



Development Services
We Help Build A Great City

CITY OF SACRAMENTO

www.cityofsacramento.org

Help Line: 1-916-808-5856 OR 1-866-EZ-PERMIT

Inspection Request: 1-916-808-7622

Downtown Permit Center
New City Hall
915 I Street, 3rd Floor
Sacramento, CA 95814

North Permit Center
2101 Arena Blvd., Suite 200
Sacramento, CA 95834

Permit No. 0602781
 Date Applied 03/01/2006
 Type Commercial
 Subtype Remodel
 Category Churches

Permit Address 3540 4TH AV
 SACRAMENTO CA
 Site Location

Parcel No: 01301430020000

Owner UNITED HOUSE OF PRAYER
 117 SEVENTH ST
 WASHINGTON, DC

Contractor HANDYMAN CONSTRUCTION
 P O BOX 246721
 SACRAMENTO, CA 95824
 427-1922
 741900

Valuation \$ 200,000.00

Fee Items	# of Each	Amount
Permit-Building-Com	1	\$1,756.70
Plan Ck-Building Com	1	\$1,421.30
Review-Fire Department	1	\$132.32
Strong Motion	1	\$42.00
City Business Oper Tax	1	\$80.00
Bldg-Technology Surcharge	1	\$127.12
General Plan Surcharge	1	\$118.00
Total		\$3,677.44

PAID
 CITY OF SACRAMENTO
 NOV 17 2006
 NEIGHBORHOODS PLANNING
 AND DEVELOPMENT SERVICES

LICENSED CONTRACTOR'S DECLARATION
 I hereby affirm under penalty of perjury that I am licensed under provisions of Chapter 9 (commencing with Section 7000) of Division 3 of the Business and Professions Code, and my license is in full force and effect.
 License Class: B License Number: 741900
 Date: 11-06 Contractor: BERNARD MOORE

OWNER-BUILDER DECLARATIONS
 I hereby affirm that I am exempt from the Contractor's License Law (C.L.L.) for the following reason (Sec. 7031.5.B&P Code: Any city or county which requires a permit to construct, alter, improve, demolish or repair any structure, prior to its issuance, also requires the applicant for such permit to file a signed statement that he/she is licensed pursuant to the provisions of C.L.L. Chapter 9 (commencing with Sec.7000) of Division 3 of the B&P Code) or that he/she is exempt there from and the basis for the alleged exemption. Any violation of Sec. 7031.5 by any applicant for a permit subjects the applicant to civil penalty of not more than five hundred dollars (\$500):

I, as owner of the property, or my employees with wages as their sole compensation, will do the work, and the structure is not intended or offered for sale (Sec. 7044 B&P Code: The C.L.L. does not apply to an owner of property who builds or improves thereon, and who does such work himself or through his own employees, provided that such improvements are not intended or offered for sale. If, however, the building or improvement is sold within one year of completion, the owner-builder will have the burden of proving that he did not build or improve for the purpose of sale.)

I, as owner of the property, am exclusively contracting with licensed contractor(s) to construct the project (Sec. 7044, B&P Code: The C.L.L. does not apply to an owner of property who holds or improves thereon, and who contracts for such projects with a contractor(s) licensed pursuant to the C.L.L.)

I am exempt under Sec. _____ B & P.C. for this reason:
 Date: _____ Owner: _____

WORKERS COMPENSATION DECLARATION
 I hereby affirm that I have a certificate of consent to self-insure, or a Certificate of Worker's Compensation Insurance, or a certified copy thereof (Sec 3800, Labor Code).
 Policy Number: _____ Company: _____
 Certified copy is hereby furnished.
 Certified copy is filed with the city building inspection department or city department.
11-06 BERNARD C MOORE

I certify that I have read this application and state that the above information is correct. I agree to comply with all city and county ordinances and state laws relating to construction. I hereby authorize representatives of this city to enter upon the above mentioned property for inspection purposes.
BERNARD C MOORE

Description of Work:
 RENOVATION REMODEL OF EXISTING BLDG.

THIS PERMIT SHALL EXPIRE BY LIMITATION IF WORK IS NOT COMMENCED WITHIN 180 DAYS.

CITY OF SACRAMENTO

30 DAY TEMPORARY

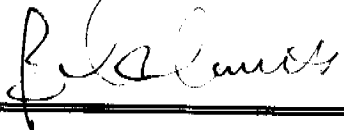
Certificate of Occupancy

For Information Contact (916) 808-5716

Building Address:	3540 4TH AV	Permit No.:	0602781
Site Location:	_____	Occupancy:	_____
Building Use:	Churches	Construction Type:	_____
Building Owner:	UNITED HOUSE OF PRAYER	Sprinkled?	No
		Area (sqft):	_____

Portion of Building Occupied: ENTIRE

Specific purpose for temporary occupancy and/or conditions/limitations of temporary occupancy:

08/29/2007 BRAD MARCHETTI  Carl Hefner
Date By: (Print) Sign ASSISTANT BUILDING OFFICIAL

CBC 109.4 TEMPORARY CERTIFICATE

If the Chief Building Official finds that no substantial hazard will result from occupancy of any building or portion thereof before the same is completed, a Temporary Certificate of Occupancy may be issued for the use of a portion or portions of a building or structure prior to the completion of the entire building or structure.

POST IN A CONSPICUOUS PLACE

0602781

2005 CERTIFICATE OF ACCEPTANCE	(Part 1 of 2)	LTG-1-A
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PROJECT NAME <i>United House of Prayer</i>	DATE <i>8-21-07</i>
PROJECT ADDRESS <i>3540 9th Avenue</i>	<small>Checked by Date Enforcement Agency Use</small>
TESTING AUTHORITY <i>KC Electrical</i>	

GENERAL INFORMATION

DATE OF BLDG. PERMIT	PERMIT #	BLDG. CONDITIONED FLOOR AREA <i>5600 sq ft</i>	CLIMATE ZONE
BUILDING TYPE	<input checked="" type="checkbox"/> NONRESIDENTIAL	<input type="checkbox"/> HIGH RISE RESIDENTIAL	<input type="checkbox"/> HOTEL/MOTEL GUEST ROOM
PHASE OF CONSTRUCTION	<input type="checkbox"/> NEW CONSTRUCTION	<input type="checkbox"/> ADDITION	<input checked="" type="checkbox"/> ALTERATION
<input type="checkbox"/> UNCONDITIONED			

STATEMENT OF ACCEPTANCE

This Certificate of Acceptance summarizes the results of the acceptance tests related to building lighting requirements per Title 24, Part 1 (10-103(b)) and Part 6. (Sections 119(d), 119(e), 131(d))

Please check one:

- I hereby affirm that I am eligible under the provisions of Division 3 of the Business and Professions Code to sign this document as the person responsible for its preparation; and that I am licensed in the State of California as a civil engineer or electrical engineer, or I am a licensed architect.
- I affirm that I am eligible under the exemption to Division 3 of the Business and Professions Code by Section 5537.2 or 6737.3 to sign this document as the person responsible for its preparation; and that I am a licensed contractor performing this work.
- I affirm that I am eligible under the exemption to Division 3 of the business and Professions Code to sign this document because it pertains to a structure or type of work described pursuant to Business and Professions Code sections 5537, 5538, and 6737.1.

(These sections of the Business and Professions Code are printed in full in the Nonresidential Manual.)

TESTING AUTHORITY - NAME <i>KC Electrical</i>	SIGNATURE <i>CA Colman</i>	DATE <i>8-21-07</i>	LIC.# <i>756864</i>
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INSTRUCTIONS TO APPLICANT

For Detailed instructions on the use of this and all Energy efficiency Standards acceptance forms, please refer to the Nonresidential Manual published by the California Energy Commission.

Part 1 of 2 - Statement of Acceptance

Part 2 of 2 - Summary of Acceptance Tests

2005 ACCEPTANCE REQUIREMENTS FOR CODE COMPLIANCE

Lighting Control Acceptance Document LTG-2-A
Form of

PROJECT NAME <i>United House of Prayer</i>	DATE <i>8-21-07</i>
PROJECT ADDRESS <i>3540 4th Avenue</i>	
TESTING AUTHORITY <i>KC Electrical</i>	
TELEPHONE <i>388 9774</i>	
LIGHTING CONTROL SYSTEM NAME / DESIGNATION <i>LCC</i>	

Intent: Lights are turned off when not needed per 119(d) & 131(d).

Construction Inspection

- 1 Instrumentation to perform test includes, but not limited to:
 - a. Light meter
 - b. Hand-held amperage and voltage meter
 - c. Power meter
- 2 Occupancy Sensor Construction Inspection
 - Occupancy sensor has been located to minimize false signals
 - Occupancy sensors do not encounter any obstructions that could adversely effect desired performance
 - Ultrasonic occupancy sensors do not emit audible sound (119a) 5 feet from source
- 3 Manual Daylighting Controls Construction Inspection
 - If dimming ballasts are specified for light fixtures within the daylit area, make sure they meet all the Standards requirements, including "reduced flicker operation" for manual dimming control systems
- 4 Automatic Time Switch Controls Construction Inspection
 - a. Automatic time switch control is programmed for (check all):
 - Weekdays
 - Weekend
 - Holidays
 - b. Document for the owner automatic time switch programming (check all):
 - Weekdays settings
 - Weekend settings
 - Holidays settings
 - Set-up settings
 - Preference program setting
 - Verify the correct time and date is properly set in the time switch
 - Verify the battery is installed and energized
 - Override time limit is no more than 2 hours

Certification Statement: I certify that all statements are true on this LTG-2-A form including the PASS/FAIL Evaluation.
I affirm I am eligible to sign this form under the provisions described in the Statement of Acceptance on form LTG-1-A

Name: *C A Colwell*
Company: *KC Electrical*
Signature: *CA Colwell* Date: *8-21-07*

2005 ACCEPTANCE REQUIREMENTS FOR CODE COMPLIANCE

Lighting Control Acceptance Document LTG-2-A
Form of

PROJECT NAME United House of Prayer DATE 8-21-07

A. Select Acceptance Test (Indicate lighting control systems Names/Designations by the applicable tests below)

- 1 Occupancy Sensor
- 2 Manual Daylighting Controls
- 3 Automatic Time Switch Controls

B. Equipment Testing Requirements	Applicable Lighting Control Systems		
	1	2	3
Check and verify those items applicable to selected system:			
Occupancy Sensor - Step 1: Simulate an unoccupied condition			
a. Lights controlled by occupancy sensors turn off within a maximum of 30 minutes from start of an unoccupied condition per Standard Section 119(d)	Y/N		
b. The occupant sensor does not trigger a false "on" from movement in an area adjacent to the controlled space or from HVAC operation	Y/N		
c. Signal sensitivity is adequate to achieve desired control	Y/N		
Step 2: Simulate an occupied condition			
a. Status indicator or annunciator operates correctly	Y/N		
b. Lights controlled by occupancy sensors turn on when immediately upon an occupied condition OR (this requirement is mutually exclusive with Step 2.c.)	Y/N		
c. Sensor indicates space is "occupied" and lights turn on manually	Y/N		
Step 3: System returned to initial operating conditions			
Y/N			
Manual Daylighting Controls - Step 1: Manual switching control			
a. At least 50% of lighting power in daylight areas is separately controlled from other lights		Y/N	
b. The amount of light delivered to the space is uniformly reduced		Y/N	
Step 2: System returned to initial operating conditions			
Y/N			
Automatic Time Switch Controls - Step 1: Simulate occupied condition			
a. All lights can be turned on and off by their respective area control switch			Y/N
b. Verify the switch only operates lighting in the ceiling-height partitioned area in which the switch is located			Y/N
Step 2: Simulate unoccupied condition			
a. All non-exempt lighting turn off per Section 131(d)1			Y/N
b. Manual override switch allows only the lights in the selected ceiling height partitioned space where the override switch is located, to turn on or remain on until the next scheduled shut off occurs			Y/N
c. All non-exempt lighting turns off			Y/N
Step 3: System returned to initial operating conditions			
Y/N			

Note: Shaded areas do not apply for particular test procedure

C. PASS / FAIL Evaluation (check one):

- PASS: All applicable Construction Inspection responses are complete and all applicable Equipment Testing Requirements responses are positive (Y - yes)
- FAIL: Any applicable Construction Inspection responses are incomplete OR there is one or more negative (N - no) responses in any applicable Equipment Testing Requirements section. Provide explanation below. Use and attach additional pages if necessary.

2005 ACCEPTANCE REQUIREMENTS FOR CODE COMPLIANCE

Automatic Daylighting Controls Acceptance Document		LTG-3-A
		Form of
PROJECT NAME <i>United House of Prayer</i>	DATE <i>8-21-07</i>	
PROJECT ADDRESS <i>3540 4th Avenue</i>		
TESTING AUTHORITY <i>KC Electrical</i>	TELEPHONE <i>388-9774</i>	
AUTOMATIC DAYLIGHTING CONTROL NAME/RESIGNATION Intent: <i>Verify operation of daylighting systems meet 119(e)2.</i>		

Construction Inspection

- 1 Instrumentation to perform test includes, but not limited to:
 - a. Light meter
 - b. Hand-held amperage and voltage meter
 - c. Power meter
- 2 Documentation of all control devices (photocells) have been properly located including:
 - a. Factory-calibrated (proof required)
 - Factory calibration certificate attached
 - b. Field-calibrated
 - Setpoint properly set
 - Lighting threshold
- 3 Documentation has been provided by the installer for:
 - Setpoints for each device
 - Settings for each device
 - Programming for each device
- 4 Luminaires controlled by automatic daylighting controls are only in daylit areas; and
 - Separately circuited for daylit areas by windows and daylit areas under skylights

Certification Statement: I certify that all statements are true on this LTG-3-A form including the PASS/FAIL Evaluation.

I affirm I am eligible to sign this form under the provisions described in the Statement of Acceptance on form LTG-1-A

Name:

CA Colwell

Company:

KC Electrical

Signature:

CA Colwell

Date:

8-21-07

2005 ACCEPTANCE REQUIREMENTS FOR CODE COMPLIANCE

Automatic Daylighting Controls Acceptance Document **LTG-3-A**
Form of

PROJECT NAME _____ DATE _____

- A. Control System (check all applicable systems and list lighting control systems Names/Designations)**
- 1 Continuous Dimming Control Systems
 - 2 Stepped Dimming Control Systems
 - 3 Stepped Switching Control Systems

N/A

 no daylight areas

B. Equipment Testing Requirements		Applicable Control System		
		1	2	3
Check and verify those applicable to specific simulation mode:				
Step 1: Simulate bright conditions				
a.	Measured lighting power at fully dimmed condition kW =			
b.	Rated lighting power at full light output kW =			
c.	Lighting power reduced by at least 50% in daylight area by windows and at least 65% in daylight areas under skylights.	Y/N		
d.	Only luminaires in daylight zone are affected by daylight control	Y/N	Y/N	Y/N
e.	Automatic daylight control system reduces the amount of light delivered to the space uniformly	Y/N		
f.	Dimming control system provides reduced flicker operation over the entire operating range per Standards Section 119(e)2.	Y/N		
g.	Lumen measurements in the space, location of measurements and specific device settings, program setting and other measurements are documented	Y/N	Y/N	Y/N
h.	Automatic daylight control system reduces the amount of light delivered to the space relatively uniformly as per Section 131(b)		Y/N	
i.	Lighting power reduced by at least 50% in daylight area by windows and at least 65% in daylight areas under skylights.		Y/N	Y/N
j.	Automatic daylight control system reduces the amount of light delivered to the space per manufacturer's specifications for power level versus light level		Y/N	Y/N
k.	Minimum time delay between step changes is 3 minutes to prevent short cycling		Y/N	
l.	Lighting power reduction is at least 50% under fully switched conditions per Standards Section 119(e)1			Y/N
m.	Single- or multiple-stepped switching controls provide a dead band of at least three minutes between switching threshold to prevent short cycling			Y/N
Step 2: Simulate dark conditions				
a.	Dimming control system provides reduced flicker operation over the entire operating range per Standards Section 119(e)2.	Y/N	Y/N	
b.	Lumen measurements in the space, location of measurements and specific device settings, program setting and other measurements are documented	Y/N	Y/N	Y/N
c.	Automatic daylight control system increases the amount of light delivered to the space uniformly	Y/N	Y/N	Y/N
d.	Minimum time delay between step changes is 3 minutes to prevent short cycling		Y/N	
e.	Single- or multiple-stepped switching controls provide a dead band of at least three minutes between switching threshold to prevent short cycling			Y/N
Step 3: System returned to initial operating conditions				
		Y/N	Y/N	Y/N

- C. PASS / FAIL Evaluation (check one):**
- PASS: All applicable Construction Inspection responses are complete and all applicable Equipment Testing Requirements responses are positive (Y - yes)
 - FAIL: Any applicable Construction Inspection responses are incomplete OR there is one or more negative (N - no) responses in any applicable Equipment Testing Requirements section. Attach additional pages with explanation.

TITLE 24 REPORT

D602781

Title 24 Report for:
UNITED HOUSE OF PRAYER
3540 4TH AVE.
SACRAMENTO, CA 95817

Project Designer:
SIGMA ENGINEERING
3517 MARCONI AVE. STE. # 204
SACRAMENTO, CA 95821
(916) 483-7343

Report Prepared By:

IAN HEIM
SIGMA ENGINEERING
3517 Marconi Avenue
Sacramento, CA 95821
(916) 483-7343

CITY OF SACRAMENTO
NORTH PERMIT
CENTER

MAR 01 2006

RECEIVED



*This set of plans and specifications must be kept on the job at all times and it is unlawful to make any changes or alterations from the same without written permission from the Building Inspection Division.
The approval of this plan and specification SHALL NOT be held to permit or approve the violation of any City Ordinance or State Law*

Job Number:

05177

Date:

2/22/2006

The EnergyPro computer program has been used to perform the calculations summarized in this compliance report. This program has approval and is authorized by the California Energy Commission for use with both the Residential and Nonresidential 2005 Building Energy Efficiency Standards.

This program developed by EnergySoft, LLC - www.energysoft.com.

CERTIFICATE OF COMPLIANCE

(Part 1 of 2) MECH-1-C

PROJECT NAME UNITED HOUSE OF PRAYER		DATE 2/22/2006
PROJECT ADDRESS 3540 4TH AVE. SACRAMENTO		Building Permit #
PRINCIPAL DESIGNER - MECHANICAL JOHN H. KAISER	TELEPHONE (916) 483-7343	
DOCUMENTATION AUTHOR SIGMA ENGINEERING	TELEPHONE (916) 483-7343	Checked by/Date Enforcement Agency Use

GENERAL INFORMATION

DATE OF PLANS	BUILDING CONDITIONED FLOOR AREA 3,883 Sq.Ft.	CLIMATE ZONE 12
BUILDING TYPE	<input checked="" type="checkbox"/> NONRESIDENTIAL <input type="checkbox"/> HIGH RISE RESIDENTIAL <input type="checkbox"/> HOTEL/MOTEL GUEST ROOM	
PHASE OF CONSTRUCTION	<input type="checkbox"/> NEW CONSTRUCTION <input type="checkbox"/> ADDITION <input checked="" type="checkbox"/> ALTERATION <input type="checkbox"/> UNCONDITIONED (File Affidavit)	
METHOD OF MECHANICAL COMPLIANCE	<input checked="" type="checkbox"/> PRESCRIPTIVE <input type="checkbox"/> PERFORMANCE	
PROOF OF ENVELOPE COMPLIANCE	<input checked="" type="checkbox"/> PREVIOUS ENVELOPE PERMIT <input type="checkbox"/> ENVELOPE COMPLIANCE ATTACHED	

STATEMENT OF COMPLIANCE

This Certificate of Compliance lists the building features and performance specifications needed to comply with Title 24, Parts 1 and 6 of the California Code of Regulations. This certificate applies only to building mechanical requirements.

The documentation preparer hereby certifies that the documentation is accurate and complete.

DOCUMENTATION AUTHOR IAN HEIM	SIGNATURE 	DATE 2/22/06
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The Principal Mechanical Designer hereby certifies that the proposed building design represented in this set of construction documents is consistent with the other compliance forms and worksheets, with the specifications, and with any other calculations submitted with this permit application. The proposed building has been designed to meet the mechanical requirements contained in the applicable parts of Sections 100, 101, 102, 110 through 115, 120 through 125, 142, 144, and 145.

- The plans & specifications meet the requirements of Part 6 (Sections 10-103a).
- The installation certificates meet the requirements of Part 6 (10-103a 3).
- The operation & maintenance information meets the requirements of Part 6 (10-103c).

Please check one: (These sections of the Business and Professions Code are printed in full in the Nonresidential Manual.)

- I hereby affirm that I am eligible under the provisions of Division 3 of the Business and Professions Code to sign this document as the person responsible for its preparation; and that I am licensed in the State of California as a civil engineer, or mechanical engineer or I am a licensed architect.
- I affirm that I am eligible under the exemption to Division 3 of the Business and Professions Code by Section 5537.2 or 6737.3 to sign this document as the person responsible for its preparation; and that I am a licensed contractor performing this work.
- I affirm that I am eligible under the exemption to Division 3 of the Business and Professions Code to sign this document because it pertains to a structure or type of work described pursuant to Business and Professions Code sections 5537, 5538, and 6737.1.

PRINCIPAL MECHANICAL DESIGNER - NAME JOHN H. KAISER	SIGNATURE 	DATE 2/22/06	LIC. # 31434
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MECHANICAL MANDATORY MEASURES

Indicate location on plans of Note Block for Mandatory Measures

M

INSTRUCTIONS TO APPLICANT

- MECH-1-C: Certificate of Compliance. Part 1, 2, 3 of 3 are required on plans for all submittals.
- MECH-2-C: Certificate of Compliance. Part 1, 2 of 2 are required for all submittals, but may be on plans.
- MECH-3-C: Certificate of Compliance are required for all submittals with mechanical ventilation, but may be on plans.
- MECH-4-C: Certificate of Compliance are required for all prescriptive submittals, but may be on on plans.
- MECH-5-C: Mechanical Equipment Details are required for all performance submittals.

AIR SYSTEM REQUIREMENTS

Part 1 of 2 **MECH-2-C**

PROJECT NAME **UNITED HOUSE OF PRAYER**

DATE **2/22/2006**

SYSTEM FEATURES

ITEM OR SYSTEM TAG(S)
Number of Systems

AIR SYSTEMS, Central or Single Zone		
F-1 THRU F-4		
4		

MANDATORY MEASURES

T-24
Section

Reference on Plans or Specification ¹

Heating Equipment Efficiency
Cooling Equipment Efficiency
Heat Pump Thermostat
Furnace Controls
Natural Ventilation
Minimum Ventilation
VAV Minimum Position Control
Demand Control Ventilation
Time Control
Setback and Setup Control
Outdoor Damper Control
Isolation Zones
Pipe Insulation
Duct Insulation

112(a)	93% AFUE		
112(a)	12.0 SEER / 10.6 EER		
112(b)	n/a		
112(c), 115(a)	n/a		
121(b)	Yes		
121(b)	1251 cfm		
121(c)	No		
121(c)	No		
121(c), 122(e)	Programmable Switch		
122(e)	Heating & Cooling Required		
122(f)	Auto		
122(g)	n/a		
123			
124	R-8.0		

PRESCRIPTIVE MEASURES

Calculated Heating Capacity $\times 1.43^2$
Proposed Heating Capacity ²
Calculated Sensible Cooling Capacity $\times 1.21^2$
Proposed Sensible Cooling Capacity ²
Fan Control
DP Sensor Location
Supply Pressure Reset (DDC only)
Simultaneous Heat/Cool
Economizer
Heating Air Supply Reset
Cooling Air Supply Reset
Duct Sealing for Prescriptive Compliance ³

144 (a & b)	239,628 btuh		
144 (a & b)	297,920 btuh		
144 (a & b)	325,160 btuh		
144 (a & b)	136,163 btuh		
144 (c)	Constant Volume		
144 (c)			
144 (c)	Yes		
144 (d)	No		
144 (e)	No Economizer		
144 (f)	Constant Temp		
144 (f)	Constant Temp		
144 (k)	No		

1: For each central and single zone air systems (or group of similar units) fill in the reference to sheet number and/or specification section and paragraph number where the required features are documented. If a requirement is not applicable, put "N/A" in the column.

2: Not required for hydronic heating and cooling. Either enter a value here or put in reference of plans and specifications per footnote 1.

3: Enter Yes if System is: Constant Volume, Single Zone; Serves < 5,000 sqft; Has > 25% duct in unconditioned space. Duct sealing is required for Prescriptive Compliance, see PERF-1 for performance method duct sealing requirements.

NOTES TO FIELD - For Building Department Use Only

MECHANICAL VENTILATION

MECH-3-C

PROJECT NAME UNITED HOUSE OF PRAYER

DATE 2/22/2006

MECHANICAL VENTILATION (Section 121(b)2)									PRESCRIPTIVE REHEAT LIMITATION (Section 144(d))				
A ZONE/SYSTEM	AREA BASIS			OCCUPANCY BASIS			VAV MINIMUM						
	B Condition Area (SF)	C CFM per Square Foot	D Min CFM by Area (B x C)	E Number of People	F CFM per Person	G Min CFM by Occupant (E x F)	H REQ'D V.A. Max of (D or G)	I Design Vent. Air CFM	J 30% of Design Zone Supply CFM	K B x 0.4 CFM/sq. ft.	L Max of Columns H, J, K or 300 CFM	M Design Min. Air Setpoint	N Transfer Air
ENTRY	57	0.15	9	0.6	15.0	9	9	9					
KITCHEN	314	0.15	47	1.6	30.0	47	47	47					
1ST FLR SUPPORT	958	0.15	144	9.6	15.0	144	144	144					
2ND FLR SUPPORT	63	0.15	9	0.6	15.0	9	9	9					
2ND FLR OFFICE	581	0.15	87	5.8	15.0	87	87	87					
SANCTUARY	1,008	1.07	1,079	67.5	7.5	504	1,079	504					575
CONFERENCE	902	0.50	451	60.4	7.5	451	451	451					
F-1 THRU F-4						Total	1,826	1,251					

C Minimum ventilation rate per Section 121, Table 121-A
 E Based on fixed seat or the greater of the expected number of occupants and 50% of the CBC occupant load for egress purposes for spaces without fixed seating.
 H Required Ventilation Air (REQ'D V.A.) is the larger of the ventilation rates calculated on and AREA or OCCUPANCY BASIS (column D or G).
 I Must be greater than or equal to H, or use Transfer Air (column N) to make up the difference.
 J Design fan supply cfm (Fan CFM) x 30%; or
 K Condition area (ft. sq.) x 0.4 cfm/ft. sq.; or
 L Maximum of Columns H, J, K, or 300 cfm
 M This must be less than or equal to Column L, and greater than or equal to the sum of Columns H + N.
 N Transfer air must be provided where the Required Ventilation Air (column H) is greater than the Design Minimum Air (column M). Where required, transfer air must be greater than or equal to the difference between the Required Ventilation Air (column H) and the Design Minimum Air (column M), column H - M.

PROJECT NAME UNITED HOUSE OF PRAYER	DATE 2/22/2006
--	-------------------

DESCRIPTION	Designer	Enforcement
Equipment and Systems Efficiencies		
<input checked="" type="checkbox"/> § 111 Any appliance for which there is a California standard established in the Appliance Efficiency Regulations will comply with the applicable standard.		
<input checked="" type="checkbox"/> § 115(a) Fan type central furnaces shall not have a pilot light.		
<input checked="" type="checkbox"/> § 123 Piping, except that conveying fluids at temperatures between 60 and 105 degrees Fahrenheit, or within HVAC equipment, shall be insulated in accordance with Standards Section 123.		
<input checked="" type="checkbox"/> § 124 Air handling duct systems shall be installed and insulated in compliance with Sections 601, 603 and 604 of the Uniform Mechanical Code.		
Controls		
§ 122(e) Each space conditioning system shall be installed with one of the following:		
<input checked="" type="checkbox"/> § 122(e)1A Each space conditioning system serving building types such as offices and manufacturing facilities (and all others not explicitly exempt from the requirements of Section 112 (d)) shall be installed with an automatic time switch with an accessible manual override that allows operation of the system during off-hours for up to 4 hours. The time switch shall be capable of programming different schedules for weekdays and weekends and have program backup capabilities that prevent the loss of the device's program and time setting for at least 10 hours if power is interrupted; or		
<input type="checkbox"/> § 122(e)1B An occupancy sensor to control the operating period of the system; or		
<input type="checkbox"/> § 122(e)1C A 4-hour timer that can be manually operated to control the operating period of the system.		
<input checked="" type="checkbox"/> § 122(e)2 Each space conditioning system shall be installed with controls that temporarily restart and temporarily operate the system as required to maintain a setback heating and/or a setup cooling thermostat setpoint.		
<input type="checkbox"/> § 122(g) Each space conditioning system serving multiple zones with a combined conditioned floor area more than 25,000 square feet shall be provided with isolation zones. Each zone: shall not exceed 25,000 square feet; shall be provided with isolation devices, such as valves or dampers, that allow the supply of heating or cooling to be setback or shut off independently of other isolation areas; and shall be controlled by a time control device as described above.		
<input checked="" type="checkbox"/> § 122(a&b) Each space conditioning system shall be controlled by an individual thermostat that responds to temperature within the zone. Where used to control heating, the control shall be adjustable down to 55 degrees F or lower. For cooling, the control shall be adjustable up to 85 degrees F or higher. Where used for both heating and cooling, the control shall be capable of providing a deadband of at least 5 degrees F within which the supply of heating and cooling is shut off or reduced to a minimum.		
<input checked="" type="checkbox"/> § 122(c) Thermostats shall have numeric setpoints in degrees Fahrenheit (F) and adjustable setpoint stops accessible only to authorized personnel.		
<input type="checkbox"/> § 112(b) Heat pumps shall be installed with controls to prevent electric resistance supplementary heater operation when the heating load can be met by the heat pump alone.		
EnergyPro By EnergySoft User Number: User Job Number: 05177 Page:9 of 10		

CIRCO System Balance, Inc.

Contractor License #624117

AIR - HYDRONIC - TEMPERATURE - SOUND - SYSTEM SURVEY
4100 FLORIN-PERKINS RD. SACRAMENTO, CA. 95826 (916) 387-5100 FAX (916) 387-5101

October 16, 2007
Circo # 1007-186-B1

PROJECT: United House of Prayer
LOCATION: 3549 4th Avenue
Sacramento, California
ARCHITECT: Harrell Architectural Group
ENGINEER: Sigma Engineering
DESCRIPTION: Perform air balance of four new
AC systems.

Comments

~~Space constraints prohibited installation of the~~ ^{MGM}
Cooling coils were intended to be installed at the discharge
(blow-through position) of each fan/furnace unit. There is
insufficient space for installing coils at this position. Due to
space constraints cooling coils are installed on the inlet side
(draw-through position) of each fan/furnace unit.

Tests performed by Matt Murphy & Mike Vanlaningham

Report prepared By: Matt Murphy

Matt Murphy

INDEPENDENT BALANCING SINCE 1963

REMARKS

AIRFLOW AT CEILING MOUNTED SUPPLY OUTLETS AND RETURN/EXHAUST INLETS WAS DETERMINED BY AIRFLOW MEASUREMENTS PERFORMED WITH AN ALNOR FLOWHOOD.

EXPOSED DUCT & SIDEWALL MOUNTED SUPPLY OUTLET AND RETURN/EXHAUST INLET AIRFLOWS WERE DETERMINED BY VELOCITY MEASUREMENTS PERFORMED WITH A DAVIS INSTRUMENTS 6000 SERIES DIGITAL ROTATING VANE ANEMOMETER. VELOCITY (FPM) VALUES SHOWN REPRESENT THE AVERAGE OF MULTIPPOINT TRAVERSE.

AREA FACTORS WERE DETERMINED FROM CORE AREA DIMENSIONS. AN ALLOWANCE WAS TAKEN FOR BLADE AREA.

THE SCHEMATIC LOCATED BEHIND THE TEST DATA IS KEYED (MARKED-UP) TO CORRESPOND WITH INLET & OUTLET DESIGNATIONS USED THROUGHOUT THIS REPORT.

DESIGNATIONS USED IN THIS REPORT INCLUDE:

CD	=	CEILING DIFFUSER
SS	=	SIDEWALL SUPPLY
CR	=	CEILING RETURN
SR	=	SIDEWALL RETURN
CE	=	CEILING EXHAUST

FAN TEST SHEET

AREA SERVED _____ UNIT FC-1

MOTOR NAMEPLATE DATA

MFG X X FR 48
HP X V 115 FLA 4
PH 1 SF 1

UNIT/FAN NAMEPLATE DATA

MFG _____ **CARRIER**
MODEL # _____ **58MXA080-16**
TYPE _____ **DWDL, FC**

DATA	TEST 1	TEST 2	TEST 3
VOLTS		117	
AMPS		9.7	
B.H.P.			
DIRECT DRIVE			
SPEED		High	
S.P. -		0.20	
S.P. +		2.26	
T.S.P.		0.46	
CFM TOTAL		1575	
CFM R.A.		960	
CFM O.A.		310	

FAN DESIGN DATA

CFM 1575 ESP 0.5"
MIN. O.A. 475

ROOM	OPENING			FACTOR	DESIGN		TEST 1		TEST 2		TEST 3	
	NO.	TYPE	SIZE		FPM	CFM	FPM	CFM	FPM	CFM	FPM	CFM
	1	SJ	20x12	1.39		475			271	377		
	2	S	/	/		/			312	434		
	3	S	/	/		/			316	439		
	4	CD	12x12	1.0		360				220		
						1575				1575		
	R1	SR	20x20			850				960		
	R2	CR	10x10			250			not installed			
						1100				960		

REMARKS: * Motor nameplate not accessible, Typical all units.

FAN TEST SHEET

AREA SERVED _____ UNIT FC-2

MOTOR NAMEPLATE DATA

MFG ☒ FR 48
HP 30 V 115 FLA ☒
PH 1 SF 1

UNIT/FAN NAMEPLATE DATA

MFG _____ CARRIER _____
MODEL # 58MXA080-16
TYPE DWDI, FC

DATA	TEST 1	TEST 2	TEST 3
VOLTS		<u>117</u>	
AMPS		<u>5.9</u>	
B.H.P.			
DIRECT DRIVE			
SPEED		<u>High</u>	
S.P. -		<u>0.74</u>	
S.P. +		<u>0.35</u>	
T.S.P.		<u>0.49</u>	
CFM TOTAL		<u>1463</u>	
CFM R.A.		<u>970</u>	
CFM O.A.		<u>493</u>	

FAN DESIGN DATA

CFM 1575 ESP 0.5"
MIN. O.A. 475

ROOM	OPENING			FACTOR	DESIGN		TEST 1		TEST 2		TEST 3	
	NO.	TYPE	SIZE		FPM	CFM	FPM	CFM	FPM	CFM	FPM	CFM
M222	5	CD	10x10	1.0		250						185
	6	ST	20x12	1.39		425			506			425
	7	/	/	/		/			297			413
	8	/	/	/		/			307			470
						<u>1525</u>						<u>1463</u>
M222	R3	CR	10x10	1.0		200						150
	R4	CR	20x20			850						800
						<u>1050</u>						<u>970</u>

REMARKS: Motor nameplate not accessible

FAN TEST SHEET

AREA SERVED _____ UNIT FC-3

MOTOR NAMEPLATE DATA

MFG W FR 48
HP 3 V 115 FLA 2
PH 1 SF 1

UNIT/FAN NAMEPLATE DATA

MFG _____ **CARRIER**
MODEL # 58MXA080-16
TYPE DWDL, FC

DATA	TEST 1	TEST 2	TEST 3
VOLTS		<u>117</u>	
AMPS		<u>5.6</u>	
B.H.P.			
DIRECT DRIVE			
SPEED		<u>High</u>	
S.P. -		<u>0.20</u>	
S.P. +		<u>0.32</u>	
T.S.P.		<u>0.52</u>	
CFM TOTAL		<u>1287</u>	
CFM R.A.		<u>795</u>	
CFM O.A.		<u>492</u>	

FAN DESIGN DATA

CFM 1450 ESP 0.5"
MIN. O.A. 475

ROOM	OPENING			FACTOR	DESIGN		TEST 1		TEST 2		TEST 3	
	NO.	TYPE	SIZE		FPM	CFM	FPM	CFM	FPM	CFM	FPM	CFM
<u>Kitchen</u>	<u>9</u>	<u>CD</u>	<u>10x10</u>	<u>1.0</u>		<u>300</u>					<u>190</u>	
	<u>10</u>	<u>JS</u>	<u>20x12</u>	<u>1.39</u>		<u>425</u>			<u>321</u>	<u>446</u>		
	<u>11</u>	<u>T</u>	<u>5</u>	<u>1</u>		<u>5</u>			<u>317</u>	<u>491</u>		
	<u>12</u>	<u>CD</u>	<u>12x8</u>	<u>1.0</u>		<u>300</u>					<u>210</u>	
						<u>1450</u>				<u>1287</u>		
	<u>R5</u>	<u>SR</u>	<u>22x22</u>			<u>975</u>				<u>795</u>		
	<u>R6</u>	<u>SR</u>	<u>20x20</u>			<u>850</u>			<u>Not installed</u>			

REMARKS: Motor nameplate not accessible. Fan operation at High Speed. Airflow at maximum.

FAN TEST SHEET

AREA SERVED _____ UNIT FC-4

MOTOR NAMEPLATE DATA

MFG GE FR 48
 HP 1 V 115 FLA 4
 PH 1 SF 1

UNIT/FAN NAMEPLATE DATA

MFG _____ CARRIER
 MODEL # _____ 58MXA080-16
 TYPE _____ DWDL, FC

DATA	TEST 1	TEST 2	TEST 3
VOLTS		47	
AMPS		5.8	
B.H.P.			
DIRECT DRIVE			
SPEED		High	
S.P. -		0.19	
S.P. +		0.20	
T.S.P.		0.49	
CFM TOTAL		1233	
CFM R.A.		720	
CFM O.A.		513	

FAN DESIGN DATA

CFM 1450 ESP 0.5"
 MIN. O.A. 475

ROOM	OPENING			FACTOR	DESIGN		TEST 1		TEST 2		TEST 3	
	NO.	TYPE	SIZE		FPM	CFM	FPM	CFM	FPM	CFM	FPM	CFM
	14	⊙	20x12	1.37		425			295	396		
	15	⊙	12x12	1.0		300			311	432		
	16	⊙	10x10	1.0		250				215		
	17	⊙	10x10	1.0		250				190		
						1450				1233		
	18	SR	14x14	1.0		475				530		
	19	CR	10x10	1.0		200				190		
						1075				720		

REMARKS: * motor nameplate not accessible - fan operating at high speed - all flow at maximum

PROJECT NAME UNITED HOUSE OF PRAYER	DATE 2/22/2006
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Description	Designer	Enforcement
Ventilation		
<input checked="" type="checkbox"/> § 121(e) Controls shall be provided to allow outside air dampers or devices to be operated at the ventilation rates as specified on these plans.		
<input checked="" type="checkbox"/> § 122(f) Gravity or automatic dampers interlocked and closed on fan shutdown shall be provided on the outside air intakes and discharges of all space conditioning and exhaust systems.		
<input checked="" type="checkbox"/> § 122(f) All gravity ventilating systems shall be provided with automatic or readily accessible manually operated dampers in all openings to the outside, except for combustion air openings.		
<input type="checkbox"/> § 121(f)1 Air Balancing: The system shall be balanced in accordance with the National Environmental Balancing Bureau (NEBB) Procedural Standards (1983), or Associated Air Balance Council (AABC) National Standards (1989); or		
<input checked="" type="checkbox"/> § 121(f)2 Outside Air Certification: The system shall provide the minimum outside air as shown on the mechanical drawings, and shall be measured and certified by the installing licensed C-20 mechanical contractor and certified by (1) the design mechanical engineer, (2) the installing licenced C-20 mechanical contractor, or (3) the person with overall responsibility for the design of the ventilation system; or		
<input type="checkbox"/> § 121(f)3 Outside Air Measurement: The system shall be equipped with a calibrated local or remote device capable of measuring the quantity of outside air on a continuous basis and displaying that quantity on a readily accessible display device; or		
<input type="checkbox"/> § 121(f)4 Another method approved by the Commission.		
Service Water Heating Systems		
<input checked="" type="checkbox"/> § 113(b)2 If a circulating hot water system is installed, it shall have a control capable of automatically turning off the circulating pump(s) when hot water is not required.		
<input checked="" type="checkbox"/> § 113(b)3B Lavatories in restrooms of public facilities shall be equipped with controls to limit the outlet temperature to 110 degrees F.		
<input checked="" type="checkbox"/> § 113(b)3C Lavatories in restrooms of public facilities shall be equipped with one of the following: Outlet devices that limit the flow of hot water to a maximum of 0.5 gallons per minute. Foot actuated control valves, and outlet devices that limit the flow of hot water to a maximum of 0.75 gallons per minute. Proximity sensor actuated control valves, and outlet devices that limit the flow of hot water to a maximum of 0.75 gallons per minute. Self-closing valves, and outlet devices that limit the flow of hot water to a maximum of 2.5 gallons per minute, and 0.25 gallons/cycle (circulating system). Self-closing valves, and outlet devices that limit the flow of hot water to a maximum of 2.5 gallons per minute, and 0.50 gallons/cycle (non-circulating system). Self-closing valves, and outlet devices that limit the flow of hot water to a maximum of 2.5 gallons per minute, and 0.75 gallons/cycle (foot switches and proximity sensor controls).		
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MECHANICAL SIZING AND FAN POWER

MECH-4-C

PROJECT NAME UNITED HOUSE OF PRAYER	DATE 2/22/2006
SYSTEM NAME F-1 THRU F-4	FLOOR AREA 3,883

FAN POWER CONSUMPTION

A FAN DESCRIPTION	B DESIGN BRAKE HP	C EFFICIENCY		D DRIVE	E NUMBER OF FANS	F PEAK WATTS B x E x 746 / (C x D)
		MOTOR	DRIVE			
		Supply Fan	0.500			

FILTER PRESSURE ADJUSTMENT EQUATION 144-A

A) If filter pressure drop is greater than 1 inch W.C. enter filter pressure drop. SPa on line 4 and Total Fan pressure SPf on Line 5.

B) Calculate Fan Adjustment and enter on Line 6.

C) Calculate Adjusted Fan Power Index and enter on Line 7.

1) TOTAL FAN SYSTEM POWER (Watts, Sum Column F)	1,923
2) SUPPLY DESIGN AIRFLOW (CFM)	6,400
3) TOTAL FAN SYSTEM POWER INDEX (Row 1/Row 2)	
4) SPa	
5) SPf	
6) Fan Adjustment = 1-(SPa - 1)/SPf	
7) ADJUSTED FAN POWER INDEX (Line 3 x Line 6)	0.300

1. TOTAL FAN SYSTEM POWER INDEX or ADJUSTED FAN POWER INDEX must not exceed 0.8 W/cfm for CV systems or 1.25 W/cfm for VAV systems.

ITEM or SYSTEM TAG(S)

PRESCRIPTIVE MEASURES	T-24 Section	Reference on Plans or Specification ¹			
	Electric Resistance Heating ²	144 (g)			
Heat Rejection System ³	144 (h)				
Air Cooled Chiller Limitation ⁴	144 (i)				

1. Fill in the reference to sheet number and/or specification section and paragraph number where the required are documented. If a requirement is not applicable, put "N/A" in the column.

2. Total installed capacity (MBtu/hr) of all electric heat on this project exclusive of electric auxiliary heat for heat pumps. If electric heat is used, explain which exception(s) to Section(g) apply.

3. Are centrifugal fan cooling towers used on this project? (Enter "Yes" or "No") If centrifugal fan cooling tower are used, explain which exception(s) to Section 144(h) apply.

4. Total installed capacity (tons) of all water and air cooled chillers under this permit. If there are more than 100 tons of air-cooled chiller capacity being installed, explain which exception(s) to Section 144(i) apply.

WATER SIDE SYSTEM REQUIREMENTS

Part 2 of 2 **MECH-2-C**

PROJECT NAME UNITED HOUSE OF PRAYER	DATE 2/22/2006
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SYSTEM FEATURES

ITEM OR SYSTEM TAG(S)	2 WATER SIDE SYSTEMS: Chillers, Towers, Boilers, Hydronic Loops		
Number of Systems			
MANDATORY MEASURES	T-24 Section	Reference on Plans or Specification	
Equipment Efficiency	112(a)		
Pipe Insulation	123		
PRESCRIPTIVE MEASURES			
Calculated Capacity	144 (a & b)		
Proposed Capacity	144 (a & b)		
Tower Fan Controls	144 (h)		
Tower Flow Controls	144 (h)		
Variable Flow System Design	144 (j)		
Chiller and Boiler Isolation	144 (i)		
CHW and HHW Reset Controls	144 (j)		
WLHP Isolation Valves	144 (i)		
VSD on CHW, CW & WLHP Pumps > 5 HP	144 (j)		
DP Sensor Location	144 (j)		

1: For each chiller, cooling tower, boiler, and hydronic loop (or groups of similar equipment) fill in the reference to sheet number and/or specification section and paragraph number where the required features are documented. If a requirement is not applicable, put "N/A" in the column.
 2: Water side systems include wet side system using other liquids such as glycol or brine.

ITEM OR SYSTEM TAG(S)	Service Hot Water, Pool Heating		
Number of Systems	DHW Heater		
	1		
MANDATORY MEASURES		Reference on Plans or Specification	
Water Heater Certification	113 (a)	Standard Gas 50 gal or Less	
Water Heater Efficiency	113 (b)	78%	
Service Water Heating Installation	113 (c)		
Pool and Spa Efficiency and Control	114 (a)	n/a	
Pool and Spa Installation	114 (b)	n/a	
Pool Heater - No Pilot Light	115 (c)	n/a	
Spa Heater - No Pilot Light	115 (d)	n/a	

1: For each water heater, pool heat and domestic water loop (or groups of similar equipment) fill in the reference to sheet number and/or specification section and paragraph number where the required features are documented. If a requirement is not applicable, put "N/A" in the column.

NOTES TO FIELD - For Building Department Use Only

CERTIFICATE OF COMPLIANCE

(Part 2 of 2) MECH-1-C

PROJECT NAME UNITED HOUSE OF PRAYER	DATE 2/22/2006
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Designer:

This form is to be used by the designer and attached to the plans. Listed below are all the acceptance tests for mechanical systems. The designer is required to check the boxes by all acceptance tests that apply and list all equipment that requires an acceptance test. If all equipment of a certain type requires a test, list the equipment description and the number of systems to be tested in parentheses. The NJ number designates the Section in the Appendix of the Nonresidential ACM Manual that describes the test. Also indicate the person responsible for performing the tests (i.e. the installing contractor, design professional or an agent selected by the owner). Since this form will be part of the plans, completion of this section will allow the responsible party to budget for the scope of work appropriately.

Building Departments:

SYSTEM ACCEPTANCE. Before an occupancy permit is granted for a newly constructed building or space, or a new space-conditioning system serving a building or space is operated for normal use, all control devices serving the building or space shall be certified as meeting the Acceptance Requirements for Code Compliance.

In addition a Certificate of Acceptance, MECH-1-A Form shall be submitted to the building department that certifies plans, specifications, installation certificates, and operating and maintenance information meet the requirements of Section 10-103(b) and Title 24 Part 6.

STATEMENT OF COMPLIANCE	
<input checked="" type="checkbox"/> MECH-2-A: Ventilation System Acceptance Document -Variable Air Volume Systems Outdoor Air Acceptance -Constant Air Volume Systems Outdoor Air Acceptance Equipment requiring acceptance testing <u>F(4)</u>	Contractor
<input type="checkbox"/> MECH-3-A: Packaged HVAC Systems Acceptance Document Equipment requiring acceptance testing _____	
<input type="checkbox"/> MECH-4-A: Air Distribution Acceptance Document Equipment requiring acceptance testing _____	
<input type="checkbox"/> MECH-5-A: Air-Side Economizer Acceptance Document Equipment requiring acceptance testing _____	
<input type="checkbox"/> MECH-6-A: Demand Control Ventilation Acceptance Document Equipment requiring acceptance testing _____	
<input type="checkbox"/> MECH-7-A: Supply Fan Variable Flow Control Acceptance Document Equipment requiring acceptance testing _____	
<input type="checkbox"/> MECH-8-A: -Hydronic System Control Acceptance Document -Variable Flow Controls -Automatic Isolation Con-trols -Water-loop Heat Pump Controls -Variable Frequency Controls Equipment requiring acceptance testing _____	

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