAV1-5	AHU-1	11	5	12	1360	350	350	B-212+LR24	1/2"	2-Way	Floating
6	1st Floor / 2113	VAV1-6	AHU-1	11	6	16	2450	530	530	B-313+LR24	1/2"	2-Way	Floating
7	1st Floor / 2363	VAV1-7	AHU-1	11	7	10	1000	250	250	B-311+LR24	1/2"	3-Way	Floating
8	1st Floor / 2265	VAV1-8	AHU-1	11	8	16	3200	530	530	B-213+LR24	1/2"	2-Way	Floating
9	1st Floor / 2261	VAV1-9	AHU-1	11	9	14	2120	330	330	B-212+LR24	1/2"	2-Way	Floating
10	1st Floor / 2325	VAV1-10	AHU-1	11	10	10	960	210	210	B-211+LR24	1/2"	2-Way	Floating
11	1st Floor / 2390	VAV1-11	AHU-1	11	11	10	1090	500	500	B-211+LR24	1/2"	2-Way	Floating
12	1st Floor / 2409	VAV1-12	AHU-1	11	12	8	660	210	210	B-210+LR24	1/2"	2-Way	Floating
13	1st Floor / 2233	VAV1-13	AHU-1	11	13	8	650	80	80	B-210+LR24	1/2"	2-Way	Floating
14	1st Floor / 2259	VAV1-14	AHU-1	11	14	6	400	220	220	B-209+LR24	1/2"	2-Way	Floating
15	1st Floor / 2493	VAV1-15	AHU-1	11	15	6	300	80	80	B-209+LR24	1/2"	2-Way	Floating
16	1st Floor / 2131	VAV1-16	AHU-1	11	16	8	480	-	120				
17	1st Floor / 2198	VAV1-17	AHU-1	11	17	12	1440	-	360				
18	1st Floor / 2280	VAV1-18	AHU-1	11	18	10	730	120	120	B-211+LR24	1/2"	2-Way	Floating
19	1st Floor / 2301	VAV1-19	AHU-1	11	19	8	460	-	190				
20	1st Floor / 2398	VAV1-20	AHU-1	11	20	12	1210	-	120				
21	1st Floor / 2460	VAV1-21	AHU-1	11	21	8	430	110	110	B-210+LR24	1/2"	2-Way	Floating
22	1st Floor / 2132	VAV1-22	AHU-1	11	22	10	800	-	120				
23	1st Floor / 2266	VAV1-23	AHU-1	11	23	6	100	30	30	B-209+LR24	1/2"	2-Way	Floating

		BOX INFORMATION								REHEAT VALVES			
Item#	Floor / Rm #	Zone # (Tag #)	Served	AAR Address	CM Address	Box Size	Cool Max CFM	Heat Max CFM	Cool/Heat Min CFM	Valve+Actuator #	Valve Size	Config. Type	Proportional /
1	2nd Floor / 2329	VAV2-1	AHU-	12	1	12	1570	400	400	B-212+LR24	1/2"	2-Way	Floating
2	2nd Floor / 2297	VAV2-2	AHU-	12	2	14	1840	630	630	B-212+LR24	1/2"	2-Way	Floating
3	2nd Floor / 2211	VAV2-3	AHU-	12	3	12	1500	340	340	B-312+LR24	1/2"	2-Way	Floating
4	2nd Floor / 2361	VAV2-4	AHU-	12	4	12	1500	340	340	B-212+LR24	1/2"	2-Way	Floating
5	2nd Floor / 2358	VAV2-5	AHU-	12	5	12	1360	300	300	B-212+LR24	1/2"	2-Way	Floating
6	2nd Floor / 2130	VAV2-6	AHU-	12	6	6	400	90	90	B-209+LR24	1/2"	2-Way	Floating
7	2nd Floor/250	VAV2-7	AHU-	12	7	14	xxx	xxx	xxx				
8	2nd Floor / 2119	VAV2-8	AHU-	12	8	12	1520	340	340	B-211+LR24	1/2"	2-Way	Floating
9	2nd Floor / 2401	VAV2-9	AHU-	12	8	14	1520	340	340	B-212+LR24	1/2"	2-Way	Floating
10	-	VAV2-10	NOT USED										
11	2nd Floor / 2406	VAV2-11	AHU-	12	11	8	640	100	100	B-310+LR24	1/2"	3-Way	Floating
12	2nd Floor / 2195	VAV2-12	AHU-	12	12	12	1570	270	270	B-212+LR24	1/2"	2-Way	Floating
13	2nd Floor / 2306	VAV2-13	AHU-	12	13	12	840	190	190	B-212+LR24	1/2"	2-Way	Floating
14	2nd Floor / 2424	VAV2-14	AHU-	12	14	10	500	-	110				
15	2nd Floor / 2549	VAV2-15	AHU-	12	15	6	300	-	80				
16	2nd Floor / 2303	VAV2-16	AHU-	12	16	14	1960	-	490				
17	2nd Floor/201	VAV2-17	AHU-	12	17	14	xxx	xxx	xxx	B-209+LR24	1/2"	2-Way	Floating
18	2nd Floor / 2299	VAV2-18	AHU-	12	18	12	1380	-	350				
19	2nd Floor / 2128	VAV2-19	AHU-	12	19	14	1910	-	480				
20	2nd Floor /221	VAV2-20	AHU-	12	20	14	xxx	xxx	xxx				
21	2nd Floor / 2164	VAV2-21	AHU-	12	21	10	740	100	100	B-211+LR24	1/2"	2-Way	Floating
22	2nd Floor / 2263	VAV2-22	AHU-	12	22	12	1500	340	340	B-212+LR24	1/2"	2-Way	Floating
23	2nd Floor / 2281	VAV2-23	AHU-	12	23	6	420	110	110	B-209+LR24	1/2"	2-Way	Floating
24	2nd Floor / 2360	VAV2-24	AHU-	12	24	10	1400	700	700	B-211+LR24	1/2"	2-Way	Floating
25	2nd Floor / 2360	VAV2-25	AHU-	12	25	14	xxx	xxx	xxx	B-209+LR24	1/2"	2-Way	Floating

		BOX INFORMATION								REHEAT VALVES			
Item#	Floor / Rm #	Zone # (Tag #)	Served By	AAR Addres	CM Address	Box Size	Cool Max CFM	Heat Max CFM	Cool/Heat Min CFM	Valve+Actuator #	Valve Size	Config. Type	Proportional /
1	3rd Floor / 2530	VAV3-1	AHU-1	13	1	14	1690	500	500	B-312+LR24	1/2"	3-Way	Floating
2	3rd Floor / 2214	VAV3-2	AHU-1	13	2	10	740	190	190	B-210+LR24	1/2"	2-Way	Floating
3	3rd Floor / 2258	VAV3-3	AHU-1	13	3	12	900	230	230	B-212+LR24	1/2"	2-Way	Floating
4	3rd Floor / 2147	VAV3-4	AHU-1	13	4	12	1210	320	320	B-212+LR24	1/2"	2-Way	Floating
5	3rd Floor / 2254	VAV3-5	AHU-1	13	5	10	1250	330	330	B-210+LR24	1/2"	2-Way	Floating
6	3rd Floor / 2120	VAV3-6	AHU-1	13	6	10	700	-	180				
7	3rd Floor / 2498	VAV3-7	AHU-1	13	7	6	500	-	110				
8	3rd Floor / 2282	VAV3-8	AHU-1	13	8	12	1480	-	370				
9	3rd Floor / 2169	VAV3-9	AHU-1	13	9	16	2000	500	500	B-312+LR24	1/2"	3-Way	Floating
10	3rd Floor / 2277	VAV3-10	AHU-1	13	10	4	140	-	40				
11	3rd Floor / 2458	VAV3-11	AHU-1	13	11	8	720	180	180	B-210+LR24	1/2"	2-Way	Floating
12	3rd Floor / 2543	VAV3-12	AHU-1	13	12	8	610	-	180				
13	3rd Floor / 2125	VAV3-13	AHU-1	13	13	12	1440	300	300	B-211+LR24	1/2"	2-Way	Floating
14	3rd Floor / 2253	VAV3-14	AHU-1	13	14	12	1440	360	360	B-211+LR24	1/2"	2-Way	Floating
15	3rd Floor / 2154	VAV3-15	AHU-1	13	15	6	360	-	90				
16	3rd Floor / 2256	VAV3-16	AHU-1	13	16	5	250	-	80				
17	3rd Floor / 2313	VAV3-17	AHU-1	13	17	5	250	-	80				
18	3rd Floor / 2213	VAV3-18	AHU-1	13	18	10	600	-	150				
19	-	VAV3-19	NOT USED										
20	3rd Floor / 2449	VAV3-20	AHU-1	13	20	12	830	-	230				
21	3rd Floor / 2168	VAV3-21	AHU-1	13	21	6	450	-	110				
22	3rd Floor / 2160	VAV3-22	AHU-1	13	22	12	1440	370	370	B-212+LR24	1/2"	2-Way	Floating
23	3rd Floor / 2429	VAV3-23	AHU-1	13	23	10	800	-	400				
24	3rd Floor / 2408	VAV3-24	AHU-1	13	24	12	800	-	400				
25	3rd Floor / 2285	VAV3-25	AHU-1	13	25	6	345	90	90		1/2"	2-Way	Floating
26	3rd Floor / 2139	VAV3-26	AHU-1	13	26	-	2670	665	665		1/2"	2-Way	Floating
27	3rd Floor / 2319	VAV3-27	AHU-1	13	27	8	400	-	200				

		BOX INFORMATION								REHEAT VALVES			
Item#	Floor / Rm #	Zone #	Served	AAR	CM	Box Size	Cool	Heat	Cool/Heat	Valve+Actua	Valve	Config.	Proportional
1	4th Floor / 2203	VAV4-7	AHU-1	14	7	10	1080	210	210	B-311+LR24	1/2"	2-Way	Floating
2	4th Floor / 2430	VAV4-8	AHU-1	14	8	12	1540	350	350	B-212+LR24	1/2"	2-Way	Floating
3	4th Floor / 2279	VAV4-9	AHU-1	14	9	12	1500	360	360	B-212+LR24	1/2"	2-Way	Floating
4	4th Floor / 2351	VAV4-10	AHU-1	14	10	10	900	240	240	B-210+LR24	1/2"	2-Way	Floating
5	4th Floor / 2248	VAV4-11	AHU-1	14	11	12	1470	350	350	B-210+LR24	1/2"	2-Way	Floating
6	4th Floor / 2435	VAV4-12	AHU-1	14	12	12	1320	310	310	B-212+LR24	1/2"	2-Way	Floating
7	4th Floor / 2423	VAV4-13	AHU-1	14	13	6	310	130	130	B-209+LR24	1/2"	2-Way	Floating
8	4th Floor / 2464	VAV4-14	AHU-1	14	14	8	620	210	210	B-210+LR24	1/2"	2-Way	Floating
9	4th Floor / 2365	VAV4-15	AHU-1	14	15	10	880	220	220	B-211+LR24	1/2"	2-Way	Floating
10	4th Floor / 2377	VAV4-16	AHU-1	14	16	8	480	120	120	B-210+LR24	1/2"	2-Way	Floating
11	4th Floor / 2339	VAV4-17	AHU-1	14	17	10	960	240	240	B-211+LR24	1/2"	2-Way	Floating
12	4th Floor / 2334	VAV4-18	AHU-1	14	18	12	1680	420	420	B-212+LR24	1/2"	2-Way	Floating
13	4th Floor / 2393	VAV4-19	AHU-1	14	19	8	480	120	120	B-210+LR24	1/2"	2-Way	Floating
14	4th Floor / 2333	VAV4-20	AHU-1	14	20	8	430	140	140	B-210+LR24	1/2"	2-Way	Floating
15	4th Floor / 2260	VAV4-21	AHU-1	14	21	8	660	-	170				
16	4th Floor / 2385	VAV4-22	AHU-1	14	22	6	300	80	80	B-209+LR24	1/2"	2-Way	Floating

Exhibit B: Qualifications Statement
RFQ/RFP #2122- 323
HVAC Preventative Maintenance Services at the District Operations Center

This Qualifications Statement must be completed by each Respondent and executed by an authorized employee of the Respondent. Failure of a Respondent to submit the completed and executed Qualifications Statement concurrently with the Respondent's RFQ/RFP Response will render the RFQ/RFP Response non-responsive and rejected.

1. Respondent Information.

1.1. Respondent Name. _____

1.2. Form of Entity. Check appropriate box.

- ☐ Corporation

  _____
  (State of Incorporation &Corporate Registration No.)
- ☐ Partnership (General Partnership, Limited Partnership)
- ☐ Limited Liability Company
- ☐ Limited Liability Partnership
- ☐ Joint Venture

  _____
  (Identify each member of Joint Venture and form of entity)
- ☐ Sole Proprietorship

1.3. Contact Person.

Name	
Address	
Phone/Fax	
Email	

1.6. Years In Business. The Respondent has provided HVAC Preventative Maintenance services under Respondent's current trade/business name. _____

1.7. Prior Trade/Business Name. Has the Respondent, in the prior ten (10) years conducted business under a trade name or business name that is different than the Respondent's current trade/business name?

- ☐ Yes
- ☐ No

  If "Yes" identify all prior trade/business names used by Respondent in the prior ten (10) years:

  _____.

2. Prior Experience. Provide a summary of HVAC Preventative Maintenance services provided by the Respondent to a California community college district and/or a California K-12 public school district within the past five (5) years for: (i) facilities scheduled and deferred maintenance; (ii) building equipment/systems repairs; (iii) facilities renovations/modernizations; and (iv) capital improvements. Provide the summaries in the

format set forth below. Attach additional summaries as necessary and identify each additional summary by sequential "Assignment No." numbering.

ASSIGNMENT NO. 1	
Client name	
Project description	
General description of HVAC maintenance/repair services completed	
Dates of HVAC maintenance/repair (beginning and end dates)	
Approximate dollar value of HVAC maintenance/repair	
Client Contact Person	Name: _____ Position/Title _____ Address _____ _____ Phone/Fax _____ Email _____

ASSIGNMENT NO. 2	
Client name	
Project description	
General description of HVAC maintenance/repair services completed	
Dates of HVAC maintenance/repair (beginning and end dates)	
Approximate dollar value of HVAC maintenance/repair	
Client Contact Person	Name: _____ Position/Title _____ Address _____ _____ Phone/Fax _____ Email _____

3. <u>Essential Minimum Qualifications</u>. Any Response of a Respondent indicating "not qualified" to the following qualifications criteria will result in rejection of the Respondent's RFQ/RFP Response for failure to meet minimum qualifications criteria.

3.1. Respondent has obtained a current Commercial General Liability policy of insurance with coverage limits of at least One Million Dollars ($1,000,000) per occurrence and Two Million Dollars ($2,000,000) in the aggregate

- ☐ Yes
- ☐ No (not qualified)

3.2. Respondent has obtained a current Workers Compensation policy of insurance with coverage limits in accordance with applicable law.

- ☐ Yes
- ☐ No (not qualified)

3.3. Respondent is ineligible for award of public works contracts pursuant to Labor Code §1777.1 or 1777.7.

- ☐ Yes (not qualified)
- ☐ No

3.4. Has any public agency, within the past ten (10) years conducted proceedings that resulted in a finding that the Respondent or any predecessor to the Respondent is not a "responsible" bidder for a public works projects or a public works contract?

- ☐ Yes (not qualified)
- ☐ No

3.5. At any time during the last ten (10) years, has Respondent or any predecessor to the Respondent been convicted of a crime involving any federal, state, or local law related to a private or public construction project?

- ☐ Yes (not qualified)
- ☐ No

3.6. At any time during the last ten (10) years, has the Respondent or any predecessor to the Respondent been convicted of a federal or state crime involving fraud, theft, or any other act of dishonesty?

- ☐ Yes (not qualified)
- ☐ No

3.7. Within the past ten (10) years, one or more contract(s) to provide work, labor, materials or services to which the Respondent was party to have been terminated for default of the Respondent.

- ☐ Yes (not qualified)
- ☐ No

3.8. Within the past ten (10) years, has the Respondent or any predecessor in interest to the Respondent agreed with any public agency, whether by written instrument or verbally, that the Respondent will not submit bids, proposals or other responses to any request of the public agency for bids or proposals relating to public works, equipment service/maintenance contracts or other similar services?

- ☐ Yes (not qualified)
- ☐ No

4. Experience and Capacity.

4.1. How many years has the Respondent provided HVAC Equipment maintenance and repair services for institutional (commercial, retail, industrial, educational) facilities of over 50,000 square feet? _____

4.2. How many full-time technicians holding EPA Section 608 certifications are employed by the Respondent? _____

4.3. How many HVAC service trucks (including tools and small parts) does the Respondent have available within a twenty-five (25) mile radius of the District? _____

5. Claims and Disputes.

5.1. Respondent Claims and Disputes. The Respondent is presently engaged in a claim, dispute or other disagreement relating to or arising out of a construction contract or equipment maintenance/services contract in which the Respondent is seeking additional compensation.

- ☐ Yes
- ☐ No

If "Yes", on a separate attachment, provide details of each such pending claim, dispute or other disagreement.

5.2. Judgments and Arbitration Awards. Within the past ten (10) years, the Respondent is a party to a judgment entered in a civil proceeding or an arbitration award issued by an arbitrator in a binding arbitration proceeding.

- ☐ Yes
- ☐ No

If "Yes", on a separate attachment, provide details of each such judgment or arbitration award including: (i) parties; (ii) summary of dispute; (iii) summary of judgment or arbitration award.

5.3. General Liability/Automobile Liability Insurance. Within the past ten (10) years have claims been made under the Respondent's general liability insurance policy (whether for personal injury, death, property damage or automobile liability)?

- ☐ Yes
- ☐ No

If "Yes", on a separate attachment, provide details of each such judgment or arbitration award including: (i) parties; (ii) summary of dispute; (iii) summary of judgment or arbitration award.

6. Authority. The undersigned is duly authorized to execute this Qualifications Statement under penalty of perjury on behalf of the above-identified Respondent. The undersigned warrants and represents that he/she has personal knowledge of each of the responses to this Qualifications Statement and/or that he/she has conducted all necessary and

appropriate inquiries to determine the truth, completeness and accuracy of responses to this Qualifications Statement. The undersigned declares and certifies that the responses to this Qualifications Statement are complete and accurate; there are no omissions of material fact or information that would render any response to be false or misleading and there are no misstatements of fact in any of the responses. The above-identified Respondent acknowledges and agrees that if the District determines that any response herein is false or misleading or contains misstatements of fact, the Response shall be deemed non-responsive and the Respondent will not further participate in the RFQ process.

Executed this _____ day of _____, 2022, at _____.

I declare under penalty of perjury under California law that the foregoing it true and correct.

_____
(Signature)

_____
(Name and Title)

Exhibit C: Statement of Non-Conflict of Interest

The undersigned, on behalf of the consulting Firm set forth below (the "Consultant"), does hereby certify and warrant that if selected, the Consultant, while performing the consulting services required by the Request for Qualifications, shall do so as an independent contractor and not as an officer, agent or employee of the Rancho Santiago Community College District ("the District").

(1) No officer or agent of the Consultant has been an employee, officer or agent of the District within the past two (2) years;

(2) The Consultant has not been a source of income to pay any employee or officer of the District within the past twelve (12) months;

(3) No officer, employee or agent of the District has exercised any executive, supervisory or other similar functions in connection with the Consultant Agreement or shall become directly or indirectly interested in the Consultant Agreement;

(4) The Consultant shall receive no compensation and shall repay the District for any compensation received by the Consultant under the Consultant Agreement should the Consultant aid, abet or knowingly participate in violation of this statement; and

(5) During the selection process (from the date the RFQ is issued and ending on the date of the award of the contract), if it is determined that any individual(s) who work(s) and/or represent(s) the Consultant for business purposes communicates, contacts and/or solicits District's Governing Board ("Board"), selection committee members, any members of Citizens' Oversight Committee, or with any employee of the District except for clarification and questions as described herein in Section 1.6 in any fashion, such Consultant shall be disqualified from the RFQ selection process and from participating in any future RFQs and/or RFPs. This may also result in the removal of the Vendor, Firm, Contractor and/or Consultant from any established Pre-qualified list, as well as the removal from the "interested vendors" list.

_____
SIGNATURE

_____
PRINTED NAME

_____
TITLE

_____
DATE

IF CONSULTANT IS UNABLE TO VERIFY THAT NO CONSULTANT EMLOYEES ARE ALSO EMPLOYEES, OFFICERS OR AGENTS OF THE DISTRICT, PLEASE READ SECTION BELOW AND PROVIDE ADDITIONAL INFORMATION ON A SEPARATE SHEET.

(1) Consultants are required to disclose any Consultant's employee, officer or agent who is also an employee of the District. Please provide this information on a separate sheet.

(2) For all "dual employees" disclosed by a Consultant, the Consultant must provide specific details of the general/routine roles and responsibilities of the "dual employee" for the Consultant and the specific duties and responsibilities of the "dual employee" relating to the RFQ/RFP and services required by the RFQ/RFP.

(3) For Consultant who discloses that an employee, officer or agent of the Consultant is also a District employee, the District reserves the right to reject any Proposal based on the roles and responsibilities of the "dual employee" violating BP 7004 or Government Code §1126(a).

Exhibit D: Labor and Material Payment Bond

KNOW ALL MEN BY THESE PRESENTS that we, _____, as Surety and _____, as Principal, are jointly and severally, along with their respective heirs, executors, administrators, successors and assigns, held and firmly bound unto **RANCHO SANTIAGO COMMUNITY COLLEGE DISTRICT** ("the Obligee") for payment of the penal sum_____ Dollars ($_____) in lawful money of the United States, well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally.

THE CONDITION OF THIS OBLIGATION IS SUCH THAT:

WHEREAS, the Obligee, by resolution of its Board of Trustees has awarded to the Principal a Contract for the Work described as **HVAC Preventative Maintenance Services Agreement at the District Operations Center.**

WHEREAS, the Principal, has entered into a Contract with the Obligee for performance of the Work, the Contract and all other Contract Documents set forth therein are incorporated herein by this reference and made a part hereof.

WHEREAS, by the terms of the Contract Documents, the Principal is required to furnish a bond for the prompt, full and faithful payment to any Claimant, as hereinafter defined, for all labor materials or services used, or reasonably required for use, in the performance of the Work.

NOW THEREFORE, if the Principal shall promptly, fully and faithfully make payment: (i) to any Claimant for all labor, materials or services used or reasonably required for use in the performance of the Work; (ii) of amounts due under the Unemployment Insurance Code for work or labor performed under the Contract; and (iii) of amounts required to be deducted, withheld and paid to the Employment Development Department from wages of the employees of the Principal and its Subcontractors under Section 13020 of the Unemployment Insurance Code with respect to work and labor under the Contract then this obligation shall be void; otherwise, it shall be, and remain, in full force and effect.

The term "Claimant" refers to any person, corporation, partnership, proprietorship or other entity including without limitation, all persons and entities described in California Civil Code §9100, providing or furnishing labor, materials or services used or reasonably required for use in the performance of the Work under the Contract Documents, without regard for whether such labor, materials or services were sold, leased or rented. This Bond shall inure to the benefit of all Claimants so as to give them, or their assigns and successors, a right of action upon this Bond.

In the event that suit is brought on this Bond by any Claimant for amounts due such Claimant for labor, materials or services provided or furnished by such Claimant, the Surety shall pay for the same and reasonable attorney's fees pursuant to California Civil Code §9554.

[CONTINUED NEXT PAGE]

The Surety, for value received, hereby stipulates and agrees that no change, extension of time, alteration, deletion, addition, or any other modification to the terms of the Contract Documents, the Work to be performed thereunder, the Specifications or the Drawings, or any other portion of the Contract Documents, shall in any way limit, restrict or otherwise affect its obligations under this Bond; the Surety hereby waives notice from the Obligee of any such change, extension of time, alteration, deletion, addition or other modification to the Contract Documents, the Work to be performed under the Contract Documents, the Drawings or the Specifications of any other portion of the Contract Documents.

IN WITNESS WHEREOF, the Principal and Surety have executed this instrument this _____ day of _____, 2022 by their duly authorized agent or representative.

_____
(Contractor-Principal Name)

By: _____
(Signature)

_____
(Typed or Printed Name)

Title: _____

(Attach Notary Public Acknowledgement of Principal's Signature)

_____
(Surety Name)

By: _____
(Signature of Attorney-In-Fact for Surety)

_____
(Typed or Printed Name of Attorney-In-Fact)

(Attach: (i) Attorney-In-Fact Certification; (ii) Notary Public Acknowledgment of Authorizing Signature on Attorney-Fact Certification; and (iii) Notary Public Acknowledgement of Attorney-In-Fact's Signature)

Contact name, address, telephone number and email address for notices to the Surety

_____
(Contact Name)

_____
(Street Address)

_____
(City, State & Zip Code)

(_____) _____ (_____) _____
Telephone Fax

_____
(Email address)

Exhibit E: Statement of Intent to Meet DVBE Participation Goals

The Rancho Santiago Community College District has a participation goal for disabled veteran business enterprises ("DVBE") of 3 percent, per year.

Set forth below is a list of the anticipated participation of DVBEs which _____ (the "Consultant") intends to use as part of its Agreement for Services, School Facilities Improvement Program (the "Program"). Although it is not specifically required, you are encouraged to include DVBE participation.

Prior to, and as a condition precedent for, final payment under the Agreement for the Program, the Consultant shall provide appropriate documentation to the District identifying the amount paid to DVBEs in conjunction with the Agreement, so that the District can assess its success in meeting the 3 percent goal.

The Consultant anticipates:

(a) that _____ percent of the total dollar amount awarded to the Consultant shall be paid to DVBEs and

(b) using the following DVBE Sub-Consultants:

Names of Sub-consultants:

_____

_____

_____

_____

ATTACHMENT 2: PROPOSAL FORMS
(Checklist of required forms for submission)

2-1 Proposal Certifications

2-2 Proposal Form

2-3 HVAC Repair Services Hourly Rates

2-4 Prevailing Wage and Related Labor Requirements Certification

2-5 Insurance Document & Endorsement

2-6 Workers' Compensation Certification

2-7 Contractor's Certification Regarding Drug-Free Workplace Certification

2-8 Contractor's Certification Regarding Alcoholic Beverage and Tobacco Use

2-9 Criminal Background Investigation/Fingerprinting Certification

2-10 Local Hire and Local Business Information

2-11 Supplemental Conditions

ATTACHMENT 2-1: PROPOSAL CERTIFICATIONS

RANCHO SANTIAGO COMMUNITY COLLEGE DISTRICT:

The undersigned submits this Proposal for HVAC Preventative Maintenance Services at the District Operations Center, RFQ/RFP #2122-323.

1. Preventative Maintenance Services. The proposed pricing to complete HVAC Preventative Maintenance Services (Monthly, Quarterly, Semi-Annually, Annually, and OEM Scheduled Maintenance is set forth in Proposal Attachment 2-2 (Proposal Form).

2. Repair Services. The proposed labor and material charges to complete Repair Services (Routine, Urgent and Emergency) are set for in Proposal Attachment 2-3 (HVAC Repair Services Hourly Rates).

3. RFQ/RFP Requirements. By submitting this Proposal, the Respondent acknowledges the receipt and review of the RFQ/RFP and all addenda thereto. The Respondent acknowledges the understanding of the RFQ/RFP requirements and requirements for completing Preventative Maintenance and Repair Services pursuant to the HVAC Preventative Maintenance Services Agreement. **Receipt of the RFQ/RFP and each and all addenda to the RFQ/RFP must be acknowledged by initials of the Respondent's authorized employee in the following; failure to do so will result in the District's rejection of this Proposal and the Respondent's RFQ/RFP Response for non-responsiveness**.

   ____ Receipt of RFQ/RFP is acknowledged

   ____ Receipt of Addenda Nos. _____ is acknowledged
   (List Every Addenda)

4. Respondent CSLB License. The Respondent is licensed as a contractor by the Contractors' State License Board as a **C-20 (Warm-Air Heating, Ventilating and Air-Conditioning)** Contractor, the respondent's CSLB License No. is _____.

5. Respondent DIR Registration. The Respondent is a DIR Registered Contractor, the Respondent's DIR # is _____.

6. Acknowledgement and Confirmation. By submitting this proposal, the Respondent confirms that it has a full and complete understanding of the HVAC Preventative Maintenance Services required by the RFQ/RFP and the HVAC Preventative Maintenance Services Agreement. The Respondent confirms that it is duly certified, licensed and otherwise qualified to complete the Preventative Maintenance Services subject to the RFQ/RFP. The individual executing this Proposal on behalf of the Respondent is authorized to execute this Proposal on behalf of the Respondent and to bind the Respondent to the foregoing Proposal.

By: _____ Title: _____

ATTACHMENT 2-2: PROPOSAL FORM

PROPOSAL FORM			
Fiscal Year	**Part A: Base Bid Amount Per Fiscal Year** **Numerical Amount**	**Part B: District Allowance**	**Part C: (A + B) Total**
Bid Amount Year One (10 months) 9/1/2022-6/30/2023	**$**	**$ 30,000**	**$**
Bid Amount Year Two (12 months) 7/1/2023-6/30/2024	**$**	**$ 30,000**	**$**
Bid Amount Year Three (12 months) 7/1/2024-6/30/2025	**$**	**$ 30,000**	**$**
Bid Amount Year Four (12 months) 7/1/2025-6/30/2026	**$**	**$ 30,000**	**$**
Bid Amount Year Five (12 months) 7/1/2026-6/30/2027	**$**	**$ 30,000**	**$**
Total Base Bid Amount for (58 Month) Duration plus Total Allowances **Calculated Below**			
Column Total Fiscal Years	**Column Total Part A**	**Column Total Part B**	**Column Total Part C**
Year One - Year Five	**$**	**$150,000**	**$**
Column Total Part C	Written: _____ Dollars		

DISTRICT ALLOWANCE. The Contract will include an annual Allowance in the amount of $30,000 per year. The allowance shall be used solely at the District's discretion, pre-approved in writing, for any repairs to the building's HVAC system and to address mechanical deficiencies discovered during the course of the maintenance services.

ATTACHMENT 2-3: HVAC Repair Services Hourly Rates

HVAC Repair Services Hourly Rates (*)				
Fiscal Year	**Personnel Title/Description**	**Normal Hours Hourly Rate (Fully Burdened w/no OH & P)**	**Overtime Hourly Rate (Fully Burdened w/no OH & P)**	**Double-Time Hourly Rate (Fully Burdened w/no OH & P)**
Example 7/1/2022-6/30/2023	*Example HVAC Service Repair Technician*	*Example $50.00*	*Example $70.00*	*Example $100.00*

*Proposed labor charges only include time on site. Prevailing wage rates must be incorporated for all proposed labor charges.

ATTACHMENT 2-4: PREVAILING WAGE AND RELATED LABOR REQUIREMENTS CERTIFICATION

Contractor Name. _____

TO RANCHO SANTIAGO COMMUNITY COLLEGE DISTRICT:

The undersigned submits this Proposal for the HVAC Preventative Maintenance Services at the District Operations Center, RFQ/RFP #2122-323.

I hereby certify that I will conform to the State of California Public Works Contract requirements regarding prevailing wages, benefits, on-site audits with 48-hour notice, payroll records, and apprentice and trainee employment requirements, for all Work on the Project including, without limitation, the requirement that it and all of their Subcontractors are registered pursuant to Labor Code section 1771, et seq.

_____
(Company's Name)

_____
(Signature)

_____
(Typed or written name)

_____
(Title)

ATTACHMENT 2-5: INSURANCE DOCUMENTS & ENDORSEMENTS

Contractor Name. _____

TO RANCHO SANTIAGO COMMUNITY COLLEGE DISTRICT:

The undersigned submits this Proposal for HVAC Preventative Maintenance Services at the District Operations Center, RFQ/RFP #2122-323.

The following insurance endorsements and documents must be provided to the Rancho Santiago Community College District and fully comply with the requirements set forth in the Contract.

1. **General Liability Insurance.** Certificate of Insurance with all specific insurance coverages set forth in the Contract, proper Services description, designation of the District as the Certificate Holder, a statement that the insurance provided is primary to any insurance obtained by the District and minimum of 30 days' cancellation notice. Contractor shall also provide required additional insured endorsement(s) designating all parties required in the General Conditions. The additional insured endorsement shall be an ISO CG 20 10 (04/13), or an ISO CG 20 38 (04/13), or their equivalent as determined by the District in its sole discretion.

   Incidents and claims are to be reported to the insurer at:

   Attn:

   _____
   (Name)

   _____
   (Title) (Department)

   _____
   (Company)

   _____
   (Street Address, City, State, Zip Code)

   _____
   (Telephone Number)

2. **Workers' Compensation/ Employer's Liability Insurance.** Certificate of Workers' Compensation Insurance meeting the coverages and requirements set forth in the Contract, minimum of 30 days' cancellation notice, proper Services description, waiver of subrogation and any applicable endorsements.

Incidents and claims are to be reported to the insurer at:

Attn:

(Name)

(Title) (Department)

(Company)

(Street Address, City, State, Zip Code)

(Telephone Number)

3. **Automobile Liability Insurance.** Certificate of Automobile Insurance meeting the coverages and requirements set forth in the Contract, minimum 30 days' cancellation notice, any applicable endorsements and a statement that the insurance provided is primary to any insurance obtained by the District.

Incidents and claims are to be reported to the insurer at:

Attn:

(Name)

(Title) (Department)

(Company)

(Street Address, City, State, Zip Code)

(Telephone Number)

(Company Name)

(Signature)

(Typed or Written Name)

(Title)

ATTACHMENT 2-6: WORKERS' COMPENSATION CERTIFICATION

Contractor Name. _____

TO RANCHO SANTIAGO COMMUNITY COLLEGE DISTRICT:

The undersigned submits this Proposal for HVAC Preventative Maintenance Services at the District Operations Center, RFQ/RFP #2122-323.

Labor Code section 3700 in relevant part provides:

Every employer except the State shall secure the payment of compensation in one or more of the following ways:

1. By being insured against liability to pay compensation by one or more insurers duly authorized to write compensation insurance in this state.

2. By securing from the Director of Industrial Relations a certificate of consent to self-insure, which may be given upon furnishing proof satisfactory to the Director of Industrial Relations of ability to self-insure and to pay any compensation that may become due to its employees.

3. For any county, city, city and county, municipal corporation, public district, public agency, or any political subdivision of the state, including each member of a pooling arrangement under a joint exercise of powers agreement (but not the state itself), by securing from the Director of Industrial Relations a certificate of consent to self-insure against workers' compensation claims, which certificate may be given upon furnishing proof satisfactory to the director of ability to administer workers' compensation claims properly, and to pay workers' compensation claims that may become due to its employees. On or before March 31, 1979, a political subdivision of the state, which, on December 31, 1978, was uninsured for its liability to pay compensation, shall file a properly completed and executed application for a certificate of consent to self-insure against workers' compensation claims. The certificate shall be issued and be subject to the provisions of Section 3702.

4. I am aware of the provisions of section 3700 of the Labor Code which require every employer to be insured against liability for workers' compensation or to undertake self-insurance in accordance with the provisions of that code, and I will comply with such provisions before commencing the performance of the Work of the Contract.

In accordance with Article 5 (commencing at Section 1860), Chapter 1, Part 7, Division 2 of the Labor Code, the above certificate must be signed and submitted with the Trade Contractor's bid.

_____
(Company Name)

_____
(Signature)

_____
(Typed or Written Name)

_____
(Title)

ATTACHMENT 2-7: CONTRACTOR'S CERTIFICATE REGARDING DRUG-FREE WORKPLACE CERTIFICATION

This Drug-Free Workplace Certification form is required from the successful Bidder pursuant to Government Code sections 8350 et seq., the Drug-Free Workplace Act of 1990. The Drug-Free Workplace Act of 1990 requires that every person or organization awarded a contract or grant for the procurement of any property or service from any state agency must certify that it will provide a drug-free workplace by doing certain specified acts. In addition, the Act provides that each contract or grant awarded by a state agency may be subject to suspension of payments or termination of the contract or grant, and the contractor or grantee may be subject to debarment from future contracting, if the contracting agency determines that specified acts have occurred.

The District is not a "state agency" as defined in the applicable section(s) of the Government Code, but the District is a local agency and public school district under California law and requires all contractors on District projects to comply with the provisions and requirements of Government Code sections 8350 et seq., the Drug-Free Workplace Act of 1990. Contractor shall certify that it will provide a drug-free workplace by doing all of the following:

Publishing a statement notifying employees that the unlawful manufacture, distribution, dispensation, possession, or use of a controlled substance is prohibited in the person's or organization's workplace and specifying actions which will be taken against employees for violations of the prohibition;

Establishing a drug-free awareness program to inform employees about all of the following:

- The dangers of drug abuse in the workplace.
- The person's or organization's policy of maintaining a drug-free workplace.
- The availability of drug counseling, rehabilitation, and employee-assistance programs.
- The penalties that may be imposed upon employees for drug abuse violations.

Requiring that each employee engaged in the performance of the contract or grant be given a copy of the statement required above, and that, as a condition of employment on the contract or grant, the employee agrees to abide by the terms of the statement.

1. I, the undersigned, agree to fulfill the terms and requirements of Government Code section 8355 listed above and will publish a statement notifying employees concerning (a) the prohibition of controlled substance at the workplace, (b) establishing a drug-free awareness program, and (c) requiring that each employee engaged in the performance of the contract be given a copy of the statement required by section 8355(a), and requiring that the employee agree to abide by the terms of that statement.

2. I also understand that if the District determines that I have either (a) made a false certification herein, or (b) violated this certification by failing to carry out the requirements of section 8355, that the Contract awarded herein is subject to termination, suspension of payments, or both. I further understand that, should I violate the terms of the Drug-Free Workplace Act of 1990, I may be subject to debarment in accordance with the requirements of section 8350 et seq.

3. I acknowledge that I am aware of the provisions of Government Code sections 8350 et seq. and hereby certify that I will adhere to the requirements of the Drug-Free Workplace Act of 1990.

_____
(Company Name)

_____
(Signature)

_____
(Typed or Written Name)

_____
(Title)

ATTACHMENT 2-8: CONTRACTOR'S CERTIFICATE REGARDING ALCOHOLIC BEVERAGE AND TOBACCO-FREE CAMPUS POLICY

Contractor Name. _____

TO RANCHO SANTIAGO COMMUNITY COLLEGE DISTRICT:

The undersigned submits this Proposal for HVAC Preventative Maintenance Services at the District Operations Center, RFQ/RFP #2122-323.

The Contractor agrees that it will abide by and implement the District's Alcoholic Beverage and Tobacco-Free Campus Policy, which prohibits the use of alcoholic beverages and tobacco products, of any kind and at any time, on District-owned or leased buildings, on District property and in District vehicles.

_____
(Company Name)

_____
(Signature)

_____
(Typed or Written Name)

_____
(Title)

ATTACHMENT 2-9: CRIMINAL BACKGROUND INVESTIGATION / FINGERPRINTING CERTIFICATION

Services _____ between Rancho Santiago Community College District (the District or the Owner) and _____ (Contractor) (the Contract or the Services). These Services may involve work around or in the vicinity of minor students, pupils, or children (Minor Pupils), and therefore Contractor is required to submit this form to the District in compliance with Education Code section 45125.1 and other applicable law.

The undersigned does hereby certify to the Board of Trustees of the District that: (1) He/she is a representative of the Contractor, (2) He/she is familiar with the facts herein certified, (3) He/she is authorized and qualified to execute this certificate on behalf of the Contractor; and (4) That the information in this Criminal Background Investigation / Fingerprinting Certification is true and correct.

1. The Contractor has complied with the fingerprinting requirements of Education Code section 45125.1 with respect to all Contractor's employees who may have contact with District pupils in the course of providing services pursuant to the Contract, and the California Department of Justice (DOJ) has determined (per the DOJ process for Applicant Agencies described more fully on their website, located at: *http://oag.ca.gov/fingerprints/agencies)* that none of those employees have been convicted of a felony, as that term is defined in Education Code section 45122.1. A complete and accurate list of the Contractor's employees who may come in contact with District pupils during the course and scope of the Contract is attached hereto; and/or

The Contractor’s responsibility for background clearance extends to all of their employees coming into contact with District pupils regardless of whether they are designated as employees or acting as independent contractors of the Contractor.

_____
(Company Name)

_____
(Signature)

_____
(Typed or Written Name)

_____
(Title)

ATTACHMENT 2-10 LOCAL HIRE AND LOCAL BUSINESS INFORMATION

(To be Submitted Upon Request)

Contractor Name. _____

The Rancho Santiago Community College District is interested in furthering opportunities for Local Hires and Local Businesses and the Board of Trustees has established a goal of 50% participation of "Local Hires" and 25% participation of "Local Businesses" for various capital construction projects. It is the intent of the District to not only meet these goals, but to exceed them. As used in this Attachment, "Local Hire" and "Local Business" is defined as follows:

"Local Hire" means an individual who resides in the following zip codes: 92602, 92606, 92610, 92612, 92614, 92618, 92620, 92626, 92627, 92660, 92675, 92676, 92679, 92688, 92701, 92703, 92704, 92705, 92706, 92707, 92708, 92780, 92782, 92802, 92805, 92806, 92807, 92808, 92840, 92843, 92861, 92862, 92865, 92866, 92867, 92868, 92869, 92883, or 92887. Local Hire shall also mean a "veteran" as defined in Military and Veterans Code section 980, who possesses a current and valid DD Form 214 card. Local Hire shall also mean any current or former student that the District determines is or was enrolled as a student at one of the District's colleges.

"Local Business" means a business that has its principal headquarters or permanently staffed regional office and that has held a business license within the zip codes listed above for Local Hire for a minimum of three months prior to the date the Consultant submits a response to this RFQ/RFP. Local Business shall also mean any state or nationally certified minority-owned, women-owned, or disabled veteran business that has performed work for the District or other public agency within the zip codes listed above for Local Hire during the past four years. Local Business shall also mean a business that participates in an internship program that is currently approved or recognized by the District. The Consultant may also apply to obtain District approval of its internship program. Local Business shall also mean any Consultant that uses apprentices from a District approved apprenticeship program.

Please complete questions below:

(Use additional sheets for each Subconsultant)

1. Firm is a Minority Business Enterprise (MBE) ☐ Yes ☐ No
2. Firm is a Women Business Enterprise (WBE) ☐ Yes ☐ No
3. Firm is a Disabled Veteran Business Enterprise (DVBE) ☐ Yes ☐ No
   If "yes" for items 1-3 above, provide a copy of certification.
4. Firm is a Veteran Owned Business ☐ Yes ☐ No
   If "yes" to 4, provide DD214 Form/Card
5. This business participates in or provides opportunities for internship programs: ☐ Yes ☐ No

   If "yes", state type of internship program(s) offered: _____

_____

_____

_____

6. List ALL Team Members who are considered a Local Hire. Check the applicable box(es), if any, pertaining to each individual.

	Team Member *(First and Last Name)*	**Zip Code** *(for Local Residents Only)*	**Local Resident***	**RSCCD Student****	**Veteran**	**Intern**
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						

*** A RSCCD student is an individual who is or was enrolled in one or more classes at any of these campuses (Santa Ana College, Centennial Education Center, Digital Media Center, Orange County Sheriff's Regional Training Academy, Santiago Canyon College or Orange Education Center).*

If selected, the Contractor agrees it will use Local Hires and Local Businesses to the extent possible or if the opportunity arises at any time the Consultant is providing services pursuant to this RFQ/RFP and the final contract entered into with the District. The District may request information or documents to confirm participation by a Local Hire or Business and Consultant agrees to comply with any reasonable requests.

Company: _____

Name: _____

Title: _____

Signature: _____

Date: _____

ATTACHMENT 2-11: SUPPLEMENTAL CONDITIONS

Covid 19 - Contractor shall, at all times, comply with all federal, state, and local directives, ordinances, laws, health orders, and regulations including, but not limited to, OSHA and Cal-OSHA concerning COVID-19. Contractor shall provide to the District, no later than ten (10) days after award of contract, all protocols and procedures that will be in place during construction to ensure prevention of the spread of coronavirus (SARS-CoV-2). Measures implemented shall at a minimum follow Cal OSHA's Safety and Health Guidance, COVID-19 Infection Prevention in Construction as well as implement the following:

1.1 At any time, the Contractor receives notice that one of their employees test positive for Covid 19, Contractor must immediately notify Director of Facility Planning, District Construction and Support Services and the District Representative.

1.2 Maintain a daily attendance log of all workers and visitors on site.

_____
(Company Name)

_____
(Signature)

_____
(Typed or Written Name)

_____
(Title)

Exhibit F: Site Map

District Operations Center (DOC)

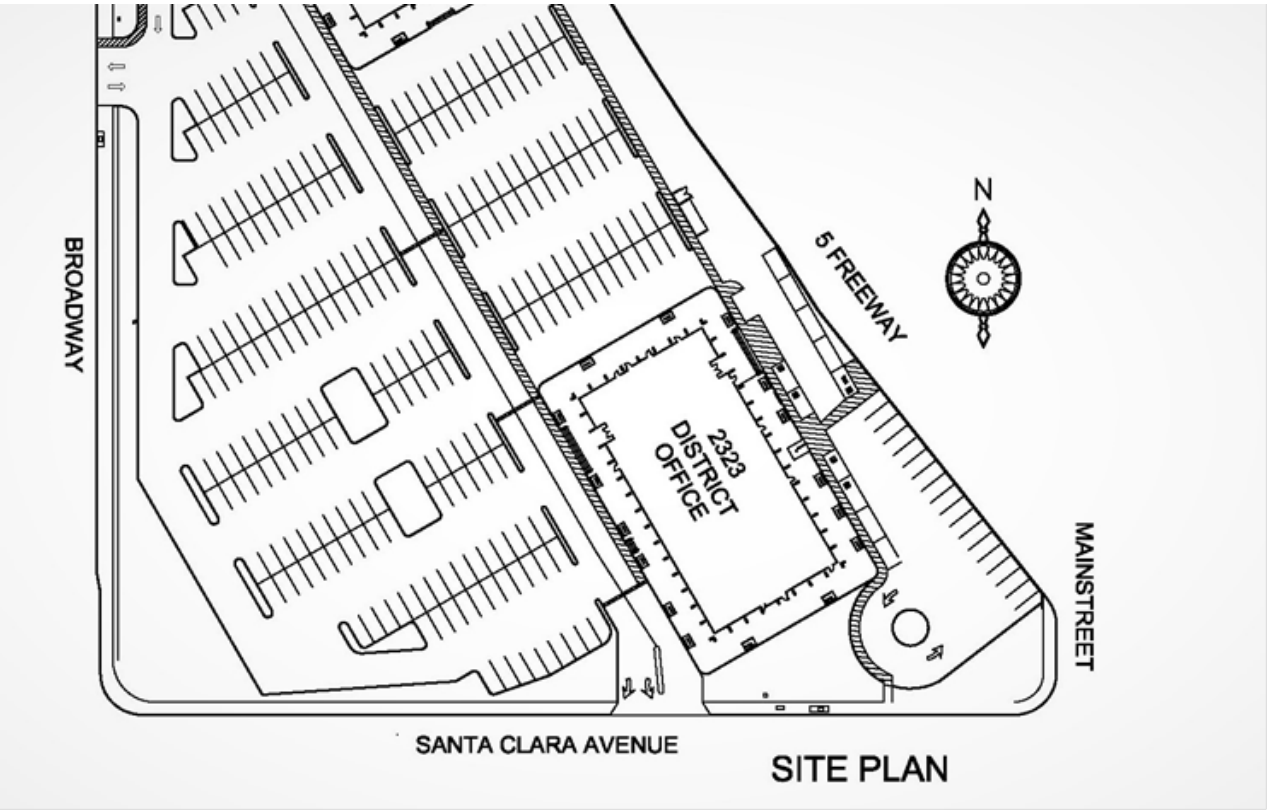


Exhibit G: Plans and Specifications

See Attached Pages

Exhibit G Plans and Specifications

RSCCD District Offices Renovation

Direct Digital Controls Project

2323 N. Broadway

Santa Ana, CA 92706

Job Number: **765674**

As Prepared By

SUNBELT CONTROLS

Sunbelt Controls

735 N. Todd Ave.

Azusa, California 91702

(877) SUN-BDDC

Phone Number: (626) 610-2340

Fax Number: (626) 610-2350

Job Site Map Location:

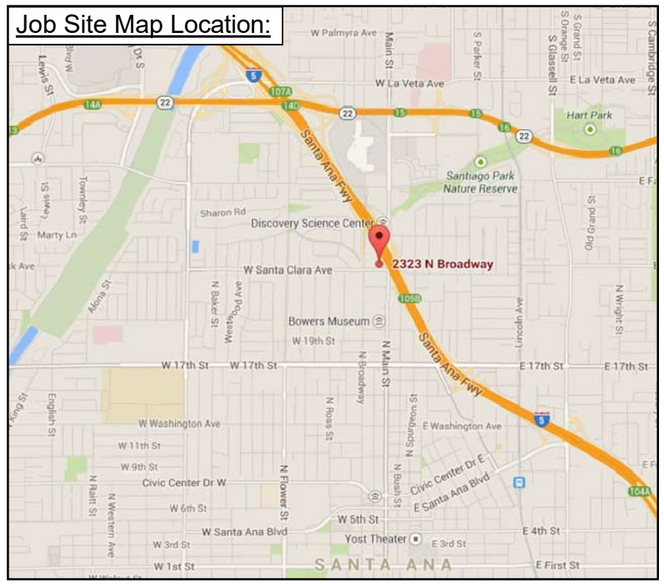


TABLE OF CONTENTS

2

SUNBELT CONTROLS

735 N. Todd Avenue, Azusa, CA 91702
Toll Free (877) SUN-BDDC
ph. (626) 610-2340
fax (626) 610-2350

License #: 800423
Established 1995

GENERAL CONTRACTOR:

Southland Industries
7390 Lincoln Way
Garden Grove, CA 92841
PH: 714.901.5800
FAX: 714.901.5811

RESUBMITTAL
GLUMAC/SOUTHLAND REVIEW COMMENTS

BUILDING AUTOMATION SYSTEM

REV	DATE	DESCRIPTION	DRW	CHK
2	7/25/2014	Resubmittal Glumac/Southland Review Comments	RV	GE
1	4/7/2014	Construction Set	AK	AK
0	4/1/2014	Submittal	RV	GE

FILENAME: 765674_R2_RSCCD District Offices Renovation.vsd

PROJECT

RSCCD District Offices Renovation

Direct Digital Controls Project

2323 N. Broadway

Santa Ana, CA 92706

Sunbelt Job #: **765674**

Proj. Manager: ER/RG

Proj. Engineer: RV

BAS **0.00**

SF

Supply Fan

DX

DX Cooling Coil

Automated Logic Room Temperature Sensors

Duct Temperature Sensor

ZS-ALC

ZSPL-ALC

ZSP-ALC

ZSP-F-ALC

RSBase

RSPlus

RSPro

EF

Exhaust Fan

Electric Heating Coil

Averaging Duct
Temperature Sensor

1
2
3
4

RF

Return Fan

GAS

Gas Heating

Duct Humidity Sensor

Outside Air
Temperature Sensor

Outside Air Relative
Humidity Sensor

Combo OA
Temp&Humidity

Cable wire tags

Fan w/ Inlet Vane Control

HW

Hot Water Heating Coil

Immersion Temperature
Sensor w/ Well

Installing controls electrician shall tag (label) all point wires based on the number shown inside its flag.

Pump

CHW

Chilled Water Cooling Coil

PS

Pressure Sensor

T

or T

Room Temperature Sensor

STM

Steam Heating Coil

Filter

Division of Responsibilities

M = by Mechanical Contractor

E = by Controls Contractor Electrician

T = by Telecom Contractor

CE = Provided by Controls Contractor,
Installed by Electrical Contractor.

MC = Provided by Mechanical Contractor,
Installed by Controls Contractor.

or H

H

Room Humidity Sensor

3 - Way Valve

Air Flow Station

1 2 3 7

FreezeStat

2 - Way Valve

Butterfly Valve

FS

Smoke Detector

Flow Sensor

Dampers

SYMBOLS AND ABBREVIATIONS

ACC	Air Cooled Condenser	ELEC	Electrical	NC	Normally Closed
AFMS	Air Flow Measuring Station	EWT	Entering Water Temperature	NO	Normally Open
AHU	Air Handling Unit	EXH	Exhaust	OA	Outside Air
AI	Analog Input	F	Fahrenheit	OAD	Outside Air Damper
AO	Analog Output	FC	Fan Coil	OAH	Outside Air Humidity
AUTO	Automatic	FD	Fire Damper	OAT	Outside Air Temperature
AUX	Auxiliary	FLR	Floor	PENT	Penthouse
BLR	Boiler	FPM	Feet Per Minute	PRESS	Pressure
BAS	Building Automation System	FRZ	Freezestat	PRV	Powered Roof Ventilator
BLDG	Building	FSD	Fire/Smoke Damper	PSI	Pounds/Sq. In.
BTUH	British Thermal Units/Hour	FTR	Fin Tube Radiation	PSIG	Pounds/Sq. In. Gauge
C	Common	GPM	Gallons Per Minute	RA	Return Air
CAD	Combustion Air Damper	GRV	Gravity Relief Vent	RAD	ReturnAir Damper
CFM	Cubic Feet/Minute	HC	Heating Coil	RAT	Return Air Temperature
CHLR	Chiller	HE/HX	Heat Exchanger	REF	Refrigeration
CHWC	Chilled Water Coil	HOA	Hand/Off/Auto	REG	Regulator
CHWR	Chilled Water Return	HP	Heat Pump	RH	Relative Humidity
CHWS	Chilled Water Supply	HRU	Heat Recovery Unit	RAH	Return Air Humidity
CHWP	Chilled Water Pump	HTG	Heating	RTU	Roof Top Unit
CLG	Cooling	HTR	Heater	SA	Supply Air
COMP	Compressor	HUM	Humidifier	SCHED	Schedule
COND	Condenser or Condensate	HWP	Heating Water Pump	SD	Smoke Damper
CONV	Convertor	HWR	Hot Water Return	SF	Supply Fan
CS	Current Switch	HWS	Hot Water Supply	SPC	Space Temperature
CUH	Cabinet Unit Heater	KWH	Kilowatt/Hour	SSP	Space Static Pressure
CWR	Condenser Water Return	LL	Low Limit	SHT	Sheet
CWS	Condenser Water Supply	LPS	Low Pressure Steam	STM	Steam
D/N	Day/Night	LTG	Lighting	SUCT	Suction
DAT	Discharge Air Temperature	LWT	Leaving Water Temperature	SUP	Supply
DB	Dry Bulb	MAT	Mixed Air Temperature	SYS	System
DHW	Domestic Hot Water	MAX	Maximum	T-STAT	Thermostat
DI	Digital Input	MBH	Thousands BTU's/Hour	TEMP	Temperature
DMP	Damper	MCC	Motor Control Center	TYP	Typical
DO	Digital Output	MECH	Mechanical	UH	Unit Heater
DPS	Diff. Pressure Switch	MEZZ	Mezzanine	UV	Unit Ventilator
DPT	Diff. Pressure Transmitter	MIN	Minimum	VAV	Variable Air Volume
DSP	Duct Static Pressure	MISC	Miscellaneous	VFD	Variable Freq. Drive
DX	Direct Expansion Cooling	MS	Motor Starter	VVT	Variable Volume Terminal
EA	Exhaust Air	MTR	Motor	WSHP	Water Source Heat Pump
EAD	Exhaust Air Damper	MUA	Make Up Air (Unit)		
EF	Exhaust Fan	N/A	Not Applicable		

REV	DATE	DESCRIPTION	BY
2	7/25/2014	Resubmittal Glumac/Southland Review Comments	RV
1	4/7/2014	Construction Set	AK
0	4/1/2014	Submittal	RV

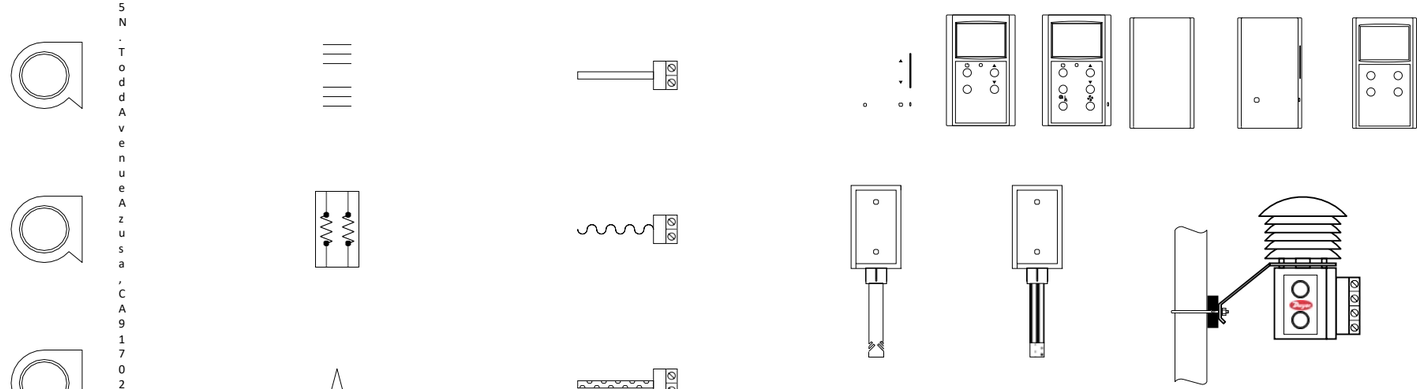
0.10 Symbol Legend

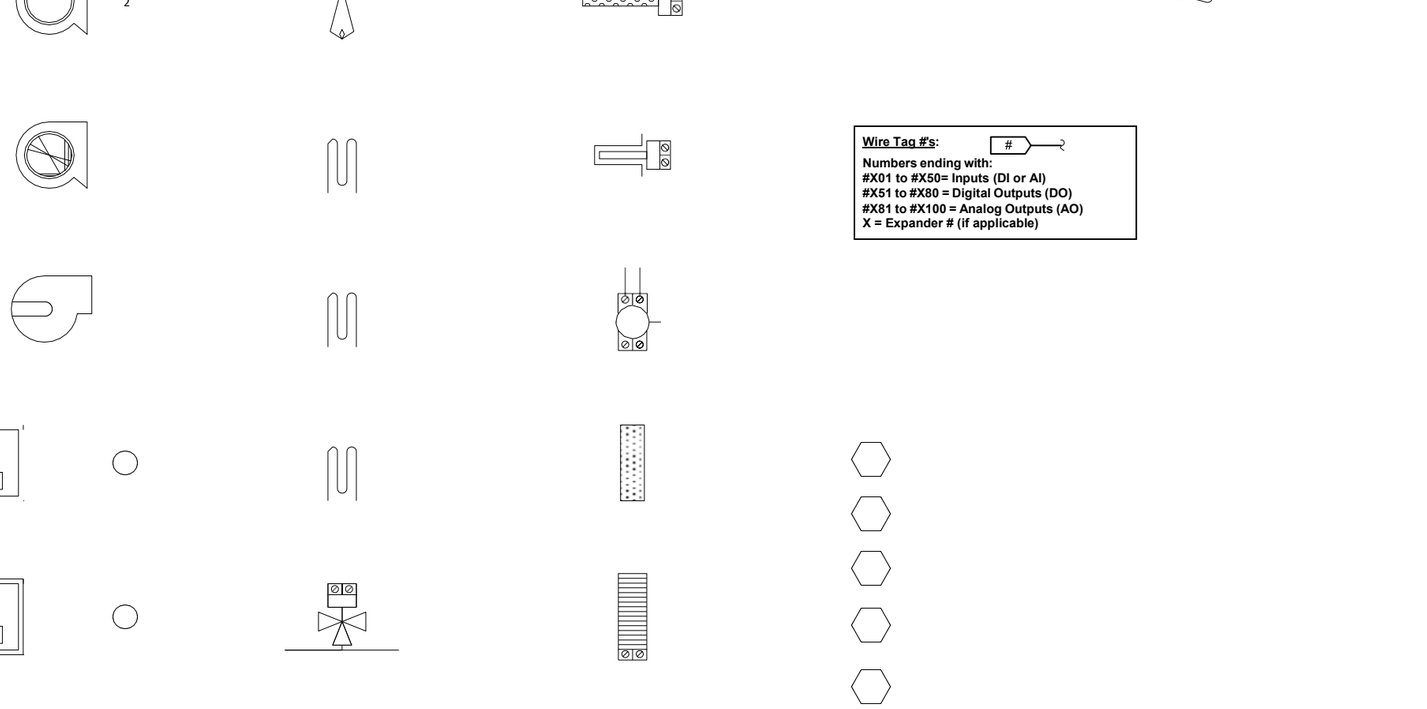
SCCD District Offices Renovation Direct Digital Controls Project

Proj. Mgr.: ER/RG Proj. Engr.: RV

JOB #: 765674

735 N. Todd Avenue Azusa, CA 91702





Wire Tag #'s: #

Numbers ending with:
#X01 to #X50= Inputs (DI or AI)
#X51 to #X80 = Digital Outputs (DO)
#X81 to #X100 = Analog Outputs (AO)
X = Expander # (if applicable)

License #: 800423

Ph. (626) 610-2340
Fax (626) 610-2350

BAS **0.10**

SUNBELT CONTROLS

SUNBELT CONTROLS STANDARD CABLE SPECIFICATIONS AND ABBREVIATIONS

Cable Tag	Cable Line Types	Part Number	Wire Type	Manufacturer	Typical Application	Circuit Type	Color
A	22/2 SHLD (Cmnet, Orange)	W221P-2227 (Orange Jacket) or SUNBELT approved equivalent.	22 AWG / 2 Conductors; Stranded, shielded, plenum rated & twisted pair.	Connect Air 866-730-5599	**MAIN** ARC156/Cmnet Backbone	NET+ NET-	WHITE BLACK WITH LO-CAP ORANGE JACKET
B	22/2 SHLD (Cmnet, Green)	W221P-2227(Green Jacket) or SUNBELT approved equivalent.			**AARnet** ARC156/Cmnet Backbone		WHITE BLACK WITH LO-CAP GREEN JACKET
C	22/2 SHLD (Cmnet, Blk)	For direct burial use W222P-1005 LT or SUNBELT approved equivalent.	Direct burial, 4/c 2pr 22AWG Shielded		ARC156/Cmnet UNDERGROUND, DIRECT BURIAL		Direct burial, REDxGRN BLKxWHT
D	22/4 SHLD (T-STAT)	W224C-2020 or SUNBELT approved equivalent.	22 AWG / 4 Conductors; Stranded, shielded, plenum rated & double pair.	Connect Air 866-730-5599	T-STAT	12V GND NET+ NET-	(PAIR 1) RED BLACK (PAIR 2) WHITE GREEN WITH PURPLE JACKET
E	18/2 UNSHLD (FIELD)	W181P-2051 or SUNBELT approved equivalent.	18 AWG / 2 Conductors; Stranded, unshielded, plenum rated & twisted pair.	Connect Air 866-730-5599	I/O WIRING	INA INB CLASS 2 WIRING ONLY	RED BLACK WITH WHITE JACKET PURPLE STRIPE
F	18/3 UNSHLD (FIELD)	W181P-2052 or SUNBELT approved equivalent.	18 AWG / 3 Conductors; Stranded, unshielded, plenum rated.	Connect Air 866-730-5599	I/O WIRING	CLASS 2 WIRING ONLY	BLACK, WHITE, RED WITH WHITE JACKET ORANGE STRIPE
G	18/4 UNSHLD (FIELD)	W184C-2099B or SUNBELT approved equivalent.	18 AWG / 4 Conductors; Stranded, unshielded, plenum rated.	Connect Air 866-730-5599	I/O WIRING	CLASS 2 WIRING ONLY	BLACK, WHITE, RED, GREEN WITH WHITE JACKET
H	14/2 UNSHLD (24 Vac Power)	W141P-2013 or SUNBELT approved equivalent.	14 AWG / 2 Conductors; Stranded, unshielded, plenum rated.	Connect Air 866-730-5599	POWER WIRING	24 VAC POWER INTERNAL TO PANEL (T1) 24 VAC NEUTRAL INTERNAL TO PANEL (T2) 24 VAC POWER TO FIELD DEVICES (T3) 24 VAC NEUTRAL TO FIELD DEVICES (T4)	RED BLACK WITH WHITE JACKET RED STRIPE
I	18/2 SHLD (FIELD)	W181P-2040BB/R or SUNBELT approved equivalent.	18 AWG / 2 Conductors; Stranded, shielded, plenum rated & twisted pair.	Connect Air 866-730-5599	COMMUNICATION RS-485 I/O REQUIRING SHIELD	NET+ OR TX OR + NET- OR RX OR -	RED BLACK WITH WHITE JACKET
J	18/3 SHLD (FIELD)	W183C-2058B or SUNBELT approved equivalent.	18 AWG / 3 Conductors; Stranded, shielded, plenum rated.	Connect Air 866-730-5599	I/O WIRING	CLASS 2 WIRING ONLY	BLACK, WHITE, RED WITH WHITE JACKET
K	18/4 SHLD (FIELD)	SUNBELT CONTROLS approved equivalent.	18 AWG / 4 Conductors; Stranded, shielded, plenum rated.	Connect Air 866-730-5599	I/O WIRING	CLASS 2 WIRING ONLY	BLACK, WHITE, RED, GREEN WITH WHITE JACKET
L	18/x UNSHLD	NOT SPECIFIED	18 AWG / 6 Conductors; Stranded, unshielded, plenum rated 18 AWG / 8 Conductors; Stranded, unshielded, plenum rated 18 AWG / 10 Conductors; Stranded, unshielded, plenum rated	Connect Air 866-730-5599	I/O WIRING	CLASS 2 WIRING ONLY	BLACK, WHITE, GREEN BLUE ORANGE,BROWN PUPPLE,YELLOW, RED, TAN WITH WHITE JACKET
M	Trane Comm4	TR052003 for Plenum or TR108760 for non Plenum or Belden W181P-2028F for Plenum or W181P-1060G for non Plenum or equivalent.	18 AWG / 2 Conductors; Stranded, shielded plenum rated & Lo cap. Maximum Capacitance between conductors is 25 picofarads per foot. Maximum distance is 5000 feet.	Windy City Wire 925-454-3434 Connect Air 866 730-5599	COM WIRE	NETWORK COMMUNICATIONS	PURPLE JACKET
N	Trane Comm5	P/N 105500 or equvalent	22 AWG / 2 Conductors; Stranded, twisted pairs, purple jacket level 4 Unshielded.				
O	Optical Fiber	NOT SPECIFIED	Corning INSIDE/OUTSIDE CABLE 6 STRAND Multi-Mode MM 62.5/125µm TERMINATED W/SC or ST Connectors.	Connect Air 866-730-5599	FIBER OPTIC	NETWORK COMMUNICATIONS	ORANGE or BLACK JACKET
P	CAT 6 ETHERNET	BERK-TEK	24 AWG / 8 Pairs; Plenum rated & twisted.	Connect Air 866-730-5599	NETWORK WIRE	NETWORK COMMUNICATIONS	GREY JACKET
Q	McQuay Net	NOT SPECIFIED	20 AWG / 2 Conductors; Stranded, shielded, plenum rated	NOT SPECIFIED	McQuay Net Bacnet MSTP	NETWORK COMMUNICATIONS	BLUE JACKET
R	22/2 UNSHLD (Unet)	SUNBELT CONTROLS CLP0410-4XU10 or approved equivalent.	22 AWG / 2 Conductors; Stranded, unshielded, yellow jacketed, plenum rated & twisted pair.	Connect Air 866-730-5599	UNET	UNET + UNET -	WHITE BLACK WITH YELLOW JACKET

Note: No cable substitutions without prior written approval from SUNBELT CONTROLS Controls Division.

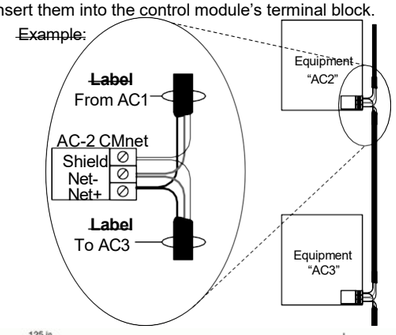
Network Notes:
1. All communication cable terminations in and out of a temperature control panel, terminal equipment, or VAV box must be labeled with “from (equipment name)” and “to (equipment name)” locations. See Figure 1.
2. All ARC156/CMnet or Unet communication, serial interface, control, and monitoring wiring must be terminated at the locations designated and must be free of splices.
3. All internal panel wiring shall be 16 AWG stranded THHN. All field wiring shall be 18/2 shielded, twisted pair unless otherwise noted. Does not apply to thermostat wire.
4. Each ARC156/Cmnet segment supports a maximum of 99 modules excluding repeaters.
5. Each segment must be wired in a daisy chain fashion. Branching requires the use of a REP485 (repeater) and/or a AAR (ARCnet to ARCnet Router). Segments with more than 99 modules require a AAR.
6. Network ends must be terminated with TERM485 resistors.
7. Each network must have at least one (1) DIAG485 installed on the network to supply bias. If more than one (1) DIAG485 is installed, only one shall provide network bias.
8. When shielded cable is used, do not strip back sheath more than 1" in order to keep the twisted pair from separating. Do not ground shield to the panel or chassis ground. The shield should only be connected to the Optional Shield connection at the module. Ungrounded shields must be cut back and taped to prevent contact with metal surfaces. See Figure 2.
9. Electrical installation shall be in accordance with the project specifications, national, state, and local electrical codes along with Automated Logic standards.
10. Cat-6 cabling runs shall not exceed a maximum cable length of 325'. All Cat-6 Ethernet wiring shall comply to IEEE 802.3 standards.
11. All pneumatic tubing that exceeds 10' in length must be rigid copper or poly tubing installed in conduit. All poly tubing in exposed areas must be installed in conduit. Use plenum rated poly tubing for runs made in hung ceilings. Short lengths of less than 16" are permitted to be exposed for connection to field devices.
12. All temperature control panels will have a dedicated 120 vac circuit. Conduit provided and installed by Div. 16.

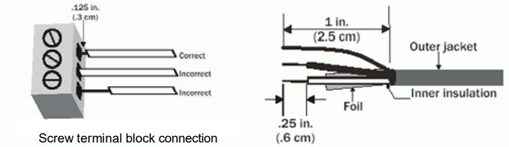
Abbreviations

AWG	- American Wire Gauge
CAT-5, 5e, 6, 6e	- Ethernet Cable
EIA-232	- Communications Protocol
EIA-485	- Communications Protocol
G or GND	- Ground
I/O	- Input/Output
INA	- Input A
INB	- Input B
LS5V	- +5vdc Logistat
NET-	- ARCnet comm. -
NET+	- ARCnet comm. +
RX-	- Receive -
RX+	- Receive +
ST / SC	- Fiber Optic Connector
TEMP	- Temperature
THHN	- A thermoplastic-insulated, nylon-jacketed conductor signed for use in dry locations and an operating temperature of up to 90 degrees Celsius.
TX-	- Transmit -
TX+	- Transmit +
VAC	- Voltage Alternating Current

Wire Terminations Details

Twist together the shield wires from both cables, then insert them into the control module’s terminal block.





Screw terminal block connection

CAUTION: If bare communication wire comes in contact with the cable’s foil shield, shield wire, or a metal surface other than the terminal block, communications may fail.

REV	DATE	DESCRIPTION	BY
2	7/25/2014	Resubmittal Glumac/Southland Review Comments	RV
1	4/7/2014	Construction Set	AK
0	4/1/2014	Submittal	RV

0.20 Cable Specifications

RSCCD District Offices Renovation
Direct Digital Controls Project

Proj. Mgr.: ER/RG
Proj. Engr.: RV

SUNBELT CONTROLS
License #: 800423

735 N. Todd Avenue
Azusa, CA 91702
Ph. (626) 610-2340
Fax (626) 610-2350

JOB #: 765674

BAS **0.20**

Summary Bill of Materials

DID	DESCRIPTION	MANUFACTURER	PART NUMBER	QTY
AAR	ARCNET TO ARCNET ROUTER	AUTOMATED LOGIC	AAR	4 ea
AMR	ARCNET ROUTER	AUTOMATED LOGIC	AMR	1 ea
BT485	PACK OF 16 TERMINATING & BIASING RESISTOR	AUTOMATED LOGIC	BT485	1 ea
DIAG485	DIAGNOSTIC BOARD FOR ARCNET	AUTOMATED LOGIC	DIAG485	5 ea
LGR25	HIGH PERFORMANCE BACNET ROUTER WITH GATEWAY	AUTOMATED LOGIC	LGR25	1 ea
ME812U	CONTROL MODULE (8UOS,12UIS)	AUTOMATED LOGIC	ME812U	2 ea
MEX48U	EXPANDER MODULE (4UOS,8UIS)	AUTOMATED LOGIC	MEX48U	2 ea
ZN341V+	VAV-MODULE (3DOS,4UIS,1AOS)	AUTOMATED LOGIC	ZN341V+	96 ea
ZN551	ZN-MODULE (5DOS,5UIS,1AOS)	AUTOMATED LOGIC	ZN551	1 ea
ZSP	SPACE TEMP SENSOR W/LCD, POINT ADJUST & LOCAL OVERRIDE	AUTOMATED LOGIC	ZSP-ALC	70 ea
CS	CURRENT SWITCH	VERIS	H800 (EXISTING)	4 ea
DA-1	DAMPER ACTUATOR	BELIMO	GM24-SR (EXISTING)	3 ea
DA-2	DAMPER ACTUATOR	BELIMO	NM24-SR (EXISTING)	1 ea
DPT_D	0-10INWC AIR DIFF. PRESSURE (1% ACCURACY)	VERIS	PXU-X-X-05-S (EXISTING)	1 ea
DTHS-8	DUCT TEMP/HUMIDITY PROBE 8 IN. W/J-BOX	BAPI	BA/10K-2-D-H200-EU	1 ea
DTS-8	DUCT TEMP PROBE 8 IN. W/STEEL J-BOX	BAPI	BA/10K-2-D-8	1 ea
HUB	ETHERNET SW 5PORT 100BASE-TX	CTRLINK	EISK5-100T/H	2 ea
ITS-2-JB	IMMERSION PROBE 2 IN. W/J-BOX	BAPI	BA/10K-2-I-2-JB	2 ea
ITS-4-JB	IMMERSION PROBE 4 IN. W/J-BOX	BAPI	BA/10K-2-I-4-JB	5 ea
OAT/H	OUTSIDE AIR TEMPERATURE AND HUMIDITY SENSOR	DWYER	RHP2R1B	1 ea
PC	WORKSTATION / WEBCTRL SERVER PC W/ LCD MONITOR	DELL	PRECISION SERIES DESKTOP	1 ea
R-AC	24VAC DPDT RELAY WITH LIGHT INDICATOR	VERIS	VMD2B-F24A	2 ea
R-DC	24VDC DPDT RELAY WITH LIGHT INDICATOR	VERIS	VMD2B-F24D	12 ea
R^	DPDT RELAY SOCKET	VERIS	VBD2B-F	14 ea
R_TIP	ROOM STATIC PRESSURE SENSOR	BAPI	ZPS-ACC01 (EXISTING)	1 ea
TD4	4 INCH DUCT SENSOR	BAPI	BA/10K-2-D-4-NB-10	51 ea
TW-1	IMMERSION TEMP WELL 4 IN.	BAPI	BA/4MB	4 ea
V-ACT-1	CHW SYSTEM VALVE ACTUATOR	BELIMO	GM24-SR US (EXISTING)	1 ea
V-ACT-2	HW SYSTEM VALVE ACTUATOR	BELIMO	AM24-SR US (EXISTING)	1 ea
V-ACT-3	AHU CHW SYSTEM VALVE ACTUATOR	BELIMO	GM24-SR US (EXISTING)	1 ea

SUMMARY SCOPE OF WORK:

1. Provide and install control modules to
   - Chilled Water System w/(1) Chiller, (1) Cooling Tower, (1) CW Pump, & (1) CHW Pump
   - Hot Water System w/(1) Boiler, & (1) HW Pump
   - (1) Air Handler Unit
   - (54) VAV Box w/HW Reheat
   - (22) VAV Box Cooling Only
2. Download program to and commission control modules.
3. Add new control modules to the existing database.
4. Provide Local Operator's Workstation with Existing V5.5 WebCTRL Building Automation Software.

REV	DATE	DESCRIPTION	BY
2	7/25/2014	Resubmittal Glumac/Southland Review Comments	RV
1	4/7/2014	Construction Set	AK
0	4/1/2014	Submittal	RV

0.30 Summary Bill of Materials

RSCCD District Offices Renovation
Direct Digital Controls Project

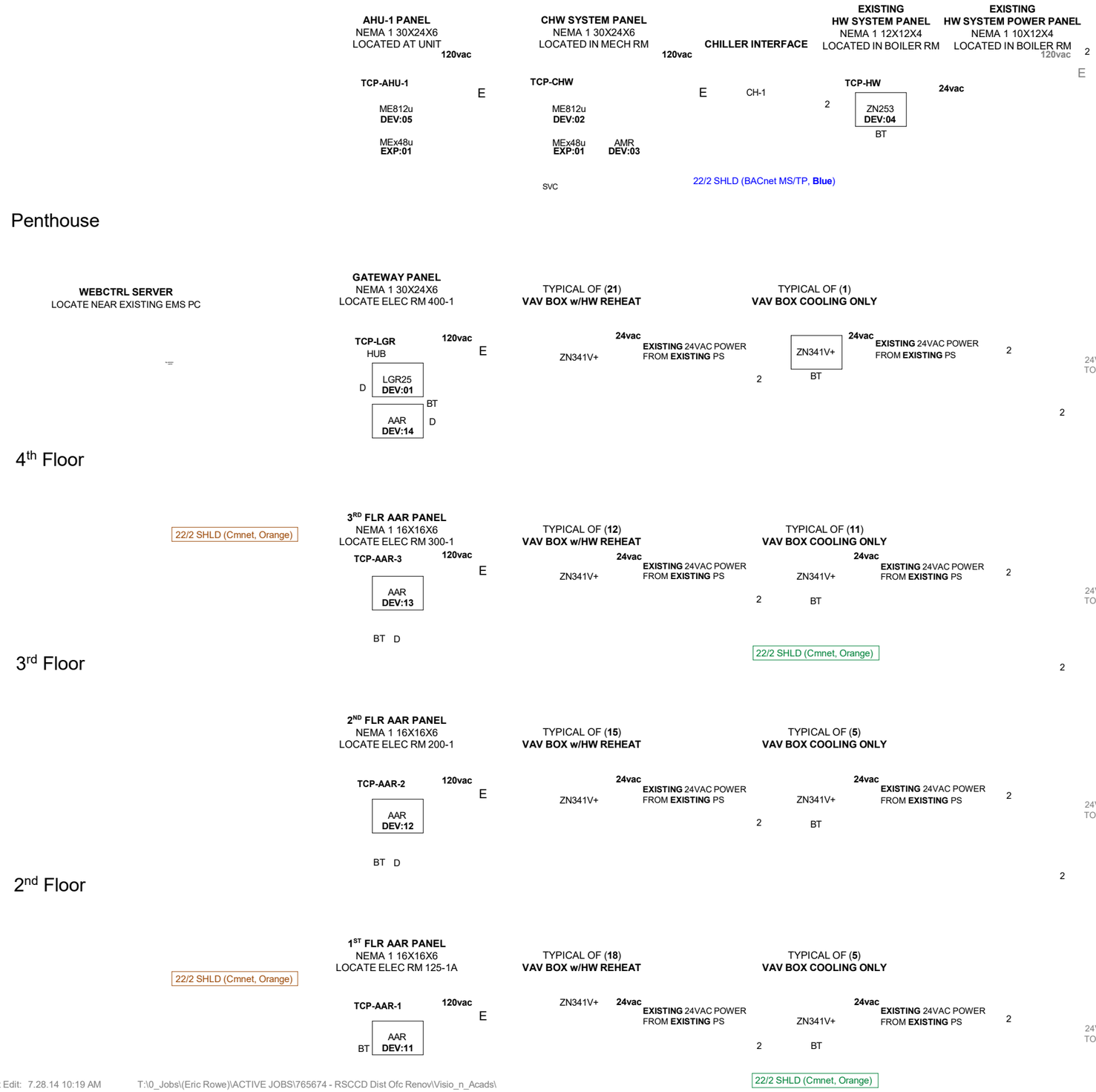
Proj. Mgr.: ER/RG
Proj. Engr.: RV

SUNBELT CONTROLS
License #: 800423
735 N. Todd Avenue
Azusa, CA 91702
Ph. (626) 610-2340
Fax (626) 610-2350

JOB #: 765674

BAS **0.30**

Network Architecture Layout



Bill of Materials

DID	DESCRIPTION	MANUFACTURER	PART NUMBER	QTY
AAR	ARCNET TO ARCNET ROUTER	AUTOMATED LOGIC	AAR	4 ea
AMR	ARCNET ROUTER	AUTOMATED LOGIC	AMR	1 ea
BT485	PACK OF 16 TERMINATING & BIASING RESISTOR	AUTOMATED LOGIC	BT485	1 ea
DIAG485	DIAGNOSTIC BOARD FOR ARCNET	AUTOMATED LOGIC	DIAG485	5 ea
LGR25	HIGH PERFORMANCE BACNET ROUTER WITH GATEWAY	AUTOMATED LOGIC	LGR25	1 ea
ME812U	CONTROL MODULE (8UOS,12UIS)	AUTOMATED LOGIC	ME812U	2 ea
MEX48U	EXPANDER MODULE (4UOS,8UIS)	AUTOMATED LOGIC	MEX48U	2 ea
ZN253	ZN-MODULE (2DOS,5UIS,3AOS)	AUTOMATED LOGIC	ZN253	1 ea
ZN341V+	VAV-MODULE (3DOS,4UIS,1AOS)	AUTOMATED LOGIC	ZN341V+	96 ea
HUB	ETHERNET SW 5PORT 100BASE-TX	CTRLINK	EISK5-100T/H	2 ea
PC	WORKSTATION / WEBCTRL SERVER PC W/ LCD MONITOR	DELL	PRECISION SERIES DESKTOP	1 ea

BT D

2

1st Floor

STATIC TCP/IP SUMMARY:

1. WebCTRL PC SERVER
   IP ADDRESS:10.210.40.21
2. LGR GATEWAY
   IP ADDRESS:10.210.40.22

CAT 5e ETHERNET

ETHERNET- CUSTOMERS WIDE AREA NETWORK w/INTERNET ACCESS

REV	DATE	DESCRIPTION	BY
2	7/25/2014	Resubmittal Glumac/Southland Review Comments	RV
1	4/7/2014	Construction Set	AK
0	4/1/2014	Submittal	RV

T = 120 ohm Resistor

1.00 Network Architecture

Notes:

1. Insert BT485 terminator to the controllers at the beginning and end of the network segment. (Located near the the Bacnet (Cmnet) connector). The BT485 has no polarity associated with it.
2. Each segment must be wired in a 'daisy chain' fashion. Branching requires the use of a REP485 or an ARCnet to ARCnet Router (AAR).
3. Network 'ends' must be terminated with TERM485 plugins or BT485 plugins (where applicable).

When using TERM485 plugins each segment must have at least one (1) DIAG485 installed on the net to supply bias.

4. CAT5e Ethernet network runs should not exceed 100 meters or 320ft maximum length.
5. Reference page BAS 0.20 for cable schedule.
6. Place a REP485 after every 31 devices or after 2000 feet (whichever is reached first), and at each branch of a hybrid network. Each repeater begins a new network segment. You can wire a maximum of four REP485s in series. Power REP485 from next closest controller 24vac power source.

BT = BT485 Device

P = PROT485 Device

R = REP485 Repeaters

D = DIAG485 Diagnostic Board

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BAS **1.00**

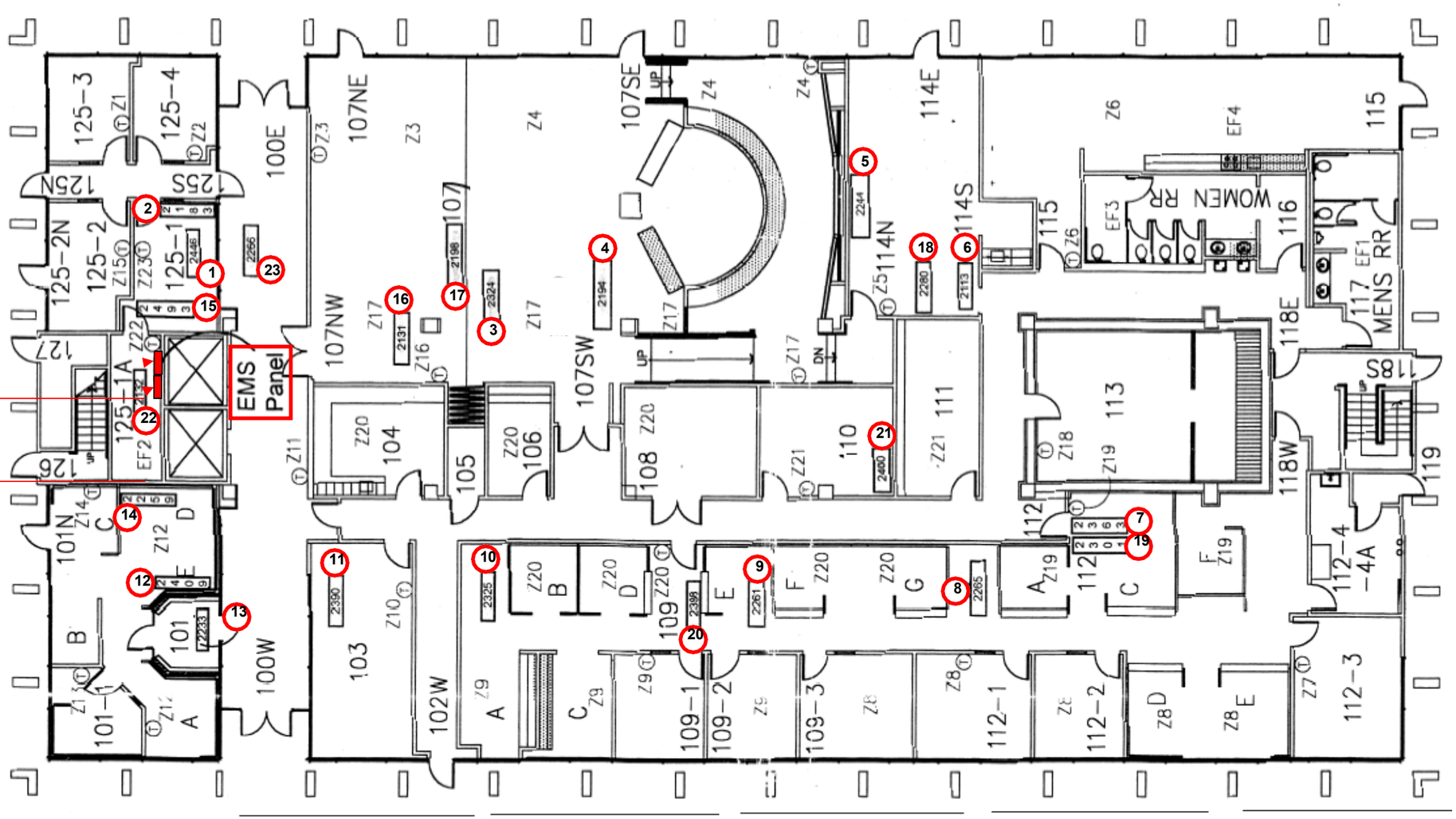
N

SUNBELT CONTROLS

1st Floor Layout

XFMR Panel 1

AAR Panel 1



Cmnet COMM RUN:

1st Floor: Begin/Start – AAR, VAV 1-22, VAV 1-15, VAV 1-1, VAV 1-2, VAV 1-23, VAV 1-16, VAV 1-17, VAV 1-13, VAV 1-4, VAV 1-21, VAV 1-5, VAV 1-18, VAV 1-6, VAV 1-7, VAV 1-19, VAV 1-8, VAV 1-9, VAV 1-20, VAV 1-10, VAV 1-11, VAV 1-13, VAV 1-12, VAV 1-14

REV	DATE	DESCRIPTION	BY
2	7/25/2014	Resubmittal Glumac/Southland Review Comments	RV
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0	4/1/2014	Submittal	RV

1.10 1st Floor Plan Layout

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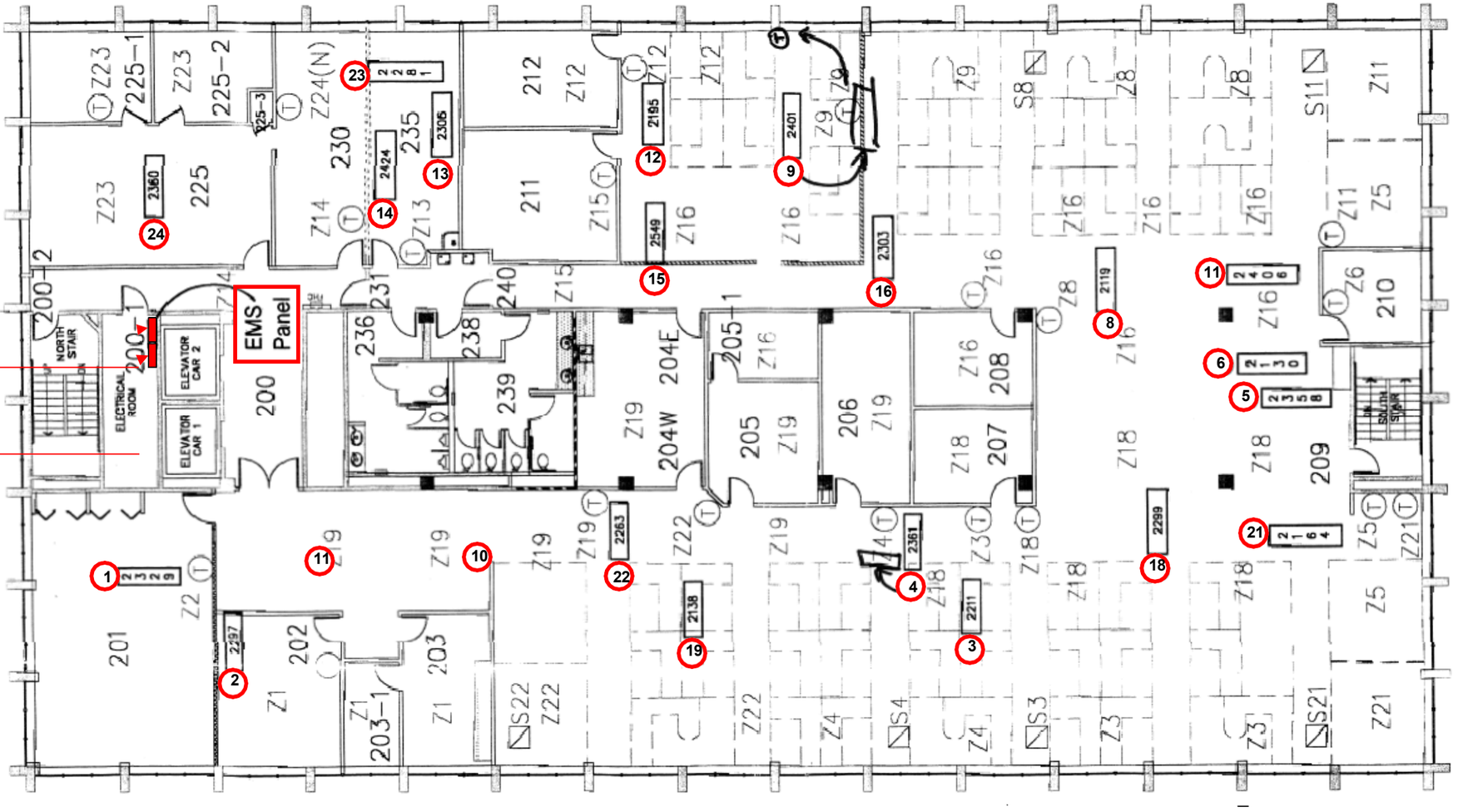
BAS **1.10**

2nd Floor Layout

XFMR Panel 2

AAR Panel 2



Cmnet COMM RUN:

2nd Floor: Begin/Start – AAR, VAV 2-1, VAV 2-2, VAV 2-25, VAV 2-22, VAV 2-11, VAV 2-19, VAV 2-7, VAV 2-4, VAV 2-3, VAV 2-18, VAV 2-21, VAV 2-5, VAV 2-6, VAV 2-20, VAV 2-8, VAV 2-17, VAV 2-9, VAV 2-16, VAV 2-15, VAV 2-12, VAV 2-13, VAV 2-14, VAV 2-23, VAV 2-24

REV	DATE	DESCRIPTION	BY
2	7/25/2014	Resubmittal Glumac/Southland Review Comments	RV
1	4/7/2014	Construction Set	AK
0	4/1/2014	Submittal	RV

1.11 2nd Floor Plan Layout

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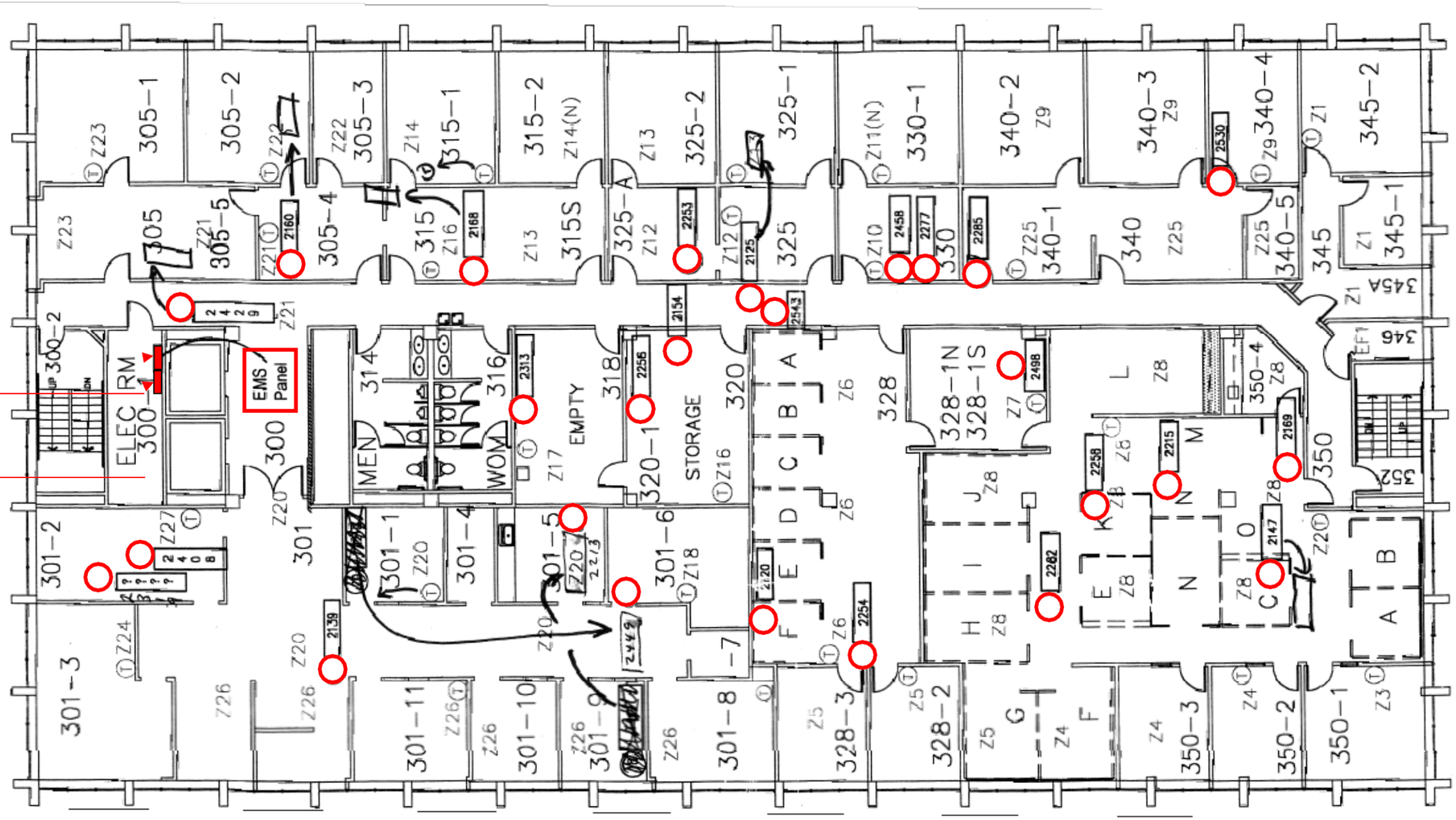
JOB #: 765674

BAS **1.11**

3rd Floor Layout

XFMR Panel 3

AAR Panel 3



Cmnet COMM RUN:

3rd Floor: Begin/Start – AAR, VAV 3-24, VAV 3-27, VAV 3-26, VAV 3-18, VAV 3-20, VAV 3-6, VAV 3-5, VAV 3-7, VAV 3-8, VAV 3-3, VAV 3-2, VAV 3-4 VAV 3-1, VAV 3-9, VAV 3-25, VAV 3-10, VAV 3-11, VAV 3-12, VAV 3-13, VAV 3-14, VAV 3-15, VAV 3-16, VAV 3-17, VAV 3-21, VAV 3-22, VAV 3-23

REV	DATE	DESCRIPTION	BY
2	7/25/2014	Resubmittal Glumac/Southland Review Comments	RV
1	4/7/2014	Construction Set	AK
0	4/1/2014	Submittal	RV

1.12 3rd Floor Plan Layout

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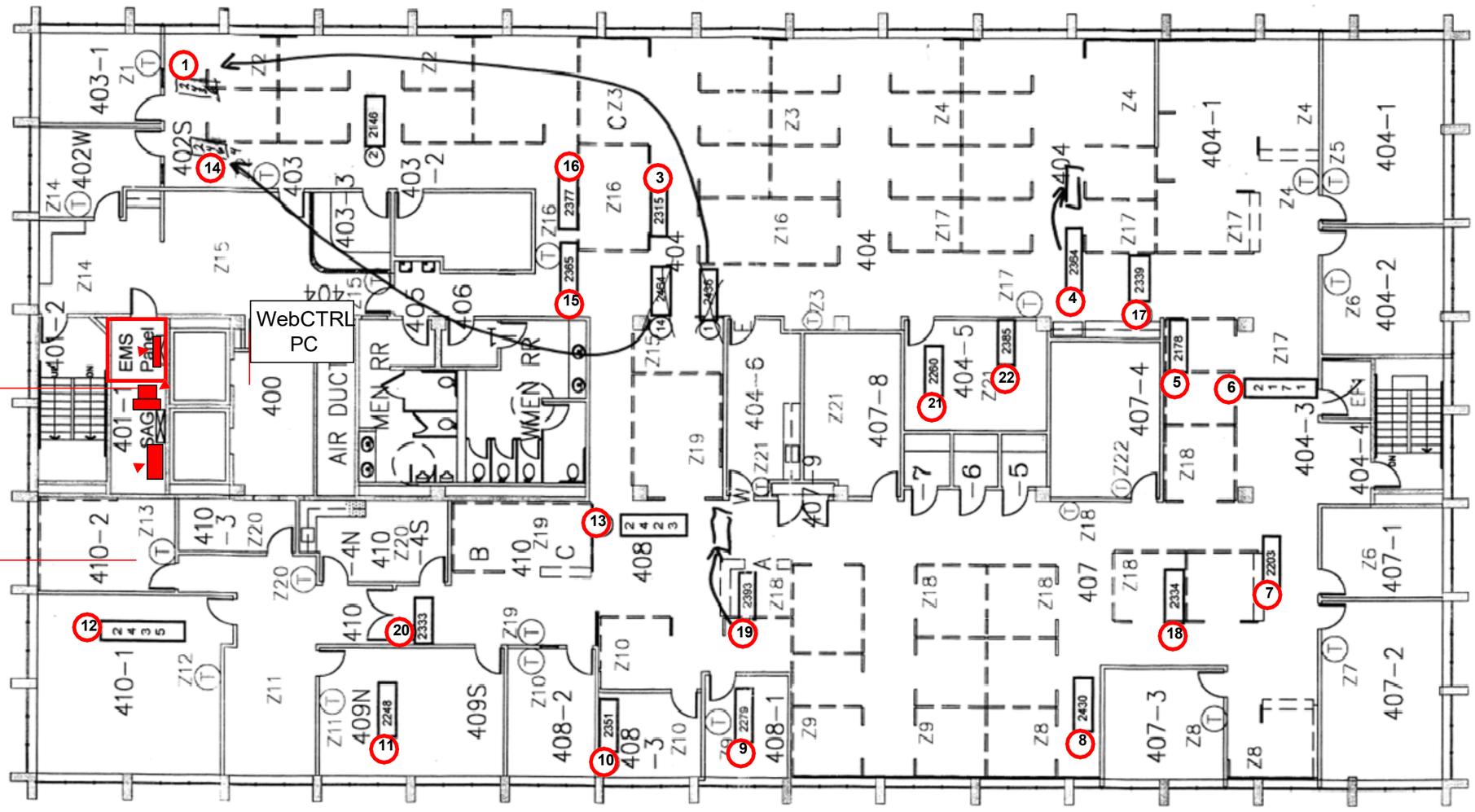
JOB #: 765674

BAS **1.12**

4th Floor Layout

XFMR Panel 4

LGR/AAR Panel



Cmnet COMM RUN:

4th Floor: Begin/Start – AAR, VAV 4-14, VAV 4-1, VAV 4-15, VAV 4-16, VAV 4-3, VAV 4-21, VAV 4-22, VAV 4-4, VAV 4-17, VAV 4-5, VAV 4-6 VAV 4-7, VAV 4-18, VAV 4-8, VAV 4-19, VAV 4-9, VAV 4-13, VAV 4-10, VAV 4-20, VAV 4-11, VAV 4-12

REV	DATE	DESCRIPTION	BY
2	7/25/2014	Resubmittal Glumac/Southland Review Comments	RV
1	4/7/2014	Construction Set	AK
0	4/1/2014	Submittal	RV

1.13 4th Floor Plan Layout

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Direct Digital Controls Project

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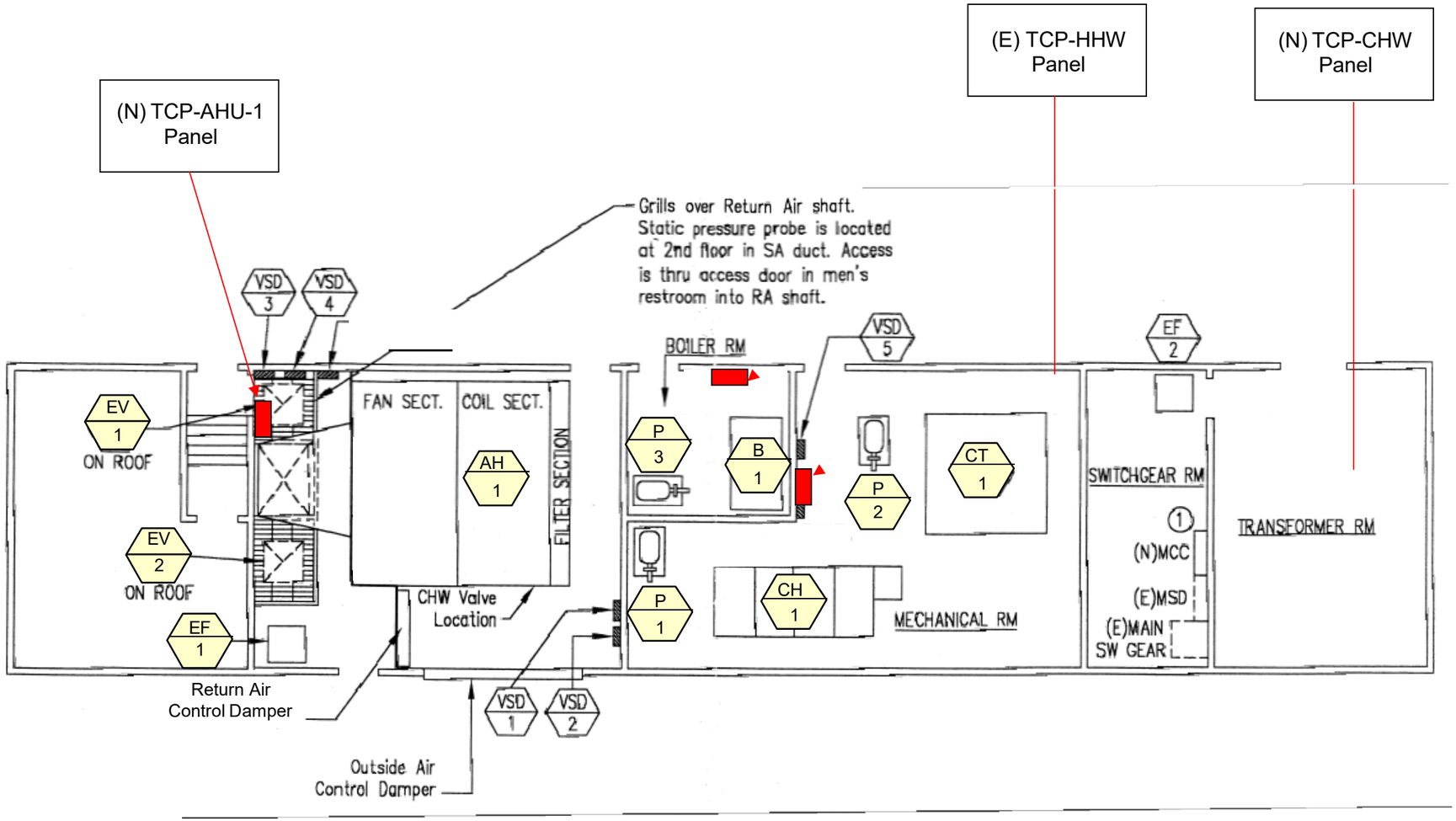
JOB #: 765674

BAS **1.13**



Cmnet PRIMARY COMM RUN:

Begin/Start – LG, 1st Floor AAR, 2nd Floor AAR, 3rd Floor AAR, 4th Floor AAR, AC-1, Boiler, Chiller

REV	DATE	DESCRIPTION	BY
2	7/25/2014	Resubmittal Glumac/Southland Review Comments	RV
1	4/7/2014	Construction Set	AK
0	4/1/2014	Submittal	RV

1.14 Penthouse Floor Plan Layout

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BAS **1.14**

Building Gateway / 4th Floor AAR Module

FIELD VERIFY POWER INFO 2

CONTROL PANEL # LABEL DESCRIPTION:
TCP-LGR Gateway & Interface

Panel Rm Location: 4th Floor – Elec Rm 400-1

10A Ckt Bkr **TB-PWR** H N G

POWER CIRCUIT FROM:
PNL #:
CKT #:

VOLT: **120VAC**
120VAC BY CONTROLS CONTRACTOR

TB-1
X1-
X1+

TX-2 100va
TX-1 100va

REC

X2-
X1- **TB-1** 24VAC Power to below

HUB

CAT5e to Customer Network (See network riser diagram)

CAT5e (SVC) to TCP-CHW Panel

(See network riser diagram)

Comm to next control module

(See network riser diagram)

ALC Gateway Checklist:

AUTOMATEDLOGIC® CORPORATION

CONTROL MODULE **ADDRESS**

LGR25 **1**

24 VA Gnd 24Vac

TB-1
X1-

10/100 BaseT Ethernet
Not Used
IP Address: 10.210.40.22

NEW TCP/IP ADDRESS FROM OWNER FOR LGR

EXTERNAL Gnd
BATTERY +3V

External Internal

Net +
Net -
Shield

CMnet Mode

PROGRAM/ FB NAME(S)

Arc156 MSTP
BT485 OR
9600 19.2k 38.4k 76.8k

Gnd
Rnet+
Rnet-
Term

+12V **Rnet**

EIA-

485 **232**
Net+ Tx
Net- Rx
n/c DTR
n/c DCD
BT485

Signal Ground
EIA-232 EIA-485

.equipment
.equipment
.equipment

BT485 EIA-232

EIA-2wire 4wire 232
Signal Ground

EIA-485
n/c Rx- DCD
n/c Rx+ DTR
Net- Tx- Rx

485-2wire 485-4wire
Net+ Tx+ Tx

AUTOMATEDLOGIC® CORPORATION

Net +
Net -
Shield

DIAG485

24ac/dc
Gnd
7.2VA

TB-1
X1-

AUTOMATEDLOGIC® CORPORATION **20** VA Gnd 24Vac

TB-1
X2-
X2+

CONTROL MODULE **ADDRESS**

AAR **14**

Comm1 **Comm2**

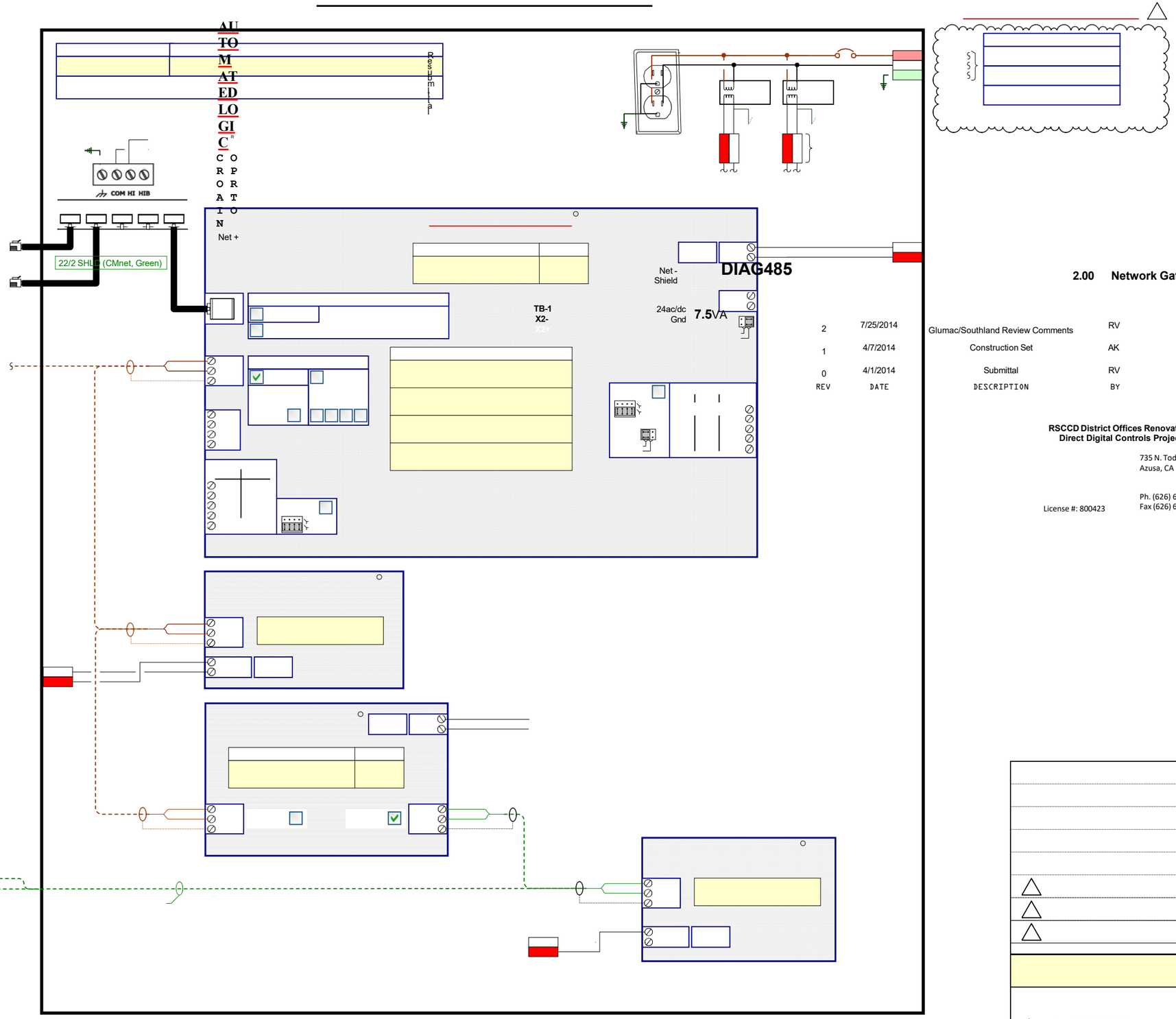
BT485 BT485

Com

evious & to

Net + Net - Shield

Net + Net - Shield



next control module
(See network riser diagram)

REV	DATE	DESCRIPTION	BY
2	7/25/2014	Glumac/Southland Review Comments	RV
1	4/7/2014	Construction Set	AK
0	4/1/2014	Submittal	RV

2.00 Network Gateway Module Detail

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JOB #: 765674

BAS **2.00**

N

2nd Floor Network AAR Module

CONTROL PANEL # LABEL DESCRIPTION:

TCP-AAR-2 2nd Floor Network AAR Panel

Panel Rm Location: 2nd Floor – Elec Rm 200-1

FIELD VERIFY POWER INFO 2

10A Ckt Bkr **TB-PWR**

H
N
G

TX-1
50va

POWER CIRCUIT FROM:
PNL #:
CKT #:
VOLT: **120VAC**

120VAC BY CONTROLS CONTRACTOR

X1- **TB-1** 24VAC
Power to below

AUTOMATEDLOGIC CORPORATION **20** VA Gnd 24Vac

TB-1
X1-

CONTROL MODULE	ADDRESS
AAR	**12**

Comm1
Net +
Net -
Shield

BT485

BT485

Comm2
Net +
Net -
Shield

Comm from previous & to next control module (See network riser diagram)

22/2 SHLD (CMnet, Orange)

22/2 SHLD (CMnet, Green)

AUTOMATEDLOGIC CORPORATION

Net +
Net -
Shield

DIAG485

TB-1
X1-

24ac/dc
Gnd

7.5VA

Typical of:

CONTROL PANEL #	LABEL DESCRIPTION:	CONTROL MODULE:	ADDRESS:	PANEL RM LOCATION:
TCP-AAR-3	3rd Floor AAR Network Panel	**AAR**	**13**	3rd Floor – Elec Rm 300-1
TCP-AAR-1	1st Floor AAR Network Panel	**AAR**	**14**	1st Floor – Elec Rm 125-1A

REV	DATE	DESCRIPTION	BY
2	7/25/2014	Resubmittal Glumac/Southland Review Comments	RV
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0	4/1/2014	Submittal	RV

2.01 Network Gateway Module Detail

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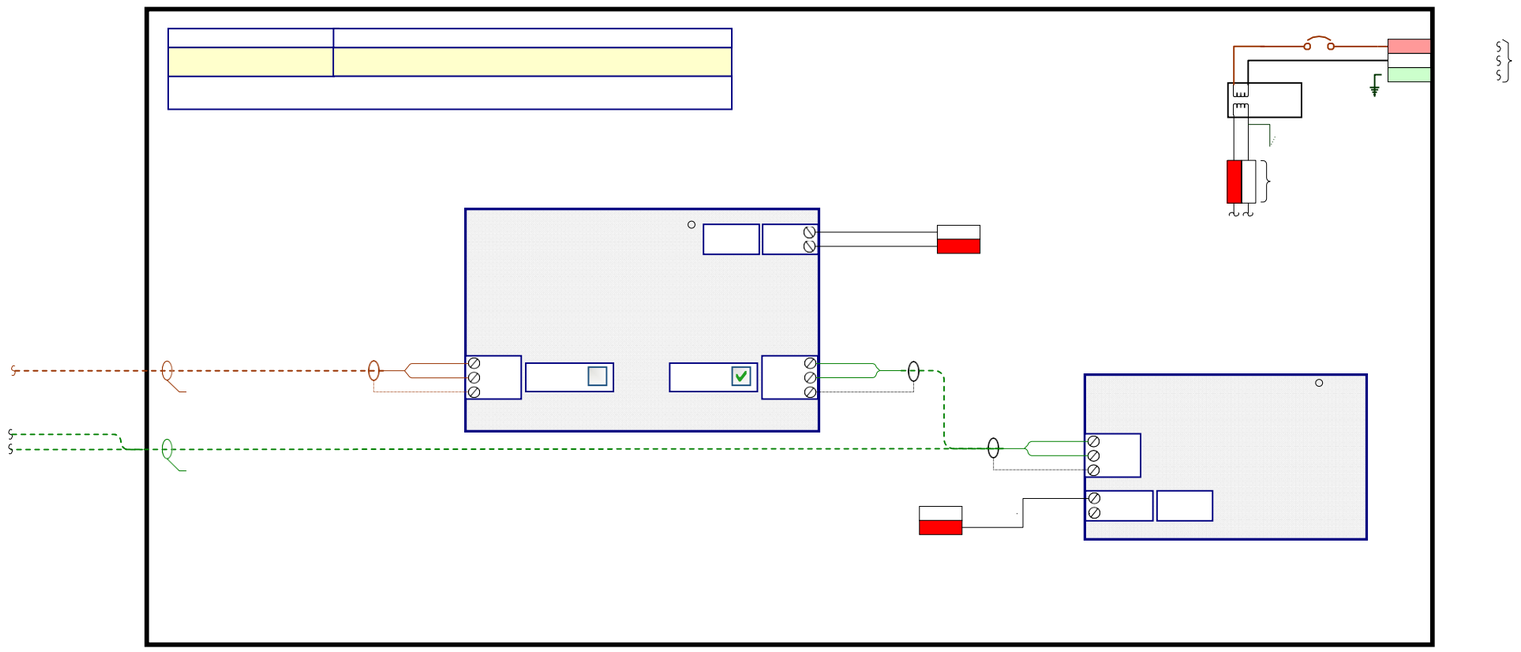
JOB #: 765674

BAS **2.01**

N

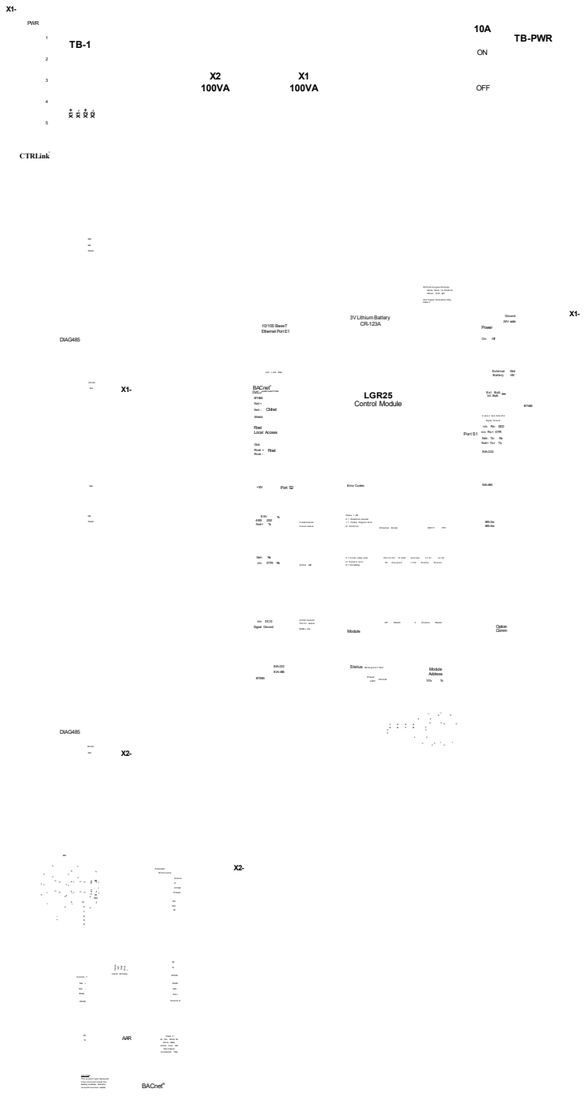


△

SUNBELT CONTROLS

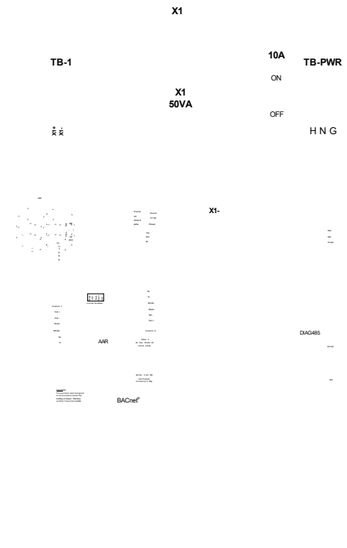
TCP-LGR
SUNBELT CONTROLS
BLDG GATEWAY PANEL

NEMA 1 30HX24WX06D



TCP-AAR-2
SUNBELT CONTROLS
2ND FLR NETWORK AAR PANEL

NEMA 1 16HX16WX6D



Typical of:

REV	DATE	DESCRIPTION	BY
2	7/25/2014	Resubmittal Glumac/Southland Review Comments	RV
1	4/7/2014	Construction Set	AK
0	4/1/2014	Submittal	RV

2.01 Network Gateway Panel Layout

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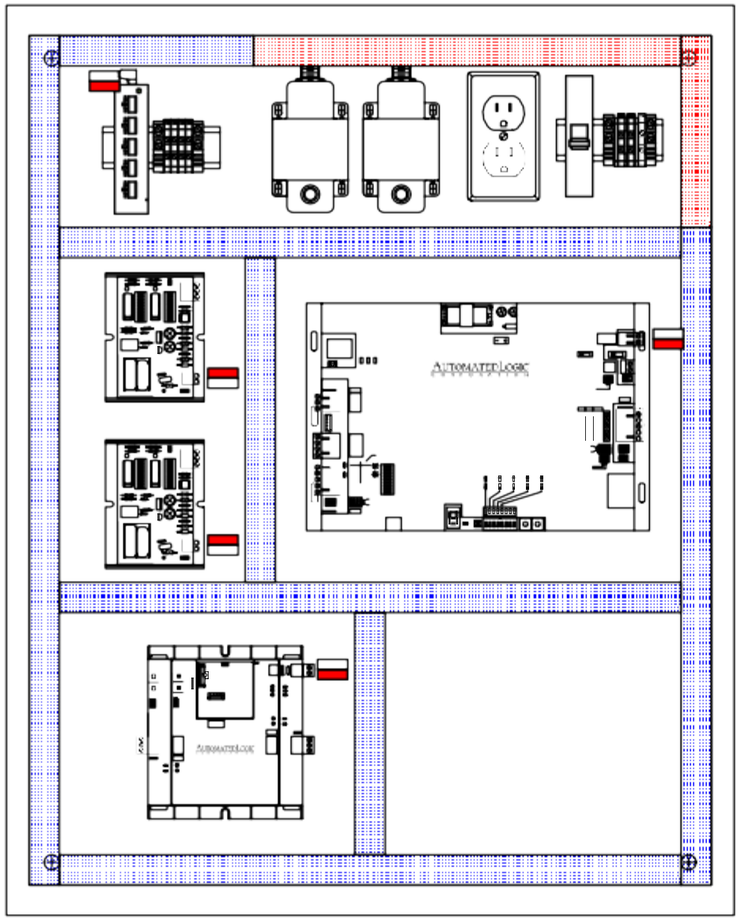
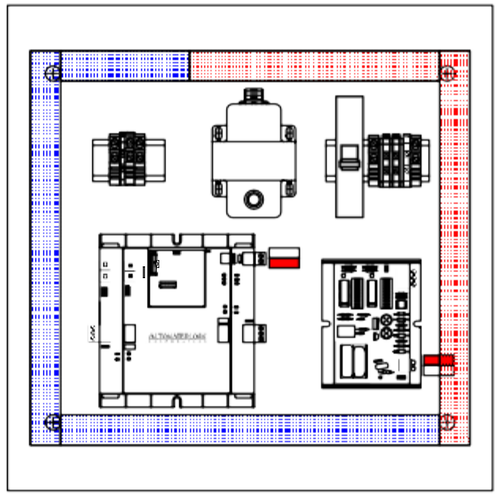
BAS **2.01**

N





[redacted]

SUNBELT CONTROLS

CHW System Control Schematic

Object Name	Description	Notes	BACnet Object	Instance
	ANALOG READ POINTS			
SYS_ECHW	System ECHW Temp	Divide by 10	AV	1
SYS_LCHW	System LCHW Temp	Divide by 10	AV	2
SYS_ECW	System ECW Temp	Divide by 10	AV	3
SYS_LCW	System LCW Temp	Divide by 10	AV	4
LCHW_SETPT_SV	LCHW Setpoint SV	Divide by 10	AV	7
M1_POWER_KW	Module 1 Power KW	Divide by 10	AV	15
M2_POWER_KW	Module 2 Power KW	Divide by 10	AV	21
M3_POWER_KW	Module 3 Power KW	Divide by 10	AV	27
M4_POWER_KW	Module 4 Power KW	Divide by 10	AV	33
M5_POWER_KW	Module 5 Power KW	Divide by 10	AV	39
M6_POWER_KW	Module 6 Power KW	Divide by 10	AV	45
M7_POWER_KW	Module 7 Power KW	Divide by 10	AV	51
M8_POWER_KW	Module 8 Power KW	Divide by 10	AV	57
	DIGITAL READ POINTS			
CHW_FLOW_AL	Chilled Water Flow Input	Fault=1 & Normal=0	BV	2
CW_FLOW_AL	Condenser Water Flow Inpu	Fault=1 & Normal=0	BV	3
CHW_RESET_ACT	Chilled Water Reset Active	Active=1 & Inactive=0	BV	17
RUN_STATUS	Run Status	Running=1 & Not Running=0	BV	19
M1_COMP_ON	Module 1 Compressor On	On=1 & Off=0	BV	21
M2_COMP_ON	Module 2 Compressor On	On=1 & Off=0	BV	23
M3_COMP_ON	Module 3 Compressor On	On=1 & Off=0	BV	25
M4_COMP_ON	Module 4 Compressor On	On=1 & Off=0	BV	27
M5_COMP_ON	Module 5 Compressor On	On=1 & Off=0	BV	29
M6_COMP_ON	Module 6 Compressor On	On=1 & Off=0	BV	31
M7_COMP_ON	Module 7 Compressor On	On=1 & Off=0	BV	33
M8_COMP_ON	Module 8 Compressor On	On=1 & Off=0	BV	35
CHW_PUMP_EN	Chilled Water Pump Enable	Enabled = 1 & Disabled = 0	BV	41
CW_PUMP_EN	Condenser Water Pump Ena	Enabled = 1 & Disabled = 0	BV	42
	ANALOG WRITE POINTS			
LCHW_SETPT_SV	LCHW Setpoint SV	Divide by 10	AV	7

Reserve ALC I/O Points for Tower Filter S/S and DP. Confirm with SI as to Equipment.

TB-1
X3-
X3+
109 CONDENSER WATER BYPASS VALVE CTRL - AO
REUSE EXISTING VALVE & ACTUATOR
CWR TEMP - AI 4
1 2 3 V-ACT-1
ITS-4-JB
TW-1
2
2
CHW RETURN TEMP - AI 2
COOLING TOWER CT-1
CWP-2
TW-1
ITS-4-JB
ITS-4-JB
SEE CT VFD WIRING DETAIL BELOW
SEE CWP WIRING DETAIL BELOW
CHILLER – CH-1
CHWP-1
ITS-4-JB
TW-1
SEE CHWP WIRING DETAIL BELOW
CHWR
5 CT - COOLING TOWER TEMP - AI
SEE CH WIRING DETAIL BELOW
3 CWS TEMP - AI
TW-1
CHWS
ITS-4-JB
CHW SUPPLY TEMP - AI 1

Bill of Materials

DID	DESCRIPTION	MANUFACTURER	PART NUMBER	QTY
ITS-4-JB	IMMERSION PROBE 4 IN. W/J-BOX	BAPI	BA/10K-2-I-4-JB	5 ea
R-DC	24VDC DPDT RELAY WITH LIGHT INDICATOR	VERIS	VMD2B-F24D	7 ea
R^	DPDT RELAY SOCKET	VERIS	VBD2B-F	7 ea
TW-1	IMMERSION TEMP WELL 4 IN.	BAPI	BA/4MB	4 ea
V-ACT-1	CHW SYSTEM VALVE ACTUATOR	BELIMO	GM24-SR US (EXISTING)	1 ea

MISC. POINT MONITORING DETAIL

R-DC R^
108 ROOF SIGN 2 LIGHT ENABLE - DO — ROOF SIGN
6 PHOTOCELL - AI — PHOTOSENSOR

Chiller BACnet Interface - List Monitored and controlled points made available from Chiller, upon discovery on these Drawings.

See SI Piping Reconfiguration Drawings for Instrumentation Locations (Wells, Valves, Pipe Sizes, etc.

Provide (4) New TW-1 (4" Immersion Temp Wells) for installation onto new piping

CH-1 – CHILLER WIRING DETAIL

SETP ADJUST — CH - CHILLER SETPOINT ADJUSTMENT - AO 110
R-DC R^
AUTO START 2 6 — CH - CHILLER ENABLE - DO 101
STATUS
ALARM
2
INTERFACE — BACnet MS/TP from AMR (See network riser diagram)

See SI Chiller Installation Manual for Devices or Interlocking Wiring required for the New Chiller/Cooling Tower (Flow Switches, Vibration Switches, DP Switches).

CHWP-1 – CHILLED WATER PUMP WIRING DETAIL

460 VAC/3PH/60HZ

MCC Starter
12 CHWP - CHILLED WATER PUMP STATUS - DI — REUSE EXISTING — H O
CURRENT SWITCH — A
102 CHWP - CHILLED WATER PUMP S/S - DO

EF-1 – EXHAUST FAN WIRING DETAIL

460 VAC/3PH/60HZ

MCC Starter
7 EF-1 - EXHAUST FAN STATUS - DI — REUSE EXISTING — H O
CURRENT SWITCH — A
ENT SWITCH

CT-1 – COOLING TOWER FAN VFD WIRING DETAIL

R-DC R^
104 CT - COOLING TOWER FAN S/S - DO — 1 9 AUTO START

105

EF-1-EXHAUST FANS TO P-DO

2 7/25/2014 Resubmittal Glumac/Southland Review Comments RV

CT - COOLING TOWER FAN SPEED CTRL - AO

107

CT - COOLING TOWER FAN STATUS - DI

15

REUSE EXISTING CURRENT SWITCH

2 0-10vdc
3 SPEED CONTROL
17
18 VFD FAULT

VARIABLE FREQUENCY DRIVE

T1 T2 T3

460 VAC/3PH/60HZ
Motor

CWP-2 – CONDENSER WATER PUMP WIRING DETAIL

CWP - CONDENSER WATER PUMP STATUS - DI

14

REUSE EXISTING CURRENT SWITCH

CWP - CONDENSER WATER PUMP S/S - DO

103

R-DC R^

460 VAC/3PH/60HZ

MCC Starter

H O A

R-DC R^

EF-2 – EXHAUST FAN WIRING DETAIL

R-DC R^

460 VAC/3PH/60HZ

MCC Starter

H O A

R-DC R^

8 EF-2 - EXHAUST FAN STATUS - DI

REUSE EXISTING CURRENT SWITCH

106 EF-2 - EXHAUST FAN START/STOP - DO

REV	DATE	DESCRIPTION	BY
1	4/7/2014	Construction Set	AK
0	4/1/2014	Submittal	RV

3.00 CHW System Control Schematic

RSCCD District Offices Renovation
Direct Digital Controls Project

Proj. Mgr.: ER/RG
Proj. Engr.: RV

JOB #: 765674

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Azusa, CA 91702

Ph. (626) 610-2340
Fax (626) 610-2350

License #: 800423

BAS 3.00

C

SUNBELT CONTROLS

CHW System Module Details

FIELD VERIFY POWER INFO 2

CONTROL PANEL # LABEL DESCRIPTION:
TCP-CHW Chilled Water Plant

Panel Rm Location: Penthouse - Mechanical Room

10A Ckt Bkr **TB-PWR** H N G

POWER CIRCUIT FROM:
PNL #:
CKT #:

VOLT: **120VAC**
120VAC BY CONTROLS CONTRACTOR

TX-3 **100va** **TX-2** **100va** **TX-1** **100va**

REC

X3- X2- X1-

TB-1 24VAC Power to below

TB-1

X1-

Comm from previous & to

next control module
(See network riser diagram)

Xnet to first expansion module

ALC Controller Checklist:

AUTOMATEDLOGIC® CORPORATION

24Vac Gnd **50** VA

Net + **CMnet Mode**

Net - Shield Arc156 MSTP

BT485 OR Term 9600 19.2k 38.4k 76.8k

Gnd

Rnet+ Rnet- +12V **Rnet**

XNet + XNet - Shield

CONTROL MODULE	ADDRESS
ME812u	**02**

PROGRAM/ FB NAME(S)

santiago_chiller_district_office .equipment

roof_sign_district_office .equipment

exhaust_fan_1_district_office .equipment

exhaust_fan_2_district_office .equipment

EXTERNAL BATTERY Gnd +3V

External Internal

1 CHW SUPPLY TEMP - AI
2 CHW RETURN TEMP - AI
3 CWS TEMP - AI
4 CWR TEMP - AI

5 CT - COOLING TOWER TEMP - AI
6 PHOTOCELL - AI
7 EF-1 - EXHAUST FAN STATUS - DI
2 8 EF-2 - EXHAUST FAN STATUS - DI

12 CHWP - CHILLED WATER PUMP STATUS - DI

Universal Input Verification Checklist:

	Point Addr. & Input #	Check'd By Tech Initials	Date Verified	Input Value Reading	Actual Fld. Measured Value	Offset
1 2	AI-01					
3 4	AI-02					
5 6	AI-03					
7 8	AI-04					
1 2	AI-05					
3 4	AI-06					
5 6	DI-07					
7 8	DI-08					
1 2	UI-09					
3 4	UI-10					
5 6	UI-11					
7 8	DI-12					

Set Jumpers
Universal Input Mode Select

mA Therm. DryC,RTD Volts

24Vdc Aux Power Out
24Vdc

Universal Output Verification Checklist:

By Tech Initials	Date Verified	Analog Out % 0	25	50	75	100	Digital On	Off	Point Addr. & Type	
									DO-08	16 15
									DO-07	14 13
									DO-06	12 11
									DO-05	10 9
									DO-04	8 7
									DO-03	6 5
									DO-02	4 3
									DO-01	2 1

Set Jumpers
Universal Output Mode Select

0-20mA 0-10Vdc Relay

NOTE:

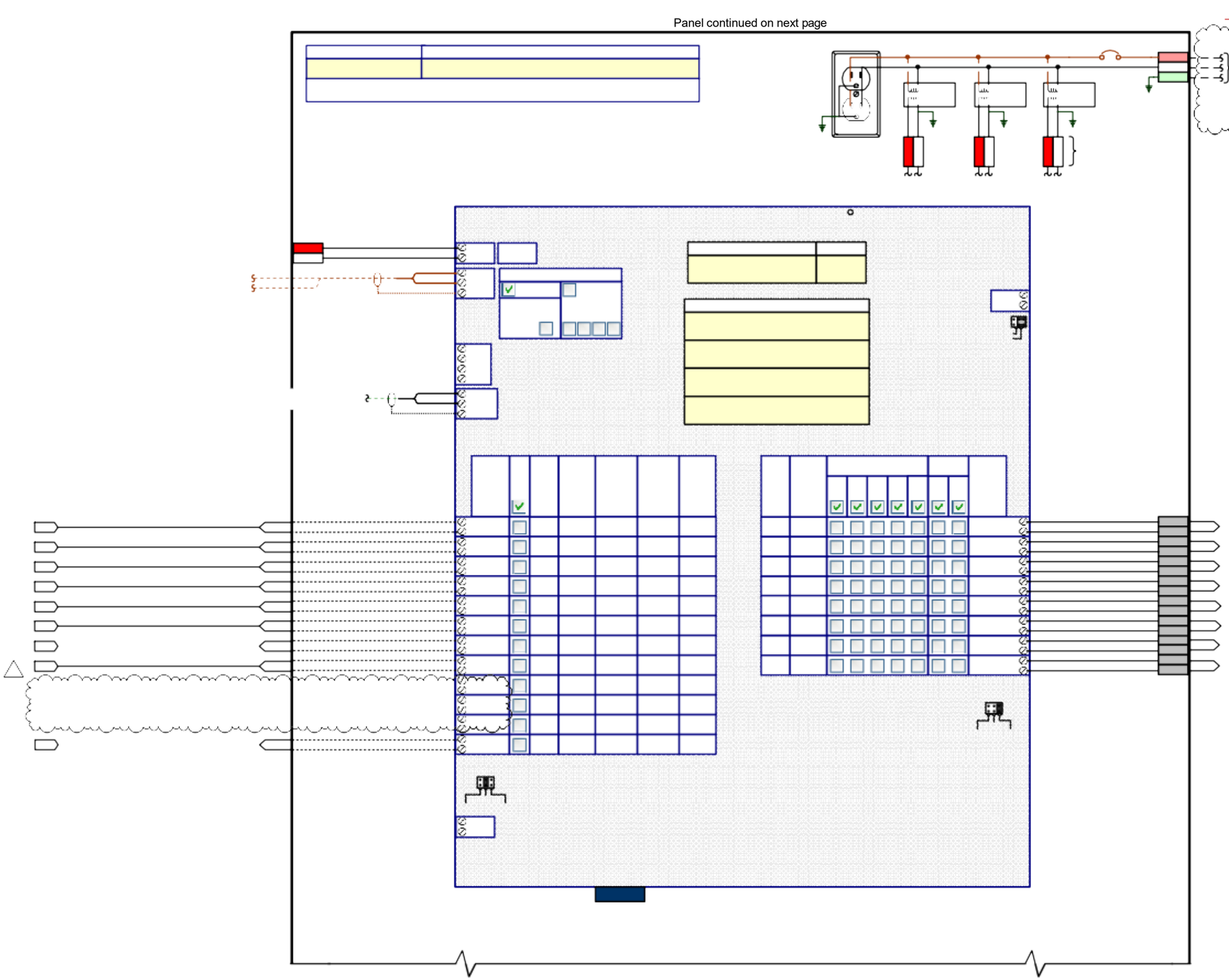
For each digital output, turn the potentiometer clockwise until it stops (maximum output) and leave it in this position.

TB-2

16	ROOF SIGN 2 LIGHT ENABLE - DO	108
15		
14	CT - COOLING TOWER FAN SPEED CTRL - AO	107
13		
12	EF-2 - EXHAUST FAN START/STOP - DO	106
11		
10	EF-1 - EXHAUST FAN START/STOP - DO	105
9		
8		
7		
6	CT - COOLING TOWER FAN S/S - DO	104
5		
4	CWP - CONDENSER WATER PUMP S/S - DO	103
3		
2	CHWP - CHILLED WATER PUMP S/S - DO	102
1		
	CH - CHILLER ENABLE - DO	101

REV	DATE	DESCRIPTION	BY
2	7/25/2014	Resubmittal Glumac/Southland Review Comments	RV
1	4/7/2014	Construction Set	AK
0	4/1/2014	Submittal	RV

Panel continued on next page



RSCCD District Offices Renovation
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Proj. Engr.: RV

JOB #: 765674

BAS **3.01**

C

SUNBELT CONTROLS

CHW System Module Details

Panel continued from previous page

TB-1

X2-

24Vac
Gnd

24Vdc Aux Power Out
24Vdc

XNet + Xnet Remote Expansion
XNet -

Shield

Xnet

ALC Controller Checklist:

AUTOMATEDLOGIC® CORPORATION

45 VA

CONTROL MODULE	ADDRESS
MEx48u	**01**

EXTERNAL BATTERY Gnd
+3V

External
Internal

Universal Input Verification Checklist:

	Point Addr. & Input #	Check'd By Tech Initials	Date Verified	Input Value Reading	Actual Fld. Measured Value	Offset
1	UI-01					
2						
3	DI-02					
4						
5	DI-03					
6						
7	UI-04					
8						
1	UI-05					
2						
3	UI-06					
4						
5	UI-07					
6						
7	UI-08					
8						

Set Jumpers
Universal Input
Mode Select

Therm.
mA DryC.RTD Volts

Universal Output Verification Checklist:

By Tech Initials	Date Verified	Analog Out % 0	25	50	75	100	Digital On	Off	Point Addr. & Type	
									UO-08	16 15
									UO-07	14 13
									DO-06	12 11
									AO-05	10 9
									AO-04	8 7

Set Jumpers
Universal Output
Mode Select

0-10Vdc
0-20mA Relay

NOTE:

For each digital output, turn the potentiometer clockwise until it stops (maximum output) and leave it in this position.

2

14 CWP - CONDENSER WATER PUMP STATUS - DI
15 CT - COOLING TOWER FAN STATUS - DI
16 COOLING TOWER WATER FILTER DPT - AI

TB-2

26		
25		
24		
23		
22	COOLING TOWER WATER FILTER PUMP - DO	111
21		
20	CH - CHILLER SETPOINT ADJUSTMENT - AO	110
19		
18		
17	CONDENSER WATER BYPASS VALVE CTRL - AO	109

AUTOMATEDLOGIC® CORPORATION

20 VA Gnd
24Vac

CONTROL MODULE	ADDRESS
AMR	**03**

Comm1
Net +
Net - BT485
Shield

Comm from previous & to next control module
(See network riser diagram)

Net + **CMnet Mode**

BACnet MS/TP Interface to Chiller

Net - Arc156 MSTP
n/c
n/c BT485 OR Term 9600 19.2k 38.4k 76.8k
Shield

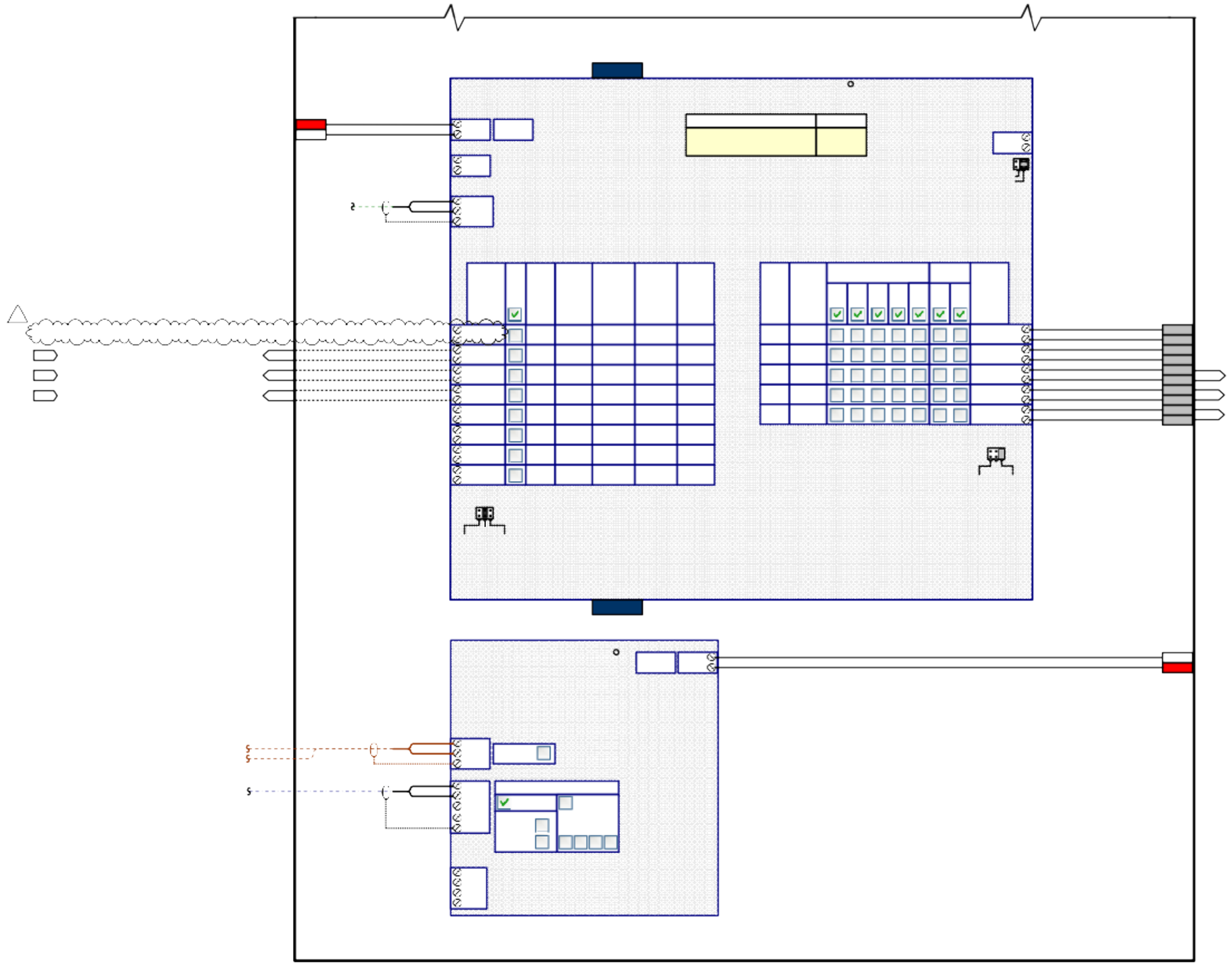
(See network riser diagram)

Gnd

TB-1
X2-

2	7/25/2014	Resubmittal Glumac/Southland Review Comments	RV
1	4/7/2014	Construction Set	AK
0	4/1/2014	Submittal	RV

Rnet+
Rnet-
+12V
Rnet



3.02 CHW System Module Details - EXP-1

RSCCD District Offices Renovation
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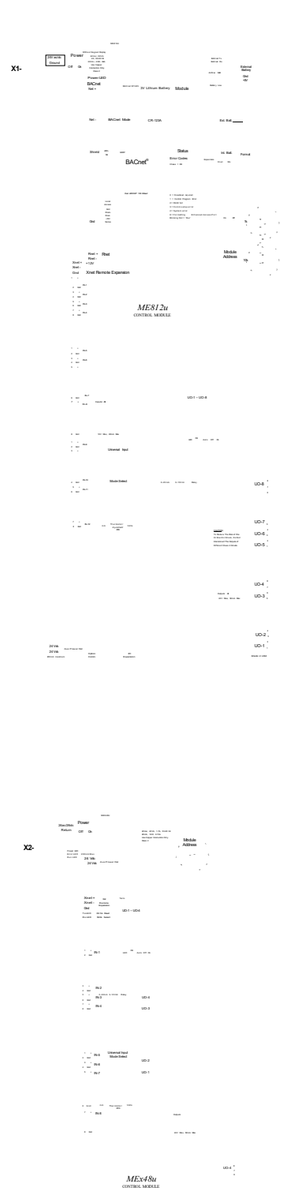
BAS **3.02**

C

SUNBELT CONTROLS

TCP-CHW
SUNBELT CONTROLS
CHILLED WATER SYSTEM PANEL

NEMA 1 30HX24WX06D



TB-2

TB
(1-20)

10A
ON
OFF
TB-PWR

X1
100VA

X2
100VA

X3
100VA

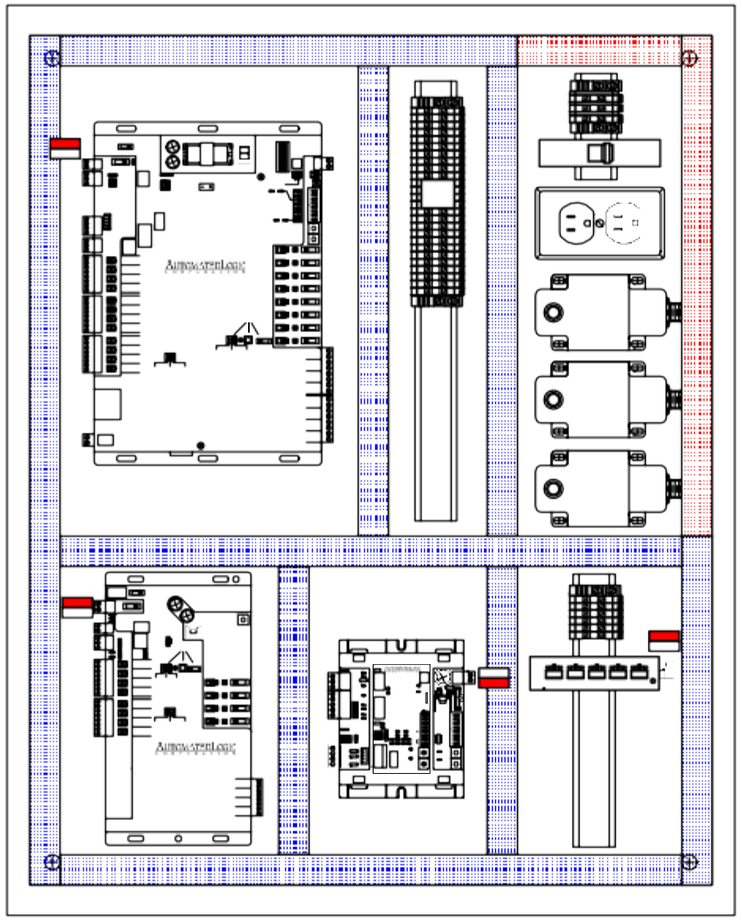
TB-1

X1+
X1-
X2+
X2-
X3+
X3-
X1-

CTRLink
G
R
S2
S1
PWR

X2-

INSTALL CONTROLS EQUIPMENT IN A NEW TCP



REV	DATE	DESCRIPTION	BY
2	7/25/2014	Resubmittal Glumac/Southland Review Comments	RV
1	4/7/2014	Construction Set	AK
0	4/1/2014	Submittal	RV

3.03 CHW System Panel Layout

RSCCD District Offices Renovation
Direct Digital Controls Project

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BAS **3.03**

C

Chilled Water System Sequence of Operations:

System Description:
The central plant system consists of:
- (1) Water Cooled Centrifugal Chiller
- (1) CHW Pump
- (1) Cooling Tower
- (1) CW Pump

Chiller - Run Conditions:
The chiller shall be enabled to run whenever:
- The outside air temperature is greater than 54°F (adj.).
- AND CW & CHW flow switches indicate proven flow status.
- AND AHU is ON and output to CHW valve is > 50% (adj.).

2

To prevent short cycling, the chiller shall run for and be off for minimum adjustable times (initial time=10 minutes), unless shutdown on safeties or outside air conditions.

The chiller shall run subject to its own internal safeties and controls.

Chilled Water Pump Operation:
The chilled water pump shall run anytime the chiller is called to run.

The pump shall start prior to the chiller being enabled and shall stop only after the chiller is disabled. The pump(s) shall therefore have:
- A user adjustable delay on start (initial time=1 minute).
- AND a user adjustable delay on stop (initial time=10 minutes).

2

Chiller - Stop Conditions:
If Building AH System is running and zone requestors collected by the Air Handling Unit controller and AHU SAT control loop determines chilled water control output to the CHW valve is 0% for 15 min (adj.), the Chiller shall be disabled, CHW Pump shall continue to run and CWP shall stop if CW bypass valve is positioned to 100% bypass. Chilled Water System shall not operate if Building Schedule is unoccupied or SA lock out is active or CW/CHW pump motor status is lost. The delay times shall be set appropriately to allow for orderly chilled water system start-up, shutdown and sequencing per Chiller manufacturer's requirements.

Alarms shall be provided as follows:
- Chilled Water Pump
  - Failure: Commanded on, but the status is off.
  - Running in Hand: Commanded off, but the status is on.
  - Runtime Exceeded: Status runtime exceeds a user definable limit.
  - Loss of CHW Flow

Condenser Water Pump Operation:
The condenser water pump shall run anytime the chiller is called to run.

The pump shall start prior to the chiller being enabled and shall stop only after the chiller is disabled. The pump(s) shall therefore have:
- A user adjustable delay on start (initial time=1 minute).
- AND a user adjustable delay on stop (initial time=10 minutes).

The delay times shall be set appropriately to allow for orderly chilled water system start-up, shutdown and sequencing.

Alarms shall be provided as follows:
- Chilled Water Pump
  - Failure: Commanded on, but the status is off.
  - Running in Hand: Commanded off, but the status is on.
  - Runtime Exceeded: Status runtime exceeds a user definable limit.

Alarms shall be provided as follows:
- Condenser Water Pump
  - Failure: Commanded on, but the status is off.
  - Running in Hand: Commanded off, but the status is on.
  - Runtime Exceeded: Status runtime exceeds a user definable limit.
  - Loss of CW Flow

Chiller Operation:

The delay time shall be set appropriately to allow for orderly chilled water system start-up, shutdown and sequencing.

Alarms shall be provided as follows:
- Chiller
  - Chiller Failure: Commanded on, but the status is off.
  - Chiller Running in Hand: Commanded off, but the status is on.
  - Chiller Runtime Exceeded: Status runtime exceeds a user definable limit.

Chilled Water Supply Temperature Setpoint:

The chilled water supply temperature setpoint shall reset based on outside air temperature or using a trim and respond algorithm based on cooling requirements.

Trim and Respond Based on Cooling:

The chilled water supply temperature setpoint shall reset between 42°F (adj.) and 52°F (adj.) as the facility's chilled water valve open between 95% and 85% (adj.). The CHWS Temperature shall be incrementally reset every 5 minutes (adj.). Once the cooling loads are satisfied (valve between 85 and 95%), the chilled water supply temperature setpoint will gradually rise 1°F every 10 minutes (adj.) over time to reduce cooling energy use.

Cooling Tower Operation:
The cooling tower VFD shall be enabled anytime the chiller is enabled.

Alarms shall be provided as follows:
- Cooling Tower
  - Cooling Tower 1 Failure: Commanded on, but the status is off.
  - Cooling Tower 1 Running in Hand: Commanded off, but the status is on.
  - Cooling Tower Runtime Exceeded: Status runtime exceeds a user definable limit.

Cooling Tower Fan VFD Speed Control:
The controller shall measure the condenser water sump temperature and modulate the cooling towers fan speed to maintain the common condenser sump temperature setpoint of 80°F (adj.).

Alarms shall be provided as follows:
- High Condenser Water Sump Temp: If the condenser water sump temperature is greater than 86°F (adj.).
- Low Condenser Water Sump Temp: If the condenser water sump temperature is less than 38°F (adj.).

CW Bypass Valve – CW Minimum Temperature Control:
The controller shall measure condenser water temp and modulate the condenser water bypass valve to maintain the minimum condenser water temp setpoint of 60°F (adj.).

Chilled Water Temperature Monitoring:
The following temperatures shall be monitored:
- Chilled water supply.
- Chilled water return.

2

Alarms shall be provided as follows:
- High Chilled Water Supply Temp: If the chilled water supply temperature is greater than 55°F (adj.) or deviates from chilled water set point by 5°F (adj.) for longer than 30 min when chilled water system is enabled.
- Low Chilled Water Supply Temp: If the chilled water supply temperature is less than 38°F (adj.).

Condenser Water Temperature Monitoring:
The following temperatures shall be monitored:
- Condenser water supply temperature.
- Condenser water return temperature.

Alarms shall be provided as follows:
- High Condenser Water Supply Temp: If the condenser water supply temperature is greater than 86°F (adj.).
- Low Condenser Water Supply Temp: If the condenser water supply temperature is less than 65°F (adj.).
- High Condenser Water Return Temp: If the condenser water return temperature is greater than 100°F (adj.).
- Low Condenser Water Return Temp: If the condenser water return temperature is less than 75°F (adj.).

Building General Exhaust Fan (EF-1 & EF2):
The exhaust fans shall run whenever AHU starts, but shall not start during Unoccupied, Morning Warm Up, Cool Down or Night Setback modes.

Alarms shall be provided as follows:
- Exhaust Fan Failure: Commanded on, but the status is off.
- Exhaust Fan in Hand: Commanded off, but the status is on.
- Exhaust Fan Runtime Exceeded: Status runtime exceeds a user definable limit (adj.).

Building Roof Sign Light:

The ALC WebCTRL controller for the Cooling System shall monitor Outside Ambient Lighting level through a photocell. Building Roof Sign Lights, one controlled from the Cooling System Controller and the other from the AHU controller, shall energize sign lights when photocell registers a low ambient lighting level.

All inputs and outputs shall be trended every 15min. The data shall be stored at the workstation hard drive and archived by month / year.

2

REV	DATE	DESCRIPTION	BY
2	7/25/2014	Resubmittal Glumac/Southland Review Comments	RV
1	4/7/2014	Construction Set	AK
0	4/1/2014	Submittal	RV

3.04 CHW System Sequence of Operations

RSCCD District Offices Renovation
Direct Digital Controls Project

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Proj. Engr.: RV

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JOB #: 765674

BAS **3.04**

Hot Water System Sequence of Operations:

Boiler System Run Conditions:
The boiler system shall be enabled to run whenever:

- >5 (Adj.) or more Optimized Start-Occupied Zones request heating
- AND outside temperature is less than 65°F (adj.).

The boiler shall run subject to its own internal safeties and controls. The boiler system shall also run for freeze protection whenever the outside air temperature is less than 38°F (adj.).

Boiler System Stop Conditions:
If Heating System is running, Air Handling system is running, and zone heating requestors collected by the Heating System controller control loop determines the HW mixing control valve output 0% for 15min (adj.) (100% bypass of the boiler), the Heating System can be shut down. Heating System shall not operate if Building Schedule is unoccupied or OSA lock out is active or HW pump motor status is lost.

Boiler 1 Alarm:
The following safeties shall be monitored:

- Boiler common alarm (i.e. low water cut off, flame failure, etc.)

Primary Hot Water Pump (HWP-1):
The hot water pumps shall operate when boiler is called to run and continue to run 10 minutes after the boiler is disabled.

To prevent short cycling, the hot water pumps shall have a minimum runtime of 5 minutes (adj.) and a minimum off time of 5 minutes (adj.).

Alarms shall be provided as follows:

- Hot Water Pump
  - Failure: Commanded on, but the status is off.
  - Running in Hand: Commanded off, but the status is on.
  - Runtime Exceeded: Status runtime exceeds a user definable limit.

Primary Hot Temperature Control Valve:
When the Boiler has been disabled and OSA T is less than 60°F, Position control valve to full primary Boiler HW loop recirculation. Energize Boiler and Boiler Pump for several minutes (adj.). Start the Heating Hot Water Pump and gradually open (adj.) the Mixing Valve to the Building HHWS/R Loop until HHWR Temperature reaches 120°F as Boiler stages up to achieve the Boiler Heating Supply Water Temperature setpoint (initial setpoint shall be above 120°F and no greater than 180°F and adjustable only at the Boiler), Heating Water Bypass Control Valve shall eventually open to full system circulation through the Boiler.

Once Building HHWR Temperature is greater than 120°F, Heating Water Bypass Control Valve(s) shall modulate to maintain HHWS Temperature setpoint per the following reset schedule.

OSA Reset Schedule	
OSA T	HHWS T
40°F	180°F
60°F	150°F

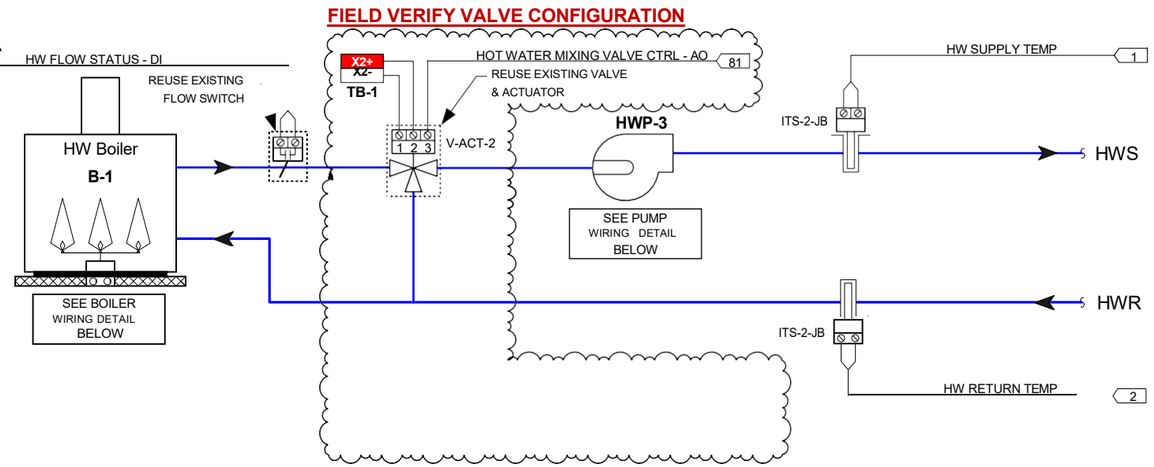
Boiler Hot Water Temperature Monitoring:
The following temperatures shall be monitored:

- Boiler hot water supply.
- Boiler hot water return.

Alarms shall be provided as follows:

- High Boiler Hot Water Supply Temp: If greater than 200°F (adj.).
- Low Boiler Hot Water Supply Temp: If less than 100°F (adj.) for > 30 minutes.

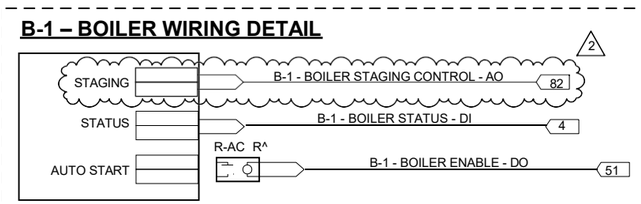
Heating System Control Schematic



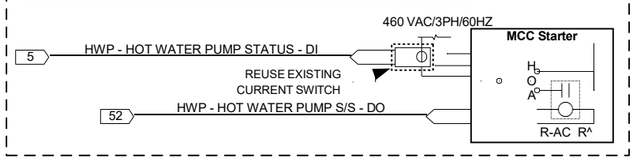
Bill of Materials

DID	DESCRIPTION	MANUFACTURER	PART NUMBER	QTY
ITS-2-JB	IMMERSION PROBE 2 IN. W/J-BOX	BAPI	BA/10K-2-I-2-JB	2 ea
R-AC	24VAC DPDT RELAY WITH LIGHT INDICATOR	VERIS	VMD2B-F24A	2 ea
R^	DPDT RELAY SOCKET	VERIS	VBD2B-F	2 ea
V-ACT-2	HW SYSTEM VALVE ACTUATOR	BELIMO	AM24-SR US (EXISTING)	1 ea

B-1 – BOILER WIRING DETAIL



HWP-1 – HOT WATER PUMP WIRING DETAIL



REV	DATE	DESCRIPTION	BY
2	7/25/2014	Resubmittal Glumac/Southland Review Comments	RV
1	4/7/2014	Construction Set	AK
0	4/1/2014	Submittal	RV

3.10 HW System Control Schematic

RSCCD District Offices Renovation
Direct Digital Controls Project

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Proj. Engr.: RV

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JOB #: 765674

BAS 3.10

HW System Module Details

Power Supply to be installed
in Existing 10x12x4 Enclosure

FIELD VERIFY POWER INFO 2

CONTROL PANEL #	LABEL DESCRIPTION:
TCP-HW	Hot Water System
Panel Rm Location: At Unit	

24VAC
Power to below **X1-**

TX-1
50

20 VA

10A Ckt Bkr **TB-PWR** H N G

POWER CIRCUIT FROM:
PNL #:
CKT #:
VOLT: **120VAC**

Gnd
24Vac **X1-**

120VAC BY CONTROLS CONTRACTOR

ALC Controller Checklist:

AUTOMATEDLOGIC® CORPORATION

Comm from previous & to
next control module
(See network riser diagram)

Net +
Net -
Shield
Arc156
BT485
OR

CONTROL MODULE	ADDRESS	PROGRAM/ FB NAME(S)
ZN253	**04**	**boiler_hwp1_district_office_rev1** .equipment

Term 2

Gnd
Rnet+
Rnet-

+12V **Rnet**

Analog Output Verification Checklist:

By Tech Initials	Date Verified	Analog Out % 0	25	50	75	100	Point Addr. & Type	Terminal Setting
							AO-03	GND AO-3
							AO-02	GND AO-2
							AO-01	GND AO-1

Universal Input Verification Checklist:

	Point Addr. & Input #	Check'd	By Tech Initials	Date Verified	Input Value Reading	Actual Fld. Measured Value	Offset (if appl)		
1	HW SUPPLY TEMP - AI							IN-1	AI-01
2	HW RETURN TEMP - AI							Gnd IN-2	AI-02
3	HW FLOW STATUS - DI							Gnd IN-3	DI-03
4	B-1 - BOILER STATUS - DI							Gnd IN-4	DI-04
5	HWP - HOT WATER PUMP STATUS - DI							IN-5	DI-05
								LED	

Digital Output Verification Checklist:

By Tech Initials	Date Verified	Digital On	Off	Point Addr. & Type	
				DO-02	DO-2
				DO-01	DO-1
					BUSS

2

B-1 - BOILER STAGING CONTROL - AO	82
HOT WATER MIXING VALVE CTRL - AO	81
HWP - HOT WATER PUMP S/S - DO	52
B-1 - BOILER ENABLE - DO	51

TCP-HW
SUNBELT CONTROLS
HOT WATER SYSTEM PANEL

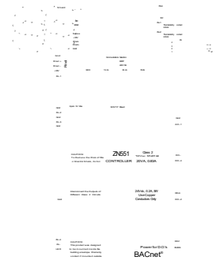
EXISTING ENCLOSURES

Power Supply to be installed
in Existing 10x12x4 Enclosure

Old HHW Control Panels

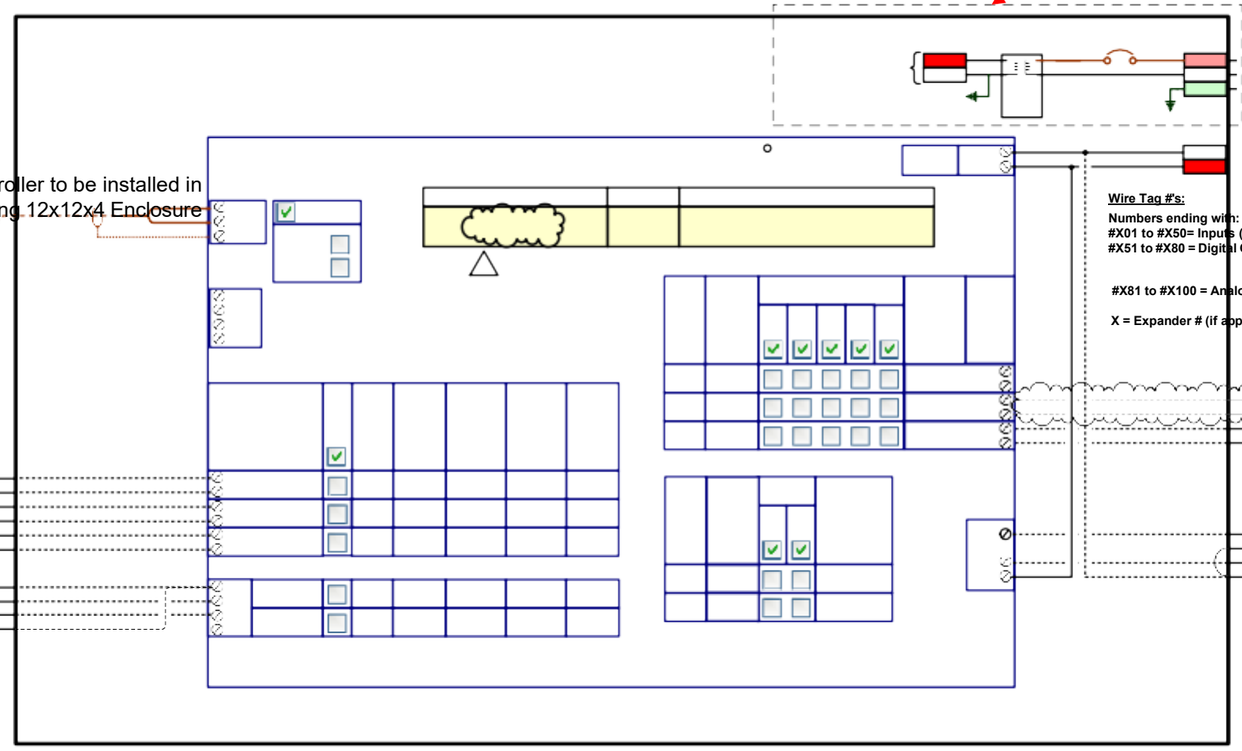
TB-PWR

10A
ON
OFF
50VA
H
N
G



Controller to be installed in
Existing 12x12x4 Enclosure

INSTALL CONTROLS EQUIPMENT IN EXISTING ENCLOSURES



Resubmittal

REV	DATE	DESCRIPTION	BY
2	7/25/2014	Glumac/Southland Review Comments	RV
1	4/7/2014	Construction Set	AK
0	4/1/2014	Submittal	RV

3.11 HW System Module Details

Wire Tag #'s: #

Numbers ending with:
#X01 to #X50= Inputs (DI or AI)
#X51 to #X80 = Digital Outputs (DO)

#X81 to #X100 = Analog Outputs (AO)

X = Expander # (if applicable)

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Direct Digital Controls Project

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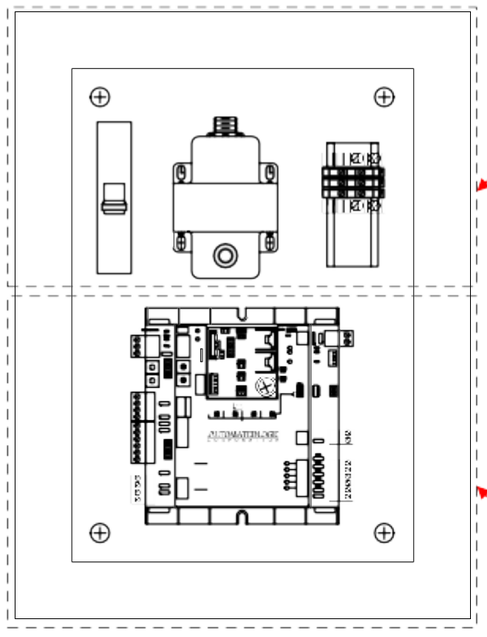
Proj. Mgr.: ER/RG
Proj. Engr.: RV

JOB #: 765674

BAS **3.11** HW

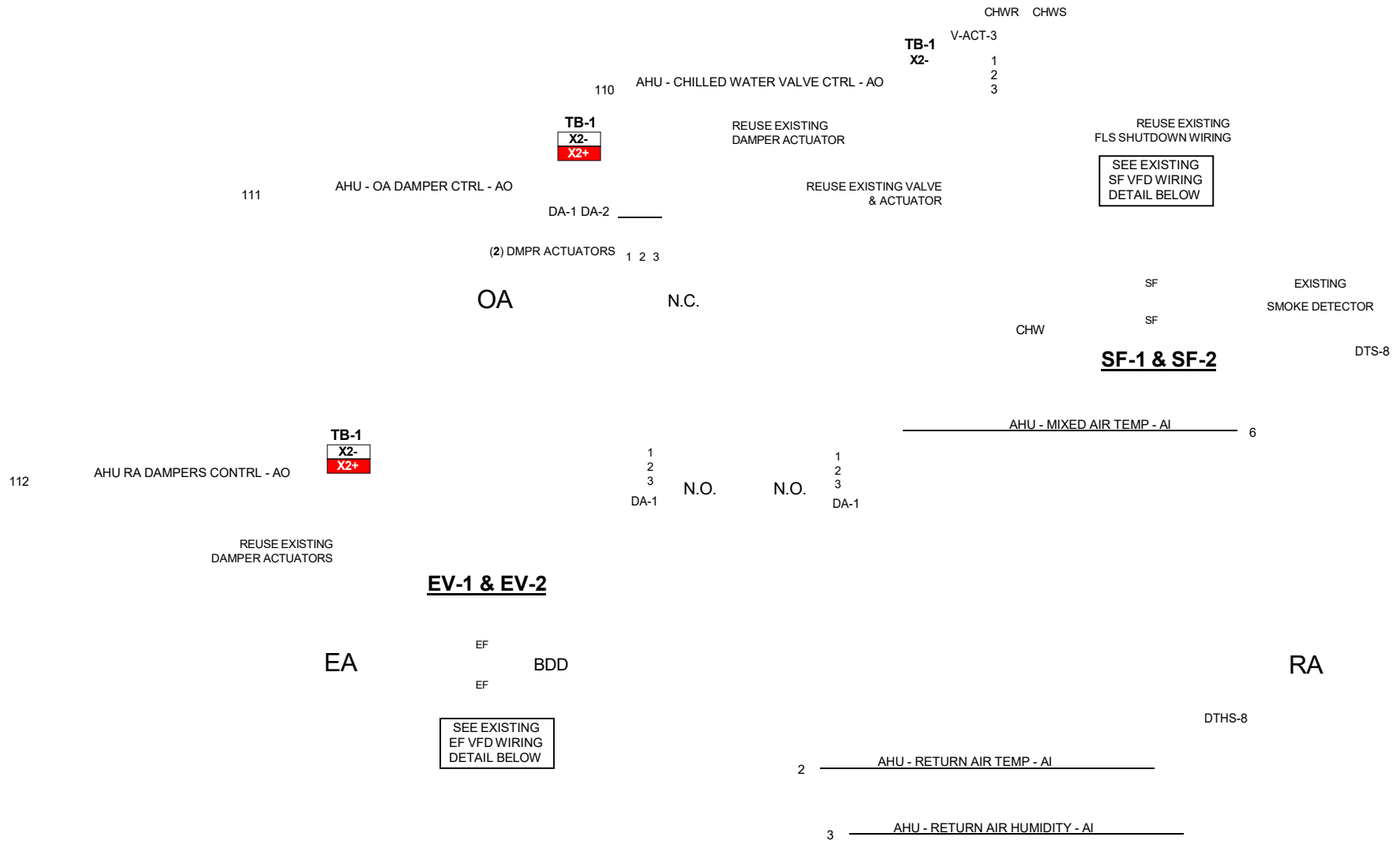


SUNBELT CONTROLS

Bill of Materials

DID	DESCRIPTION	MANUFACTURER	PART NUMBER	QTY
CS	CURRENT SWITCH	VERIS	H800 (EXISTING)	4 ea
DA-1	DAMPER ACTUATOR	BELIMO	GM24-SR (EXISTING)	3 ea
DA-2	DAMPER ACTUATOR	BELIMO	NM24-SR (EXISTING)	1 ea
DPT_D	0-10INWC AIR DIFF. PRESSURE (1% ACCURACY)	VERIS	PXU-X-X-05-S (EXISTING)	1 ea
DTHS-8	DUCT TEMP/HUMIDITY PROBE 8 IN. W/J-BOX	BAPI	BA/10K-2-D-H200-EU	1 ea
DTS-8	DUCT TEMP PROBE 8 IN. W/STEEL J-BOX	BAPI	BA/10K-2-D-8	1 ea
OAT/H	OUTSIDE AIR TEMPERATURE AND HUMIDITY SENSOR	DWYER	RHP2R1B	1 ea
R-DC	24VDC DPDT RELAY WITH LIGHT INDICATOR	VERIS	VMD2B-F24D	5 ea
R^	DPDT RELAY SOCKET	VERIS	VBD2B-F	5 ea
R_TIP	ROOM STATIC PRESSURE SENSOR	BAPI	ZPS-ACC01 (EXISTING)	1 ea
V-ACT-3	AHU CHW SYSTEM VALVE ACTUATOR	BELIMO	GM24-SR US (EXISTING)	1 ea

VAV Air Handler Unit



Old AHU-1 Control Panel

MISC. POINT MONITORING DETAIL

R-DC R^

105 ROOF SIGN 1 LIGHT ENABLE - DO __ ROOF SIGN

EXISTING AHU – SF-1 FAN VFD WIRING DETAIL (TYPICAL OF SF-2)

R-DC R^

101	AHU - SUPPLY FAN-1 VFD S/S - DO	9	AUTO START
102	AHU - SUPPLY FAN-2 VFD S/S - DO	1	
106	AHU - SUPPLY FAN-1 VFD SPEED CTRL - AO	2	0-10vdc
	AHU - SUPPLY FAN-2 VFD SPEED CTRL - AO	3	SPEED CONTROL

EXISTING AHU – EV-1 FAN VFD WIRING DETAIL (TYPICAL OF EV-2)

R-DC R^

103	AHU - EXHAUST VENT-1 S/S - DO	9	AUTO START
104	AHU - EXHAUST VENT-2 S/S - DO	1	
108	AHU - EXHAUST VENT-1 VFD SPEED CTRL - AO	2	0-10vdc
	AHU - EXHAUST VENT-2 VFD SPEED CTRL - AO	3	SPEED CONTROL

OUTSIDE AIR TEMPERATURE AND HUMIDITY SENSOR

OAT/H

1
2
3
4

OUTSIDE AIR HUMIDITY - AI 5

Wire Tagging ###'s: ###

Numbers ending with ding ding ding
#X01 to #X50= Inputs (DI or AI)
#X51 to #X60= Outputs (DO)
#X61 to #X70= Outputs (AO)
#X71 to #X80= Digital

2	7/25/2014	Resubmittal Glumac/Southland Review Comments	RV

107

13 AHU - SUPPLY FAN-1 VFD FAULT - DI
14 AHU - SUPPLY FAN-2 VFD FAULT - DI

17
18 VFD FAULT

VARIABLE FREQUENCY DRIVE

T1 T2 T3

8 AHU - SUPPLY FAN -1 STATUS - DI
AHU - SUPPLY FAN -2 STATUS - DI

CS

9

REUSE EXISTING CURRENT SWITCH

460 VAC
3PH
60HZ
Motor

109

15 AHU - EXHAUST VENT-1 VFD FAULT - DI
16 AHU - EXHAUST VENT-2 VFD FAULT - DI

17
18 VFD FAULT

VARIABLE FREQUENCY DRIVE

T1 T2 T3

10 AHU - EXHAUST VENT-1 STATUS - DI
AHU - EXHAUST VENT-2 STATUS - DI

CS

11

REUSE EXISTING CURRENT SWITCH

460 VAC
3PH
60HZ
Motor

OUTSIDE AIR TEMP - AI 4

NOTE: REPLACE EXISTING OUTSIDE AIR SENSOR LOCATED ON SIDE OF TCP-HHW PANEL.

REV	DATE	DESCRIPTION	BY
1	4/7/2014	Construction Set	AK
0	4/1/2014	Submittal	RV

4.00 AHU Control Schematic

~~RSCCD District Offices Renovation~~
Direct Digital Controls Project

Proj. Mgr.: ~~ER/RG~~
Proj. Engr.: RV

~~JOB #: 765674~~

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~~Azusa, CA 91702~~

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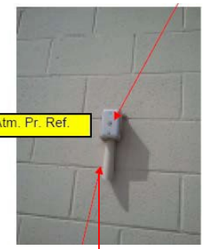
Fax (626) 610-2350

License #: 800423

BAS **4.00**

A



SUNBELT CONTROLS

AHU Module Details

FIELD VERIFY POWER INFO 2

CONTROL PANEL # LABEL DESCRIPTION:
TCP-AHU Air Handler Unit
Panel Rm Location: Penthouse – At Unit

10A Ckt Bkr **TB-PWR** H N G

POWER CIRCUIT FROM:
PNL #:
CKT #:
VOLT: **120VAC**

120VAC BY CONTROLS CONTRACTOR

TX-3 100va **TX-2** 100va **TX-1** 100va

REC

X3- X2- X1- **TB-1** 24VAC Power to below

TB-1

X1-

Comm from previous & to

next control module
(See network riser diagram)

Xnet to first expansion module

ALC Controller Checklist:

AUTOMATEDLOGIC® CORPORATION

24Vac Gnd **50** VA
Net + **CMnet Mode**
Net - Arc156 MSTP
Shield BT485 OR Term 9600 19.2k 38.4k 76.8k
Gnd
Rnet+ Rnet- +12V **Rnet**
XNet + XNet - Shield

CONTROL MODULE **ME812u**
ADDRESS **05**

PROGRAM/ FB NAME(S)
district_office_vav_ahu
.equipment
roof_sign_npc_district_office
.equipment
district_office_oa_conditons
.equipment
.equipment

EXTERNAL BATTERY Gnd +3V
External Internal

1	AHU - SUPPLY AIR TEMP - AI	
2	AHU - RETURN AIR TEMP - AI	
3	AHU - RETURN AIR HUMIDITY - AI	
4	OUTSIDE AIR TEMP - AI	
5	OUTSIDE AIR HUMIDITY - AI	
6	AHU - MIXED AIR TEMP - AI	
7	AHU - DUCT STATIC PRESSURE - AI	
8	AHU - SUPPLY FAN -1 STATUS - DI	
9	AHU - SUPPLY FAN -2 STATUS - DI	
10	AHU - EXHAUST VENT-1 STATUS - DI	
11	AHU - EXHAUST VENT-2 STATUS - DI	
12	AHU - BLDG STATIC PRESSURE - AI	

Universal Input Verification Checklist:

	Point Addr. & Input #	Check'd	By Tech Initials	Date Verified	Input Value Reading	Actual Fld. Measured Value	Offset
1	AI-01						
2							
3	AI-02						
4							
5	AI-03						
6							
7	AI-04						
8							
1	AI-05						
2							
3	AI-06						
4							
5	AI-07						
6							
7	DI-08						
8							
1	DI-09						
2							
3	DI-10						
4							
5	DI-11						
6							
7	AI-12						
8							

Set Jumpers
Universal Input Mode Select
mA Therm. DryC,RTD Volts
24Vdc Aux Power Out
24Vdc

Universal Output Verification Checklist:

By Tech Initials	Date Verified	Analog Out % 0	25	50	75	100	Digital On	Off	Point Addr. & Type	
									AO-08	16
										15
									AO-07	14
										13
									AO-06	12
										11
									DO-05	10
										9
									DO-04	8
										7
									DO-03	6
										5
									DO-02	4
										3
									DO-01	2
										1

Set Jumpers
Universal Output Mode Select
0-10Vdc 0-20mA Relay

NOTE:

For each digital output, turn the potentiometer clockwise until it stops (maximum output) and leave it in this position.

TB-2

16	AHU - EXHAUST VENT-1 VFD SPEED CTRL - AO	108
15		
14	AHU - SUPPLY FAN-2 VFD SPEED CTRL - AO	107
13		
12	AHU - SUPPLY FAN-1 VFD SPEED CTRL - AO	106
11		
10	ROOF SIGN 1 LIGHT ENABLE - DO	105
9		
8		
7		
6	AHU - EXHAUST VENT-2 S/S - DO	104
5		
4	AHU - EXHAUST VENT-1 S/S - DO	103
3		
2	AHU - SUPPLY FAN-2 VFD S/S - DO	102
1	AHU - SUPPLY FAN-1 VFD S/S - DO	101

2	0	7/25/2014
	REV	
1		4/7/2014

4/1/2014
DATE

Resubmittal

Glumac/Southland Review Comments

RV

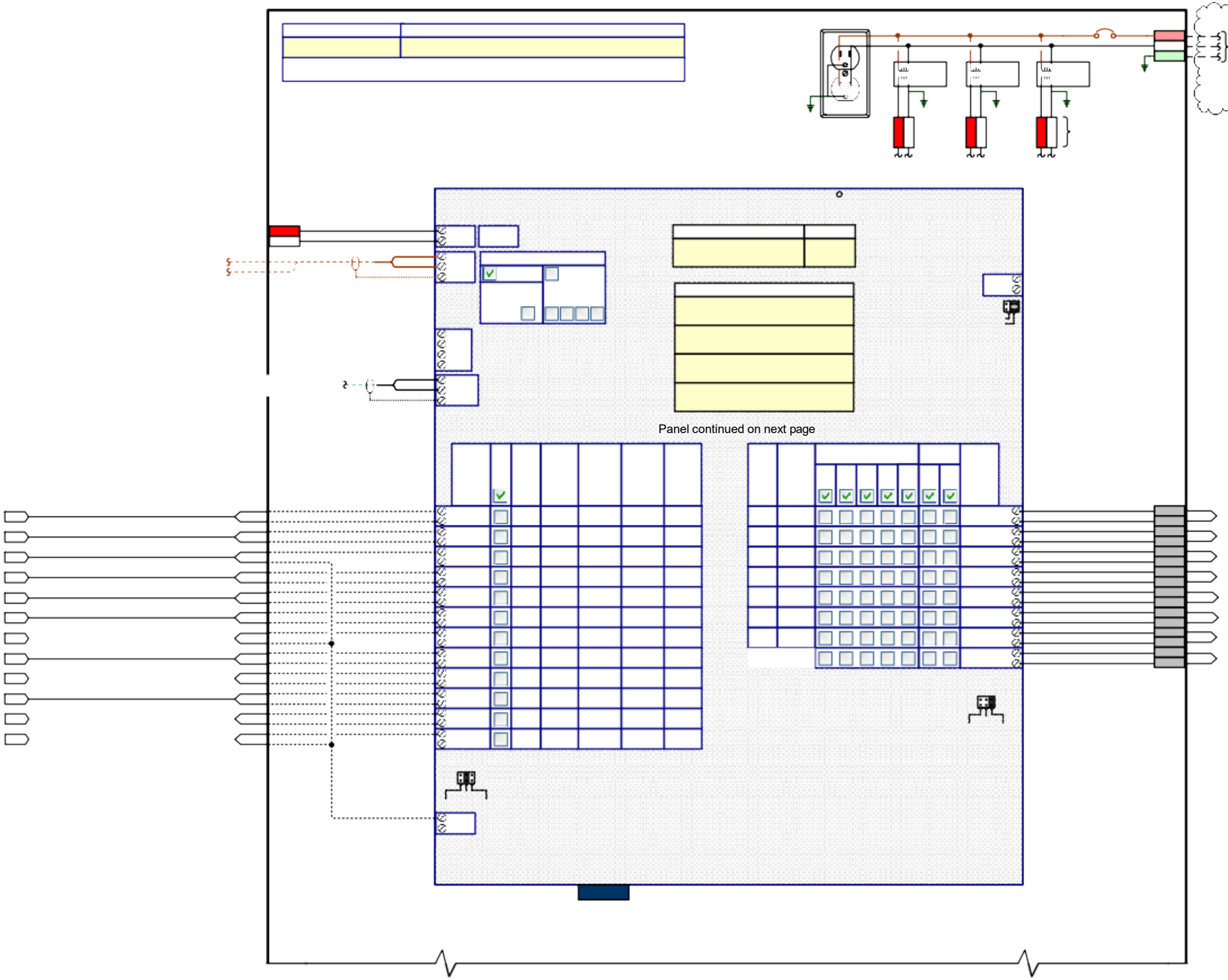
Construction Set

AK

Submittal

RV

DESCRIPTION BY



4.01 AHU Module Details

RSCCD District Offices Renovation
Direct Digital Controls Project

Proj. Mgr.: ER/RG
Proj. Engr.: RV

JOB #: 765674

BAS **4.01**

A

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License #: 800423

SUNBELT CONTROLS

AHU Module Details

Panel continued from previous page

TB-1

X2-

Xnet

ALC Controller Checklist:

AUTOMATEDLOGIC® CORPORATION

24Vac Gnd **45** VA

CONTROL MODULE	ADDRESS
MEx48u	**01**

EXTERNAL BATTERY Gnd +3V

24Vdc Aux Power Out
24Vdc

External Internal

XNet + Xnet Remote Expansion
XNet -

Shield

Universal Input Verification Checklist:

Point Addr. & Input #	Check'd	By Tech Initials	Date Verified	Input Value Reading	Actual Fld. Measured Value	Offset
13 AHU - SUPPLY FAN-1 VFD FAULT - DI						
14 AHU - SUPPLY FAN-2 VFD FAULT - DI						
15 AHU - EXHAUST VENT-1 VFD FAULT - DI						
16 AHU - EXHAUST VENT-2 VFD FAULT - DI						

1 2 DI-01
3 4 DI-02
5 6 DI-03
7 8 DI-04

1 2 UI-05
3 4 UI-06
5 6 7 UI-07
8 UI-08

Set Jumpers
Universal Input Mode Select

mA Therm. DryC.RTD Volts

Universal Output Verification Checklist:

By Tech Initials	Date Verified	Analog Output % 100	Digital Off	Point Addr &
AO-04 8 7				
AO-03 6 5				
AO-02 4 3				
AO-01 2 1				

Set Jumpers
Universal Output Mode Select

0-10Vdc 0-20mA Relay

NOTE:

For each digital output, turn the potentiometer clockwise until it stops (maximum output) and leave it in this position.

TB-1

X3-

TB-2

21	24VAC TO CHW VALVE & ECON DAMPER ACTUATORS	
20	AHU RA DAMPERS CONTRL - AO	112
19	AHU - OA DAMPER CTRL - AO	111
18	AHU - CHILLED WATER VALVE CTRL - AO	110
17	AHU - EXHAUST VENT-2 VFD SPEED CTRL - AO	109

REV	DATE	DESCRIPTION	BY
2	7/25/2014	Resubmittal Glumac/Southland Review Comments	RV
1	4/7/2014	Construction Set	AK
0	4/1/2014	Submittal	RV

4.02 AHU Module Details - EXP-1

RSCCD District Offices Renovation
Direct Digital Controls Project

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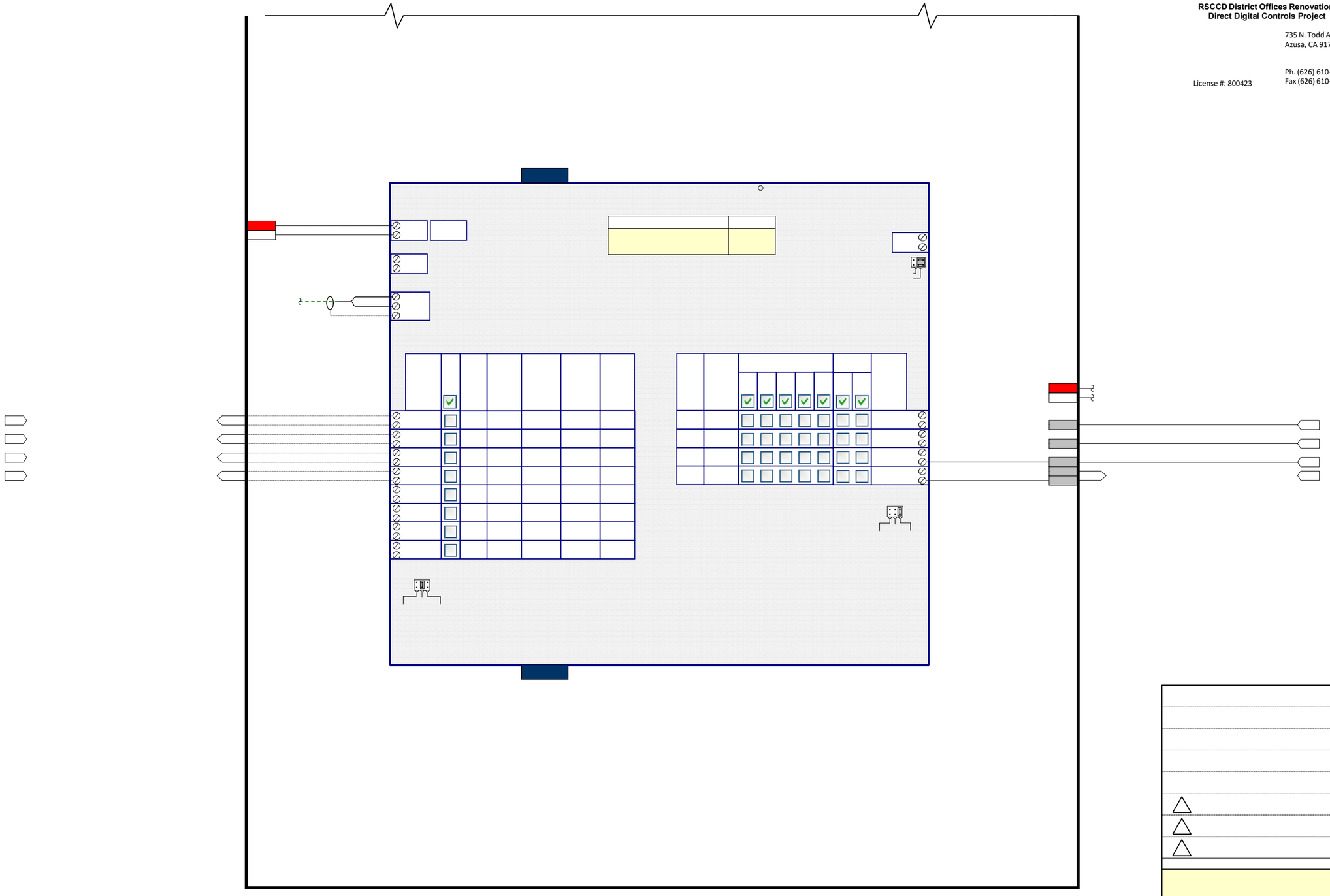
License #: 800423

Proj. Mgr.: ER/RG
Proj. Engr.: RV

JOB #: 765674

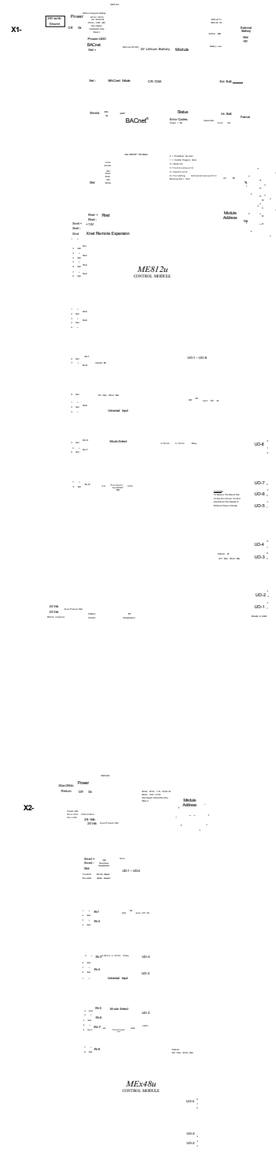
BAS **4.02**

A



TCP-AHU-1
SUNBELT CONTROLS
AIR HANDLER UNIT PANEL

NEMA 1 30HX24WX06D



10A
ON
OFF
TB-PWR

TB

(1-21)
TB-2

X1
100VA

X2
100VA

X3
100VA

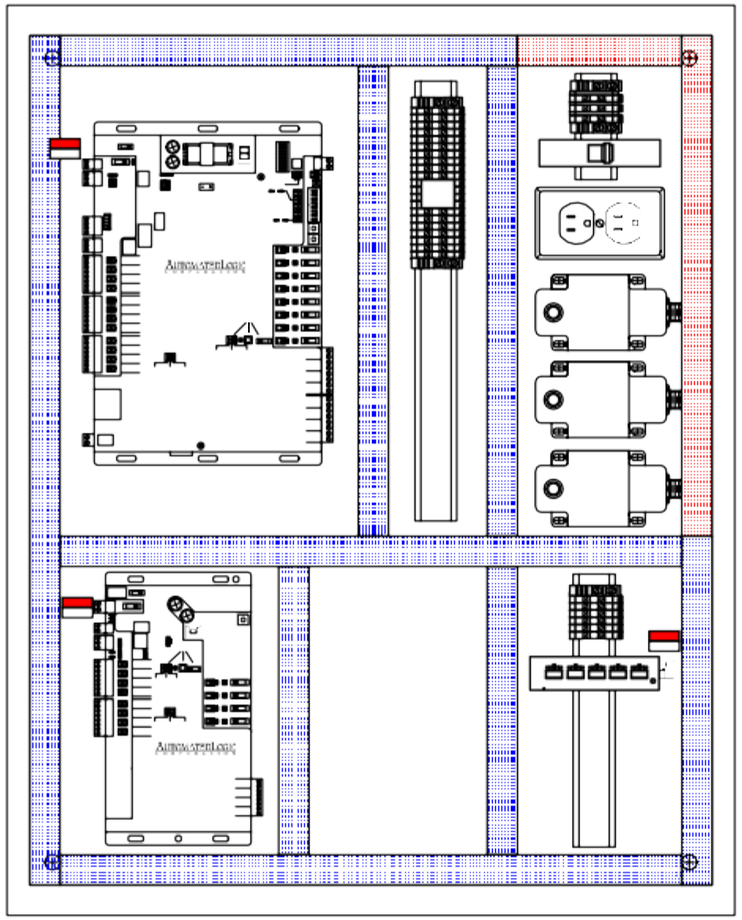
X1+
X1-
X2-
X2+
TB-1
X3-
X1-
CTRLink
PWR

Old AHU-1 Power Supply

Panel & Control Panel

(to be replaced by New TCP)

INSTALL CONTROLS EQUIPMENT IN A NEW TCP



REV	DATE	DESCRIPTION	BY
2	7/25/2014	Resubmittal Glumac/Southland Review Comments	RV
1	4/7/2014	Construction Set	AK
0	4/1/2014	Submittal	RV

4.03 AHU Panel Layout

RSCCD District Offices Renovation
Direct Digital Controls Project

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Proj. Engr.: RV

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JOB #: 765674

License #: 800423

Fax (626) 610-2350

BAS **4.03**

A

△
△
△

SUNBELT CONTROLS

AHU Sequence of Operations:

Run Conditions - Scheduled:
The unit shall run based upon occupancy requests from Zone Controllers, or when 2 or more Zones Controllers send heating or cooling requests when in Unoccupied mode, or an operator adjustable schedule.

Emergency Shutdown:
The unit shall shut down and generate an alarm upon receiving an emergency shutdown signal.

Smoke Detection:
The unit shall shut down upon receiving a supply air smoke detector status.

AHU Optimal Start:
The unit shall start prior to scheduled occupancy based on the time necessary for the zones to reach their occupied setpoints -70 deg Heating and 74 deg Cooling (adj). Each Zone shall determine the time required to reach Occupied temperature and thus transmit Occupied, Heating and Cooling requestors to the AHU. The start AHU time shall automatically adjust based on the Occupied requests of the Zone Controllers.

If average zone space temperature is below 68deg (adj) AHU shall start and operate with OSA dampers closed and chilled water valve locked out until a Zone is Occupied. When average space temperature is above 74deg (adj) the AHU will operate normally to control economizer and chilled water coil.

Supply Fan:
The supply fans shall run in parallel when called to run unless shutdown on safeties. To prevent short cycling, the supply fan shall have a user definable (adj.) minimum runtime.

Alarms shall be provided as follows:
- Supply Fan Failure: Commanded on, but the status is off.
- Supply Fan in Hand: Commanded off, but the status is on.
- Supply Fan Runtime Exceeded: Status runtime exceeds a user definable limit (adj.).

Supply Air Duct Static Pressure Control:
The controller shall measure duct static pressure and modulate the supply fan VFD speed to maintain a duct static pressure setpoint. The speed shall not drop below 30% (adj.). The static pressure setpoint shall be reset based on zone cooling requirements.
- The initial duct static pressure setpoint shall be 1.5in H2O (adj.).
- As cooling demand increases, the setpoint shall incrementally reset up to a maximum of 1.8in H2O (adj.).
- As cooling demand decreases, the setpoint shall incrementally reset down to a minimum of 1.3in H2O (adj.) .

Alarms shall be provided as follows:
- High Supply Air Static Pressure: If the supply air static pressure is 25% (adj.) greater than setpoint.
- Low Supply Air Static Pressure: If the supply air static pressure is 25% (adj.) less than setpoint.
- Supply Fan VFD Fault with time delay of 30 minutes (adj.)..

Exhaust Fan:
The exhaust fans shall run in parallel whenever the supply fan runs. Fans shall maintain building static pressure setpoint.

Alarms shall be provided as follows:
- Exhaust Fan Failure: Commanded on, but the status is off.
- Exhaust Fan in Hand: Commanded off, but the status is on.
- Exhaust Fan Runtime Exceeded: Status runtime exceeds a user definable limit (adj.).
- Exhaust Fan VFD Fault.

Building Static Pressure Control:
The controller shall measure building static pressure and modulate the exhaust fans VFD speed to maintain a building static pressure setpoint of 0.025in H2O (adj.). The exhaust fan VFD speed shall not drop below 20% (adj.).

Alarms shall be provided as follows:
- High Building Static Pressure: If the building air static pressure is 25% (adj.) greater than setpoint.
- Low Building Static Pressure: If the building air static pressure is 25% (adj.) less than setpoint and the AHU has been on for at least 30 minutes..

Supply Air Temperature Setpoint - Optimized:
The controller shall monitor the supply air temperature and shall maintain a supply air temperature setpoint reset based on zone cooling and heating requirements

The supply air temperature setpoint shall be reset for cooling based on zone cooling requirements as follows:
- The initial supply air temperature setpoint shall be 55°F (adj.).
- As zone controller cooling requestors increase, the setpoint shall incrementally reset down to a minimum of 53°F (adj.).
- As zone controller cooling requestors decrease, the setpoint shall incrementally reset up to a maximum of 72°F (adj.) .

Cooling Coil Valve:
The controller shall measure the supply air temperature and modulate the cooling coil valve to maintain its cooling setpoint.

The cooling shall be enabled whenever:
- Outside air temperature is greater than 60°F (adj.).
- AND the economizer (if present) is disabled or fully open.
- AND the supply fan status is on.

Alarms shall be provided as follows:
- High Supply Air Temp: If the supply air temperature is 5°F (adj.) greater than setpoint.

Economizer:
The controller shall measure the mixed air temperature and modulate the economizer dampers in sequence to maintain a setpoint 2°F (adj.) less than the supply air temperature setpoint. The outside air dampers shall maintain a minimum adjustable position of 20% (adj.) open whenever occupied. When AHU enters economizer mode chilled water valve shall be closed. The chilled water valve will be released for operation if OSA dampers are 100% open for 15 min (adj) AND supply air temperature is more than 3°F (adj.) from set point.

The economizer shall be enabled whenever:
- Outside air temperature is less than 65°F (adj.).
- OR the outside air temp is less than return temp by at least 3°F.
- AND the supply fan status is on.

The economizer shall close whenever:
- Mixed air temperature drops from 40°F to 35°F (adj.).
- OR on loss of supply fan status.

The outside and exhaust air dampers shall close and the return air damper shall open when the unit is off. If Optimal Start Up is available the mixed air damper shall operate as described in the occupied mode except that the outside air damper shall modulate to fully closed.

Mixed Air Temp:
The controller shall monitor the mixed air temperature and use as required for economizer control.

Alarms shall be provided as follows:
- High Mixed Air Temp: If the mixed air temperature is greater than 90°F (adj.).
- Low Mixed Air Temp: If the mixed air temperature is less than 45°F (adj.).

Return Air Humidity:
The controller shall monitor the return air humidity and use as required for economizer control.

Alarms shall be provided as follows:
- High Return Air Humidity: If the return air humidity is greater than 70% (adj.).
- Low Return Air Humidity: If the return air humidity is less than 35% (adj.).

Return Air Temperature:
The controller shall monitor the return air temperature and use as required for setpoint control or economizer control (if present).

- High Return Air Temp: If the return air temperature is greater than 90°F (adj.).
- Low Return Air Temp: If the return air temperature is less than 45°F (adj.).

Return Air Temperature:
The controller shall monitor the return air temperature and use as required for setpoint control or economizer control (if present).

- High Return Air Temp: If the return air temperature is greater than 90°F (adj.).
- Low Return Air Temp: If the return air temperature is less than 45°F (adj.).

Supply Air Temperature:

- High Supply Air Temp: If the supply air temperature is greater than 120°F (adj.).
- Low Supply Air Temp: If the supply air temperature is less than 45°F (adj.).

REV	DATE	DESCRIPTION	BY
2	7/25/2014	Resubmittal Glumac/Southland Review Comments	RV
1	4/7/2014	Construction Set	AK
0	4/1/2014	Submittal	RV

4.04 AHU Sequence of Operations

RSCCD District Offices Renovation
Direct Digital Controls Project

Proj. Mgr.: ER/RG
Proj. Engr.: RV

SUNBELT CONTROLS
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Fax (626) 610-2350

JOB #: 765674

BAS **4.04**

VAV Box w/HW Reheat Sequence of Operations:

Run Conditions - Scheduled:
The unit will run according to a user definable time schedule in the following modes:
Occupied Mode: The unit will maintain
-A 74°F (adj.) cooling setpoint
-A 70°F (adj.) heating setpoint.

Unoccupied Mode (night setback): The unit will maintain
-A 85°F (adj.) cooling setpoint.
-A 55°F (adj.) heating setpoint.
If any 2 (adj) zones exceed the unoccupied set point then enable the building for temporary operation, disable temporary operation once set points have been reached.

Alarms will be provided as follows:
High Zone Temp: If the zone temperature is greater than the cooling setpoint by 4°F (adj.).
Low Zone Temp: If the zone temperature is less than the heating setpoint by 4°F (adj.).

Zone Setpoint Adjust:
The occupant will be able to adjust the zone temperature heating and cooling setpoints at the zone sensor, +/- 2°F (adj.)

Zone Optimal Start:
The unit will use an optimal start algorithm for morning start-up. This algorithm will minimize the unoccupied warm-up or cool-down period while still achieving comfort conditions by the start of scheduled occupied period.

Zone Unoccupied Override:
A list of certain Zones issued by the Owner shall be permitted to have a timed local override control and will allow an occupant to override the schedule and place the

zone into an occupied mode for 1 hour/press (max 4 hours). At the expiration of this time, control of the unit will automatically return to the normal schedule. In addition, if a certain Zone is overridden, it shall be linked with up to (10) ten other zones on the floor, or the quantity equalling the AHU minimum CFM achievable when the

AHU VFDs are running at minimum Speed.

Reserve (1) Digital Input for future Occupancy Sensor.

Reversing Variable Volume Terminal Unit - Flow Control:

The unit will maintain zone setpoints by controlling the airflow through one of the

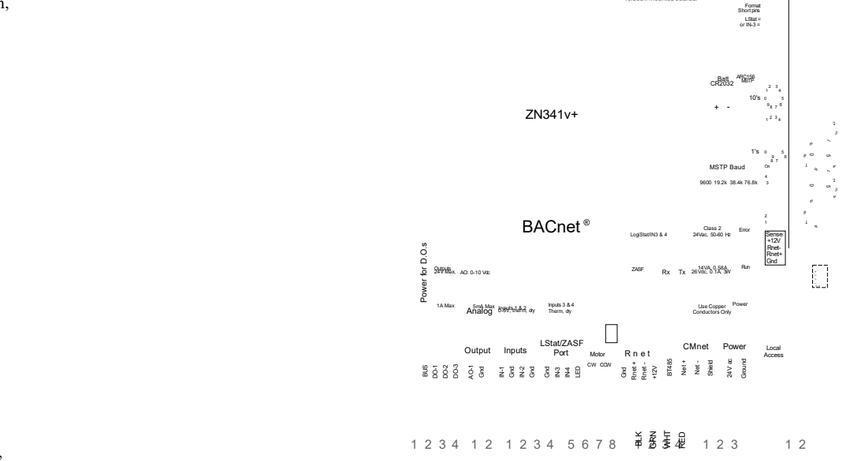
following:

Occupied:
When zone temperature is greater than its cooling setpoint, the zone damper will modulate between the minimum occupied airflow (adj.) and the maximum cooling airflow (adj.) until the zone is satisfied.

When the zone temperature is between the cooling setpoint and the heating setpoint, the zone damper will maintain the minimum required zone ventilation (adj.).
When zone temperature is less than its heating setpoint, the controller will enable heating and modulate the reheat control valve in order to maintain the zone heating

temperature setpoint. Controller will limit maximum reheat output such that discharge air temp does not exceed 90deg.
Per *2008 Title 24*, As the heating demand increases, the dual maximum control first resets the discharge air temperature as a first stage of heating. Then, if more heat is required, it increases airflow rate up to a "heating" maximum airflow setpoint.
Unoccupied:
When unoccupied, the zone damper will be closed. If temperature is greater than its unoccupied cooling setpoint (adj.) or less than the unoccupied heating setpoint.(adj.), then zone damper will control between its minimum unoccupied airflow (adj.) and its max occupied airflow (adj.)

Detail B: Connecting the ZS Sensor



TO HW VALVE ACTUATOR

24VAC-

5 VAV - HOT WATER VALVE OPEN - DO
52 VAV - HOT WATER VALVE CLOSE - DO

1 VAV - SUPPLY AIR TEMP - AI

4 OCCUPANCY SENSOR - DI

Room Temp Sensor
Typical of (**46**)

Bill of Materials

DID	DESCRIPTION	MANUFACTURER	PART NUMBER	QTY
ZSP	SPACE TEMP SENSOR W/LCD, POINT ADJUST & LOCAL OVERRIDE	AUTOMATED LOGIC	ZSP-ALC	46 ea
TD4	4 INCH DUCT SENSOR	BAPI	BA/10K-2-D-4-NB-10	51 ea

VAV Box w/HW Reheat – Typical of (56)

REUSE EXISTING VALVE & ACTUATOR

HWS HWR

To ZN-Card controller (HI & LO)

HI LO

HW

Belimo LM24 Actuator

XFMR Panel 1

1 24VAC-
2 HOT WATER VALVE OPEN - DO 51
3 HOT WATER VALVE CLOSE - DO 52

SA

TD4

NOTE: 8" DUCT TEMP SENSOR – TYPICAL OF (**3**). (SEE VAV BOX SCHEDULE)

VAV - SUPPLY AIR TEMP - AI 1

XFMR Panel 1 | XFMR Panel 3 | XFMR Panel 2 | XFMR Panel 4

Install Air Filter (shipped loose)

Red Stripe = HI

FILTER

To VAV Box Flow Sensing Device (LO & HI)

Green Stripe = LO

See Note 4.

CAUTION: The modules are Class 2 devices

(less than 30 VAC). Take appropriate isolation measures when mounting a module in a control panel where Class 1 devices or wiring are present.

(24VAC) **REUSE EXISTING CONTROL POWER (SEE VAV BOX – POWER SCHEDULE 6.20 THRU 6.23)**

2

Comm from previous & to next control module (See network riser diagram)

Addressing

Wire Tag #'s: #

Numbers ending with:
#1 to #50 = Inputs (DI or AI)
#51 to #80 = Digital Outputs (DO)
#81 to #100 = Analog Outputs (AO)

ZS Sensor

4 +12V
3 RNet-
2 RNet+
1 Gnd

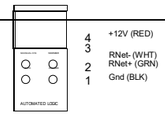
Module (ZS port)

4 3 2 1

+12V RNet+ RNet+ Gnd

4= +12V = Red

3= RNet - = White/Yellow
2= RNet + = Green
1= Gnd = Black



ZSP

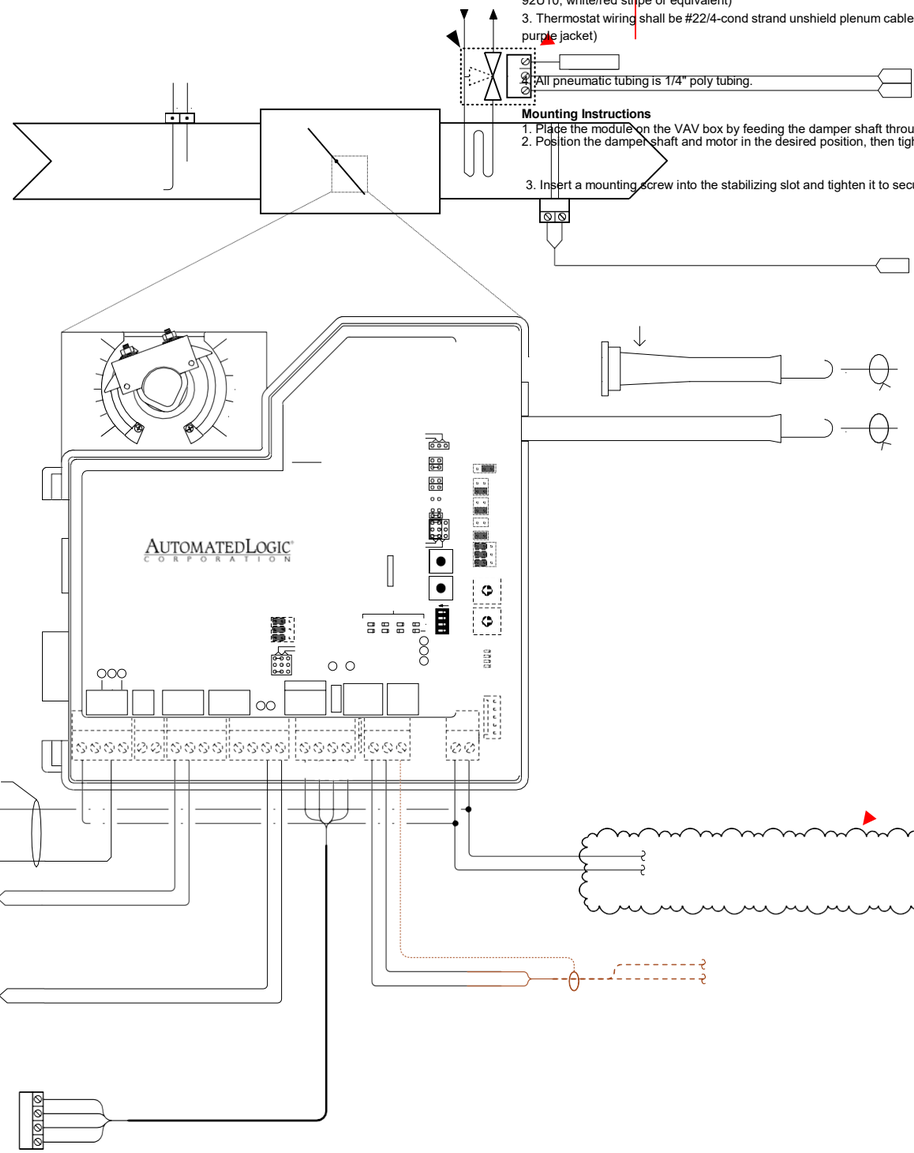
SEE DETAIL B

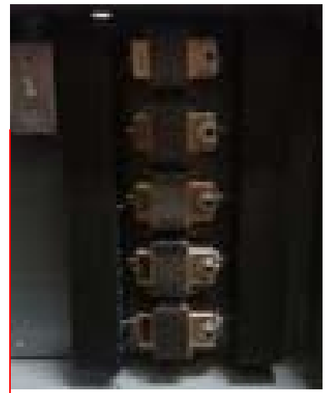
1. The ZN341v+ has dual rotary switches for assigning the board address. The top switch corresponds to the tens digit and the bottom switch corresponds to the ones digit. (For example, if the module's number is nine, set the tens switch to zero and the ones switch to nine.

REV	DATE	DESCRIPTION	BY
2	7/25/2014	Resubmittal Glumac/Southland Review Comments	RV
1	4/7/2014	Construction Set	AK
0	4/1/2014	Submittal	RV

General Notes:
1. All CMnet (ARC156) wiring shall be #22; plenum rated cable, part no. *W221P-2227* or equivalent. See network riser diagram for cable color (orange or green jacketed)
2. 24vac wiring shall be #14 unshield plenum cable (Contractors Wire & Cable part #CLP-0470-92U10, white/red stripe or equivalent)
3. Thermostat wiring shall be #22/4-cond strand unshield plenum cable (part *#W224C-2020*, purple jacket)
4. All pneumatic tubing is 1/4" poly tubing.

Mounting Instructions
1. Place the module on the VAV box by feeding the damper shaft through the shaft slot.
2. Position the damper shaft and motor in the desired position, then tighten the shaft clamp.
3. Insert a mounting screw into the stabilizing slot and tighten it to secure the module.





6.00 VAV Box w/HW Reheat Control Schematic

RSCCD District Offices Renovation
Direct Digital Controls Project

Proj. Mgr.: ER/RG
Proj. Engr.: RV

JOB #: 765674

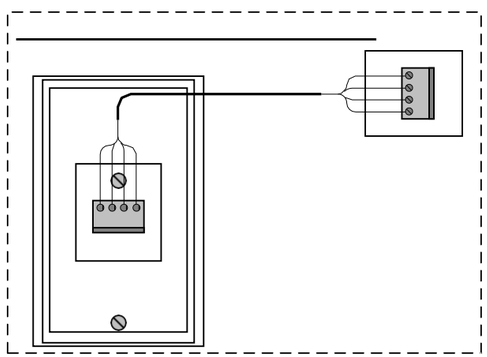
735 N. Todd Avenue
Azusa, CA 91702

Ph. (626) 610-2340
Fax (626) 610-2350

License #: 800423

BAS **6.00**

V



SUNBELT CONTROLS

VAV Box Cooling Only Sequence of Operations:

Run Conditions - Scheduled:
The unit will run according to a user definable time schedule in the following modes:

Occupied Mode: The unit will maintain
-A 74°F (adj.) cooling setpoint
-A 70°F (adj.) heating setpoint.

Unoccupied Mode (night setback): The unit will maintain
-A 85°F (adj.) cooling setpoint.
-A 55°F (adj.) heating setpoint.

Alarms will be provided as follows**:**
High Zone Temp: If the zone temperature is greater than the cooling setpoint by 4°F (adj.).
Low Zone Temp: If the zone temperature is less than the heating setpoint by 4°F (adj.).

Zone Setpoint Adjust:
The occupant will be able to adjust the zone temperature heating and cooling setpoints at the zone sensor, +/- 2°F (adj.)

Zone Optimal Start:
The unit will use an optimal start algorithm for morning start-up. This algorithm will minimize the unoccupied warm-up or cool-down period while still achieving comfort conditions by the start of scheduled occupied period.

Zone Unoccupied Override:
A timed local override control will allow an occupant to override the schedule and place the unit into an occupied mode for 30mins/pulse (max 1hr and 30mins, adj.). At the expiration of this time, control of the unit will

automatically return to the schedule.

Reversing Variable Volume Terminal Unit - Flow Control:
The unit will maintain zone setpoints by controlling the airflow through one of the following:

Occupied:

When zone temperature is greater than its cooling setpoint, the zone damper will modulate between the minimum occupied airflow (adj.) and the maximum

cooling airflow (adj.) until the zone is satisfied.

When the zone temperature is between the cooling setpoint and the heating

setpoint or less than the heating setpoint, the zone damper will maintain the

minimum required zone ventilation (adj.).
Additionally, if warm air is available from the AHU, the zone damper will modulate between the minimum occupied airflow (adj.) and the maximum

heating airflow (adj.) until the zone is satisfied.
Unoccupied:
When unoccupied, the zone damper will be closed. If temperature is greater than its unoccupied cooling setpoint (adj.) or less than the unoccupied heating setpoint.(adj.), then zone damper will control between its minimum

unoccupied airflow (adj.) and its max occupied airflow (adj.)

1

Detail B: Connecting the ZS Sensor

ZS Sensor

4
3
2

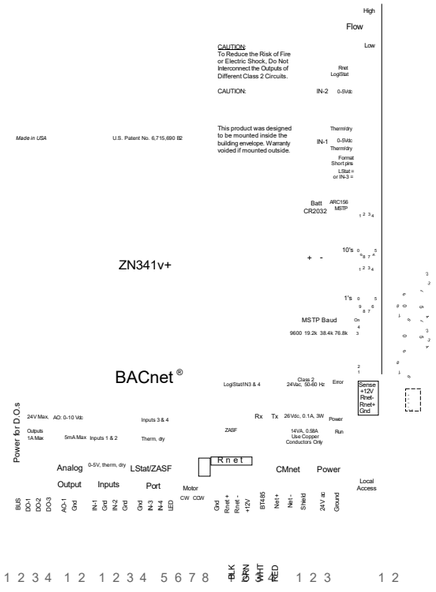
Bill of Materials

DID	DESCRIPTION	MANUFACTURER	PART NUMBER	QTY
ZSP	SPACE TEMP SENSOR W/LCD, POINT ADJUST & LOCAL OVERRIDE	AUTOMATED LOGIC	ZSP-ALC	24 ea

VAV Box Cooling Only – Typical of (24)

To ZN-Card controller
(HI & LO)

HI LO



ZN341v+

BACnet ®

1 2 3 4 1 2 1 2 3 4 5 6 7 8 BLK BRN WHT RED 1 2 3 1 2

SA

Install Air Filter
(shipped loose)

FILTER

XFMR Panel 1

XFMR Panel 3

XFMR Panel 2

XFMR Panel 4

Red Stripe = HI

To VAV Box Flow Sensing Device (LO & HI)

Green Stripe = LO

See Note 4.

CAUTION: The modules are Class 2 devices

(less than 30 VAC). Take appropriate isolation measures when mounting a module in a control panel where Class 1 devices or wiring are present.

(24VAC) **REUSE EXISTING CONTROL POWER (SEE VAV BOX – POWER SCHEDULE 6.20 THRU 6.23)**

Wire Tag #'s: #

Numbers ending with:
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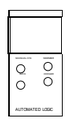
#51 to #80 = Digital Outputs (DO)
#81 to #100 = Analog Outputs (AO)

2

Room Temp Sensor
Typical of (**24**)



+12V
RNet- RNet+ Gnd

ZSP

Comm from previous & to next control module
(See network riser diagram)

4 +12V (RED)
3 RNet- (WHT)
2 RNet+ (GRN)
1 Gnd (BLK)

SEE DETAIL B

Addressing

1. The ZN341v+ has dual rotary switches for assigning the board address. The top switch corresponds to the tens digit and the bottom switch corresponds to the ones digit. (For example, if the module's number is nine, set the tens switch to zero and the ones switch to nine.

Res
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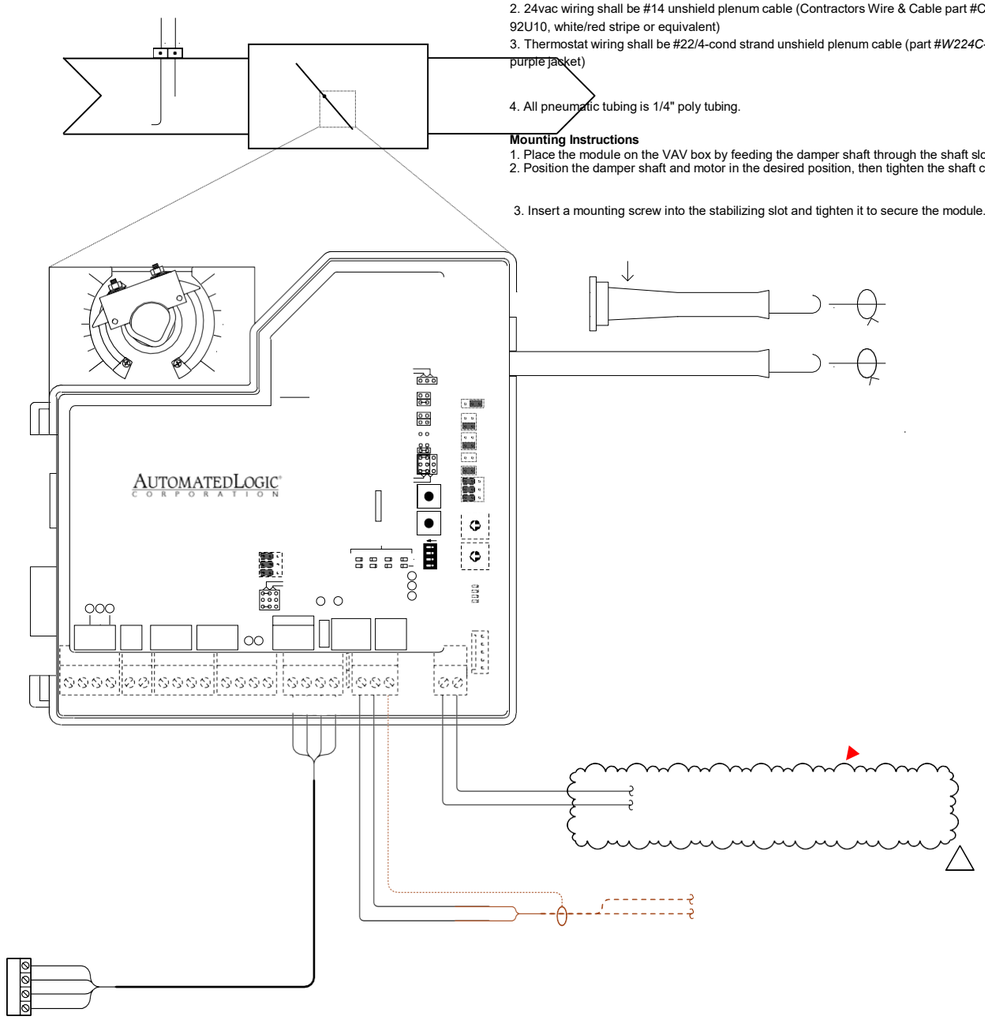
Module (ZS port)

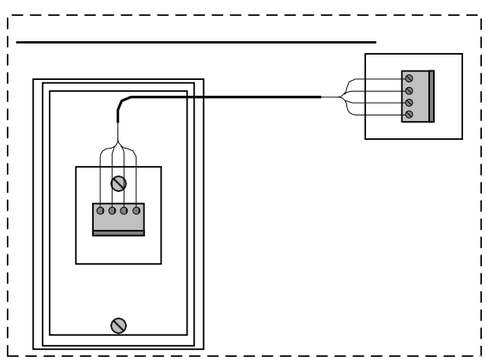
4 3 2 1

+12V
RNet-
RNet+
Gnd

4= +12V = Red

3= RNet - = White/Yellow
2= RNet + = Green
1= Gnd = Black





General Notes:

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REV	DATE	DESCRIPTION	BY
2	7/25/2014	Glumac/Southland Review Comments	RV
1	4/7/2014	Construction Set	AK
0	4/1/2014	Submittal	RV

6.01 VAV Box Cooling Only Control Schematic

RSCCD District Offices Renovation
Direct Digital Controls Project

735 N. Todd Avenue
Azusa, CA 91702

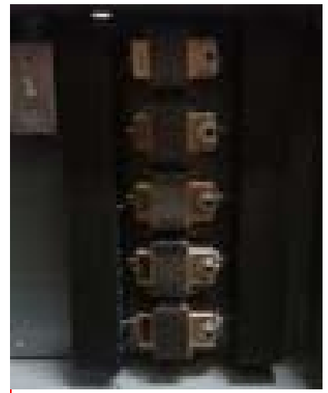
Ph. (626) 610-2340
Fax (626) 610-2350

License #: 800423

Proj. Mgr.: ER/RG
Proj. Engr.: RV

JOB #: 765674

BAS **6.01**



SUNBELT CONTROLS

		BOX INFORMATION								REHEAT VALVES								
Item#	Floor / Rm #	Zone # (Tag #)	Served By	AAR Address	CM Address	Box Size	Cool Max CFM	Heat Max CFM	Cool/Heat Min CFM	Valve+Actuator #	Valve Size	Config. Type	Proportional/ Float./On-Off	GPM	Req'd CV	CV	ΔP	Comments
1	1st Floor / 2446	VAV1-1	AHU-1	11	1	10	730	100	100	B-211+LR24 US/300	1/2"	2-Way	Floating					w/HW Reheat
2	1st Floor / 2183	VAV1-2	AHU-1	11	2	8	500	80	80	B-210+LR24 US/300	1/2"	2-Way	Floating					w/HW Reheat
3	1st Floor / 2324	VAV1-3	AHU-1	11	3	10	970	210	210	B-211+LR24 US/300	1/2"	2-Way	Floating					w/HW Reheat
4	1st Floor / 2194	VAV1-4	AHU-1	11	4	16	2910	460	460	B-213+LR24 US/300	1/2"	2-Way	Floating					w/HW Reheat & ZSP
5	1st Floor / 2244	VAV1-5	AHU-1	11	5	12	1360	350	350	B-212+LR24 US/300	1/2"	2-Way	Floating					w/HW Reheat
6	1st Floor / 2113	VAV1-6	AHU-1	11	6	16	2450	530	530	B-313+LR24 US/300	1/2"	2-Way	Floating					w/HW Reheat & ZSP
7	1st Floor / 2363	VAV1-7	AHU-1	11	7	10	1000	250	250	B-311+LR24 US/300	1/2"	3-Way	Floating					w/HW Reheat
8	1st Floor / 2265	VAV1-8	AHU-1	11	8	16	3200	530	530	B-213+LR24 US/300	1/2"	2-Way	Floating					w/HW Reheat & ZSP
9	1st Floor / 2261	VAV1-9	AHU-1	11	9	14	2120	330	330	B-212+LR24 US/300	1/2"	2-Way	Floating					w/HW Reheat
10	1st Floor / 2325	VAV1-10	AHU-1	11	10	10	960	210	210	B-211+LR24 US/300	1/2"	2-Way	Floating					w/HW Reheat
11	1st Floor / 2390	VAV1-11	AHU-1	11	11	10	1090	500	500	B-211+LR24 US/300	1/2"	2-Way	Floating					w/HW Reheat
12	1st Floor / 2409	VAV1-12	AHU-1	11	12	8	660	210	210	B-210+LR24 US/300	1/2"	2-Way	Floating					w/HW Reheat
13	1st Floor / 2233	VAV1-13	AHU-1	11	13	8	650	80	80	B-210+LR24 US/300	1/2"	2-Way	Floating					w/HW Reheat
14	1st Floor / 2259	VAV1-14	AHU-1	11	14	6	400	220	220	B-209+LR24 US/300	1/2"	2-Way	Floating					w/HW Reheat
15	1st Floor / 2493	VAV1-15	AHU-1	11	15	6	300	80	80	B-209+LR24 US/300	1/2"	2-Way	Floating					w/HW Reheat
16	1st Floor / 2131	VAV1-16	AHU-1	11	16	8	480	-	120									Cooling Only
17	1st Floor / 2198	VAV1-17	AHU-1	11	17	12	1440	-	360									Cooling Only
18	1st Floor / 2280	VAV1-18	AHU-1	11	18	10	730	120	120	B-211+LR24 US/300	1/2"	2-Way	Floating					w/HW Reheat & RAT
19	1st Floor / 2301	VAV1-19	AHU-1	11	19	8	460	-	190									Cooling Only
20	1st Floor / 2398	VAV1-20	AHU-1	11	20	12	1210	-	120									Cooling Only
21	1st Floor / 2460	VAV1-21	AHU-1	11	21	8	430	110	110	B-210+LR24 US/300	1/2"	2-Way	Floating					w/HW Reheat
22	1st Floor / 2132	VAV1-22	AHU-1	11	22	10	800	-	120									Cooling Only
23	1st Floor / 2266	VAV1-23	AHU-1	11	23	6	100	30	30	B-209+LR24 US/300	1/2"	2-Way	Floating					w/HW Reheat

△2

REV	DATE	DESCRIPTION	BY
△2	7/25/2014	Resubmittal Glumac/Southland Review Comments	RV
△1	4/7/2014	Construction Set	AK
△0	4/1/2014	Submittal	RV

6.10 VAV Box - 1st Floor Schedule

RSCCD District Offices Renovation
Direct Digital Controls Project

Proj. Mgr.: ER/RG
Proj. Engr.: RV

SUNBELT CONTROLS
License #: 800423
735 N. Todd Avenue
Azusa, CA 91702
Ph. (626) 610-2340
Fax (626) 610-2350

JOB #: 765674

BAS **6.10**

		BOX INFORMATION								REHEAT VALVES								
Item#	Floor / Rm #	Zone # (Tag #)	Served By	AAR Address	CM Address	Box Size	Cool Max CFM	Heat Max CFM	Cool/Heat Min CFM	Valve+Actuator #	Valve Size	Config. Type	Proportional/ Float./On-Off	GPM	Req'd CV	CV	ΔP	Comments
1	2nd Floor / 2329	VAV2-1	AHU-1	12	1	12	1570	400	400	B-212+LR24 US/300	1/2"	2-Way	Floating					w/HW Reheat
2	2nd Floor / 2297	VAV2-2	AHU-1	12	2	14	1840	630	630	B-212+LR24 US/300	1/2"	2-Way	Floating					w/HW Reheat
3	2nd Floor / 2211	VAV2-3	AHU-1	12	3	12	1500	340	340	B-312+LR24 US/300	1/2"	2-Way	Floating					w/HW Reheat
4	2nd Floor / 2361	VAV2-4	AHU-1	12	4	12	1500	340	340	B-212+LR24 US/300	1/2"	2-Way	Floating					w/HW Reheat
5	2nd Floor / 2358	VAV2-5	AHU-1	12	5	12	1360	300	300	B-212+LR24 US/300	1/2"	2-Way	Floating					w/HW Reheat
6	2nd Floor / 2130	VAV2-6	AHU-1	12	6	6	400	90	90	B-209+LR24 US/300	1/2"	2-Way	Floating					w/HW Reheat
7	2nd Floor/250	VAV2-7	AHU-1	12	7	14	xxx	xxx	xxx									Cooling Only
8	2nd Floor / 2119	VAV2-8	AHU-1	12	8	12	1520	340	340	B-211+LR24 US/300	1/2"	2-Way	Floating					w/HW Reheat
9	2nd Floor / 2401	VAV2-9	AHU-1	12	8	14	1520	340	340	B-212+LR24 US/300	1/2"	2-Way	Floating					w/HW Reheat
10	-	VAV2-10	NOT USED															
11	2nd Floor / 2406	VAV2-11	AHU-1	12	11	8	640	100	100	B-310+LR24 US/300	1/2"	3-Way	Floating					w/HW Reheat
12	2nd Floor / 2195	VAV2-12	AHU-1	12	12	12	1570	270	270	B-212+LR24 US/300	1/2"	2-Way	Floating					w/HW Reheat
13	2nd Floor / 2306	VAV2-13	AHU-1	12	13	12	840	190	190	B-212+LR24 US/300	1/2"	2-Way	Floating					w/HW Reheat
14	2nd Floor / 2424	VAV2-14	AHU-1	12	14	10	500	-	110									Cooling Only
15	2nd Floor / 2549	VAV2-15	AHU-1	12	15	6	300	-	80									Cooling Only
16	2nd Floor / 2303	VAV2-16	AHU-1	12	16	14	1960	-	490									Cooling Only
17	2nd Floor/201	VAV2-17	AHU-1	12	17	14	xxx	xxx	xxx	B-209+LR24 US/300	1/2"	2-Way	Floating					w/HW Reheat
18	2nd Floor / 2299	VAV2-18	AHU-1	12	18	12	1380	-	350									Cooling Only
19	2nd Floor / 2128	VAV2-19	AHU-1	12	19	14	1910	-	480									Cooling Only
20	2nd Floor /221	VAV2-20	AHU-1	12	20	14	xxx	xxx	xxx									Cooling Only
21	2nd Floor / 2164	VAV2-21	AHU-1	12	21	10	740	100	100	B-211+LR24 US/300	1/2"	2-Way	Floating					w/HW Reheat
22	2nd Floor / 2263	VAV2-22	AHU-1	12	22	12	1500	340	340	B-212+LR24 US/300	1/2"	2-Way	Floating					w/HW Reheat
23	2nd Floor / 2281	VAV2-23	AHU-1	12	23	6	420	110	110	B-209+LR24 US/300	1/2"	2-Way	Floating					w/HW Reheat
24	2nd Floor / 2360	VAV2-24	AHU-1	12	24	10	1400	700	700	B-211+LR24 US/300	1/2"	2-Way	Floating					w/HW Reheat
25	2nd Floor / 2360	VAV2-25	AHU-1	12	25	14	xxx	xxx	xxx	B-209+LR24 US/300	1/2"	2-Way	Floating					w/HW Reheat

Data in RED requires Field Verifcation after TAB

REV	DATE	DESCRIPTION	BY
2	7/25/2014	Resubmittal Glumac/Southland Review Comments	RV
1	4/7/2014	Construction Set	AK
0	4/1/2014	Submittal	RV

6.11 VAV Box - 2nd Floor Schedule

RSCCD District Offices Renovation
Direct Digital Controls Project

Proj. Mgr.: ER/RG
Proj. Engr.: RV

SUNBELT CONTROLS
License #: 800423
735 N. Todd Avenue
Azusa, CA 91702
Ph. (626) 610-2340
Fax (626) 610-2350

JOB #: 765674

BAS **6.11**

		BOX INFORMATION								REHEAT VALVES								
Item#	Floor / Rm #	Zone # (Tag #)	Served By	AAR Address	CM Address	Box Size	Cool Max CFM	Heat Max CFM	Cool/Heat Min CFM	Valve+Actuator #	Valve Size	Config. Type	Proportional/ Float./On-Off	GPM	Req'd CV	CV	ΔP	Comments
1	3rd Floor / 2530	VAV3-1	AHU-1	13	1	14	1690	500	500	B-312+LR24 US/300	1/2"	3-Way	Floating					w/HW Reheat
2	3rd Floor / 2214	VAV3-2	AHU-1	13	2	10	740	190	190	B-210+LR24 US/300	1/2"	2-Way	Floating					w/HW Reheat
3	3rd Floor / 2258	VAV3-3	AHU-1	13	3	12	900	230	230	B-212+LR24 US/300	1/2"	2-Way	Floating					w/HW Reheat
4	3rd Floor / 2147	VAV3-4	AHU-1	13	4	12	1210	320	320	B-212+LR24 US/300	1/2"	2-Way	Floating					w/HW Reheat
5	3rd Floor / 2254	VAV3-5	AHU-1	13	5	10	1250	330	330	B-210+LR24 US/300	1/2"	2-Way	Floating					w/HW Reheat
6	3rd Floor / 2120	VAV3-6	AHU-1	13	6	10	700	-	180									Cooling Only
7	3rd Floor / 2498	VAV3-7	AHU-1	13	7	6	500	-	110									Cooling Only
8	3rd Floor / 2282	VAV3-8	AHU-1	13	8	12	1480	-	370									Cooling Only
9	3rd Floor / 2169	VAV3-9	AHU-1	13	9	16	2000	500	500	B-312+LR24 US/300	1/2"	3-Way	Floating					w/HW Reheat
10	3rd Floor / 2277	VAV3-10	AHU-1	13	10	4	140	-	40									Cooling Only
11	3rd Floor / 2458	VAV3-11	AHU-1	13	11	8	720	180	180	B-210+LR24 US/300	1/2"	2-Way	Floating					w/HW Reheat
12	3rd Floor / 2543	VAV3-12	AHU-1	13	12	8	610	-	180									Cooling Only
13	3rd Floor / 2125	VAV3-13	AHU-1	13	13	12	1440	300	300	B-211+LR24 US/300	1/2"	2-Way	Floating					w/HW Reheat
14	3rd Floor / 2253	VAV3-14	AHU-1	13	14	12	1440	360	360	B-211+LR24 US/300	1/2"	2-Way	Floating					w/HW Reheat
15	3rd Floor / 2154	VAV3-15	AHU-1	13	15	6	360	-	90									Cooling Only
16	3rd Floor / 2256	VAV3-16	AHU-1	13	16	5	250	-	80									Cooling Only
17	3rd Floor / 2313	VAV3-17	AHU-1	13	17	5	250	-	80									Cooling Only
18	3rd Floor / 2213	VAV3-18	AHU-1	13	18	10	600	-	150									Cooling Only
19	-	VAV3-19	NOT USED															
20	3rd Floor / 2449	VAV3-20	AHU-1	13	20	12	830	-	230									Cooling Only
21	3rd Floor / 2168	VAV3-21	AHU-1	13	21	6	450	-	110									Cooling Only
22	3rd Floor / 2160	VAV3-22	AHU-1	13	22	12	1440	370	370	B-212+LR24 US/300	1/2"	2-Way	Floating					w/HW Reheat
23	3rd Floor / 2429	VAV3-23	AHU-1	13	23	10	800	-	400									Cooling Only
24	3rd Floor / 2408	VAV3-24	AHU-1	13	24	12	800	-	400									Cooling Only
25	3rd Floor / 2285	VAV3-25	AHU-1	13	25	6	345	90	90		1/2"	2-Way	Floating					w/HW Reheat
26	3rd Floor / 2139	VAV3-26	AHU-1	13	26	-	2670	665	665		1/2"	2-Way	Floating					w/HW Reheat
27	3rd Floor / 2319	VAV3-27	AHU-1	13	27	8	400	-	200									Cooling Only

2

REV	DATE	DESCRIPTION	BY
2	7/25/2014	Resubmittal Glumac/Southland Review Comments	RV
1	4/7/2014	Construction Set	AK
0	4/1/2014	Submittal	RV

6.12 VAV Box - 3rd Floor Schedule

RSCCD District Offices Renovation
Direct Digital Controls Project

Proj. Mgr.: ER/RG
Proj. Engr.: RV

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JOB #: 765674

BAS **6.12**

		BOX INFORMATION								REHEAT VALVES								
Item#	Floor / Rm #	Zone # (Tag #)	Served By	AAR Address	CM Address	Box Size	Cool Max CFM	Heat Max CFM	Cool/Heat Min CFM	Valve+Actuator #	Valve Size	Config. Type	Proportional/ Float./On-Off	GPM	Req'd CV	CV	ΔP	Comments
1	4th Floor / 2436	VAV4-1	AHU-1	14	1	8	620	110	110	B-211+LR24 US/300	1/2"	2-Way	Floating					w/HW Reheat
2	4th Floor / 2146	VAV4-2	AHU-1	14	2	12	1640	570	570	B-212+LR24 US/300	1/2"	2-Way	Floating					w/HW Reheat
3	4th Floor / 2315	VAV4-3	AHU-1	14	3	12	1620	550	550	B-212+LR24 US/300	1/2"	2-Way	Floating					w/HW Reheat / RA Duct Sensor
4	4th Floor / 2364	VAV4-4	AHU-1	14	4	12	1620	420	420	B-212+LR24 US/300	1/2"	2-Way	Floating					w/HW Reheat
5	4th Floor / 2178	VAV4-5	AHU-1	14	5	10	1080	210	210	B-211+LR24 US/300	1/2"	2-Way	Floating					w/HW Reheat
6	4th Floor / 2171	VAV4-6	AHU-1	14	6	10	1030	270	270	B-311+LR24 US/300	1/2"	2-Way	Floating					w/HW Reheat
7	4th Floor / 2203	VAV4-7	AHU-1	14	7	10	1080	210	210	B-311+LR24 US/300	1/2"	2-Way	Floating					w/HW Reheat
8	4th Floor / 2430	VAV4-8	AHU-1	14	8	12	1540	350	350	B-212+LR24 US/300	1/2"	2-Way	Floating					w/HW Reheat
9	4th Floor / 2279	VAV4-9	AHU-1	14	9	12	1500	360	360	B-212+LR24 US/300	1/2"	2-Way	Floating					w/HW Reheat
10	4th Floor / 2351	VAV4-10	AHU-1	14	10	10	900	240	240	B-210+LR24 US/300	1/2"	2-Way	Floating					w/HW Reheat
11	4th Floor / 2248	VAV4-11	AHU-1	14	11	12	1470	350	350	B-210+LR24 US/300	1/2"	2-Way	Floating					w/HW Reheat
12	4th Floor / 2435	VAV4-12	AHU-1	14	12	12	1320	310	310	B-212+LR24 US/300	1/2"	2-Way	Floating					w/HW Reheat
13	4th Floor / 2423	VAV4-13	AHU-1	14	13	6	310	130	130	B-209+LR24 US/300	1/2"	2-Way	Floating					w/HW Reheat
14	4th Floor / 2464	VAV4-14	AHU-1	14	14	8	620	210	210	B-210+LR24 US/300	1/2"	2-Way	Floating					w/HW Reheat
15	4th Floor / 2365	VAV4-15	AHU-1	14	15	10	880	220	220	B-211+LR24 US/300	1/2"	2-Way	Floating					w/HW Reheat
16	4th Floor / 2377	VAV4-16	AHU-1	14	16	8	480	120	120	B-210+LR24 US/300	1/2"	2-Way	Floating					w/HW Reheat
17	4th Floor / 2339	VAV4-17	AHU-1	14	17	10	960	240	240	B-211+LR24 US/300	1/2"	2-Way	Floating					w/HW Reheat
18	4th Floor / 2334	VAV4-18	AHU-1	14	18	12	1680	420	420	B-212+LR24 US/300	1/2"	2-Way	Floating					w/HW Reheat
19	4th Floor / 2393	VAV4-19	AHU-1	14	19	8	480	120	120	B-210+LR24 US/300	1/2"	2-Way	Floating					w/HW Reheat
20	4th Floor / 2333	VAV4-20	AHU-1	14	20	8	430	140	140	B-210+LR24 US/300	1/2"	2-Way	Floating					w/HW Reheat
21	4th Floor / 2260	VAV4-21	AHU-1	14	21	8	660	-	170									Cooling Only
22	4th Floor / 2385	VAV4-22	AHU-1	14	22	6	300	80	80	B-209+LR24 US/300	1/2"	2-Way	Floating					w/HW Reheat

REV	DATE	DESCRIPTION	BY
2	7/25/2014	Resubmittal Glumac/Southland Review Comments	RV
1	4/7/2014	Construction Set	AK
0	4/1/2014	Submittal	RV

6.13 VAV Box - 4th Floor Schedule

RSCCD District Offices Renovation
Direct Digital Controls Project

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JOB #: 765674

BAS **6.13**

EXISTING POWER SUPPLY PANEL- 500VA POWER SUPPLY WITH (5) 100VA OUTPUTS, 120VAC TO 24VAC

FIELD VERIFY POWER INFO

POWER CIRCUIT FROM:
PNL #:
CKT #:
VOLT: **120VAC**

1ST FLR VAV BOX POWER SUPPLY SCHEDULE					
Circuit 1 - 100 VA					
ITEM	**ZONE #**	**SERVES**	**AHU**	**CONTROL MODULE**	**BOX TYPE**
1					
2					
3					
4					
5					
Circuit 2 - 100 VA					
ITEM	**ZONE #**	**SERVES**	**AHU**	**CONTROL MODULE**	**BOX TYPE**
6					
7					
8					
9					
10					
Circuit 3 - 100 VA					
ITEM	**ZONE #**	**SERVES**	**AHU**	**CONTROL MODULE**	**BOX TYPE**
11					
12					
13					
14					
15					
Circuit 4 - 100 VA					
ITEM	**ZONE #**	**SERVES**	**AHU**	**CONTROL MODULE**	**BOX TYPE**
16					
17					
18					
19					
20					
Circuit 5 - 100 VA					
ITEM	**ZONE #**	**SERVES**	**AHU**	**CONTROL MODULE**	**BOX TYPE**
21					
22					
23					
24					
25					

△2 **NEW PAGE – BAS 6.20 – ADDED POWER SCHEDULE**

REV	DATE	DESCRIPTION	BY
△2	7/25/2014	Resubmittal Glumac/Southland Review Comments	RV
△1	4/7/2014	Construction Set	AK
△0	4/1/2014	Submittal	RV

6.20 VAV Box - 1st Floor Power Schedule

RSCCD District Offices Renovation
Direct Digital Controls Project

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Proj. Engr.: RV

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JOB #: 765674

BAS **6.20**

EXISTING POWER SUPPLY PANEL- 500VA POWER SUPPLY WITH (5) 100VA OUTPUTS, 120VAC TO 24VAC

FIELD VERIFY POWER INFO

POWER CIRCUIT FROM:
PNL #:
CKT #:
VOLT: **120VAC**

2ND FLR VAV BOX POWER SUPPLY SCHEDULE					
Circuit 1 - 100 VA					
ITEM	**ZONE #**	**SERVES**	**AHU**	**CONTROL MODULE**	**BOX TYPE**
1					
2					
3					
4					
5					
Circuit 2 - 100 VA					
ITEM	**ZONE #**	**SERVES**	**AHU**	**CONTROL MODULE**	**BOX TYPE**
6					
7					
8					
9					
10					
Circuit 3 - 100 VA					
ITEM	**ZONE #**	**SERVES**	**AHU**	**CONTROL MODULE**	**BOX TYPE**
11					
12					
13					
14					
15					
Circuit 4 - 100 VA					
ITEM	**ZONE #**	**SERVES**	**AHU**	**CONTROL MODULE**	**BOX TYPE**
16					
17					
18					
19					
20					
Circuit 5 - 100 VA					
ITEM	**ZONE #**	**SERVES**	**AHU**	**CONTROL MODULE**	**BOX TYPE**
21					
22					
23					
24					
25					

△2 **NEW PAGE – BAS 6.21 – ADDED POWER SCHEDULE**

REV	DATE	DESCRIPTION	BY
△2	7/25/2014	Resubmittal Glumac/Southland Review Comments	RV
△1	4/7/2014	Construction Set	AK
△0	4/1/2014	Submittal	RV

6.21 VAV Box - 2nd Floor Power Schedule

RSCCD District Offices Renovation
Direct Digital Controls Project

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JOB #: 765674

BAS **6.21**

EXISTING POWER SUPPLY PANEL- 500VA POWER SUPPLY WITH (5) 100VA OUTPUTS, 120VAC TO 24VAC

FIELD VERIFY POWER INFO

POWER CIRCUIT FROM:
PNL #:
CKT #:
VOLT: **120VAC**

3RD FLR VAV BOX POWER SUPPLY SCHEDULE					
Circuit 1 - 100 VA					
ITEM	**ZONE #**	**SERVES**	**AHU**	**CONTROL MODULE**	**BOX TYPE**
1					
2					
3					
4					
5					
Circuit 2 - 100 VA					
ITEM	**ZONE #**	**SERVES**	**AHU**	**CONTROL MODULE**	**BOX TYPE**
6					
7					
8					
9					
10					
Circuit 3 - 100 VA					
ITEM	**ZONE #**	**SERVES**	**AHU**	**CONTROL MODULE**	**BOX TYPE**
11					
12					
13					
14					
15					
Circuit 4 - 100 VA					
ITEM	**ZONE #**	**SERVES**	**AHU**	**CONTROL MODULE**	**BOX TYPE**
16					
17					
18					
19					
20					
Circuit 5 - 100 VA					
ITEM	**ZONE #**	**SERVES**	**AHU**	**CONTROL MODULE**	**BOX TYPE**
21					
22					
23					
24					
25					

△2 **NEW PAGE – BAS 6.22 – ADDED POWER SCHEDULE**

REV	DATE	DESCRIPTION	BY
△2	7/25/2014	Resubmittal Glumac/Southland Review Comments	RV
△1	4/7/2014	Construction Set	AK
△0	4/1/2014	Submittal	RV

6.22 VAV Box - 3rd Floor Power Schedule

RSCCD District Offices Renovation
Direct Digital Controls Project

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BAS **6.22**

EXISTING POWER SUPPLY PANEL- 500VA POWER SUPPLY WITH (5) 100VA OUTPUTS, 120VAC TO 24VAC

FIELD VERIFY POWER INFO

4TH FLR VAV BOX POWER SUPPLY SCHEDULE					
Circuit 1 - 100 VA					
ITEM	**ZONE #**	**SERVES**	**AHU**	**CONTROL MODULE**	**BOX TYPE**
1					
2					
3					
4					
5					
Circuit 2 - 100 VA					
ITEM	**ZONE #**	**SERVES**	**AHU**	**CONTROL MODULE**	**BOX TYPE**
6					
7					
8					
9					
10					
Circuit 3 - 100 VA					
ITEM	**ZONE #**	**SERVES**	**AHU**	**CONTROL MODULE**	**BOX TYPE**
11					
12					
13					
14					
15					
Circuit 4 - 100 VA					
ITEM	**ZONE #**	**SERVES**	**AHU**	**CONTROL MODULE**	**BOX TYPE**
16					
17					
18					
19					
20					
Circuit 5 - 100 VA					
ITEM	**ZONE #**	**SERVES**	**AHU**	**CONTROL MODULE**	**BOX TYPE**
21					
22					
23					
24					
25					

2

NEW PAGE – BAS 6.23 – ADDED POWER SCHEDULE

REV	DATE	DESCRIPTION	BY
2	7/25/2014	Resubmittal Glumac/Southland Review Comments	RV
1	4/7/2014	Construction Set	AK
0	4/1/2014	Submittal	RV

6.23 VAV Box - 4th Floor Power Schedule

RSCCD District Offices Renovation
Direct Digital Controls Project

Proj. Mgr.: ER/RG
Proj. Engr.: RV

JOB #: 765674

BAS **6.23**

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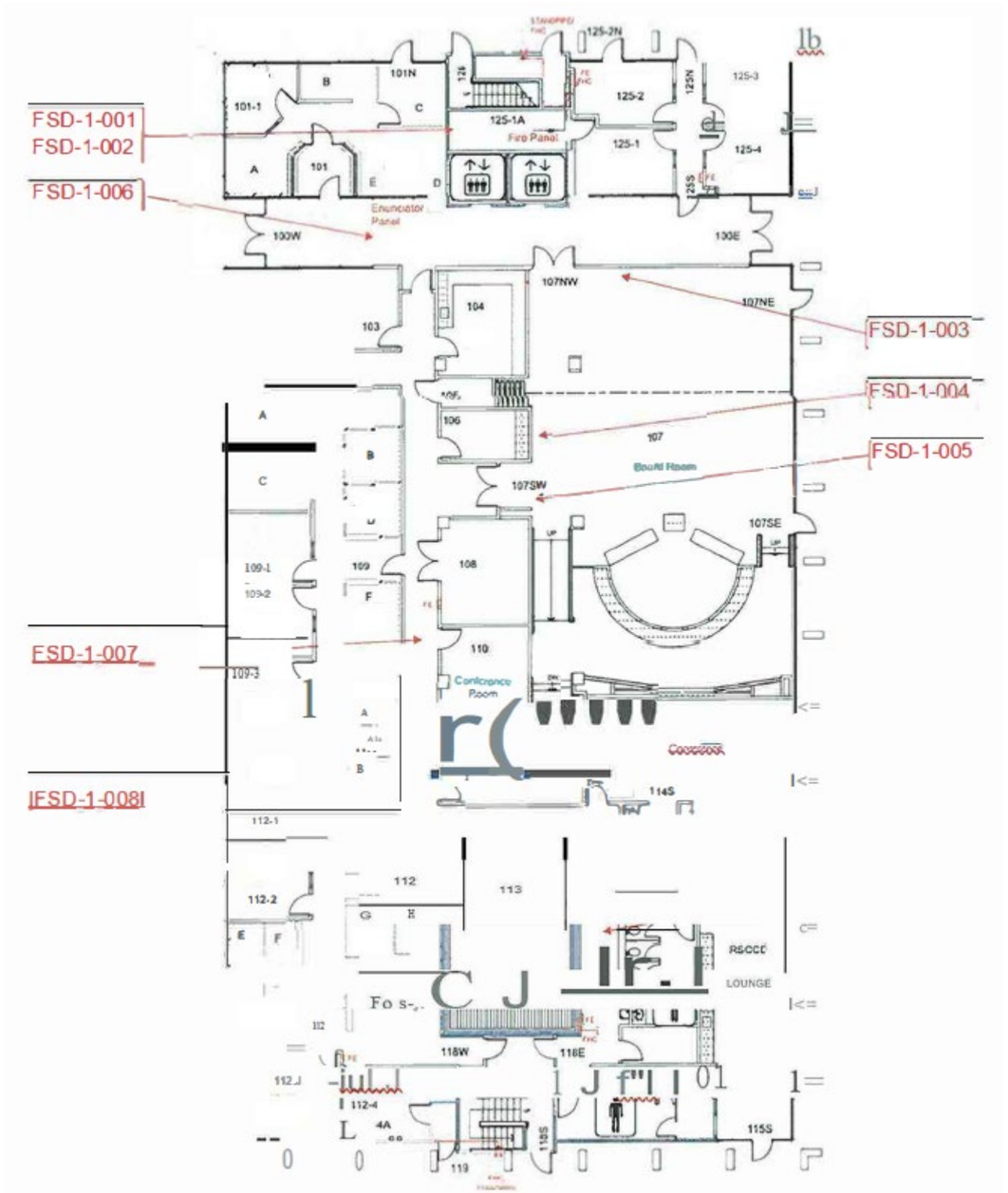
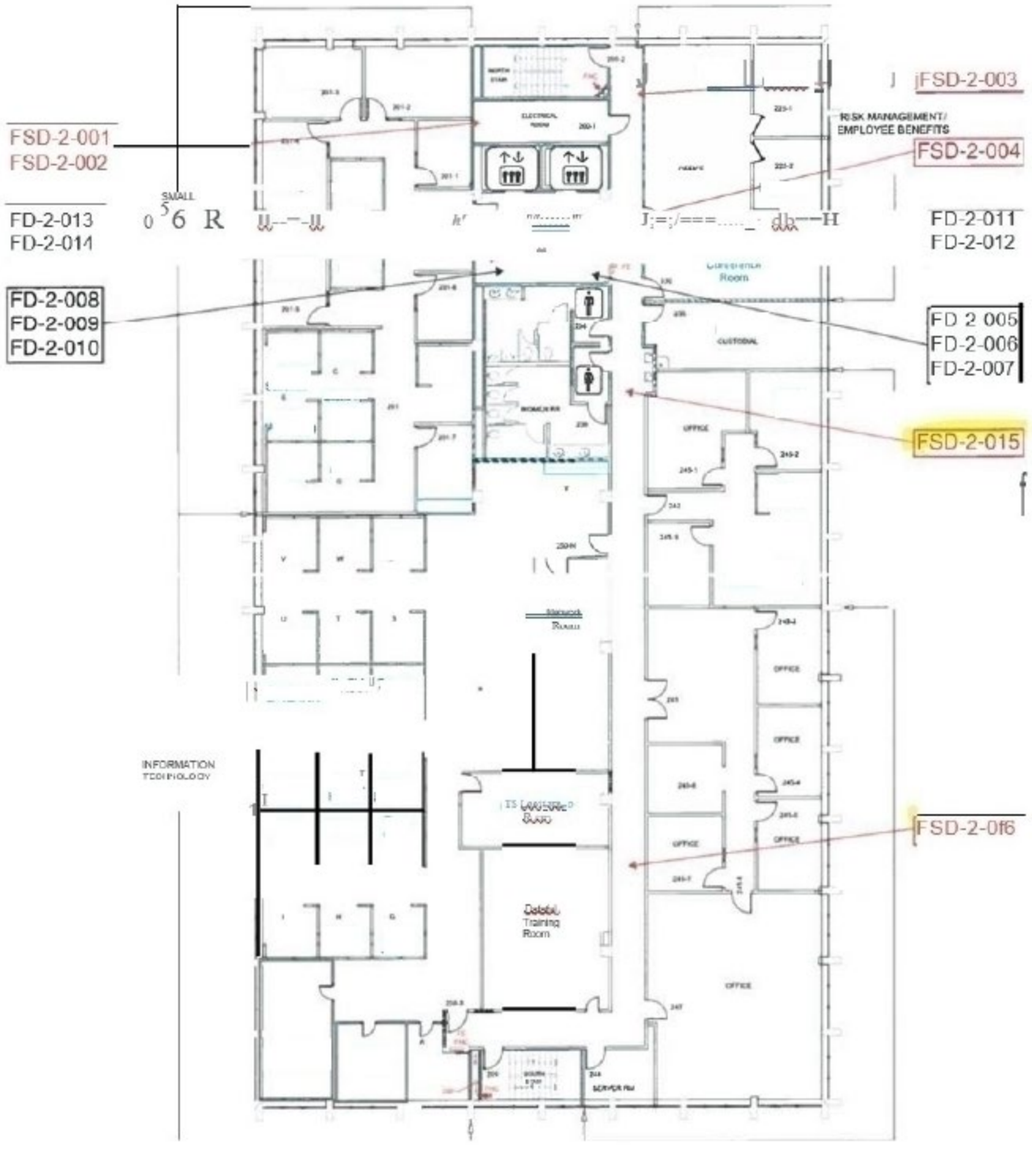
RSCCD DOC Fire Duct Damper Maps

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FSD-2-002
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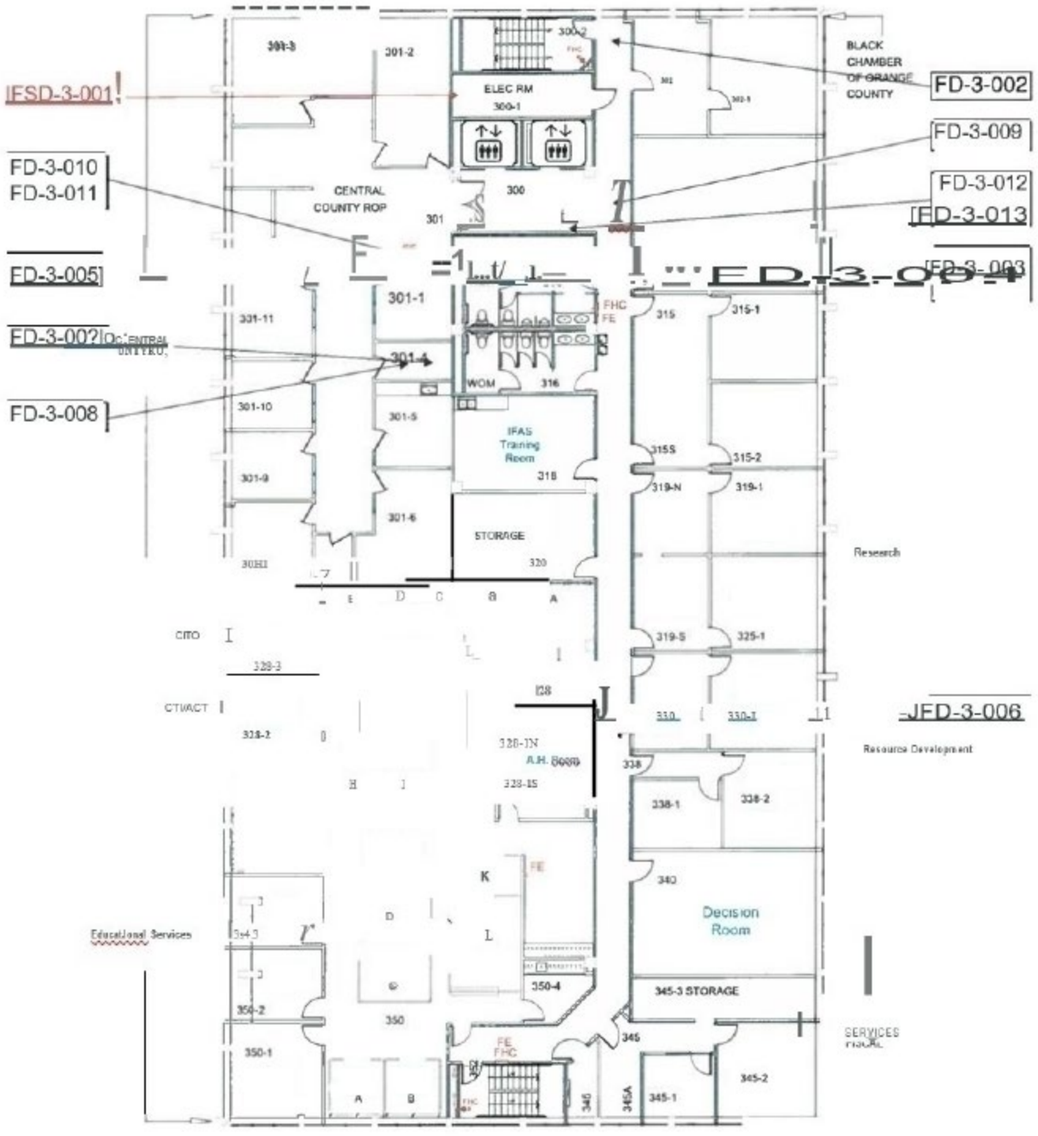
FD-2-014
FD-2-008
FD-2-009
FD-2-010
FSD-2-003
RISK MANAGEMENT/
EMPLOYEE BENEFITS
FSD-2-004
FD-2-011
FD-2-012
FD 2 005
FD-2-006
FD-2-007
FSD-2-015
FSD-2-0f6
INFORMATION
TECHNOLOGY
Conference
Room
CUSTODIAL
OFFICE
Training
Room
OFFICE
OFFICE
OFFICE
OFFICE
OFFICE
OFFICE
SERVER RM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FD-3-010
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FD-3-005
FD-3-002
FD-3-008
BLACK CHAMBER OF ORANGE COUNTY
FD-3-002
FD-3-009
FD-3-012
FD-3-013
FD-3-003
FD-3-004
ELEC RM
300-1
CENTRAL COUNTY ROP
300
301
301-1
301-4
301-3
301-2
301-11
301-10
301-5
301-9
301-6
WOM
316
IFAS Training Room
318
STORAGE
320
315
315-1
315S
315-2
319-N
319-1
319-S
325-1
Research
JFD-3-006
Resource Development
330
330-1
338
338-1
338-2
340
Decision Room
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345
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345-1
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350-2
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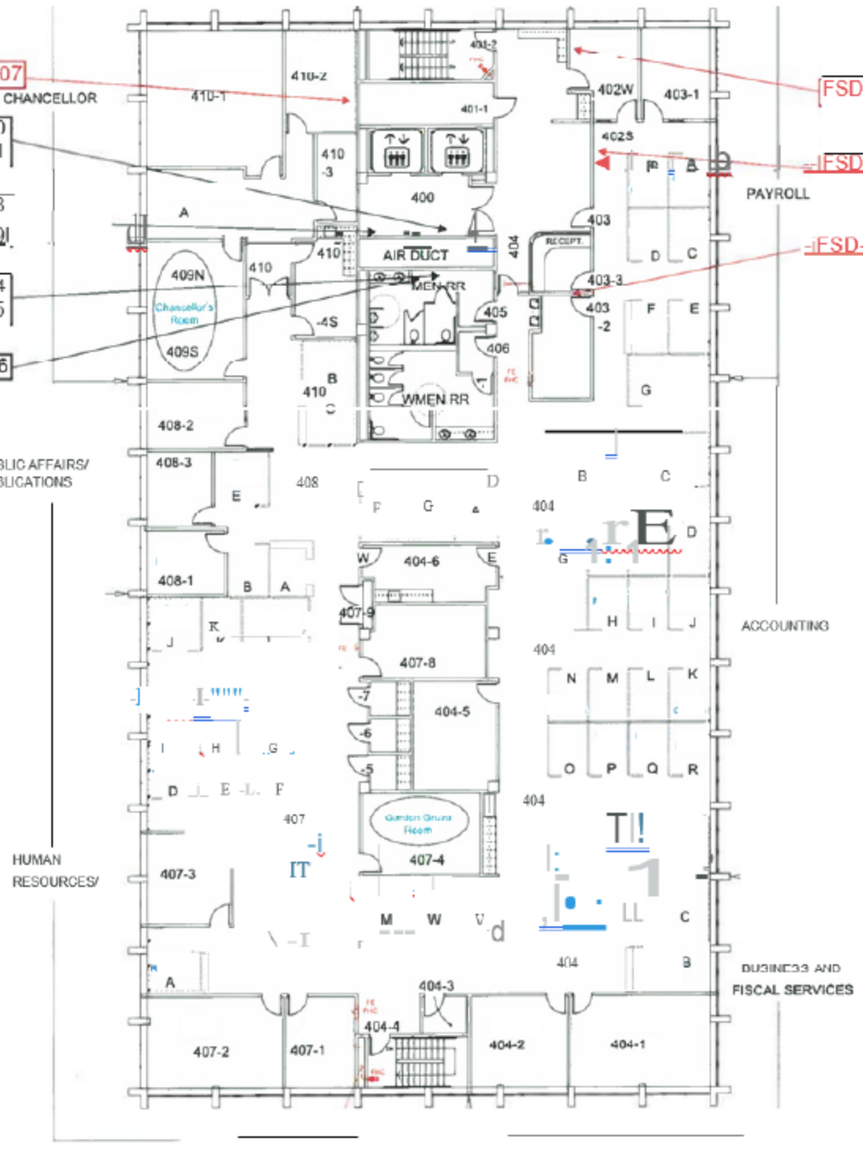
SERVICES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FSD-4-001
FSD-4-002
FSD-4-003
PAYROLL
ACCOUNTING
PUBLIC AFFAIRS/
PUBLICATIONS
HUMAN
RESOURCES/
BUSINESS AND
FISCAL SERVICES
AIR DUCT
MEN RR
WMEN RR
IT
410-1
410-2
410
410-3
400
401-1
402W
402S
403-1
403
403-3
403-2
404
405
406
409N
409S
Chancellor's
Room
410-4S
408-2
408-3
408-1
408
404-6
407-9
407-8
404-5
404-4
404-3
404-2
404-1
407
407-4
407-3
407-2
407-1
Garden Grove
Room