PRECISION
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SHOP DRAWINGS AND PRODUCT DATA

MFI INC.

Checking is only for general conformance with the design concept of the project and general compliance with the information given in the contact documents. Any action shown is subject to the requirements of the plans and specifications. Contractor is responsible for: Dimensions, which shall be confirmed and correlated at the job site; fabrication processes and techniques of construction; coordination of his work with that of all other trades; and the satisfactory performance of this work.

☒ NO EXCEPTION TAKEN
☐ REVIEWED AS NOTED
☐ REVISE AND RESUBMIT

DATE: 3-7-22 SIGNED: MATT AUTREY

Statement of Qualifications

Project

Table Rock Motel - Addition - Phase 2
840 Beach Loop Drive Southwest
Bandon, OR 97411

Presented To

Umpqua Sheet Metal
5084 NE Stephens St.
Winchester, OR 97495

Presented By

Precision Test & Balance, Inc.
25030 SW Parkway Avenue. Suite 1047
Wilsonville, OR 97070

NEBB#3520

OR# 193826

CA#1022249

PRECISION
Test & Balance, Inc.

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PRECISION
Test & Balance, Inc.

Section A
Letter of Introduction

Precision Test & Balance, Inc. was established in 1999 to provide our clients with maximum service at an affordable price.

Our corporate philosophy is to work closely with owners, design engineers and contractors to achieve optimum performance of mechanical systems.

As a service company our only "product" is a report, however, a well-designed and balanced HVAC system can be recognized by the lack of occupant comfort complaints. We believe that a gradual and controlled growth policy will ensure our balancing technicians have been trained thoroughly according to NEBB, AABC, and ASHRAE 111 standards.

The principles of Precision Test & Balance, Inc. have over Fifty years of combined experience, which will be covered in other sections, but we think it is important to mention that we have worked on many projects involving educational, commercial, industrial, medical research and hi-tech facilities.

We look forward to working with you in the near future.

Sincerely,

Adam Jakobsen
President

Douglas L. Forster
Chairman

PRECISION
Test & Balance, Inc.

Section B
Principles & Key Staff Members

Principles

Adam Jakobsen, President
Douglas L. Forster, Chairman

Staff

Zach Werber, Team Lead
Curtis Treiber, Team Lead
Jeffrey Shuford, Technician
Nick Dunn, Technician
Daniel Smith, Technician
Melissa Jakobsen, Project Assistant
Amy Hergert, Office Manager

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Test & Balance, Inc.

Section C
Qualifications of Key Personnel

Adam Jakobsen

- 10 years with Precision Test & Balance, Inc.
- NEBB TAB-CP (24258)

Douglas L. Forster

- A.A.S. Mechanical Engineering Technology - PCC
- NEBB TAB-CP (23815)
- NEBB Sound Measurement-CP (23815)
- NEBB Vibration Measurement-CP (23815)
- EIT Certificate #60122 (OR)
- 20 years principle – Precision Test & Balance, Inc.
- 19 years of TAB experience with Northwest Engineering Service, Inc.

Zachary Werber

- B.S. Mechanical Engineering – Portland State (2015)
- B.S. Nuclear Engineering – Oregon State (2009)
- NEBB TAB-CT (22101)
- EIT Certificate #32581 (WA)
- 4 years with Precision Test & Balance, Inc.

Curtis Treiber

- B.S. Materials Science & Engineering – Washington State (2016)
- NEBB TAB-CT (22121)
- 3 years with Precision Test & Balance, Inc.

Jeffrey Shuford

- B.S. Physics – Oregon State (2017)
- 1 year with Precision Test & Balance, Inc.

Melissa Jakobsen

- 6 years with Precision Test & Balance, Inc.

Nick Dunn

- A.A.O.T. – Clackamas Community College (2009)
- 1 year with Precision Test & Balance, Inc.

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Section D
Scope of Services & Project Approach

A. Scope of Services

We at Precision Test & Balance, Inc. feel we offer a full range of services in the HVAC testing, adjusting and balancing field. Our services include:

1. HVAC Air Systems Testing, Adjusting & Balancing
2. HVAC Hydronic Systems Testing, Adjusting & Balancing
3. HVAC Systems Monitoring & Surveying
4. Lab Hood Certification
5. Duct & Plenum Air Leakage Testing
6. Sound & Vibration Testing

B. Project Approach

Following is a brief outline of approaching a project.

1. Initial Planning

A. Review Plans and Specifications
B. Assess Design Intent

2. Initial Review

A. Plan and schedule Testing, Adjusting and Balancing procedures
B. Set-up project on appropriate test forms
C. Preliminary field check of HVAC equipment and systems
D. Collect equipment data verify with design
E. Report any deficiencies that would prevent system to be properly balanced

3. Data Procurement

A. Acquire fan and pump curve submittal data
B. Acquire any manufacturers published data, i.e., electrical, air, water or control elements

4. System Field Review

A. Locate all balancing or control devices
B. Report any deficiencies in installation
C. Verify systems readiness for balancing, i.e., automatic controls

5. System Start-up

A. Verify piping and ductwork are clear of obstructions
B. Bump fans and pumps for proper rotation
C. Assist Mechanical Contractor with system start-up

6. **Air Balance Procedure**

A. Set fan condition for full-flow (cooling)
B. Check motor amperage
C. Traverse fan total for design volume
D. Change fan speed if necessary
E. Spot check for air circulation in various rooms
F. Balance supply system (proportional method)
G. Balance return or exhaust systems (proportional method)
H. Re-adjust supply and return fans speeds as needed
I. Read out systems for final readings
J. Record fan(s) operating data under required conditions

7. Hydronic Balance Procedure

A. Set pump condition for full flow (heating or cooling)
B. Measure amperage
C. Measure pump total and adjust if necessary
D. Spot check for water circulation at various coils
E. Balance water system (proportional method)
F. Re-adjust pump volume for 100% flow if possible
G. Read out water system
H. Record pump(s) operating data under required conditions

8. Duct-Air Leakage Procedure

A. Identify ductwork section(s) to be tested
B. Calculate surface area of section

C. Determine allowable leakage rate, based on duct and leakage class from specification
D. Pressurize ductwork to specified pressure level
E. Measure flow required to maintain specified test pressure
F. Compare leakage flow rate to allowable.
G. If measured leakage is less than allowable, the section passes. If the leakage is more than allowable, mechanical contractor to remediate duct section to find source of leakage. Retest section using steps D-G until section is within allowable tolerances.

9. Reporting

A. Review field data
B. Report any discrepancies encountered during the project
C. Input all data into a computer for future reference
D. Edit reports for typographical errors or omissions
E. Duplicate for distribution all applicable data and blueprints with elements or openings numbered for easy reference
F. Publish required number of reports for review

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Test & Balance, Inc.

Section E
Experience with Mechanical Systems & Equipment

Following is partial list of mechanical systems and equipment we have worked on and have extensive experience with.

1. Fan Systems	2. Terminal Units	3. Water Systems
Package	Variable Volume	Pumps (Primary)
Built-up	VAV with Reheat	Pumps (Secondary)
VAV	Constant Volume	Pumps (Tertiary)
Constant Volume	CV with Reheat	Chillers
Dual Duct	Dual Duct	Boilers
Multi-zones	Fan Powered Parallel	Steam
Process Exhaust	Fan Powered Series	Cooling Towers
Utility Exhaust	Induction	Water Cooled Units
Split Systems	Pressure Dependent	
Makeup Air	Pressure Independent	
	Chilled Beams	

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Section F
Experience with Mechanical Control Systems

We have working knowledge of the following control systems.

1. Siemens
2. Johnson Controls / Metasys
3. Honeywell
4. Trane
5. Carrier Parker Valve
6. Phoenix Valves
7. Alerton
8. Delta
9. Automated Logic
10. Distech Controls
11. Schneider Electric

We have an excellent working relationship with all of the major control companies and often on a first name basis with control fitters and technicians.

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Section G
Project Management History (Partial)

Projects	Contacts
US Bancorp Tower & Plaza Buildings Construction & Sustaining Portland, Oregon	Todd Murphey Unico Properties
TTM Technologies (Merix) Corporation Construction, Sustaining, Certifications Forest Grove, Oregon	Mr. Jack White Engineer
Providence St. Vincent Hospital Construction, Sustaining Portland, Oregon	Mr. Matt Masters, P.E PSVMC Facilities
St. Charles Medical Center Bend, OR	Mr. Kevin Link Skanska USA PM
Fred Meyer Stores Northwest & Alaska 60+ Projects Oregon, Washington, Alaska, Idaho	Wael Chamseddine Wytek Controls
Providence St. Vincent's Hospital New/Sustaining Projects Portland, OR	John Casessa, PE. Mgr. Physical Plant
Wells Fargo Tower Sustaining, Tenant Improvements Portland, OR	Paul Lukes Streimer SMW PM
Redwood Science Lab Arcata, CA	Warren Hanna U.S. Forest Service
Prineville Critical Access Hospital Prineville, OR	Don Milburn Cascade Heating
St. Joseph Hospital Expansion Eureka, CA	Mike Finley O&M Industries

PRECISION
Test & Balance, Inc.

Section H
Reference List

1.	Steve Strauss, P.E.	Glumac International	Portland, OR	503/227-5280
2.	Rick Silenzi	Interface Engineering	Corvallis, OR	541/752-8932
3.	James Thomas, P.E.	Glumac International	Portland, OR	503/227-5280
4.	Ed Carlyle, P.E.	R & W Engineering	Portland, OR	503/292-6000
5.	Gary Barnes, PE	System Design Consultants	Portland, OR	503/248-0227
6.	John Farley, P.E.	System Design Consultants	Portland, OR	503/248-0227
7.	William Caron, P.E.	Mazzetti	Portland, OR	503/601-5963
8.	Andy McCann P.E.	McCann Engineering	Portland, OR	503/243-2448
9	Paul Lukes	Streimer Sheet Metal Works	Portland, OR	503/288-9393
10	Mike Finley	O&M Industries	Arcata, CA	707/822-8800

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Section I
Instrument Calibration List

INSTRUMENT / SERIAL#	APPLICATION	DATE OF USE	CAL. TEST DATE
EVERGREEN CH-15D / 1700174	FLOW HOOD	TBD	04/07/2021
EVERGREEN S-PVF-1 / 2100233A	PRESS. / VEL.	TBD	04/07/2021
TSI ALNOR RVA501 / RVA501540003	RVA	TBD	04/22/2021
SHORTRIDGE HDM-250/ W99148	WATER BALANCE	TBD	07/23/2021
EVERGREEN RM-T-1/ 1900274	TEMPERATURE	TBD	01/15/2021
RETROTEC 400 SERIES / 4LF000125	DUCT LEAKAGE	TBD	05/20/2020

Instruments Listed are those typically used on projects. Some instruments may not be used on all projects. Instruments may be **calibrated again prior** to project depending on timeframe.

Firm Certification

PRECISION TEST & BALANCE, INC.

HAS MET ALL REQUIREMENTS FOR NEBB CERTIFIED STATUS IN THE FOLLOWING DISCIPLINE

Testing, Adjusting and Balancing of Environmental Systems

3520

NEBB Certification Number

March 31, 2022

Expiration Date

NEBB President

NEBB President-Elect

Certification

DOUGLAS L. FORSTER

HAS MET ALL REQUIREMENTS FOR NEBB CERTIFIED PROFESSIONAL STATUS IN THE FOLLOWING DISCIPLINE

Testing, Adjusting and Balancing of Environmental Systems

This Certificate, as well as individual affiliation with a NEBB Certified Firm and associated NEBB Certification Stamp are REQUIRED to provide a NEBB Certified Report. Participation in the NEBB Quality Assurance Program requires the Certificant be affiliated with a NEBB Certified Firm

CP-23815

NEBB Certification Number

March 31, 2022

Expiration Date

Jeffrey Schoole

NEBB President

NEBB President-Elect

Certification

DOUGLAS L. FORSTER

HAS MET ALL REQUIREMENTS FOR NEBB CERTIFIED PROFESSIONAL STATUS IN THE FOLLOWING DISCIPLINE

Sound Measurement

This Certificate, as well as individual affiliation with a NEBB Certified Firm and associated NEBB Certification Stamp are REQUIRED to provide a NEBB Certified Report. Participation in the NEBB Quality Assurance Program requires the Certificant be affiliated with a NEBB Certified Firm

CP-23815

NEBB Certification Number

March 31, 2022

Expiration Date

Jeffrey Schoolo

NEBB President

NEBB President-Elect

Certification

DOUGLAS L. FORSTER

HAS MET ALL REQUIREMENTS FOR NEBB CERTIFIED PROFESSIONAL STATUS IN THE FOLLOWING DISCIPLINE

Vibration Measurement

This Certificate, as well as individual affiliation with a NEBB Certified Firm and associated NEBB Certification Stamp are REQUIRED to provide a NEBB Certified Report. Participation in the NEBB Quality Assurance Program requires the Certificant be affiliated with a NEBB Certified Firm

CP-23815

NEBB Certification Number

March 31, 2022

Expiration Date

Jeffrey Schoolo

NEBB President

NEBB President-Elect

Certification

ADAM JONATHON JAKOBSEN

HAS MET ALL REQUIREMENTS FOR NEBB CERTIFIED PROFESSIONAL STATUS IN THE FOLLOWING DISCIPLINE

Testing, Adjusting and Balancing of Environmental Systems

This Certificate, as well as individual affiliation with a NEBB Certified Firm and associated NEBB Certification Stamp are REQUIRED to provide a NEBB Certified Report. Participation in the NEBB Quality Assurance Program requires the Certificant be affiliated with a NEBB Certified Firm

CP-24258

NEBB Certification Number

March 31, 2023

Expiration Date

NEBB President

NEBB President-Elect

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Test & Balance, Inc.

Section J
Balancing Forms (Partial)

↓See forms below↓

Project Name	Tech, Tech
	Month Year
	####

AIR HANDLING UNIT AND PUMP BAS SET POINTS

AIR HANDLER	STATIC PRESSURE S.P.	MINIMUM OSA SET POINT	MAXIMUM OSA SET POINT	RETURN FAN OFFSET	BUILDING PRESSURE SET POINT	Comments
PUMP / SYSTEM	**DIFFERENTIAL PRESSURE S.P.**					**Comments**
HEATING WATER						
CHILLED WATER						

NOTES:

Project Name	Tech, Tech
	Month Year
	####

TERMINAL UNIT SET POINTS

TU / VAV #	COOLING MAX CFM	COOLING MIN CFM	HEATING MAX CFM	FAN SPEED		FLOW COEFFICIENT	INLET SIZE	Comments

NOTES:

Project Name			Performed By:	Tech, Tech
			Date:	Month Year
FAN SYSTEM	AHU-1		Project:	####

Air Handler Capacity Test

Static Set Point (in WC):	####	Actual:	####			####			
TU#	DDC Set Points		Minimum OSA Condition			100% OSA Condition			-
TU / VAV #	Maximum CFM Setpoint	Cooling Flow Coefficient	Actual Flow	%	Damper Position	Actual Flow	%	Damper Position	Comments

NOTES:

Project Name		Performed By:	Tech, Tech
		Date:	Month Year
FAN SYSTEM:	**Equipment Tag ID**	Project:	####

UNIT / FAN DATA

Type of Unit	**Arrangement**
Manufacturer	**Discharge**
Model Number	**Number of Fans**
Serial Number	**Fan Size (± inches)**
Filter Size (Qty.)	**Drive Type**

MOTOR DATA

Manufacturer	**Amperage**
Horsepower	**Voltage**
RPM	**Phase**
Frame	**Efficiency**
Thermal Protection	**Power Factor**
Starter Type	**Service Factor**

OPERATIONAL DATA

Design	Initial Test	Final Test	
Condition		MINIMUM OSA SET	
Plan CFM			
Fan RPM			
Amperage			
Voltage			
Brake HP			
TSP (in WC)			
ESP (in WC)			

SYSTEM PRESSURES (in WC)

	Initial Test			Final Test					
	IN	OUT	Δ	IN	OUT	Δ	IN	OUT	Δ
Filter									
Coil									
Fan									

NOTES:

Project Name		Performed By:	Tech, Tech
		Date:	Month Year
FAN SYSTEM:	Equipment Tag ID	Project:	####

SHEAVES AND BELTS - As Found

Fan Sheave				**Motor Sheave**			
Bushing				**Bushing**			
Bore				**Bore**			
Belt Size				**Number of Belts**			
	Min.	**Set @**	**Max.**		**Min.**	**Set @**	**Max.**
Center Distance (in)				**Pitch Diameter (in)**			

SHEAVES AND BELTS - Final

Fan Sheave				**Motor Sheave**			
Bushing				**Bushing**			
Bore				**Bore**			
Belt Size				**Number of Belts**			
	Min.	**Set @**	**Max.**		**Min.**	**Set @**	**Max.**
Center Distance (in)				**Pitch Diameter (in)**			

NOTES:

Project Name		Performed By:	Tech, Tech
		Date:	Month Year
FAN SYSTEM:	Equipment Tag ID	Project:	####

Location			Grille / Diffuser Data			Design		Initial			Final					
Name	Room #	Type	Device	Size (in)	Area	FPM	CFM	FPM	CFM	%	FPM	CFM	%	FPM	CFM	%
SUPPLY																

NOTES:

Project Name		Performed By:	Tech, Tech
		Date:	Month Year
FAN SYSTEM:	Equipment Tag ID	Project:	####

UNIT DATA

Manufacturer		Cooling	Heating
Type of VAV	Flow Coefficient		
Terminal Address	Inlet Size (inches)		

OPERATIONAL DATA

	Design	Actual		Nameplate	Actual
Cooling Max			Fan Amperage		
Heating Max			Fan Voltage		

AIRFLOW DATA

Location		Grille / Diffuser Data				Design		Initial			Final					
Name	Room #	Type	Device	Size (in)	Area	FPM	CFM	FPM	CFM	%	FPM	CFM	%	FPM	CFM	%
SUPPLY																

NOTES:

Project Name		Performed By:	Tech, Tech
		Date:	Month Year
FAN SYSTEM (EMBEDDED)	Equipment Tag ID	Project:	####

UNIT / FAN DATA

Type of Unit	Arrangement
Manufacturer	Discharge
Model Number	Number of Fans
Serial Number	Size (± inches)
Filter Size (Qty.)	Drive Type

MOTOR DATA

Amperage	Voltage

OPERATIONAL DATA

Design	Initial Test	Final Test	
Condition			
Plan CFM			
Fan RPM			
Amperage			
Voltage			
TSP (in WC)			
ESP (in WC)			

SYSTEM PRESSURES (in WC)

	Initial Test			Final Test					
	IN	OUT	Δ	IN	OUT	Δ	IN	OUT	Δ
Filter									
Fan									
Coil									

NOTES:

Project Name		Performed By:	Tech, Tech
		Date:	Month Year
FAN SYSTEM:	**Equipment Tag ID**	Project:	####

UNIT / FAN DATA

Type of Unit	**Arrangement**
Manufacturer	**Discharge**
Model Number	**Number of Fans**
Serial Number	**Fan Size (± inches)**
	Drive Type

MOTOR DATA

Manufacturer	**Amperage**
Horsepower	**Voltage**
RPM	**Phase**
Frame	**Efficiency**
Thermal Protection	**Power Factor**
Starter Type	**Service Factor**

OPERATIONAL DATA

Design	Initial Test	Final Test	
Condition		100% EXHAUST	
Plan CFM			
Fan RPM			
Amperage			
Voltage			
Brake HP			
TSP (in WC)			
ESP (in WC)			

SYSTEM PRESSURES (in WC)

	Initial Test			Final Test					
	IN	OUT	Δ	IN	OUT	Δ	IN	OUT	Δ
Fan									

NOTES:

Project Name	Performed By:	Tech, Tech
Direct Drive Fans Less Than 1/6 HP (125W)	Date:	Month Year
	Project:	####

UNIT DATA

Designation	**Manufacturer**
Type of Unit	**Model Number**
Motor Horsepower	**Serial Number**

Location		Grille / Diffuser Data				Design		Initial			Final			Notes
Name	Room #	Type	Device	Size (in)	Area	FPM	CFM	FPM	CFM	%	FPM	CFM	%	
Exhaust														

UNIT DATA

Designation	**Manufacturer**
Type of Unit	**Model Number**
Motor Horsepower	**Serial Number**

Location		Grille / Diffuser Data				Design		Initial			Final			Notes
Name	Room #	Type	Device	Size (in)	Area	FPM	CFM	FPM	CFM	%	FPM	CFM	%	
Exhaust														

UNIT DATA

Designation	**Manufacturer**
Type of Unit	**Model Number**
Motor Horsepower	**Serial Number**

Location		Grille / Diffuser Data				Design		Initial			Final			Notes
Name	Room #	Type	Device	Size (in)	Area	FPM	CFM	FPM	CFM	%	FPM	CFM	%	
Exhaust														

NOTES:

Project Name

Performed By:	Tech, Tech
Date:	Month Year
Project:	####

MINIMUM OUTSIDE AIR BY TEMPERATURE - DIFFERENCE METHOD (RA - MA) / (RA - OSA)

Fan Unit	OSA	Initial					Final					
		RA °F	MA °F	OSA °F	% Design	% Actual	RA °F	MA °F	OSA °F	% Design	% Actual	Damper Position
	MIN											
	MAX											
		RA °F	MA °F	OSA °F	% Design	% Actual	RA °F	MA °F	OSA °F	% Design	% Actual	Damper Position
	MIN											
	MAX											
		RA °F	MA °F	OSA °F	% Design	% Actual	RA °F	MA °F	OSA °F	% Design	% Actual	Damper Position
	MIN											
	MAX											
		RA °F	MA °F	OSA °F	% Design	% Actual	RA °F	MA °F	OSA °F	% Design	% Actual	Damper Position
	MIN											
	MAX											
		RA °F	MA °F	OSA °F	% Design	% Actual	RA °F	MA °F	OSA °F	% Design	% Actual	Damper Position
	MIN											
	MAX											
		RA °F	MA °F	OSA °F	% Design	% Actual	RA °F	MA °F	OSA °F	% Design	% Actual	Damper Position
	MIN											
	MAX											
		RA °F	MA °F	OSA °F	% Design	% Actual	RA °F	MA °F	OSA °F	% Design	% Actual	Damper Position
	MIN											
	MAX											
		RA °F	MA °F	OSA °F	% Design	% Actual	RA °F	MA °F	OSA °F	% Design	% Actual	Damper Position
	MIN											
	MAX											
		RA °F	MA °F	OSA °F	% Design	% Actual	RA °F	MA °F	OSA °F	% Design	% Actual	Damper Position
	MIN											
	MAX											
		RA °F	MA °F	OSA °F	% Design	% Actual	RA °F	MA °F	OSA °F	% Design	% Actual	Damper Position
	MIN											
	MAX											

NOTES:

Project Name		Performed By:	Tech, Tech
		Date:	Month Year
PUMP SYSTEM:	Equipment Tag ID	Project:	####

UNIT / PUMP DATA

Manufacturer	Area Served
Model Number	Impeller Diameter (in)
Serial Number	Pump off Press. (Static)

MOTOR DATA

Manufacturer	Amperage
Horsepower	Voltage
RPM	Phase
Frame	Efficiency
Thermal Protection	Power Factor
Starter Type	Service Factor

OPERATIONAL DATA

Design	Initial Test	Final Test	
Pump Condition		ALL VALVES OPEN	
System ΔP (Psi)			
Pump GPM			
Pump RPM			
Amperage			
Voltage			
Brake HP			
Inlet Press.			
Outlet Press.			
Head (ft)			
Head (psig)			

NOTES:

Air & Hydronic Testing | Duct Leakage Testing
503-639-2538 | Info@Airbalancer.com
Serving Oregon, Washington, California, & Alaska

Project Name		Performed By:	Tech, Tech
		Date:	Month Year
PUMP SYSTEM:	Equipment Tag ID	Project:	####

Coil Measurement - Fixed and Adjustable Orifice

Element			Design	Initial Test				Final Test				Notes
ELEMENT	C.V. / ΔP	SIZE	GPM	Set Point	ΔP	GPM	%	Set Point	ΔP	GPM	%	
Type of Balancing Device												

NOTES:

Project Name		Performed By:	Tech, Tech
		Date:	Month Year
Fan System	**Equipment Tag ID**	Project:	####

Water Coil Performance

Location	Design Data		Actual			Results		Comments
Element Name	**CFM**	**ΔT**	**EWT**	**EAT**	**LAT**	**CFM%**	**Air ΔT**	

NOTES:

Project Name		Performed By:	Tech, Tech
		Date:	Month Year
PUMP SYSTEM:	Equipment Tag ID	Project:	####

Chiller Performance Sheet

UNIT DATA

Manufacturer	Evaporator Bundle Size
Model Number	Condensor Bundle Size
Serial Number	

TESTING DATA

	Balancing Device			Design		Initial				Final			
Chiller Tag	Condition	Type	Size (in)	ΔP (ft)	GPM	Set Point	ΔP (ft)	GPM	%	Set Point	ΔP (ft)	GPM	%

NOTES:

Project Name		Performed By:	Tech, Tech
		Date:	Month Year
FAN SYSTEM	Equipment Tag ID	Project:	####

Electric Heat Coil Performance

Location	Actual		Voltage			Amperage			Results			
Name	CFM	Phase	T1	T2	T3	T1	T2	T3	Kw	Stages	EAT	LAT

Single Phase = (Amperage * Voltage) / 1000 = Kw

Three Phase = (1.73 * Avg. Amperage * Avg. Voltage) / 1000 = Kw

NOTES:

PRECISION Test & Balance, Inc.
Air & Hydronic Testing | Duct Leakage Testing
503-639-2538 | Info@Airbalancer.com
Serving Oregon, Washington, California, & Alaska

NEBB

Project Name

Performed By:	Tech, Tech
Date:	Month Year
Project:	####

Fan System	
Leakage Class	
Duct Pressure Class	
Test Pressure (in WC)	

Witness By:

Signature:

Design Data		Allowable Leakage		Field Test Data				
Subject Duct	**Surface Area (FT^2)**	**Factor CFM/100FT^2**	**CFM (Test Section)**	**Orifice Diameter**	**Tube Diameter**	**Duct Pressure (in WC)**	**Actual CFM**	**Pass / Fail**

F=CL * PN F= MAX LEAKAGE (CFM/100FT^2) CL = LEAKAGE CLASS P= PRESSURE (in WC) N = EXPONENT (TYPICALLY 0.65)

NOTES: