

Suarez, Caesar (ISD)

From: Suarez, Caesar (ISD)
Sent: Thursday, June 09, 2016 11:38 AM
To: 'aoplumbing@aol.com'; 'alejandrohvac@hotmail.com'; 'firejaime@yahoo.com'; 'arayon@aol.com'; 'marcel@ageofempireinc.com'; 'carlos@airatyourdoor.com'; 'office@airlogicservices.com'; 'info@alhillplumbing.com'; 'prisann@bellsouth.net'; 'ameradrain@aol.com'; 'americancontractinginc@gmail.com'; 'americanbuildersmasters@yahoo.com'; 'dan@andalegroup.com'; 'atlantik@atlantikmechanical.com'; 'bandnplumbingco@gmail.com'; 'becqtech@bellsouth.net'; 'brenda@bgl.plumbing.com'; 'leroyalcolm3726@gmail.com'; 'bramblegroupplumbing@gmail.com'; 'brownplumbingllc@yahoo.com'; 'connelljohnson@bellsouth.net'; 'ernicaballero@hotmail.com'; 'ctmechanical@aol.com'; 'toddstiff@mac.com'; 'yfcentralfiresp@att.net'; 'fbravo@centuryfireinc.com'; 'dcoakley@coakleycmc.com'; 'hvac@comfort-techinc.com'; 'kconwell@caconsultingc.com'; 'steve@coolwaterac.com'; 'mario@dacair.net'; 'dcm@dacaenvironmental.com'; 'delrioandsonplumbing@yahoo.com'; 'tonimeci@yahoo.com'; 'dwright54@bellsouth.net'; 'fperez@fxpcorp.com'; 'flahvac@att.net'; 'floridaturf@yahoo.com'; 'freezingmechanical@gmail.com'; 'douglasgammaair@aol.com'; 'info@goosebumpsac.com'; 'haberandplumbing@bellsouth.net'; 'jpplumbing1992@yahoo.com'; 'james@jtequipment.net'; 'kss1983@aol.com'; 'adac@bellsouth.net'; 'frank@leadexcorp.com'; 'arno@lemusirrigation.com'; 'osmanymartinez@yahoo.com'; 'contact@magconstructions.com'; 'magiccoolair@msn.com'; 'mainlineplumbing@bellsouth.net'; 'makingairmatter@yahoo.com'; 'manny@manny-lou.com'; 'marcus@marscontractors.com'; 'marbplum@bellsouth.net'; 'marmich_air@yahoo.com'; 'marcelo@marvibuilders.com'; 'jpinna@mastermechanicalservices.com'; 'cmetaldesign@aol.com'; 'maribelcol@bellsouth.net'; 'nabucplumbingcorp@gmail.com'; 'autneyholmes@ozoneairdesign.com'; 'p1plans@live.com'; 'gus@peoplesplumbing.com'; 'picodesigncorp@yahoo.com'; 'walter@pilarservices.com'; 'pinecrestgroup@bellsouth.net'; 'nemecio@pecbiz.com'; 'jhernandez@trustpremierac.com'; 'rrplbg@yahoo.com'; 'contractorwork@bellsouth.net'; 'renegue.plumber64@gmail.com'; 'sugrimr@bellsouth.net'; 'inc8104@bellsouth.net'; 'royalcool@bellsouth.net'; 'jrui@rcigroupinc.net'; 'saide@scrmechanical.com'; 'slazarco@gmail.com'; 'info@slmhvac.net'; 'sm.interconsulting@gmail.com'; 'emiliosolo@aol.com'; 'southcool.corp@gmail.com'; 'sdac_shanda@bellsouth.net'; 'ricky@scsacinc.com'; 'mcorrea@stateac.com'; 'suppaair@hotmail.com'; 'totalham@bellsouth.net'; 'uhvac2@comcast.net'; 'claudio@universe-air.com'; 'ivila@visualscapeinc.com'
Cc: Johnson, Laurie (ISD); Martin, Marcia (ISD); Etienne, Eddy (ISD); White, Lourdes (ISD); Castro, Angel (ISD); Fussell, Jacqueline (ISD); Castro, Angel (ISD); Escalante, Jhonnatan (ISD); Hines, Patrick (ISD)
Subject: RE: AAA-06-08-2016 Verification of Availability, SBE/Goods & Services
Attachments: aaa-06-08-2016-verification-of-availability-to-bid.pdf.pdf

Good Morning,

Project No: **AAA-06-08-2016**

Project Title: **Outside Air Compliance - AHUS 16, 21, 22, 23, 24**

The above-referenced contract is being considered for small business contract measures. **PLEASE NOTE THAT YOUR PARTICIPATION IN THE AVAILABILITY TO BID PROCESS IS VITAL IN ORDER FOR MEASURES TO BE PLACED ON THIS PROJECT.** If you are interested in participating as a Small Business Enterprise – Goods & Services firm to perform work in connection with this project and meet the requirements listed in this letter, please complete and return the attached Verification of Availability to Bid by **4:00 PM, FRIDAY, JUNE 10, 2016.**

Caesar Suarez

SBD Capital Improvement Project Specialist
Small Business Development Division
Miami-Dade County Internal Services Department
111 NW 1st Street, 19th Floor, Miami, FL 33128
☎Office: (305) 375-3141 | 📠Fax: (305) 375-3160
Email: caesars@miamidade.gov
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Outside Air Compliance – AHUS 16, 21, 22, 23, 24
AAA-06-08-2016 - Verification of Availability
June 9, 2016

SBD is attempting to place a Small Business Measure on AAA-06-08-2016. Please review this document to determine if your firm would be able **provide the contract's scope of services and is willing to participate on this solicitation**. If your firm is interested, please include **a copy of your firm's resume or list of projects or list 3 similar projects on the last page of this document**.

The deadline to respond to this Verification of Availability is 4:00 PM, FRIDAY, June 10, 2016.

Caesar Suarez
Capital Construction Projects Specialist
Small Business Development Division
Miami-Dade County Internal Services Department
111 NW 1st Street, 19th Floor, Miami, FL 33128
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"Help stimulate Miami's economy by supporting Small Businesses"

Please familiarize yourself with the Project Review Process Website:
<http://www.miamidade.gov/smallbusiness/projects-under-review.asp>

VERIFICATION OF AVAILABILITY TO BID

INTERNAL SERVICES DEPARTMENT (ISD)
 SMALL BUSINESS DEVELOPMENT (SBD) DIVISION
 COMMUNITY SMALL BUSINESS ENTERPRISE PROGRAM
 111 N.W. 1ST STREET, 19th FLOOR
 MIAMI, FLORIDA 33128
 PHONE: 375-3111 FAX: 375-3160

CONTRACT SPECIALIST: **Caesar Suarez**

I am herewith submitting this letter of verification of availability and capability to bid, provided the proposed scope of work attached. **(NOTE: Please provide all the information requested; incomplete and/or incorrect verifications are not acceptable or usable.)**

CONTRACT TITLE: Outside Air Compliance – AHUS 16, 21, 22, 23, 24

PROJECT NUMBER: AAA-06-08-2016

(Scope of work and minimum requirements for this project is attached.)

 NAME OF FIRM

_____ ADDRESS CITY ZIP CODE

Certification Expires: _____
 DATE

Telephone: (____) _____ - _____

 PRINT NAME AND TITLE

_____ SIGNATURE OF COMPANY REPRESENTATIVE DATE

Currently Awarded Projects (Name of Project and Owner)	Project Completion Date	Contract Amount	Anticipated Awards

VERIFICATION OF AVAILABILITY TO BID

CONTRACT TITLE: Outside Air Compliance – AHUS 16, 21, 22, 23, 24
PROJECT No.: AAA-06-08-2016

PURPOSE:

This request is for an RFI to furnish material material and labor to meet outside air specification provided by owner on air handling units #16, 21, 22, 23, & 24 in accordance to ASHRAE standards. See detailed specifications provided for each air handling unit.

Can your firm satisfy the purpose of this solicitation?

Yes _____ No _____

(If yes, please provide a copy of your firm’s resume or list of projects or list 3 similar projects on the last page of this document)

SCOPE OF WORK:

- Supply labor and materials to install (5) new OA mixing boxes with dampers and controls
- Supply labor to install (2) stainless steel dampers with 24/volt actuator per unit for a total of (10) dampers.
- Supply labor to install (5) new mixing boxes for dampers and insulate as needed
- Supply labor to install all new galvanized duct work for each unit as needed to connect to new mixing boxes
- Supply all electrical to connect new actuators and run new control wiring as needed to connect to existing controls systems
- Supply labor to start up and check for proper operations
- Supply labor to perform Testing & Balance and make adjustments as per OA calculations supplied by customer (see attached)
- Supply Engineering Drawings and Permits

Can your firm satisfy the scope of work?

Yes _____ No _____

WARRANTY:

- Contractor must provide one year warranty on parts and labor

Can your firm satisfy the warranty requirement?

Yes _____ No _____

TIMELINE:

- Lead time on dampers is anticipated at four (4) to six (6) weeks with anticipated install within two (2) weeks of receipt of materials
- Contractor must submit a schedule of anticipated work days to Director of Operations for approval and must account for events as follows:
 1. Event Days – crews allowed onsite from 7AM – 3PM when the event occurs in the evening
 - Crews will not be allowed onsite when an event occurs in the morning and/or afternoon
 2. Non-Event Days – crews allowed onsite for extended hours as needed

Can your firm satisfy the timeline requirements for this solicitation?

Yes _____ No _____

Can your firm provide the air handling units in accordance with ASHRE standards?

Yes _____ No _____

Contractor Qualifications Questionnaire

This questionnaire will assist SBD in identifying the qualified contractors that can provide the aforementioned good(s)/service(s). Indicate yes "Y" or no "N" on the empty line on the left side of this questionnaire and forward it completely filled out to this e-mail address: caesars@miamidad.gov or via fax (305) 375-3160 attention Caesar Suarez.

____ PROPOSER (PRIME) has experience completing projects with a similar size and scope as this project, meets the requirements of the PROPOSER (if any) and can perform the work as required.

____ PRIME/SUB DOES NOT have experience providing the required good(s) and/or services required by this solicitation.

I certify that to the best of my knowledge all the information provided is verifiable and correct.

Name of Firm: _____ Certification #: _____

Representative's Name: _____

Title: _____ Signature: _____

Please respond by 4:00 PM, Friday, June 10, 2016.

Any questions, feel free to contact me at the number below.

PLEASE LIST YOUR FIRMS HISTORY OF SIMILAR PROJECTS, REASON(S) WHY YOUR FIRM DOES NOT MEET THE EXPERIENCE REQUIREMENTS (IF APPLICABLE) AND ANY COMMENTS YOU MAY HAVE ON THE NEXT PAGE

SIMILAR PROJECTS AS PRIME OR SUB-CONTRACTOR

Please submit your firm's resume or list your firm's history of "Projects with Similar Scopes of Services" below:

Project Title: _____
Client Name: _____
Contact #: (____) _____ - _____ / _____
Contract Amount: \$ _____
Scope of Service(s):

Project Title: _____
Client Name: _____
Contact #: (____) _____ - _____ / _____
Contract Amount: \$ _____
Scope of Service(s):

Project Title: _____
Client Name: _____
Contact #: (____) _____ - _____ / _____
Contract Amount: \$ _____
Scope of Service(s):

REASONS & COMMENTS

10-11-2010 10:11:11 AM

RFI ID: R1078

RF STATUS: SUBMITTED TO COUNTY

PREPARED BY: ██████████

DATE 6/7/2016

AAA-06-08-2016

OUTSIDE AIR COMPLIANCE - AHUS 16, 21, 22, 23, 24

RFI Line Items

ECPU: ESTIMATED COST P/UNIT

PMP: POTENTIAL MINIMUM PURCHASE

FAP: POTENTIAL ANNUAL PURCHASE

PF: PURCHASE FREQUENCY

ETO: ESTIMATED DELIVERY TIME

	ECPU: ESTIMATED COST P/UNIT	PMP: POTENTIAL MINIMUM PURCHASE	FAP: POTENTIAL ANNUAL PURCHASE	PF: PURCHASE FREQUENCY	ETO: ESTIMATED DELIVERY TIME
FURNISH MATERIAL AND LABOR TO MEET OUTSIDE AIR SPECIFICATION PROVIDED BY OWNER ON AIR HANDLING UNITS #6, 21, 22, 23 & 24			1	1	58 DETAILED SPEC SHEET ATTACHED
Totals					

Building: AHU 16
 System: CS
 Operating Condition Description:
 Units Selected from pull-down list

Inputs for System	System	Potentially Critical Zones
Floor areas served by system	23393	WEST
Population of area served by system (including diversity)	120	NO ZONE
Design primary supply fan airflow rate	11267	
OA req'd per unit area for system (Weighted average)	0.06	
OA req'd per person for system area (Weighted average)	5.0	

Zone Name
 Zone Tag
 Zone title turns purple (click for critical zones)

Name	Units	System
As	sf	23393
Ps	P	120
Vpsd	cfm	11267
Ras	cfm/sf	0.06
Rps	cfm/p	5.0

Inputs for Potentially Critical zones
 Zone Name
 Zone Tag
 Floor Area of zone
 Design population of zone
 Design total supply to zone (primary plus local (reconditioned))
 Induction Terminal Unit, Dual Fan Dual Duct or Transfer Fan?
 Local recirc. air % (representative of zone system return air)

Name	Units	System
As	sf	23393
Pz	P	120
Vzd	cfm	11267
SR	%	25%

Results
 Ventilation System Efficiency
 Outdoor air intake required for system
 Outdoor air per unit floor area
 Outdoor air per person earned by system (including diversity)
 Outdoor air as a % of design primary supply air

Unit	Value	System
Ev	1.93	
Vout	2903	
Vout/PS	0.09	
Vout/PS	1627	
Yout	18%	

Initial Calculations for the System as a whole
 Primary supply air flow to system at conditioned analyzed
 Unconditioned OA requirement for system
 Unconditioned OA req'd as a fraction of primary SA
 OA rate per unit area for zone

Unit	Value	System
Vps	11267	
Vou	2003	
Xs	0.18	

Initial Calculations for Individual Zones
 OA rate per person
 Total supply air to zone (at condition being analyzed)
 Unused OA requirement for zone
 Unused OA requirement for zone
 Fraction of zone supply and directly recirc. from zone
 Fraction of zone supply from fully mixed primary air
 Fraction of zone OA not directly recirc. from zone
 Unused OA fraction required in supply air to zone
 Unused OA fraction required in primary air to zone

Unit	Value	System
Rat	cfm/sf	0.06
Raz	cfm/p	5.00
Vaz	cfm	11267
Vaz	cfm	5000
Vaz	cfm	2003.0
Vaz	cfm	2003.0
Fa		1.90
Fa		1.00
Fa		1.00
Fa		1.00
Fa		1.00
Zd		0.18
Zd		0.18
Zd		0.00

System Ventilation Efficiency
 Zone Ventilation Efficiency (ZVE) (Table 6.3 Method)
 System Ventilation Efficiency (SVE) (Table 6.3 Method)
 Ventilation System Efficiency (Table 6.3 Method)
 Minimum outdoor air intake airflow
 Outdoor Air Intake Flow required to System
 OA Intake req'd as a fraction of primary SA
 Outdoor Air Intake Flow required to System (Table 6.3 Method)
 OA Intake req'd as a fraction of primary SA (Table 6.3 Method)
 OA Temp at which Min OA provided all cooling
 OAT below which OA intake flow is at minimum

Unit	Value	System
Ez	1.00	
Ev	1.93	
Es	0.97	
Vot	cfm	2003
Vot	cfm	0.16
Vot	cfm	2060
Vot	cfm	0.15

Building: **System Tag Name:** **Operating Condition Description:**
Units (select from pull-down list)

Inputs for System
 Floor area served by system
 Population of area served by system (including diversity)
 Design primary supply fan airflow rate
 OA req'd per unit area for system (weighted average)
 OA req'd per person for system area (Weighted average)
Inputs for Potentially Critical Zones
 Zone Name
 Zone Tag
 Space Type
 Floor Area of zone
 Design population of zone
 Design latent supply to zone (primary plus local reheat/cool)
 Induction Terminal Unit, Dual Fan Dual Duct or Transfer Fan?
 1. local recirc. air % representative of ave system return air?

Zone Name	Zone Tag	Space Type	Floor Area of zone	Design population of zone	Design latent supply to zone (primary plus local reheat/cool)	Induction Terminal Unit, Dual Fan Dual Duct or Transfer Fan?	1. local recirc. air % representative of ave system return air?

Inputs for Operating Condition Analysis
 Percent of total design airflow rate at conditioned analyzed air distribution type at conditioned analyzed zone air distribution effectiveness at conditioned analyzed primary air fraction of supply air at conditioned analyzed

Assays
 Ventilation System Efficiency
 Outdoor air intake required for system
 Outdoor air per unit floor area
 Outdoor air per person served by system (including diversity)
 Outdoor air as a % of design primary supply air

Initial Calculations for the System as a whole
 Primary supply air flow to system at conditioned analyzed
 Uncooled OA requirement for system
 Uncooled OA req'd as a fraction of primary SA
 OA rate per unit area for zone
 OA rate per person
 Total supply air to zone (at condition being analyzed)
 Unused OA req'd to breathing zone
 Unused OA requirement for zone
 Fraction of zone supply not directly recirc. from zone
 Fraction of zone supply from fully mixed primary air
 Fraction of zone OA not directly recirc. from zone
 Unused OA fraction required in supply air to zone

System Ventilation Efficiency
 Zone Ventilation Efficiency (App A Method)
 System Ventilation Efficiency (from A Method)
 Ventilation System Efficiency (Table 6.3 Method)

Minimum outdoor air intake rates
 Outdoor air intake from required to system
 Outdoor air intake req'd as a fraction of primary SA
 Outdoor Air Intake Flow required to System (Table 6.3 Method)
 OA intake req'd as a fraction of primary SA (Table 6.3 Method)
 OA intake req'd as a fraction of primary SA (Table 6.3 Method)
 OAT below which OA intake flow is @ minimum

System	Units	Value	Calculation	Units	Value	Calculation
System	1285					
P1	10.812					
P2	0.0					
P3	0.0					
P4	0.0					
P5	0.0					
P6	0.0					
P7	0.0					
P8	0.0					
P9	0.0					
P10	0.0					
P11	0.0					
P12	0.0					
P13	0.0					
P14	0.0					
P15	0.0					
P16	0.0					
P17	0.0					
P18	0.0					
P19	0.0					
P20	0.0					
P21	0.0					
P22	0.0					
P23	0.0					
P24	0.0					
P25	0.0					
P26	0.0					
P27	0.0					
P28	0.0					
P29	0.0					
P30	0.0					
P31	0.0					
P32	0.0					
P33	0.0					
P34	0.0					
P35	0.0					
P36	0.0					
P37	0.0					
P38	0.0					
P39	0.0					
P40	0.0					
P41	0.0					
P42	0.0					
P43	0.0					
P44	0.0					
P45	0.0					
P46	0.0					
P47	0.0					
P48	0.0					
P49	0.0					
P50	0.0					
P51	0.0					
P52	0.0					
P53	0.0					
P54	0.0					
P55	0.0					
P56	0.0					
P57	0.0					
P58	0.0					
P59	0.0					
P60	0.0					
P61	0.0					
P62	0.0					
P63	0.0					
P64	0.0					
P65	0.0					
P66	0.0					
P67	0.0					
P68	0.0					
P69	0.0					
P70	0.0					
P71	0.0					
P72	0.0					
P73	0.0					
P74	0.0					
P75	0.0					
P76	0.0					
P77	0.0					
P78	0.0					
P79	0.0					
P80	0.0					
P81	0.0					
P82	0.0					
P83	0.0					
P84	0.0					
P85	0.0					
P86	0.0					
P87	0.0					
P88	0.0					
P89	0.0					
P90	0.0					
P91	0.0					
P92	0.0					
P93	0.0					
P94	0.0					
P95	0.0					
P96	0.0					
P97	0.0					
P98	0.0					
P99	0.0					
P100	0.0					

Building: **RHU 22**
 System Tag/Name: **CS**
 Operating Condition Description: **Units (Selected from pull-down list)**

Inputs for System	Units	System
Floor area served by system	sf	1272
Population of area served by system (including density)	P	0
Design primary supply fan airflow rate	Vpsd	14.582
OA req'd per unit area for system (Weighted average)	Ras	0.02
OA req'd per person for system area (Weighted average)	Rps	0.0

Zone Name: **Zone fire limits guide table for critical zone(s)**

Zone Tag: **Zone fire limits guide table for critical zone(s)**

Space type: **Zone fire limits guide table for critical zone(s)**

Zone Name	Zone Tag	Space type	Zone fire limits guide table for critical zone(s)
Az	sf	Selected from pull-down list	100%
Pz	P	(default value listed, may be overridden)	0
Vzsd	cfm	Selected from pull-down list or leave blank if N/A	14.582
Er			75%

Inputs for Overalling Conditions Analysis	Units	System
Percent of total design airflow rate at conditioned analyzed	Ds	100%
Air distribution type at conditioned analyzed	Ez	100%
Zone air distribution effectiveness at conditioned analyzed	Ep	1.00
Primary air fraction of supply air at conditioned analyzed	Ep	1.00

Results	Units	System
Ventilation System Efficiency	Ey	1.00
Outdoor air intake required for system	Vot	76
Outdoor air per unit floor area	Vot/A	0.06
Outdoor air per person, served by system (including density)	Vot/P	0.0001
Outdoor air as a % of design primary supply air	Ypd	1%

Required Calculations	Units	System
Primary supply air flow to system at conditioned analyzed	Vps	14585
Uncorrected OA requirement for system	Vou	76
Uncorrected OA req'd as a fraction of primary SA	Xs	0.01

Initial Calculations for Individual Zones	Units	System
OA req'd per unit area for zone (at condition being analyzed)	Raz	0.05
Total supply air to zone	Rpz	0.00
Unused OA req'd to breathing zone	Vzsd	14585
Unused OA requirement for zone	Vzsd	76.3
Fraction of zone supply not directly recirc. from zone	Fz	0
Fraction of zone supply from fully mixed primary air	Fp	1.00
Fraction of zone OA not directly recirc. from zone	Fc	1.00
Unused OA fraction required in supply air to zone	Zd	0.01
Unused OA fraction required in primary air to zone	Zd	0.01

System Ventilation Efficiency	Units	System
Zone Ventilation Efficiency (Vpd / A Method)	Ez	1.00
System Ventilation Efficiency (Vpd / A Method)	Ey	1.00
System Ventilation Efficiency (Vps / A Method)	Ey	1.14

Medium outdoor air intake airflow	Units	System
Outdoor Air Intake Flow required to System	Vot	76
OA intake req'd as a fraction of primary SA	Vot/Vps	0.01
Outdoor Air Intake Flow required to System (Table 6.3 Method)	Vot	87
OA intake req'd as a fraction of primary SA (Table 6.3 Method)	Vot/Vps	0.02
OA intake req'd as a fraction of primary SA (Table 6.3 Method)	Vot/Vps	0.02
OA intake req'd as a fraction of primary SA (Table 6.3 Method)	Vot/Vps	0.02

OA Intake	Units	System
OA Intake req'd as a fraction of primary SA (Table 6.3 Method)	Vot/Vps	0.02
OA Intake req'd as a fraction of primary SA (Table 6.3 Method)	Vot/Vps	0.02
OA Intake req'd as a fraction of primary SA (Table 6.3 Method)	Vot/Vps	0.02
OA Intake req'd as a fraction of primary SA (Table 6.3 Method)	Vot/Vps	0.02
OA Intake req'd as a fraction of primary SA (Table 6.3 Method)	Vot/Vps	0.02

OA Intake	Units	System
OA Intake req'd as a fraction of primary SA (Table 6.3 Method)	Vot/Vps	0.02
OA Intake req'd as a fraction of primary SA (Table 6.3 Method)	Vot/Vps	0.02
OA Intake req'd as a fraction of primary SA (Table 6.3 Method)	Vot/Vps	0.02
OA Intake req'd as a fraction of primary SA (Table 6.3 Method)	Vot/Vps	0.02
OA Intake req'd as a fraction of primary SA (Table 6.3 Method)	Vot/Vps	0.02

OA Intake	Units	System
OA Intake req'd as a fraction of primary SA (Table 6.3 Method)	Vot/Vps	0.02
OA Intake req'd as a fraction of primary SA (Table 6.3 Method)	Vot/Vps	0.02
OA Intake req'd as a fraction of primary SA (Table 6.3 Method)	Vot/Vps	0.02
OA Intake req'd as a fraction of primary SA (Table 6.3 Method)	Vot/Vps	0.02
OA Intake req'd as a fraction of primary SA (Table 6.3 Method)	Vot/Vps	0.02

Building: AHU 23
 System Tag/Name: CS
 Operating Condition Description: Units recirc from pull-down list

Inputs for System:
 Floor area served by system
 Population of area served by system (including diversity)
 Design primary supply fan airflow rate
 OA req'd per unit area for system (weighted average)
 OA req'd per person for system area (weighted average)

Name: AHU 23
 Units: 100% diversity
 Vpsd: 33.879
 Rps: 5.0

System	Units
9932	175
33.879	0.06
5.0	

Inputs for Potentially Critical Zones:
 Zone Name
 Zone Tag
 Space Type
 Floor Area of zone
 Design population of zone
 Design total supply to zone (primary plus local recirculated)
 Incention Terminal Unit, Dual Fan Dual Duct or Transfer Fan?
 Local recirc air % representative of zone system return air

Zone Name: AHU 23
 Zone Tag: CS
 Space Type: Pull-down list
 Floor Area: 175
 Design Population: 175
 Design Total Supply: 33.879
 Incention Terminal Unit: 0
 Local Recirc Air %: 75%

Potentially Critical Zones	Units
WEST MAIN	0
ENTREY	175
DIRECT	33.879
Main entry tables	0
Conditions	0
	175
	33.879
	0
	75%

Inputs for Operating Conditions Analyzed:
 Percent of total design airflow rate as conditioned analyzed
 Air distribution type as conditioned analyzed
 Zone air distribution effectiveness as conditioned analyzed
 Primary air fraction of supply air as conditioned analyzed

Ds: 100%
 Es: 100%
 Ep: 100%

%	Select from pull-down list	Units
100%		100%
CS		CS
1.00		1.00

Results:
 Ventilation System Efficiency
 Outdoor air intake required for system
 Outdoor air per unit floor area
 Outdoor air per person served by system (producing diversity)
 Outdoor air as a % of design primary supply air

EV: 1.00
 Voa: 1457
 Voa/s: 0.15
 Voa/p: 8.3
 Voa/d: 4%

Overall Calculations

Primary supply air flow to system as a whole
 Unrecirculated OA requirement for system
 Unrecirculated OA req'd as a fraction of primary SA
 Initial Calculations for Recirculated Zones
 OA rate per unit area for zone
 OA rate per person
 Total supply air to zone (at condition being analyzed)
 Unrecirc OA req'd to breathing zone
 Unrecirc OA requirement for zone
 Fraction of zone supply not directly recirc from zone
 Fraction of zone supply from fully mixed primary air
 Fraction of zone OA not directly recirc from zone
 Unrecirc OA fraction required in supply air to zone
 Unrecirc OA fraction required in primary air to zone

Vps: 33879
 Voa: 1457
 Xs: 0.04

System Ventilation Efficiency (App A Method)
 System Ventilation Efficiency (App A Method)
 System Ventilation Efficiency (App E.3 Method)
 Minimum outdoor air intake airflow
 Outdoor air intake flow required to System
 OA intake req'd as a fraction of primary SA
 Outdoor air intake flow required to System (Table E.3 Method)
 OA intake req'd as a fraction of primary SA (Table E.3 Method)
 OA fraction of total supply air

EV: 1.00
 EV: 1.11
 Voa/Ev: 1457
 Voa/Vps: 0.04
 Voa/Vps: 175
 Voa/Vps: 0.04

Zone Ventilation Efficiency (App A Method)
 System Ventilation Efficiency (App A Method)
 System Ventilation Efficiency (App E.3 Method)
 Minimum outdoor air intake airflow
 Outdoor air intake flow required to System
 OA intake req'd as a fraction of primary SA
 Outdoor air intake flow required to System (Table E.3 Method)
 OA intake req'd as a fraction of primary SA (Table E.3 Method)
 OA fraction of total supply air

Voa/Ev: 1.00
 EV: 1.11
 Voa/Ev: 1457
 Voa/Vps: 0.04
 Voa/Vps: 175
 Voa/Vps: 0.10

Final Calculations

Primary supply air flow to system as a whole
 Unrecirculated OA requirement for system
 Unrecirculated OA req'd as a fraction of primary SA
 Initial Calculations for Recirculated Zones
 OA rate per unit area for zone
 OA rate per person
 Total supply air to zone (at condition being analyzed)
 Unrecirc OA req'd to breathing zone
 Unrecirc OA requirement for zone
 Fraction of zone supply not directly recirc from zone
 Fraction of zone supply from fully mixed primary air
 Fraction of zone OA not directly recirc from zone
 Unrecirc OA fraction required in supply air to zone
 Unrecirc OA fraction required in primary air to zone

Vps: 33879
 Voa: 1457
 Xs: 0.04

System Ventilation Efficiency (App A Method)
 System Ventilation Efficiency (App A Method)
 System Ventilation Efficiency (App E.3 Method)
 Minimum outdoor air intake airflow
 Outdoor air intake flow required to System
 OA intake req'd as a fraction of primary SA
 Outdoor air intake flow required to System (Table E.3 Method)
 OA intake req'd as a fraction of primary SA (Table E.3 Method)
 OA fraction of total supply air

Voa/Ev: 1.00
 EV: 1.11
 Voa/Ev: 1457
 Voa/Vps: 0.04
 Voa/Vps: 175
 Voa/Vps: 0.10

Final Calculations

Primary supply air flow to system as a whole
 Unrecirculated OA requirement for system
 Unrecirculated OA req'd as a fraction of primary SA
 Initial Calculations for Recirculated Zones
 OA rate per unit area for zone
 OA rate per person
 Total supply air to zone (at condition being analyzed)
 Unrecirc OA req'd to breathing zone
 Unrecirc OA requirement for zone
 Fraction of zone supply not directly recirc from zone
 Fraction of zone supply from fully mixed primary air
 Fraction of zone OA not directly recirc from zone
 Unrecirc OA fraction required in supply air to zone
 Unrecirc OA fraction required in primary air to zone

Vps: 33879
 Voa: 1457
 Xs: 0.04

System Ventilation Efficiency (App A Method)
 System Ventilation Efficiency (App A Method)
 System Ventilation Efficiency (App E.3 Method)
 Minimum outdoor air intake airflow
 Outdoor air intake flow required to System
 OA intake req'd as a fraction of primary SA
 Outdoor air intake flow required to System (Table E.3 Method)
 OA intake req'd as a fraction of primary SA (Table E.3 Method)
 OA fraction of total supply air

Voa/Ev: 1.00
 EV: 1.11
 Voa/Ev: 1457
 Voa/Vps: 0.04
 Voa/Vps: 175
 Voa/Vps: 0.10

Building: **AMU 26**
 System Tagline:
 Operating Condition Description:
 Units (select from pull-down list)

Inputs for System
 Floor area served by system:
 Population of area served by system (including diversity):
 Design primary supply fan airflow rate:
 OA req'd per unit area for system (Weighted average):
 OA req'd per person for system area (Weighted average):
 Units for Potentially Critical Zones:

Name	Units	System
Aa	ft ²	8524
Pa	cfm	155
Vpad	cfm	27,445
Rps	cfm/psf	0.05
		5.0

Zone tags (select from pull-down list for critical zones):

Zone Name	Zone Tag	Potentially Critical Zones
Zone 1	1	EAST MC
Zone 2	2	CORRIDOR
Zone 3	3	DIRECT
Zone 4	4	Median entry
Zone 5	5	Corridors
Zone 6	6	100hva
Zone 7	7	135
Zone 8	8	27,445

Inputs for Operational Condition Analyzed
 Percent of total design airflow rate at conditioned analyzed:
 Air distribution type at conditioned analyzed:
 Zone air distribution effectiveness at conditioned analyzed:
 Primary air fraction of supply air at conditioned analyzed:

Da	%	Selected from pull-down list	Da	%	Selected from pull-down list
100%	100%	CS	100%	100%	CS
CS	CS	CS	CS	CS	CS
1.00	1.00	1.00	1.00	1.00	1.00

Results
 Ventilation System Efficiency:
 Outdoor air intake required for system:
 Outdoor air per unit floor area:
 Outdoor air per person served by system (including diversity):
 Outdoor air as a % of design primary supply air:

Ev	cfm	1.00
Voa	cfm/psf	1.386
Vpas	cfm/psf	0.15
Vpd	cfm	8.3
Vpd	cfm	5%

Detailed Calculations for the System as a Whole
 Internal Calculations for the System as a Whole:
 Primary supply air flow to system at conditioned analyzed:
 Unconditioned OA requirement for system:
 Unconditioned OA req'd as a fraction of primary SA:
 Total Calculations for Individual Zones:
 OA rate per unit area for zone:
 OA rate per person:
 Total supply air to zone (at condition being analyzed):
 Unused OA req'd to breathing zone:
 Unused OA requirement for zone:
 Fraction of zone supply not directly recirc from zone:
 Fraction of zone OA not directly recirc from zone:
 Unused OA fraction required in supply air to zone:
 Unused OA fraction required in primary air to zone:

Zone	Units	Value	Equation	Zone	Units	Value	Equation
Vps	cfm	27445	$Vps = Vpad \times Da$	Raz	cfm/psf	0.06	$Raz = Vps / Aa$
Vou	cfm	1286	$Vou = Vps \times Rps$	Rz	cfm/psf	5.00	$Rz = Vpad / Aa$
Xs		0.05	$Xs = Vou / Vps$	Voz	cfm	1286.4	$Voz = Vps - Raz \times Aa$
				Fa	cfm	1286	$Fa = Voz \times (1 - Ep) / Ez$
				Fb	cfm	1.00	$Fb = Ep \times (1 - Ep) / Ez$
				Fc	cfm	1.00	$Fc = (1 - Ep) \times (1 - Ez) / Ez$
				Zb	cfm	0.90	$Zb = Voz \times Voz$
				Zb	cfm	0.05	$Zb = Voz \times Vps$
				Evc		1.00	$Evc = Fa + Fb \times Vps - Fc \times Zb / Fa$
				Ev		1.40	$Ev = min(Evc, 1)$
						1.40	Value from Table 6.3
				Voi	cfm	1286	$Voi = Vou / Ev$
				Voi	cfm	0.05	$Voi = Vou / Vps$
				Voi	cfm	1185	$Voi = Vou / Vps$
				Voi	cfm	0.04	$Voi = Vou / Vps$
				Day F		-291	$Day F = (Tps - Tsp) \times (1 - \gamma) \times (1 + \beta) \times Dh$

System Ventilation Efficiency (App A Method)
 Zone Ventilation Efficiency (App A Method):
 System Ventilation Efficiency (App A Method):
 Ventilation System Efficiency (Table 5.3 Method):
 Minimum outdoor air intake airflow:
 Outdoor Air Intake Flow required to System:
 Outdoor Air Intake Flow required to System (Table 6.3 Method):
 Outdoor Air Intake Flow required to System (Table 6.3 Method):
 OA req'd as a fraction of primary SA (Table 6.3 Method):
 OA req'd as a fraction of primary SA (Table 6.3 Method):
 OA req'd as a fraction of primary SA (Table 6.3 Method):
 OA req'd as a fraction of primary SA (Table 6.3 Method):

RFI# 1078 - OUTSIDE AIR COMPLIANCE - AHUs 16, 21, 22, 24

Furnish material and labor to meet outside air (OA) specifications provided by owner on Air Handling Units (AHUs) #16, 21, 22, 23, & 24.

SCOPE OF WORK:

- Supply labor and materials to install (5) new OA mixing boxes with dampers and controls
- Supply labor to install (2) stainless steel dampers with 24/volt actuator per unit for a total of (10) dampers
- Supply labor to install (5) new mixing boxes for dampers and insulate as needed
- Supply labor to install all new galvanized duct work for each unit as needed to connect to new mixing boxes
- Supply all electrical to connect new actuators and run new control wiring as needed to connect to existing controls system
- Supply labor to start up and check for proper operations
- Supply labor to perform Testing & Balance and make adjustments as per OA Calculations supplied by customer (see attached)
- Supply Engineering Drawings and Permits

WARRANTY:

- Contractor must provide one year warranty on parts and labor

TIMELINE:

- Lead time on dampers is anticipated at four (4) to six (6) weeks with anticipated install within two (2) weeks of receipt of materials
- Contractor must submit a schedule of anticipated work days to Director of Operations for approval and must account for events as follows:
 - Event Days – crews allowed onsite from 7am – 3pm when the event occurs in the evening
 - Crews will not be allowed onsite when an event occurs in the morning and/or afternoon
 - Non-Event Days – crews allowed onsite for extended hours as needed