



Purchasing Division

Invitation for Bid

IFB-4216-16-DH Two Rivers Convention Center Kitchen Makeup Air Unit Replacement

Responses Due:

April 15, 2016 prior to 3:30pm <u>Accepting Electronic Responses Only</u> <u>Responses Only Submitted Through the Rocky Mountain E-Purchasing</u> <u>System (RMEPS)</u>

https://www.rockymountainbidsystem.com/default.asp

(Purchasing Representative does not have access or control of the vendor side of RMEPS. If website or other problems arise during response submission, vendor <u>MUST</u> contact RMEPS to resolve issue prior to the response deadline. 800-835-4603)

Purchasing Representative: Duane Hoff Jr., Senior Buyer duaneh@gjcity.org 970-244-1545

This document has been developed specifically to solicit competitive responses for this solicitation, and may not be the same as previous City of Grand Junction/Mesa County solicitations. All vendors are urged to thoroughly review this solicitation prior to responding. Submittal by **HARDCOPY**, **E-MAIL**, **OR FAX IS NOT ACCEPTABLE** for this solicitation.

Invitation for Bids

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1. Instructions to Bidders

- **1.1. Purpose:** The City of Grand Junction is soliciting competitive bids from qualified and interested companies for all labor, equipment, and materials required to replace the existing kitchen makeup air unit for Two Rivers Convention Center. All dimensions and scope of work should be verified by Contractors prior to submission of bids.
- 1.2. Mandatory Site Visit/Briefing: <u>Prospective bidders are required to attend a</u> <u>site visit/briefing on April 6, 2016 at 10:30am</u>. <u>Meeting location shall be at Two</u> <u>Rivers Convention Center, 159 Main Street, Grand Junction, CO</u>. The purpose of this visit will be to inspect and to clarify the contents of this Invitation for Bids (IFB).
- **1.3. The Owner:** The Owner is the City of Grand Junction and/or Mesa County, Colorado and is referred to throughout this Solicitation. The term Owner means the Owner or his authorized representative.
- 1.4. Prequalification Requirement: CITY ONLY Contractors submitting bids over \$50,000 must be pre-qualified in accordance with the City's "Rules and Procedures for Pre-qualification of Contractors". All bids received by the specified time will be opened, but the City will reject bids over \$50,000 from contractors who have not been prequalified. Application forms for prequalification are available at the Administration Office of the Department of Public Works and Planning, City Hall, 250 North Fifth Street, Room 245. Call 970-256-4126 or 970-244-1555 for additional information. Due to the time required to process applications, <u>all applications must be submitted no later than two weeks prior to the Response Due Date</u>. Application link: <u>http://www.gjcity.org/PreQualification.aspx</u>
- 1.5. Submission: Each proposal shall be submitted in electronic format only, and through the Rocky Mountain E-Purchasing only website (https://www.rockymountainbidsystem.com/default.asp). This site offers both "free" and "paying" registration options that allow for full access of the Owner's documents and for electronic submission of proposals. (Note: "free" registration may take up to 24 hours to process. Please Plan accordingly.) Please view our Vendor Registration "Electronic Guide" at http://www.gjcity.org/BidOpenings.aspx for details. (Purchasing Representative does not have access or control of the vendor side of RMEPS. If website or other problems arise during response submission, vendor MUST contact RMEPS to resolve issue prior to the response deadline. 800-835-4603). Trade secrets and confidential information contained in the bid so identified by Offeror as such will be treated as confidential by the City of Grand Junction (City)/ Mesa County (County) to the extent allowable in the Open Records Act.
- **1.6. Printed Form for Price Bid:** All Price Bids must be made upon the Contractor's Bid Form attached, and should give the amounts both in words and in figures, and must be signed and acknowledged by the bidder.

- **1.7. Exclusions:** No oral, telephonic, emailed, or facsimile bid will be considered
- **1.8. Contract Documents:** The complete IFB and bidder's response compose the Contract Documents. Copies of these documents can be obtained from the City Purchasing website, <u>http://www.gjcity.org/BidOpenings.aspx</u>.
- **1.9. Examination of Specifications:** Bidders shall thoroughly examine and be familiar with the project Statement of Work. The failure or omission of any Offeror to receive or examine any form, addendum, or other document shall in no way relieve any Offeror from any obligation with respect to his bid. The submission of a bid shall be taken as evidence of compliance with this section.
- **1.10.** Questions Regarding Statement of Work: Any information relative to interpretation of Scope of Work or specifications shall be requested of the Purchasing Representative, in writing, in ample time prior to the response time.
- **1.11.** Addenda & Interpretations: If it becomes necessary to revise any part of this solicitation, a written addendum will be posted electronically on the City's website at http://www.gicity.org/BidOpenings.aspx. The Owner is not bound by any oral representations, clarifications, or changes made in the written specifications by Owner, unless such clarification or change is provided in written addendum form from the City Purchasing Representative.
- **1.12. Taxes:** The Owner is exempt from State retail and Federal tax. The bid price must be net, exclusive of taxes.
- **1.13. Offers Binding 60 Days:** Unless otherwise specified, all formal offers submitted shall be binding for sixty (60) calendar days following opening date, unless the Bidder, upon request of the Purchasing Representative, agrees to an extension.
- **1.14. Collusion Clause:** Each bidder by submitting a bid certifies that it is not party to any collusive action or any action that may be in violation of the Sherman Antitrust Act. Any and all bids shall be rejected if there is evidence or reason for believing that collusion exists among bidders. The Owner may, or may not, accept future bids for the same services or commodities from participants in such collusion.
- **1.15. Public Disclosure Record:** If the bidder has knowledge of their employee(s) or sub-contractors having an immediate family relationship with a City/County employee or elected official, the bidder must provide the Purchasing Representative with the name(s) of these individuals. These individuals are required to file an acceptable "Public Disclosure Record", a statement of financial interest, before conducting business with the City/County.

2. General Contract Conditions for Construction Projects

- 2.1. The Contract: This Invitation for Bid, submitted documents, and any negotiations, when properly accepted by the City/County, shall constitute a contract equally binding between the City/County and Contractor. The contract represents the entire and integrated agreement between the parties hereto and supersedes all prior negotiations, representations, or agreements, either written or oral. The contract may be amended or modified with Change Orders, Field Orders, or Addendums.
- **2.2. The Work:** The term Work includes all labor necessary to produce the construction required by the Contract Documents, and all materials and equipment incorporated or to be incorporated in such construction.
- 2.3. Execution, Correlation, Intent, and Interpretations: The Contract Documents shall be signed in not less than triplicate by the Owner (City/County) and Contractor. City/County will provide the contract. By executing the contract, the Contractor represents that he/she has visited the site, familiarized himself with the local conditions under which the Work is to be performed, and correlated his observations with the requirements of the Contract Documents. The Contract Documents are complementary, and what is required by any one, shall be as binding as if required by all. The intention of the documents is to include all labor, materials, equipment and other items necessary for the proper execution and completion of the scope of work as defined in the technical specifications and drawings contained herein. All drawings, specifications and copies furnished by the City/County are, and shall remain, City/County property. They are not to be used on any other project, and with the exception of one contract set for each party to the contract, are to be returned to the owner on request at the completion of the work.
- 2.4. **The Owner:** The Owner is the City of Grand Junction and/or Mesa County, Colorado and is referred to throughout the Contract Documents. The term Owner means the Owner or his authorized representative. The Owner shall, at all times, have access to the work wherever it is in preparation and progress. The Contractor shall provide facilities for such access. The Owner will make periodic visits to the site to familiarize himself generally with the progress and quality of work and to determine, in general, if the work is proceeding in accordance with the contract documents. Based on such observations and the Contractor's Application for Payment, the Owner will determine the amounts owing to the Contractor and will issue Certificates for Payment in such amounts, as provided in the contract. The Owner will have authority to reject work which does not conform to the Contract documents. Whenever, in his reasonable opinion, he considers it necessary or advisable to insure the proper implementation of the intent of the Contract Documents, he will have authority to require the Contractor to stop the work or any portion, or to require special inspection or testing of the work, whether or not such work can be then be fabricated, installed, or completed. The Owner will not be responsible for the acts or omissions of the Contractor, and sub-Contractor, or any of their agents or employees, or any other persons performing any of the work.
- **2.5. Contractor:** The Contractor is the person or organization identified as such in the Agreement and is referred to throughout the Contract Documents. The term

Contractor means the Contractor or his authorized representative. The Contractor shall carefully study and compare the General Contract Conditions of the Contract, Specification and Drawings, Scope of Work, Addenda and Modifications and shall at once report to the Owner any error, inconsistency or omission he may discover. Contractor shall not be liable to the Owner for any damage resulting from such errors, inconsistencies or omissions. The Contractor shall not commence work without clarifying Drawings, Specifications, or Interpretations.

- **2.6. Sub-Contractors:** A sub-contractor is a person or organization who has a direct contract with the Contractor to perform any of the work at the site. The term sub-contractor is referred to throughout the contract documents and means a sub-contractor or his authorized representative.
- 2.7. Award of Sub-Contractors & Other Contracts for Portions of the Work: As soon as practicable after bids are received and prior to the award of the contract, the successful Contractor shall furnish to the Owner, in writing for acceptance, a list of the names of the sub-contractors or other persons or organizations proposed for such portions of the work as may be designated in the proposal requirements, or, if none is so designated, the names of the sub-contractors proposed for the principal portions of the work. Prior to the award of the contract, the Owner shall notify the successful Contractor in writing if, after due investigation, has reasonable objection to any person or organization on such list. If, prior to the award of the contract, the Owner has a reasonable and substantial objection to any person or organization on such list, and refuses in writing to accept such person or organization, the successful Contractor may, prior to the award, withdraw their proposal without forfeiture of proposal security. If the successful Contractor submits an acceptable substitute with an increase in the proposed price to cover the difference in cost occasioned by the substitution, the Owner may, at their discretion, accept the increased proposal or may disgualify the Contractor. If, after the award, the Owner refuses to accept any person or organization on such list, the Contractor shall submit an acceptable substitute and the contract sum shall be increased or decreased by the difference in cost occasioned by such substitution and an appropriate Change Order shall be issued. However, no increase in the contract sum shall be allowed for any such substitution unless the Contractor has acted promptly and responsively in submitting a name with respect thereto prior to the award.
- **2.8. Supervision and Construction Procedures:** The Contractor shall supervise and direct the work, using his best skill and attention. He shall be solely responsible for all construction means, methods, techniques, sequences and procedures and for coordinating all portions of the work under the contract.
- 2.9. Warranty: The Contractor warrants to the Owner that all materials and equipment furnished under this contract will be new unless otherwise specified, and that all work will be of good quality, free from faults and defects and in conformance with the Contract Documents. All work not so conforming to these standards may be considered defective. If required by Owner, the Contractor shall furnish satisfactory evidence as to the kind and quality of materials and equipment. If within ten (10)

days after written notice to the Contractor requesting such repairs or replacement, the Contractor should neglect to make or undertake with due diligence to the same, the City may make such repairs or replacements. All indirect and direct costs of such correction or removal or replacement shall be at the Contractor's expense. The Contractor will also bear the expenses of making good all work of others destroyed or damaged by the correction, removal or replacement of his defective work.

- 2.10. Permits, Fees, & Notices: The Contractor shall secure and pay for all permits, governmental fees and licenses necessary for the proper execution and completion of the work. The Contractor shall give all notices and comply with all laws, ordinances, rules, regulations and orders of any public authority bearing on the performance of the work. If the Contractor observes that any of the Contract Documents are at variance in any respect, he shall promptly notify the Owner in writing, and any necessary changes shall be adjusted by approximate modification. If the Contractor performs any work knowing it to be contrary to such laws, ordinances, rules and regulations, and without such notice to the Owner, he shall assume full responsibility and shall bear all costs attributable.
- 2.11. Responsibility for Those Performing the Work: The Contractor shall be responsible to the Owner for the acts and omissions of all his employees and all sub-contractors, their agents and employees, and all other persons performing any of the work under a contract with the Contractor.
- **2.12.** Use of the Site: The Contractor shall confine operations at the site to areas permitted by law, ordinances, permits and the Contract Documents, and shall not unreasonably encumber the site with any materials or equipment.
- **2.13. Cleanup:** The Contractor at all times shall keep the premises free from accumulation of waste materials or rubbish caused by his operations. At the completion of work he shall remove all his waste materials and rubbish from and about the project, as well as all his tools, construction equipment, machinery and surplus materials.
- 2.14. Insurance Requirements: The selected Bidder agrees to procure and maintain, at its own cost, policy(s) of insurance sufficient to insure against all liability, claims, demands, and other obligations assumed by the Bidder pursuant to this Section. Such insurance shall be in addition to any other insurance requirements imposed by this Contract or by law. The Bidder shall not be relieved of any liability, claims, demands, or other obligations assumed pursuant to this Section by reason of its failure to procure or maintain insurance in sufficient amounts, durations, or types. Bidder shall procure and maintain and, if applicable, shall cause any Subcontractor of the Bidder to procure and maintain insurance coverage listed below. Such coverage shall be procured and maintained with forms and insurers acceptable to the Owner. All coverage shall be continuously maintained to cover all liability, claims, demands, and other obligations assumed policy, the necessary retroactive dates and extended reporting periods shall be procured to maintain such continuous

coverage. Minimum coverage limits shall be as indicated below unless specified otherwise in the Special Conditions:

(a) Worker Compensation: Contractor shall comply with all State of Colorado Regulations concerning Workers' Compensation insurance coverage.

(b) General Liability insurance with minimum combined single limits of:

One Million Dollars (\$1,000,000) each occurrence and One Million Dollars (\$1,000,000) per job aggregate.

The policy shall be applicable to all premises and operations. The policy shall include coverage for bodily injury, broad form property damage (including completed operations), personal injury (including coverage for contractual and employee acts), blanket contractual, products, and completed operations. The policy shall include coverage for explosion, collapse, and underground hazards. The policy shall contain a severability of interests provision.

(c) Comprehensive Automobile Liability insurance with minimum combined single limits for bodily injury and property damage of not less than:

One Million Dollars (\$1,000,000) each occurrence and One Million Dollars (\$1,000,000) aggregate

This policy shall provide coverage to protect the contractor against liability incurred as a result of the professional services performed as a result of responding to this Solicitation.

With respect to each of Bidder's owned, hired, or non-owned vehicles assigned to be used in performance of the Work. The policy shall contain a severability of interests provision. The policies required by paragraphs (b), and (c) above shall be endorsed to include the City and/or County, and the City's and/or County's officers and employees as additional insureds. Every policy required above shall be primary insurance, and any insurance carried by the Owner, its officers, or its employees, or carried by or provided through any insurance pool of the Owner, shall be excess and not contributory insurance to that provided by Bidder. No additional insured endorsement to any required policy shall contain any exclusion for bodily injury or property damage arising from completed operations. The Bidder shall be solely responsible for any deductible losses under any policy required above.

2.15. Indemnification: The Contractor shall defend, indemnify and save harmless the Owner, and all its officers, employees, insurers, and self-insurance pool, from and against all liability, suits, actions, or other claims of any character, name and description brought for or on account of any injuries or damages received or sustained by any person, persons, or property on account of any negligent act or fault of the Contractor, or of any Contractor's agent, employee, sub-contractor or

supplier in the execution of, or performance under, any contract which may result from proposal award. Contractor shall pay any judgment with cost which may be obtained against the Owner growing out of such injury or damages.

- 2.16. Miscellaneous Conditions: Material Availability: Contractors must accept responsibility for verification of material availability, production schedules, and other pertinent data prior to submission of bid. It is the responsibility of the bidder to notify the Owner immediately if materials specified are discontinued, replaced, or not available for an extended period of time. OSHA Standards: All bidders agree and warrant that services performed in response to this invitation shall conform to the standards declared by the US Department of Labor under the Occupational Safety and Health Act of 1970 (OSHA). In the event the services do not conform to OSHA standards, the Owner may require the services to be redone at no additional expense to the Owner.
- 2.17. Time: The Contract Time is the period of time allotted in the Contract Documents for completion of the work. The date of commencement of the work is the date established in a Notice to Proceed. If there is no Notice to Proceed, it shall be the date of the Contract or such other date as may be established therein, or as established as entered on the Bid Form. The Date of Substantial Completion of the work or designated portions thereof is the date certified by the Owner when construction is sufficiently complete, in accordance with the Contract Documents.
- **2.18. Progress & Completion:** The Contractor shall begin work on the date of commencement as defined in the Contract, and shall carry the work forward expeditiously with adequate forces and shall complete it within the contract time.
- 2.19. Payment & Completion: The Contract Sum is stated in the Contract and is the total amount payable by the Owner to the Contractor for the performance of the work under the Contract Documents. Upon receipt of written notice that the work is ready for final inspection and acceptance and upon receipt of application for payment, the Owner's Project Manager will promptly make such inspection and, when he finds the work acceptable under the Contract Documents and the Contract fully performed, the Owner shall make payment in the manner provided in the Contract Documents.
- **2.20.** Quantities of Work and Unit Price: Materials or quantities stated as unit price items in the Bid are supplied only to give an indication of the general scope of the Work. The City does not expressly or by implication agree that the actual amount of Work or material will correspond therewith, and reserves the right after award to increase or decrease the quantity of any unit item of the Work without a change in the unit price. The City also reserves the right to make changes in the Work including the right to delete any bid item in its entirety or add additional bid items.
- **2.21. Bid Bond:** Each Bid shall as a guaranty of good faith on the part of the Bidder be accompanied by a Bid Guaranty consisting of: a certified or cashier's check drawn on an approved national bank or trust company in the state of Colorado, and made payable without condition to the City; or a **Bid Bond** written by an approved

corporate surety in favor of the City. The amount of the Bid Guaranty shall not be less than 5% of the total Bid amount. Once a Bid is accepted and a Contact is awarded, the apparent successful bidder has ten calendar days to enter into a contractor in the form prescribed and to furnish the bonds with a legally responsible and approved surety. Failure to do so will result I forfeiture of the Bid Guaranty to the City as Liquidated Damages.

- 2.22. Performance & Payment Bonds: Contractor shall furnish a Performance and a Payment Bond, each in an amount at least equal to that specified for the contract amount as security for the faithful performance and payment of all Contractor's obligations under the Contract Documents. These bonds shall remain in effect for the duration of the Warranty Period (as specified in the Special Conditions). Contractor shall also furnish other bonds that may be required by the Special Conditions. All bonds shall be in the forms prescribed by the Contract Documents and be executed by such sureties as (1) are licensed to conduct business in the State of Colorado and (2) are named in the current list of "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies" as published in Circular 570 (amended) by the Audit Staff, Bureau of Accounts, U.S. Treasury Department. All bonds singed by an agent must be accompanied by a certified copy of the Authority Act. If the surety on any bond furnished by the Contractor is declared bankrupt, or becomes insolvent, or its rights to do business in Colorado are terminated, or it ceases to meet the requirements of clauses (1) and (2) of this section, Contractor shall within five (5) days thereafter substitute another bond and surety, both of which shall be acceptable to the City.
- **2.23. Retention:** The Owner will deduct money from the partial payments in amounts considered necessary to protect the interest of the Owner and will retain this money until after completion of the entire contract. The amount to be retained from partial payments will be five (5) percent of the value of the completed work, and not greater than five (5) percent of the amount of the Contract. When the retainage has reached five (5) percent of the amount of the Contract no further retainage will be made and this amount will be retained until such time as final payment is made.
- 2.24. Liquidated Damages for Failure to Enter Into Contract: CITY ONLY Should the Successful Bidder fail or refuse to enter into the Contract within ten Calendar Days from the issuance of the Notice of Award, the City shall be entitled to collect the amount of such Bidder's Bid Guaranty as Liquidated Damages, not as a penalty but in consideration of the mutual release by the City and the Successful Bidder of all claims arising from the City's issuance of the Notice of Award and the Successful Bidder's failure to enter into the Contract and the costs to award the Contract to any other Bidder, to readvertise, or otherwise dispose of the Work as the City may determine best serves its interest.
- 2.25. Liquidated Damages for Failure to Meet Project Completion Schedule: CITY ONLY If the Contractor does not achieve Final Completion by the required date, whether by neglect, refusal or any other reason, the parties agree and stipulate that the Contractor shall pay liquidated damages to the City for each such day that final

completion is late. As provided elsewhere, this provision does not apply for delays caused by the City. The date for Final Completion may be extended in writing by the Owner.

The Contractor agrees that as a part of the consideration for the City's awarding of this Contract liquidated damages in the daily amount of **\$350.00** is reasonable and necessary to pay for the actual damages resulting from such delay. The parties agree that the real costs and injury to the City for such delay include hard to quantify items such as: additional engineering, inspection and oversight by the City and its agents; additional contract administration; inability to apply the efforts of those employees to the other work of the City; perceived inefficiency of the City; citizens having to deal with the construction and the Work, rather than having the benefit of a completed Work, on time; inconvenience to the public; loss of reputation and community standing for the City during times when such things are very important and very difficult to maintain.

The Contractor must complete the Work and achieve final completion included under the Bid Schedule in the number of consecutive calendar days after the City gives is written Notice to Proceed. When the Contractor considers the entire Work ready for its intended use, Contractor shall certify in writing that the Work is substantially complete. In addition to the Work being substantially complete, Final Completion date is the date by which the Contractor shall have fully completed all clean-up, and all items that were identified by the City in the inspection for final completion. Unless otherwise stated in the Special Conditions, for purposes of this liquidated damages clause, the Work shall not be finished and the Contract time shall continue to accrue until the City gives its written Final Acceptance.

If the Contractor shall fail to pay said liquidated damages promptly upon demand thereof after having failed to achieve Final Completion on time, the City shall first look to any retainage or other funds from which to pay said liquidated damages; if retainage or other liquid funds are not available to pay said liquidated damages amounts, the Surety on the Contractor's Performance Bond and Payment Bond shall pay such liquidated damages. In addition, the City may withhold all, or any part of, such liquidated damages from any payment otherwise due the Contractor. Liquidated damages as provided do not include any sums to reimburse the City for extra costs which the City may become obligated to pay on other contracts which were delayed or extended because of the Contractor's failure to complete the Work within the Contract Time. Should the City incur additional costs because of delays or extensions to other contracts resulting from the Contractor's failure of timely performance, the Contractor agrees to pay these costs that the City incurs because of the Contractor's delay, and these payments are separate from and in addition to any liquidated damages.

The Contractor agrees that the City may use its own forces or hire other parties to obtain Substantial or Final Completion of the work if the time of completion has elapsed and the Contractor is not diligently pursuing completion. In addition to the Liquidated Damages provided for, the Contractor agrees to reimburse the City for all expenses thus incurred.

- **2.26. Contingency/Force Account:** Contingency/Force Account work will be authorized by the Owner's Project Manager and is defined as minor expenses to cover miscellaneous or unforeseen expenses related to the project. The expenses are not included in the Drawings, Specifications, or Scope of Work and are necessary to accomplish the scope of this contract. Contingency/Force Account Authorization will be directed by the Owner through an approved form. Contingency/Force Account funds are the property of the Owner and any Contingency/Force Account funds, not required for project completion, shall remain the property of the Owner. Contractor is not entitled to any Contingency/Force Account funds, that are not authorized by Owner or Owner's Project Manager.
- **2.27. Protection of Persons & Property:** The Contractor shall comply with all applicable laws, ordinances, rules, regulations and orders of any public authority having jurisdiction for the safety of persons or property or to protect them from damage, injury or loss. Contractor shall erect and maintain, as required by existing safeguards for safety and protection, and all reasonable precautions, including posting danger signs or other warnings against hazards promulgating safety regulations and notifying owners and users of adjacent utilities. When or where any direct or indirect damage or injury is done to public or private property by or on account of any act, omission, neglect, or misconduct by the Contractor in the execution of the work, or in consequence of the non-execution thereof by the Contractor, he shall restore, at his own expense, such property to a condition similar or equal to that existing before such damage or injury was done, by repairing, rebuilding, or otherwise restoring as may be directed, or it shall make good such damage or injury in an acceptable manner.
- **2.28.** Changes in the Work: The Owner, without invalidating the contract, may order changes in the work within the general scope of the contract consisting of additions, deletions or other revisions, the contract sum and the contract time being adjusted accordingly. All such changes in the work shall be authorized by Change Order and shall be executed under the applicable conditions of the contract documents. A Change Order is a written order to the Contractor signed by the Owner issued after the execution of the contract, authorizing a change in the work or an adjustment in the contract sum or the contract time. The contract sum and the contract time may be changed only by Change Order.
- **2.29.** Claims for Additional Cost or Time: If the Contractor wishes to make a claim for an increase in the contract sum or an extension in the contract time, he shall give the Owner written notice thereof within a reasonable time after the occurrence of the event giving rise to such claim. This notice shall be given by the Contractor before proceeding to execute the work, except in an emergency endangering life or property in which case the Contractor shall precede in accordance with the regulations on safety. No such claim shall be valid unless so made. Any change in the contract sum or contract time resulting from such claim shall be authorized by Change Order.

- **2.30. Minor Changes in the Work:** The Owner shall have authority to order minor changes in the work not involving an adjustment in the contract sum or an extension of the contract time and not inconsistent with the intent of the contract documents.
- **2.31.** Field Orders: The Owner may issue written Field Orders which interpret the Contract Documents in accordance with the specifications, or which order minor changes in the work in accordance with the agreement, without change in the contract sum or time. The Contractor shall carry out such Field Orders promptly.
- 2.32. Uncovering & Correction of Work: The Contractor shall promptly correct all work rejected by the Owner as defective or as failing to conform to the contract documents whether observed before or after substantial completion and whether or not fabricated installed or competed. The Contractor shall bear all costs of correcting such rejected work, including the cost of the Owner's additional services thereby made necessary. If within one (1) year after the date of completion or within such longer period of time as may be prescribed by law or by the terms of any applicable special guarantee required by the contract documents, any of the work found to be defective or not in accordance with the contract documents, the Contractor shall correct it promptly after receipt of a written notice from the Owner to do so unless the Owner has previously given the Contractor a written acceptance of such condition. The Owner shall give such notice promptly after discover of condition. All such defective or non-conforming work under the above paragraphs shall be removed from the site where necessary and the work shall be corrected to comply with the contract documents without cost to the Owner. The Contractor shall bear the cost of making good all work of separate Contractors destroyed or damaged by such removal or correction. If the Owner prefers to accept defective or non-conforming work, he may do so instead of requiring its removal and correction, in which case a Change Order will be issued to reflect an appropriate reduction in the payment or contract sum, or, if the amount is determined after final payment, it shall be paid by the Contractor.
- **2.30. Amendment:** No oral statement of any person shall modify or otherwise change, or affect the terms, conditions or specifications stated in the resulting contract. All amendments to the contract shall be made in writing by the Owner.
- **2.31.** Assignment: The Contractor shall not sell, assign, transfer or convey any contract resulting from this IFB, in whole or in part, without the prior written approval from the Owner.
- **2.32. Compliance with Laws:** Bids must comply with all Federal, State, County and local laws governing or covering this type of service and the fulfillment of all ADA (Americans with Disabilities Act) requirements.
- **2.33. Confidentiality:** All information disclosed by the Owner to the Contractor for the purpose of the work to be done or information that comes to the attention of the Contractor during the course of performing such work is to be kept strictly confidential.

- **2.34. Conflict of Interest:** No public official and/or City/County employee shall have interest in any contract resulting from this IFB.
- **2.35. Contract Termination**: This contract shall remain in effect until any of the following occurs: (1) contract expires; (2) completion of services; (3) acceptance of services or, (4) for convenience terminated by either party with a written *Notice of Cancellation* stating therein the reasons for such cancellation and the effective date of cancellation.
- **2.36.** Employment Discrimination: During the performance of any services per agreement with the Owner, the Contractor, by submitting a Bid, agrees to the following conditions:
 - **2.36.1.** The Contractor shall not discriminate against any employee or applicant for employment because of race, religion, color, sex, age, handicap, or national origin except when such condition is a legitimate occupational qualification reasonably necessary for the normal operations of the Contractor. The Contractor agrees to post in conspicuous places, visible to employees and applicants for employment, notices setting forth the provisions of this nondiscrimination clause.
 - **2.36.2.** The Contractor, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, shall state that such Contractor is an Equal Opportunity Employer.
 - **2.36.3.** Notices, advertisements, and solicitations placed in accordance with federal law, rule, or regulation shall be deemed sufficient for the purpose of meeting the requirements of this section.
- **2.37.** Immigration Reform and Control Act of 1986 and Immigration Compliance: The Offeror certifies that it does not and will not during the performance of the contract employ illegal alien workers or otherwise violate the provisions of the Federal Immigration Reform and Control Act of 1986 and/or the immigration compliance requirements of State of Colorado C.R.S. § 8-17.5-101, *et.seq.* (House Bill 06-1343).
- **2.38. Ethics:** The Contractor shall not accept or offer gifts or anything of value nor enter into any business arrangement with any employee, official, or agent of the Owner.
- **2.39.** Failure to Deliver: In the event of failure of the Contractor to deliver services in accordance with the contract terms and conditions, the Owner, after due oral or written notice, may procure the services from other sources and hold the Contractor responsible for any costs resulting in additional purchase and administrative services. This remedy shall be in addition to any other remedies that the Owner may have.

- **2.40.** Failure to Enforce: Failure by the Owner at any time to enforce the provisions of the contract shall not be construed as a waiver of any such provisions. Such failure to enforce shall not affect the validity of the contract or any part thereof or the right of the Owner to enforce any provision at any time in accordance with its terms.
- **2.41.** Force Majeure: The Contractor shall not be held responsible for failure to perform the duties and responsibilities imposed by the contract due to legal strikes, fires, riots, rebellions, and acts of God beyond the control of the Contractor, unless otherwise specified in the contract.
- 2.42. Independent Contractor: The Contractor shall be legally considered an Independent Contractor and neither the Contractor nor its employees shall, under any circumstances, be considered servants or agents of the Owner. The Owner shall be at no time legally responsible for any negligence or other wrongdoing by the Contractor, its servants, or agents. The Owner shall not withhold from the contract payments to the Contractor any federal or state unemployment taxes, federal or state income taxes, Social Security Tax or any other amounts for benefits to the Contractor. Further, the Owner shall not provide to the Contractor any insurance coverage or other benefits, including Workers' Compensation, normally provided by the Owner for its employees.
- **2.43.** Nonconforming Terms and Conditions: A bid that includes terms and conditions that do not conform to the terms and conditions of this Invitation for Bid is subject to rejection as non-responsive. The Owner reserves the right to permit the Contractor to withdraw nonconforming terms and conditions from its bid prior to a determination by the Owner of non-responsiveness based on the submission of nonconforming terms and conditions.
- **2.44. Ownership:** All plans, prints, designs, concepts, etc., shall become the property of the Owner.
- **2.45. Oral Statements:** No oral statement of any person shall modify or otherwise affect the terms, conditions, or specifications stated in this document and/or resulting agreement. All modifications to this request and any agreement must be made in writing by the Owner.
- 2.46. Patents/Copyrights: The Contractor agrees to protect the Owner from any claims involving infringements of patents and/or copyrights. In no event shall the Owner be liable to the Contractor for any/all suits arising on the grounds of patent(s)/copyright(s) infringement. Patent/copyright infringement shall null and void any agreement resulting from response to this IFB.
- **2.47. Remedies**: The Contractor and Owner agree that both parties have all rights, duties, and remedies available as stated in the Uniform Commercial Code.
- **2.48.** Venue: Any agreement as a result of responding to this IFB shall be deemed to have been made in, and shall be construed and interpreted in accordance with, the laws of the City of Grand Junction, Mesa County, Colorado.

- **2.49. Expenses:** Expenses incurred in preparation, submission and presentation of this IFB are the responsibility of the company and cannot be charged to the Owner.
- **2.50. Sovereign Immunity:** The Owner specifically reserves its right to sovereign immunity pursuant to Colorado State Law as a defense to any action arising in conjunction to this agreement.
- 2.51. Non-Appropriation of Funds: The contractual obligation of the Owner under this contract is contingent upon the availability of appropriated funds from this fiscal year budget as approved by the City Council or Board of County Commissioners from this fiscal year only. State of Colorado Statutes prohibit obligation of public funds beyond the fiscal year for which the budget was approved. Anticipated expenditures/obligations beyond the end of the current Owner's fiscal year budget shall be subject to budget approval. Any contract will be subject to and must contain a governmental non-appropriation of funds clause.
- **2.52. Cooperative Purchasing:** Purchases as a result of this solicitation are primarily for the City/County. Other governmental entities may be extended the opportunity to utilize the resultant contract award with the agreement of the successful provider and the participating agencies. All participating entities will be required to abide by the specifications, terms, conditions and pricings established in this Bid. The quantities furnished in this bid document are for only the City/County. It does not include quantities for any other jurisdiction. The City or County will be responsible only for the award for its jurisdiction. Other participating entities will place their own awards on their respective Purchase Orders through their purchasing office or use their purchasing card for purchase/payment as authorized or agreed upon between the provider and the individual entity. The City/County accepts no liability for payment of orders placed by other participating jurisdictions under the terms of this solicitation will indicate their specific delivery and invoicing instructions.
- 2.53. Keep Jobs in Colorado Act: Contractor shall be responsible for ensuring compliance with Article 17 of Title 8, Colorado Revised Statutes requiring 80% Colorado labor to be employed on public works. Contractor shall, upon reasonable notice provided by the Owner, permit the Owner to inspect documentation of identification and residency required by C.R.S. §8-17-101(2)(a). If Contractor claims it is entitled to a waiver pursuant to C.R.S. §8-17-101(1), Contractor shall state that there is insufficient Colorado labor to perform the work such that compliance with Article 17 would create an undue burden that would substantially prevent a project from proceeding to completion, and shall include evidence demonstrating the insufficiency and undue burden in its response.

Unless expressly granted a waiver by the Owner pursuant to C.R.S. §8-17-101(1), Contractor shall be responsible for ensuring compliance with Article 17 of Title 8, Colorado Revised Statutes requiring 80% Colorado labor to be employed on public works. Contractor shall, upon reasonable notice provided by the Owner, permit the Owner to inspect documentation of identification and residency required by C.R.S. §8-17-101(2)(a).

- **2.53.1.** "Public project" is defined as:
 - (a) any construction, alteration, repair, demolition, or improvement of any land, building, structure, facility, road, highway, bridge, or other public improvement suitable for and intended for use in the promotion of the public health, welfare, or safety and any maintenance programs for the upkeep of such projects
 - (b) for which appropriate or expenditure of moneys may be reasonably expected to be \$500,000.00 or more in the aggregate for any fiscal year
 - (c) except any project that receives federal moneys.

3. Statement of Work

3.1. General: The City of Grand Junction is soliciting competitive bids from qualified and interested companies for all labor, equipment, and materials required for the replacement of the Two Rivers Convention Center kitchen makeup air unit, to include the cooling module, and the interlock controls with the exhaust hoods and the supply fan VFD. All dimensions and scope of work should be verified by Contractors prior to submission of bids.

3.2. Special Conditions & Provisions:

3.2.1 **Pricing:** Pricing shall be all inclusive to include but not be limited to: all labor, equipment, supplies, materials, freight (F.O.B. Destination – Freight Pre-paid and Allowed to each site), travel, mobilization costs, fuel, set-up and take down costs, and full-time inspection costs, and all other costs related to the successful completion of the project.

The Owner shall not pay nor be liable for any other additional costs including but not limited to: taxes, shipping charges, insurance, interest, penalties, termination payments, attorney fees, liquidated damages, etc.

3.2.2 Contractor must meet all federal, state, and local rules, regulations, and requirements for providing such services.

3.2.3 **Licenses and Permits:** Contractor is responsible for obtaining all necessary licenses and permits required for Construction, at Contractors expense. See Section 2.10. Contractor shall supply to Owner all copies of finalized permits.

3.2.4 **Contractor Staging Area:** Awarded Contractor shall coordinate with Owner for proposed project staging area (if required).

3.2.5 **Freight/Shipping:** All freight/shipping shall be F.O.B. Destination – Freight Pre-Paid and Allowed to Two Rivers Convention Center, 159 Main Street, Grand Junction, CO.

3.2.6 **Equipment/Product/Materials Quantities:** Contractor shall be responsible for determining all measurements for correctness, and all quantities of equipment/products/materials required for successful project completion.

3.2.7 **Working Schedule:** The Two Rivers Convention Center host many various events, and the Contractor shall be required to coordinate their working schedule with the Owner's Project Manager.

3.2.8 **Project Schedule:** 30 calendar days from receipt of Notice to Proceed. Note: Equipment lead time for order and delivery shall not count toward the 30 calendar days.

3.2.9 **Project Location:** Two Rivers Convention Center, 159 Main Street, Grand Junction, CO.

3.2.10 **Contract:** A binding contract shall consist of: (1) the IFB and any amendments thereto, (2) the bidder's response (bid) to the IFB, (3) clarification of the bid, if any, and (4) the City's Purchasing Department's acceptance of the bid by "Notice of Award" or by "Purchase Order". All Exhibits and Attachments included in the IFB shall be incorporated into the contract by reference.

A. The contract expresses the complete agreement of the parties and, performance shall be governed solely by the specifications and requirements contained therein.

B. Any change to the contract, whether by modification and/or supplementation, must be accomplished by a formal contract amendment signed and approved by and between the duly authorized representative of the bidder and the City Purchasing Division or by a modified Purchase Order prior to the effective date of such modification. The bidder expressly and explicitly understands and agrees that no other method and/or no other document, including acts and oral communications by or from any person, shall be used or construed as an amendment or modification to the contract.

3.2.11 Mandatory Site Visit/Briefing: <u>Prospective bidders are required to</u> <u>attend a site visit/briefing on April 6, 2016 at 10:30am</u>. <u>Meeting location shall be</u> <u>at Two Rivers Convention Center, 159 Main Street, Grand Junction, CO</u>. The purpose of this visit will be to inspect and to clarify the contents of this Invitation for Bids (IFB).

3.3. Scope of Work:

- Contractor is responsible for obtaining all necessary permits for the project.
- Contractor is to include all labor, materials, and equipment necessary to successfully complete the entire project.
- Contractor is to verify all measurements before ordering and installing any equipment.

- Provide and install the "Brand Name or Equal to" specified Sterling MAU. The Sterling unit specified (see attachments) was chosen as a direct replacement unit that should fit on the existing curb.
- Provide and install the "Brand Name or Equal to" specified Grease Master Demand Ventilation Controls (see attachments)
- Provide and install the "Brand Name or Equal to " specified ARES Evaporative Cooler module.
- Provide and install three (3) "Brand Name or Equal to" specified Thermistor Sensors in each of the three existing CaptiveAire exhaust hoods. Connect the thermistors to the exhaust hood and MAU controls.
- Contractor is to supply the owner a minimum of a one year workmanship warranty on the installation work.
- Contractor is to supply the owner with all manufacturers' warrantees on the contractor supplied equipment.

See Attachments:

Bighorn Engineering Letter Sterling Model PV(12) (A,B) J Cut sheet (3 pages) Sterling HVAC Products Certification Sheet (2 pages) Grease Master – Demand Ventilation Controls Specifications (2 pages) Ares CEV-6000/CEV-12000 Evaporative Cooler Cut Sheet Field Thermistor Sensor Install Sheet Sheet M0.02 – TRCC Mechanical Equipment Schedule (existing) Sheet M2.20 – TRCC First Level Mechanical Plan (existing) Electrical Mechanical Equipment Schedule (existing)

3.4. IFB Tentative Time Schedule:

Invitation For Bids available Mandatory Site Visit/Briefing Inquiry deadline, no questions after this date Addendum Posted Submittal deadline for proposals City Council or Board of Commissioners Approval Contract execution (unless Council approval required) Bonding & Insurance Cert due Work begins no later than Final Completion March 25, 2016 April 6, 2016 April 8, 2016 April 12, 2016 April 15, 2016 May 4, 2016 May 5, 2016 May 13, 2016 May 16, 2016 30 Calendar Days from Notice to Proceed, does not include equipment order lead time.

3.5. Questions Regarding Scope of Services:

Duane Hoff Jr., Senior Buyer City of Grand Junction duaneh@gjcity.org

4. <u>Contractor's Bid Form</u>

Bid Date: _____

Project: IFB-4216-16-DH "Two Rivers Convention Center Kitchen Makeup Air Unit Replacement"

Bidding Company:			
Name of Authorized Agent:			
Email			
Telephone	_Address		
City	State	Zip	

The undersigned Bidder, in compliance with the Invitation for Bids, having examined the Instruction to Bidders, General Contract Conditions, Statement of Work, Specifications, and any and all Addenda thereto, having investigated the location of, and conditions affecting the proposed work, hereby proposes to furnish all labor, materials and supplies, and to perform all work for the Project in accordance with Contract Documents, within the time set forth and at the prices stated below. These prices are to cover all expenses incurred in performing the work required under the Contract Documents, of which this Contractor's Bid Form is a part.

The undersigned Contractor does hereby declare and stipulate that this offer is made in good faith without collusion or connection to any person(s) providing an offer for the same work, and that it is made in pursuance of, and subject to, all terms and conditions of the Instructions to Bidders, the Specifications, and all other Solicitation Documents, all of which have been examined by the undersigned.

The Contractor also agrees that if awarded the Contract, to provide insurance certificates within ten (10) working days of the date of Notification of Award. Submittal of this offer will be taken by the Owner as a binding covenant that the Contractor will be prepared to complete the project in its entirety.

The Owner reserves the right to make the award on the basis of the offer deemed most favorable, to waive any formalities or technicalities and to reject any or all offers. It is further agreed that this offer may not be withdrawn for a period of sixty (60) calendar days after closing time. Submission of clarifications and revised offers automatically establish a new thirty day (30) period.

RECEIPT OF ADDENDA: the undersigned Contractor acknowledges receipt of Addenda to the Solicitation, Specifications, and other Contract Documents.

State number of Addenda received: ______.

It is the responsibility of the Bidder to ensure all Addenda have been received and acknowledged.

<u>PRICE BID SCHEDULE:</u> IFB-4216-16-DH Two Rivers Convention Center Kitchen Makeup Air Unit Replacement

Item	Description	Total Price
1.	All labor, equipment, supplies, materials, freight (F.O.B. Destination – Freight Pre-paid and Allowed to each site), travel, mobilization costs, fuel, and all other costs related to the successful completion of the project for the MAU replacement project, as per the solicitation documents.	

Total Bid Price Written:

By signing below, the Undersigned agree to comply with all terms and conditions contained herein.

Company: _____

Authorized
Signature:

Title: _____



Bighorn Consulting Engineers

569 S. Westgate Drive, Suite #1, Grand Junction, CO 81505 Phone 970-241-8709

March 17, 2016

Jim Stavast Facility Manager City of Grand Junction 2549 River Road Grand Junction, CO 81505

Reference: Two Rivers Kitchen Ventilation

Dear Jim:

Attached to this letter are selections for a Sterling makeup air unit to replace the existing Sterling unit on the roof of the kitchen. Also, a selection for an Ares evaporatively cooled module to replace the existing evaporative cooler. These units should be identical replacements and the footprint of the new Sterling unit should match the existing curb.

The new Sterling unit has a VFD for the supply fan that can be integrated into a variable volume control system at such time as the exhaust fan is replaced. To that end, also attached is a spec for a Greasemaster control panel that could be purchased at this time and would be able to control the makeup air unit and exhaust fan in a variable volume mode.

If the new control panel is not installed at this time, the existing Sterling control panel could be used to start/stop the new unit. However, it appears the existing three hoods do not have sensors to automatically start the exhaust fan. IMC section 507.2.1.1 requires "The activation of the exhaust fan shall occur through an interlock with the cooking appliances by means of heat sensors or by means of other approved methods."

Therefore, the three CaptiveAire hoods should be provided with heat sensors that are interlocked to start the exhaust fan and the makeup air unit. See attached cutsheet.

Sincerely,

Shawn Brill

Shawn Brill, P.E.

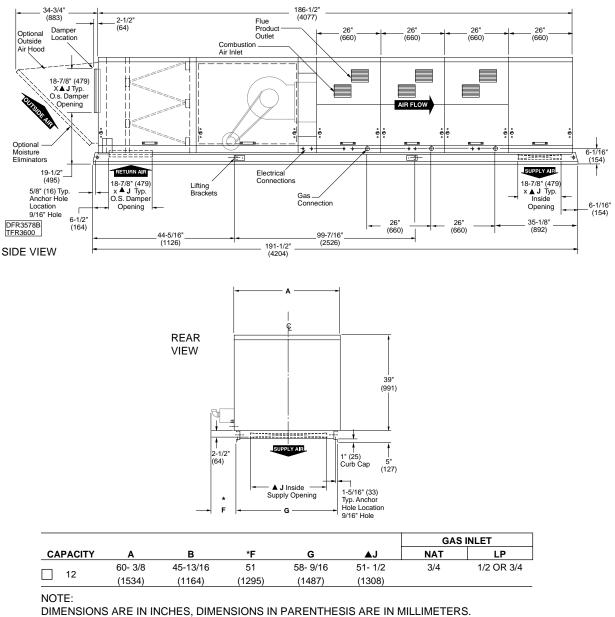
ENGINEERED PRODUCTS

PV-12-J-4 Page 1 of 3



Model - PV(12) (A, B)† J

Unit Type (UT) - PV, Power Vented Rooftop Unit Capacity (CA) - (12) (1,200 mBTU) Furnace Type (FT) - A, B Standard Temperature Rise (20-60)F° Rooftop Arrangement (RA) - J, High CFM Blower Unit with Supply Plenum



* "F" DIMENSION IS THE RECOMMENDED CLEARANCE TO SERVICE THE BURNER DRAWER(S).

▲"J" DIMENSION IS AN OUTSIDE DIMENSION FOR AIR DAMPERS.

▲"J" DIMENSION IS AN INSIDE DIMENSION FOR SUPPLY AIR (WITHOUT DAMPER).

Project:

Unit Tag:



The above dimensional drawing includes options that might not pertain to the unit being submitted for approval. Please note that the following items checked below are **not included** with the unit being submitted:

Outside Air Opening / Dampers

Outside Air Hood

C Return Air Openings / Dampers

www.sterlinghvac.com

ENGINEERED PRODUCTS

PV(12) (A, B)† J Performance Table

Model								тот	TAL EXT	FERNAL	STATIC	PRESSU	JRE				
Digits				Max.	(INCHES OF WATER)												
3, 4, & 5			Input I	BTU/Hr.	Output	0	.4	0	.8		1	1.	4	1	.8	:	2
CA, FT	(°F)	CFM	Max.	Min.	BTU/Hr.	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
12 A/B	161	5,500	1,200,000	480,000	960,000	595	1.38	720	1.87	780	2.17	885	2.76	985	3.37	1030	3.68
	147	6,000				625	1.70	740	2.20	800	2.50	905	3.15	1000	3.80	1045	4.13
	126	7,000				690	2.49	795	3.03	845	3.34	940	4.04	1030	4.79	1070	5.16
	111	8,000				760	3.50	850	4.13	895	4.45	980	5.14	1065	5.95	1105	6.37
	88	10,000				905	6.37	980	7.15	1015	7.55	1090	8.32	1160	9.13	1195	9.57
	74	12,000				1060	10.57	1120	11.47	1150	11.94	1210	12.90	1270	13.83	1300	14.29
	68	13,000				1140	13.25	1190	14.20	1220	14.71						

NOTES: The pressure drop for Accessories from the following table, must be allowed for when using the above Performance table.

Unless otherwise specified, the following conversions may be used for calculating SI units.

1 Cu. Ft. = 0.028m³, 1 ft. = 0.305m, 1 in. = 25.4mm, 1 psig = 6.894 kPa, 1000 Btu per hr. = 0.293 kW,

1 in. water column = 0.249 kPa, 1 gallon = 3.785 L, 1000 Btu/Cu. Ft. = 37.5 MJ/m³, 1 lb. = 0.453 kg.

PV(12) (A, B)† J Accessories Pressure Drop Table

				PRESSURE LO	SS (INCHES	OF WATER)						
		RAINH	OOD		FILTERS							
		WIT	H	THROWAWAY	WAS	HABLE	PLE	ATED	SUPPLY	RETURN		
CAPACITY	CFM	SCREEN	ELIM	2"	1"	2"	1"	2"	PLENUM	DAMPER		
	5,500	.08	.11	.06	.01	.02	.07	.04	.07	.11		
	6,000	.10	.14	.07	.01	.02	.08	.04	.08	.15		
	7,400	.15	.21	.09	.02	.03	.11	.06	.13	.22		
12	8,000	.17	.24	.10	.02	.03	.13	.07	.15	.26		
	10,000	.27	.38	.13	.03	.05	.19	.11	.23	.41		
	12,000	.39	.55	.17	.05	.07	.26	.16	.34	.59		
	13,000	.46	.65	.19	.06	.08	.30	.18	.40	.69		



PV(12) (A, B)† J Weights, Filter Data & Roof Openings

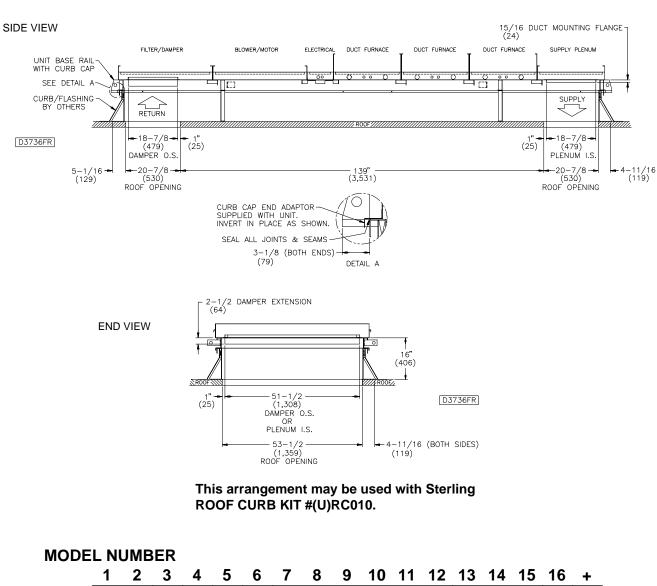
Unit Weights

Filter Data

	Approximate weights	for Arrangement "J"		(Quantity)	
Unit Type	Net Wt.†	Ship Wt.†	Add for	Capacity	Filter Size
Capacity	(Lb.)	(Lb.)	Outside Air Hood	12	(12) 20 x 20
PV12	2127	2360	63		

Conversion 1 lb. = 0.453 kg.

†The approximate net and shipping weights shown are for a basic unit (these weights do not include the motor, air hood or any options). If the unit is equipped with an outside air hood, add the weights accordingly (see above). Also add in the motor weight; see motor specifications sheet #MDS-1 for these weights/amperages.



Roof Openings

*

V

(EXX)

Ρ

*

*

†

J



Sterling HVAC Products Certification

Prepared For Terry Strade Prepared By Will Knause

Item #1 of 1 (ID #28367)

Performance Selection Parameters

Selection Method = Performance CFM = 9,000 Temp. Rise = 98.31 Req. BTU Out = 786,885 Altitude = 5001-5500' DeRate = 0% ESP = 1.8 in. WC @ Sea Level Selected Unit Performance Data Air Flow CFM - (cu. m/s) = 9,000 (4.20) Temperature Rise - °F (°C) = 98.31 (54.61) Output BTU/HR - (kW/H) = 786,885 (230.56) External Static Pressure in. WC - (Pa) = 2.20 (544.61) Total Static Pressure in. WC - (Pa) = 2.75 (682.67) Brake Horse Power BHP - (kW) = 7.90 (5.89) Fan Speed RPM = 1288 MCA = 17.795 MOP = 30.295 DSS = 16.8705 Approx. Shipping Weight = 2895 lbs. each

Model Number:

PV12A3J01Y6371AA6B1E3H3H7J3J4K5R2R6R9Z1

PV	Unit Type (UT)	PV Power Vented Rooftop
12	Capacity (CA)	12 - 1,200,000
А	Furnace Type (FT)	A - Std. Temp. Rise(20-60F)Right Side Access
3	Furnace Material (FM)	3 - 409 Stainless Steel (All Furnace Sections)
J	Arrangement (RA)	J - Blower(High CFM)/Plenum
0	Cooling Options (CO)	0 - None
1	Gas Type (GT)	1 - Natural Gas
Y	Gas Control (GC)	Y - 6 Stage, S350
6	Supply Voltage (SV)	6 - 460/3/60
3	Motor Type (MT)	3 - Premium Efficiency, ODP
7	Motor Size (MS)	7 - 10 HP VFD
	Description of VFD Operation	Soft Start
		VFD Operating Range: 14°F to 130°F
1	Air Inlet (Al)	1 - Outside Air Opening(OA)
А	Air Control (AC)	A - OA 2 Pos Mtr./SR
A6	Accessory	High Altitude Unit
B1	Accessory	1 in. Washable Filters. (Standard)
E3	Accessory	Remote Control Panel
H3	Accessory	Time Delay Freeze stat
H7	Accessory	Ambient Lockout - Triple Furnace

J3	Accessory	24/115/230 Volt DPDT Relay
J4	Accessory	24 Volt 4PDT Relay
К5	Accessory	Air Flow Proving Switch
R2	Accessory	Factory Installed VFD
R6	Accessory	Pressure Sensor
R9	Accessory	VFD Enclosure
Z1	Accessory	Prewire to interlock with evaporative module

Approved By Certified By

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Grease Master-Demand Ventilation Controls Specification

Application

The Demand Control Ventilation System (DCV) is designed to automatically reduce exhaust and supply airflow quantities, while ensuring hood performance is maintained. The DCV uses Variable Frequency Drives (VFD) and temperature sensors inside the hood cavity or exhaust ducts to modulate the fans speed during cooking operation and maximize energy savings. The LCD screen interface provides fan(s) controls, system configuration, and diagnostic information.

Construction

The DCV includes:

- Smart Controller
- •LCD Screen Interface
- Duct Temperature Sensor(s)
- Room Temperature Sensor
- Variable Frequency Drive(s)

Controls shall be listed by ETL to UL 508A.

The system includes a LCD screen interface for fan(s) and hood lights control, wash control (if applicable), gas valve reset, programmable schedule, Max Air Override function, Preparation Time mode, Cool Down mode, and diagnostics which include VFD status. The LCD screen shows descriptive plain text explaining the functions or values.

The LCD screen interface will be factory installed on the face of the hood, on the face of the utility cabinet or on the face of a wall mounted control enclosure. Optional remote mounting by customer is available.

Control enclosure will be NEMA 1 rated and listed for installation inside of the exhaust hood utility cabinet. Wall mounting of the control enclosure is available. Control enclosure is to be constructed of stainless steel.

The smart controller will constantly monitor the exhaust air temperature through the hood-based temperature sensor and modulate the fan speeds accordingly. The speed range for the VFD, along with High/Low airflow ranges are adjustable for each job to suit design requirements and cooking loads.

A room temperature sensor will also be provided for field installation in the kitchen space in order to start the fan(s) based on the temperature differential between the room and the exhaust air in the duct rather than fixed set-points.

A Preparation Time Mode is available for morning operation: dedicated make-up air will be locked out only allowing the use of transfer air during this mode. Exhaust fan(s) will run at low CFM while maintaining a balanced kitchen pressure.

A Cool Down Mode is designed for equipment cool-down period at the end of the daily cooking operations: similarly to Preparation Time mode, dedicated make-up air will be locked out only allowing the use of transfer air during this mode. Exhaust fan(s) will run at low CFM while maintaining a balanced kitchen pressure.

Fan maximum/ minimum speeds will be adjustable for proper kitchen balance. Fan direction change is also available from the smart controller configuration menu without need for rewiring.

Duct Temperature Sensor(s) will be mounted in the exhaust hood riser(s) as standard, with optional mounting in the hood cavity. Temperature probe will be constructed of Stainless Steel. System will be factory pre-set to modulate fan speed within a range of 45°F for 600°F and 700°F cooking applications and a range of 5°F for 400°F cooking applications.

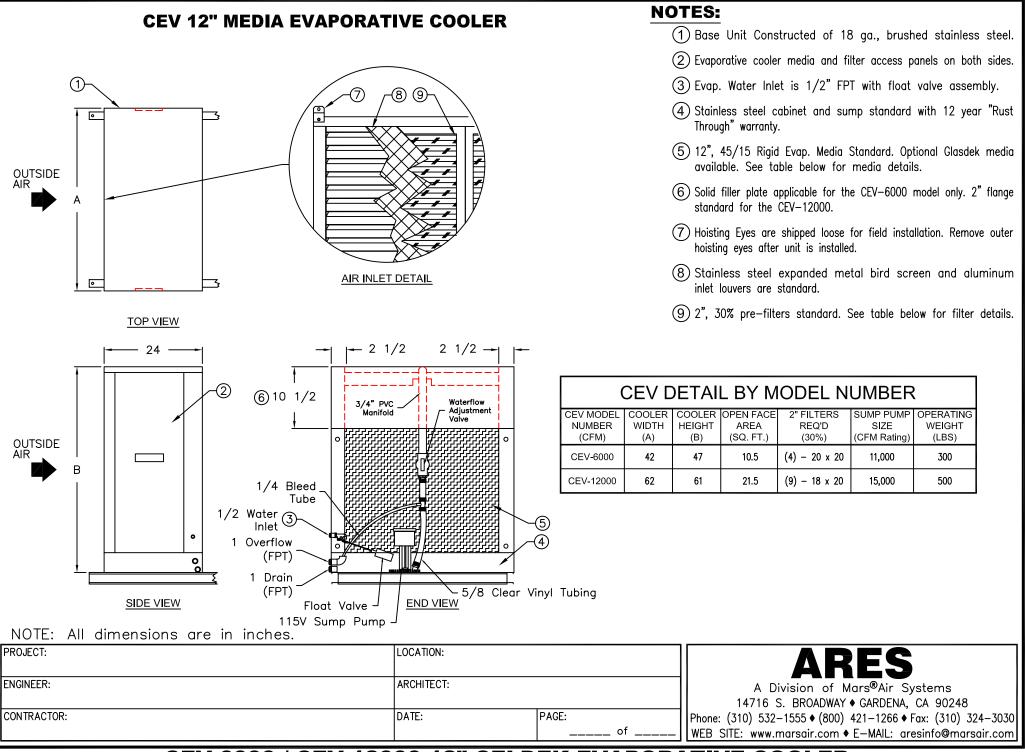
Set-points are fully adjustable through the touch screen interface based on application needs.

The Max Air Override will have an adjustable timeout value.

The panels include color-coded wiring with as-built wiring diagrams and spare terminals controlled by the fire system micro-switch. The panel is factory pre-wired to shut supply fans down in a fire condition. Options to turn ON the exhaust fans or turn OFF the hood lights in a fire condition will be configurable through the smart controller, but only through a password protected menu to prevent any changes after a fire inspection has been performed



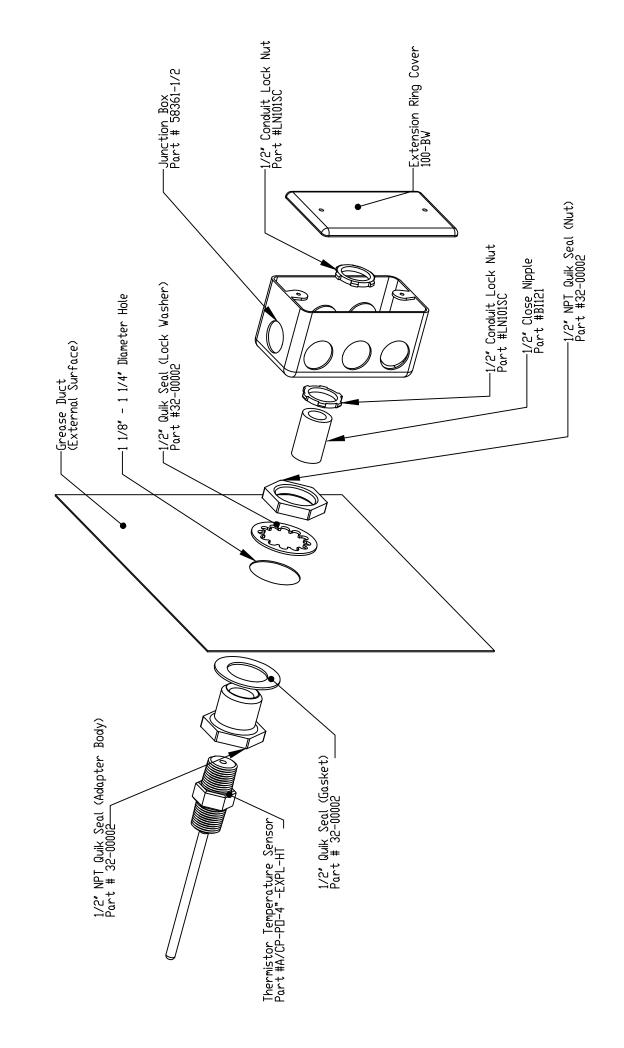
The Electrical Control Panel Model has been certified by ITS. This certification mark indicates that the product has been tested to and has met the minimum requirements of a widely recognized (consensus) U.S. and Canadian products safety standard, that the manufacturing site has been audited, and that the applicant has agreed to a program of periodic factory follow-up inspections to verify continued performance.



CEV-6000 / CEV-12000 12" CELDEK EVAPORATIVE COOLER

AF5XX4X 9/8/05 ML

FIELD THERMISTOR SENSOR INSTALL NDTE: Thermistor has 2 wires that connect to control cabinet



						FAN S	CHEDU	ILE							
SYMBOL	CFM	TOTAL S.P. IN WG O ALT.		MAX. RPM		MOTOR		MIN. WHEEL	MAX. SONES	OPER. WEIGHT	MAKE AND MODEL				NOT
(F)	O ALT.			HP (WATTS)	BHP	VOLT/ PHASE	DIA.	500025	LBS.		A	в	С	D	
KEF-1	KITCHEN	HOOD								GREENHECK	2	0	2	0	
	10125	1	1313	5		460/3	-	30	500	SWB-24-50					
EF-1	LARGE F	GREENHECK	2	1	2	1									
	2400	0 65	1725	3/4		460/3	-	13.8	60	CUBE-140			,		
EF-2	-2 BREAKROOM										2	2	1	1	
	500	05	1550	1/8		115/1	-	8.1	40	CUE-95D					
EF-3	DISH MA	DISH MACHINE EXHAUST									2	1	2	1	
•	600	05	1625	1/6	_	115/1		10.1	56	GB-80-6					
EF-4	CONCES	SION	A							GREENHECK	2	2	1	1	
	200	0.4	1300	1/25		115/1	—	6.2	40	CUE-90-G					
EF-5	SMALL I	SMALL RESTROOMS										2	1	ן ז	
	1000	04	1140	1/6		115/1	-	10.8	64	CUE-130-B		_			
EF-6&7	ELECTR	CAL AND N	ECHANICA	L ROOM						GREENHECK	0	1	2	1	
	1000	0.4	1725	1/4		115/1	-	17.8	60	SBE-1H20-4					

GENERAL COMMENTS:

1. CAPACITIES AT 4600 FT. ELEVATION 2. MAXIMUM SONES SHOWN ARE AMCA CERTIFIED LEVELS BEFORE TAKING CREDIT FOR SOUND ATTENUATION OF ROOF CURB. ATTENUATOR TO REDUCE SONES 50% 3. FOR SOUND ATTENUATING CURBS, SIZE FAN 7% MORE CFM THAN SCHEDULED TO ACCOUNT FOR CURB LOSS 4. PROVIDE LABELS ON FANS AS TO AREAS SERVED.

D. DAMPER

0. NONE 1. GRAVITY BDD 2. BAROMETRIC ADJUSTABLE BDD

3 MOTORIZED CONTROL DAMPER, 115V/10

4. MAGNETIC BUTTERFLY DAMPER LATCHES

NOTES: A. CURB

- D. NONE
 1. FIELD-BUILT, INSULATED
 2. FACTORY-BUILT, INSULATED
 3. FACTORY BUILT INSULATED,
- 18" TALL. 4. FACTORY BUILT SOUND ATTENUATING
- FACTORY VENTILATED GREASE
 FACTORY VENTILATED GREASE
 HOOD EXHAUST.
 FACTORY INSULATED EXTENDED HEIGHT CURB.
 REUSE EXISTING CURB. PROVIDE INSULATED ADAPTORS AS REQUIRED.
- B. SCREEN
- 0. NONE 1. BIRD 2. INSECT
- DRIVE
- 1. DIRECT 2 BELT
- ACCESSORIES
- SOLID STATE SPEED CONTROL, MTD. IN MOTOR COMPARTMENT FOR BALANCING
 ELECTRIC DISCONNECT
- 3. WALL MOUNTED SOLID STATE SPEED CONTROL
- 4. 115V/10 REVERSE ACTING THERMOSTAT SET 85°F.
- 5 WALL MOUNTED 2 SPEED SWITCH
- 6 DRAIN CONNECTION
- 7 CLEANABLE GREASE RECEPTOR.
- F. TYPE
- 1. CEILING FAN 2. CENTRIFUGAL ROOF EXHAUSTER
- CABINET FAN
 WALL PROPELLER FAN
 CENTRIFUGAL UPBLAST ROOF EXHAUSTER.
 TUBEAXIAL UPBLAST ROOF EXHAUSTER.
 CENTRIFUGAL UTILITY SET.

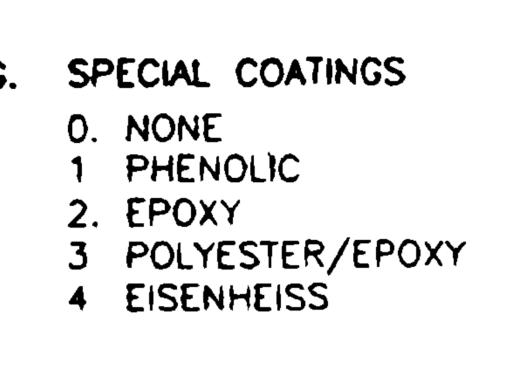
					PLI	JMBING FIXTURE SCHEDULE		
CODE	DESCRIPTION		MINIMUM	CONNECTIO	4	MANUFACTURER / MODEL	FAUCETS & FITTINGS	REMARKS AND ACCESSORIES
		CW	HW	SAN	VENT			
WC-1	WATER CLOSET	1 1/2"		4"	2"	AMERICAN STANDARD AFWALL 2257.103	SLOAN ROYAL FLUSH VALVE	ELONGATED BOWL
₩C-2	WATER CLOSET	1 1/2"		4"	2"	AMERICAN STANDARD AFWALL 2294 011	SLOAN ROYAL FLUSH VALVE	ELONGATED BOWL
L-1	LAVATORY	1/2*	1/2"	1 1/4"	1 1/4"	AMERICAN STANDARD RONDALYN 0491.019	DELTA 520-MPU	4" CENTERS
L-2	LAVATORY	1/2"	1/2"	1 1/4"	1 1/4"	AMERICAN STANDARD RONDALYN 0491 019	DELTA 520-MPU	4" CENTERS
L-3	LAVATORY	1/2"	1/2"	1 1/4"	1 1/4"	AMERICAN STANDARD ROXALYN 0195 073	AM.ST 7401 172H	4" CENTERS
UR-1	URINAL	1 1/4"		2"	1 1/2"	AM ST. LYNBROOK 6601.02	SLOAN ROYAL FLUSH VALV	
FS-1	FLOOR SINK			3"	2"	ZURN MODEL Z-1901		
FD-1	FLOOR DRAIN			2-	2*	ZURN MODEL Z-415 WITH "B" STRAINER		
RD. 00-1	ROOF/OVERFLOW DRAINS					ZURN MODEL Z-100		
MSB-1	MOP SEVICE BASIN	3/4"	3/4"	3"	2*	FIAT TSB-3000 SERIES	FIAT 830-AA	
AD-1	AREA DRAIN					ZURN MODEL Z-535-CI		
DF-1	DRINKING FOUNTAIN	1/2"		1 1/2"	1 1/2"	HALSEY TAYLOR HAC8FSBL-Q		SLATE FINISH

H. MISCELLANEOUS

- 0. NONE
 1. VIBRATION ISOLATORS.
 2. EMERGENCY POWER.
 3 SECURE FAN TO CURB AT EACH CORNER EACH SIDE AND 12" O.C.
 4. AMCA B SPARKPROOF, 3/4" SCROLL DRAIN AND ACCESS PANEL
 5. EXPLOSION PROOF.
 6. 2 SPEED/2 WINDING (1200/1800).
 7. 2 SPEED/2 WINDING (900/1800)
 8. VARIABLE FREQUENCY DRIVE.

TES									
E	F	G	н						
5 2	7	0	1 7						
1 2	5	0	3						
1 2	5	0	3						
1 2	2	0	3						
1	2	0	3						
1	2	0	3						
4	4	0	2						

SYMBOL LOCATIC	N DESCRIPTION	MAKE & MODEL
MAU-1	AGA CERTIFIED, NATURAL GAS FIRED, 1200 MBH INPUT, 960 MBH OUTPUT AT SEA LEVEL, 9000 CFM OF AIR AT 1.5 INCH E.S.P., FAN MOTOR 10 HP/460 VOLT/3 PHASE. COMPLETE WITH THE FOLLOWING ACCESSORIES HIGH EFFICIENCY (E-PLUS) 2-SPEED MOTOR, STAINLESS STEEL HEAT EXCHANGER, GAS SHUT-OFF VALVE, AUTOMATIC GAS VALVE, PRESSURE REGULATOR, INTERMITTENT SPARK PILOT WITH TIMED LOCKOUT, BURNER AIR SHUTTERS, POWER VENTER, OUTDOOR AIR THERMOSTAT, CIRCULATING PUMP WITH INTEGRAL TRANSFORMER, FREEZE STAT, DUCT STAT, DAMPER WITH END SWITCH, HIGH LIMIT CONTROL AND REVERSE AIR FLOW SAFETY CONTROL, 24 VOLT CONTROL TRANSFORMER, DOWNTURN PLENUM CABINET, ROOF CURB CONTROLS SHALL BE FOR 100% O.A. WITH 2 STAGE GAS CONTROLS AND TWO POSITION MOTORIZED OUTSIDE AIR DAMPERS PUSH BUTTON STATION TO SELECT EITHER HEATING, VENTILATING WITH PILOT LIGHT INDICATION. EVAPORATIVE COOLING MODULE W/ 12° RIGID CELLULOSE FILTERS INTERLOCK KEF-1 WITH MAU-1 THROUGH MAU-1 CONTROL PANEL OPERATING WEIGHT. 3332 LBS.	REZNOR RPBL 1200
AC-1	INDOOR UNIT: 18MBH COOLING, 18 MBH HEATING. 208V/1PH, MCA-16, MAX FUSE-20, 700 CFM, OUTDOOR UNIT, PUH 18 EK, 208V/1PH, MCA-16, MAX FUSE-20	MITSUBISHI PKH18EK
CUH-1	UNIT HEATER, 12 MBH OUTPUT, 1 5 GPM, 400 CFM, 9 WATT MOTOR, 115V/1PH, .8 AMPS	STERLING HS-118A
BB-1	HYDRONIC BASEBOARD, HEAVY DUTY 12 GAUGE COVER, NOMINAL 600 BTU/FT OUTPUT AT ALTITUDE.	TRANE MODEL S12-SP-12
CP-1	IN-FLOOR RADIANT HEAT CIRCULATION PUMP, 6 GPM @ 14 FT HD, 1/12 HP, 115V/1PH.	GRUNFOS MODEL UP25-64SU
l l		



FCU #	AREA SERVED	CFM ALT	FAN ESP	HP	MIN			000						T	PEATING	CUIL				TRICAL	IOPER./	MAKE AND		NC
			(IN) ALT.		AIR CFM	SENS MBH	EAT DB	(F) WB	LING CI	ROW	WPD (FT)	EWT (F)	MBH	EATF (MIXED AIR)	GPM	ROW	WPD (FT)	EWT (F)	V	PH	WT. LBS.	MODEL	A	В
1-3 ADM	MIN OFFICE	350	.5	1/6	75	10	78	60	3	4	9	46	11	60	15		-	180	115	1	100	ENVIROTEC HHBD-04	1	0
4 BRI	EAK ROOM	350	.5	1/6	75	10	78	60	3	4	9	46	11	60	1.5	_	-	180	115	1	100	ENVIROTEC HHBD-04	1	0

GENERAL COMMENTS

1 CAPACITIES AT 4600 FT. ELEVATION 2 MAXIMUM WPD SHALL NOT EXCEED 3 FT. AT GPM SCHEDULED. <u>NOTES</u>

B. SPECIAL COATINGS

A. FLUID 0. WATER 1 35% PROPYLENE GLYCOL 2. 50% PROPYLENE GLYCOL

0. NONE 1. PHENOLIC

. OPTIONS O NONE

- 1 MIXING BOX WITH DAMPERS, FOR RETURN AIR AND OUTSIDE AIR
- 2 LITTLE GIANT CONDENSATE
- REMOVAL PUMP 3 VIBRATION ISOLATORS

- D. ARRANGEMENT
 O. HORIZONTAL EXPOSED CABINET
 1 HORIZONTAL CONCEALED
 2. FLOOR EXPOSED CABINET INVERTED FLOW.
 3. FLOOR/WALL CONCEALED
 4 TWO MOTORS

SYMBOL	FACE	SERVICE	DESCRIPTION	MAKE AND		N	OTE	S	
CATTI	SIZE			MODEL	A	8	С	D	E
A	24X24	SUPPLY	HIGH PERFORMANCE, LOUVER FACE, ADJUSTABLE	TITUS TMS	2	1	0	0	0
B	12X12	SUPPLY	HIGH PERFORMANCE, LOUVER FACE, ADJUSTABLE	TITUS TMS	2	1	0	0	0
С	24X24	SUPPLY	PERFORATED CEILING DIFFUSER, STAR PATTERN	TITUS PSS	2	1	0	0	0
D	12X12	SUPPLY	PERFORATED CEILING DIFFUSER, STAR PATTERN	TITUS PSS	2	1	0	0	0
E	24X24	SUPPLY	LOUVERED FACE	TITUS TOC	2	1	0	0	0
F	12X12	SUPPLY	LOUVERED FACE	TITUS TDC	2	1	0	0	0
G	SEE PLANS	SUPPLY	3/4" SPACING, DOUBLE DEFLECTION, ADJUSTABLE	TITUS 300RL	2	1	0	0	0
н	SEE PLANS	SUPPLY	5/16" SPACING, REVERSABLE CORE, ADJUSTABLE	TITUS 1700L	2	1	0	0	0
j	24X24	SUPPLY	HEAT/COOL AUTO CHANGEOVER VAV DIFFUSER	ACUTHERM THERMA-FUSER HC	2	1	0	1	0
K	SEE PLANS	SUPPLY	LINEAR SLOT DIFFUSER. (3) 1" SLOTS. LINEAR FEET AS NOTED ON PLANS. INSULATED PLENUM	TITUS ML-39	2	1	0	0	0
L	24X24	RETURN/ EXHAUST	PERFORATED	TITUS PAR	2	1	0	0	0
M	12X12	RETURN/ EXHAUST	PERFORATED	TITUS PAR	2	1	0	0	0
N	24X12	RETURN/ EXHAUST	PERFORATED	TITUS PAR	2	1	0	0	0
0	SEE PLANS	RETURN/ EXHAUST	LINEAR SLOT RETURN TO MATCH SUPPLY SLOT.	TITUS ML-39	2	1	0	0	C
P	SEE PLANS	RETURN/ EXHAUST	3/8" SPACING, 35 DEGREE FIXED BARS	TITUS 350RL	2	1	0	0	0
R	SEE PLANS	RETURN/ EXHAUST	3/4" SPACING, 30 DEGREE FIXED BARS, 14GA BLADES, 16GA PORDER	TITUS 30 RS	2	1	0	0	
							╂		┢

GENERAL COMMENTS:

REFER TO REFLECTED CEILING PLANS FOR EXACT LOCATIONS OF ALL CEILING MOUNTED AIR DEVICES.
 COORDINATE ALL FRAME STYLES WITH CEILING SYSTEM FURNISHED, REFER TO ARCHITECTURAL DIVISION
 TOTAL STATIC PRESSURE SHALL NOT EXCEED: 0.10" WG FOR ALL DIFFUSERS, GRILLES AND REGISTERS, 0.05" WG FOR TRANSFER GRILLES.
 NC VALUES SHALL BE A MAXIMUM OF 30. BASED UPON ROOM ABSORPTION RATE OF 10 db, RE 10⁻¹² WATTS.
 SEE PLAN FOR NECK SIZES NOT CALLED OUT IN SCHEDULE.
 CEILING DIFFUSERS 4-WAY BLOW UNLESS NOTED OR REQUIRED.
 CEILING RADIATION OR FIRE/SMOKE DAMPER WHERE SHOWN OR REQUIRED.

NOTES:

A. MATERIAL 1. ALUMINUN 2. STEEL 3. PLASTIC

DAMPER B. FINISH 0. NONE 1. OBD 1. OFF-WHITE 2 CLEAR ACRYLIC 3. MILL. 4. COLOR BY ARCHITECT

					CO	L SCH	IEDUL	<u>E (HO</u>	T WAT	<u>ER)</u>							<u></u>	
SYMBOL	SERVICE	мвн	CFM	GPM	WPD (FT H20)	APD (IN. H20)	EAT (°F)	LAT (°F)	EWT (°F)	LWT (°F)	ROWS/ FINS	COIL	SIZE	BRANCH PIPE	REMARKS	N	OTE	S
$\left\{ \begin{array}{c} RH \\ \\ \\ \# \end{array} \right\}$												WIDTH	HEIGHT	SIZE IN.		A	B	С
1,25,6	REHEAT	31.5	760	32	28	-	55	95	180	160	2/8	12	12	3/4*	-	1	0	1
3	REHEAT	423	1150	44	76	-	55	95	180	160	2/8	18	12	1.	-	1	0	1
4,7	REHEAT	70	1900	7.1	40	-	55	95	180	160	2/8	24	15	1.	-	1	0	1
B	REHEAT	85	2300	87	2.2	-	55	95	180	160	2/8	30	. 15	1.	-	1	0	1

GENERAL COMMENTS

CAPACITIES AT 4500 FT ELEVATION.
 MAXIMUM WPD 38FT. AT GPM SCHEDULED
 MAXIMUM APD 0.10 INCHES W.G.
 VERIFY CEILING SPACE FOR MAXIMUM COIL HEIGHT. SHOULD HEIGHT BE RESTRICTED. PROVIDE COIL WITH EQUIVALENT FACE AREA AND PERFORMANCE

NOTES

- A. FLUID O WATER 1. 30% PROPYLENE GLYCOL 2 40% PROPYLENE GLYCOL B. SPECIAL COATINGS 0 NONE 1. PHENOLIC

C. CONTROL VALVE TYPE . NONE . 2 WAY MODULATING 3 WAY MODULATING 2 WAY/2 POSITION

			R	00	- 7	OP	UNIT	SC	HED	ULE										
			SUPPL	Y FA	N	EXH/	RETURN	FAN	MIN.		COOL	ING CAP		HEA	TING	EL	ECTR	ICAL		
	MANUFACTURER/	AREA		ESP			ESP		OSA	EAT	(F)	TOTAL	SENS	M	BH					
CODE	MODEL	SERVED	CFM	(IN.)	HP	CFM	(IN.)	HP	CFM	DB	WB	MBH	MBH	IN	OUT	V	PH	MCA	REM	ARKS
RTU-1	TRANE YCH330A4HA1B5	MEETING ROOMS	10000	2.2	75				4320	85 5	59	250	225	500	400	460	3	57	A, B,	D
RTU-2	TRANE YCH150C4H	LOBBY	5000	15	5				2000	85.5	59	130	100	250	180	460	3	32	A, B,	D
						•														•••

<u>GENERAL NOTES</u> 1. PROVIDE 2 , 30 % EFFICIENT FILTERS.

2 PROVIDE HIGH EFFICIENCY FILTERS.

3 UNIT TO HAVE SINGLE POINT ELECTRICAL CONNECTION. 4 CAPACITY BASED ON F AMBIENT TEMPERATURE

5 PROVIDE FULL PERIMETER ROOF CURB

6 PROVIDE MANUFACTURERS RECOMMENDED SERVICE CLEARANCE AROUND ENTIRE UNIT. 7 HEATING AND COOLING CAPACITIES AND FAN STATIC PRESSURES ARE AT JOBSITE ALTITUDE 8 JOBSITE ELEVATION = 4.600 FT.

REMARK NOTES A. PROVIDE ELECTRONIC SPARK IGNITION AND MODULATING GAS VALVE.

B. PROVIDE SMOKE DETECTOR IN SUPPLY DUCT C. PROVIDE POWER ASSISTED VENTING.

D PROVIDE INTAKE HOOD AND 100% OSA ECONOMIZER.

D. ACCESSORIES D. NONE 1. MINIMUM LIMIT STOP 2 HONYCOMB EQUALIZER GRID IN NECK FULL LENGTH OF SLOTS 3. TYPE 16 CURVED FRAMES TO MATCH DUCT DIAMETER

SINK COMBS DETHLEFS

303 306 0200

FAX 308 0222

otherwise used without the written consent of Sink Combe Dethiefs.

Suite 200 for Archilecture Deriver, Calorada 80205



THE / YODER ENGINEERS, INC. P.D. BOX SING, MOR. CD. 11020 11. 1730 114-000 ANL (730) 114-1121

Issues/Revisions:	Date:
SCHEMATIC DESIGN	9-8-00
PROGRESS PRINT	11-30-00
DD SET	12-15-00
CONSTRUCTION DOCUMENTS	3-16-01
	•

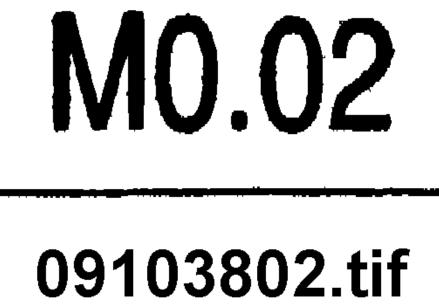
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
CONVENTION CENTER GRAND JUNCTION, COLORADO

SCD Project No.: 9924

SCHEDULES

vn by:	MD
cked by:	MP





TAG	DESCRIPTION	HP	HTG KW	AMPS	VOLTS	PH	FEEDER	DISC.	FUSE	BREAKER
RTU-1	ROOF TOP UNIT	75		75 4 MCA	480	3	4#3. 1#8G. 1-1/2"C	00/3 (WP	80A	80/3
RTU-2	ROOF TOP UNIT	15		32 MCA	480	3	4#8, 1#10G, 1"C.	60/3 (WP)	40A	40/3
FCU-1-4	FAN COIL UNITS	1/6		4.4	120	1	2#12, 1#12G, 3/4"C	STO		20/1
KEF-1	KITCHEN EXH FAN	5		76	480	3	3#12. 1#12G. 3/4"C	30/3	10A	15/3
EF-1	EXHAUST FAN	3/4		15	480	3	3#12, 1#12G.3/4"C	30/3	2A	15/3
EF-2	EXHAUST FAN	1/8		29	120	1	2#12, 1#12G.3/4"C			20/1
EF-3	EXHAUST FAN	1/6		44	120	1	2#12, 1#12G.3/4"C	STO		20/1
EF-4	EXHAUST FAN	1/25		1	120	1	2#12. 1#12G.3/4"C	a second seco		20/1
EF-5	EXHAUST FAN	1/6		44	120	1	2#12, 1#12G.3/4"C	STO		20/1
EF-6	EXHAUST FAN	1/4		58	120	3	2#12. 1#12G.3/4"C	STO	<u> </u>	20/1
MAU-1	MAKE-UP AIR UNIT	10		20 32	480	3	4#10. 1#10G. 3/4"C	30/3	30A	30/3
AC = 1 (IN)	AIR COND. UNIT (INDOOR			16	208	1	2#10, 1#10G.3/4"C	30/2	25A	25/2
C-1 (OUT)				16	208	1	2#10, 1#10G,3/4°C	30/2	25A	25/2
CUH-1	CABINET UNIT HEATER			08	120	1	2#12. 1#12G.3/4"C	STO		20/1