

CITY OF SACRAMENTO
1231 I Street, Sacramento, CA 95814

Permit No: 0611089
Insp Area: 3
Thos Bros: 317F2

Site Address: 4055 32ND ST SAC
Parcel No: 020-0043-018

Sub-Type: NSFR
Housing (Y/N): N

CONTRACTOR

OWNER
PAVEL RIIBCHENKO
7857 GOLDENM RING WY
ANTELOPE, CA 95843

ARCHITECT

Nature of Work: NEW SFR, 1480 SQ FT LIVING SPACE, 337 SQ FT GARAGE, 75 SQ FT PORCH--IN DESIGN REVIEW AREA--

CONSTRUCTION LENDING AGENCY : I hereby affirm under penalty of perjury that there is a construction lending agency for the performance of the work for which this permit is issued (Sec. 3097, Civ. C).

Lender's Name _____ Lender's Address _____

LICENSED CONTRACTORS 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 _____ License Number _____ Date _____ Contractor Signature _____

OWNER-BUILDER DECLARATION: I hereby affirm under penalty of perjury that I am exempt from the contractors License Law for the following reason (Sec. 7031.5, Business and Professions 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 or she is licensed pursuant to the provisions of the Contractors License Law (Chapter 9 (commencing with Section 7000) of Division 8 of the Business and Professions Code) or that he or she is exempt therefrom and the basis for the alleged exemption. Any violation of Section 7031.5 by any applicant for a permit subjects the applicant to a civil penalty of not more than five hundred dollars (\$500.00);

I, as a 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, Business and Professional Code: The Contractors License Law does not apply to an owner of property who builds or improves thereon, and who does such work himself or herself or through his/her 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/she did not build or improve for the purpose of sale.)

_____, I, as owner of the property, am exclusively contracting with licensed contractors to construct the project (Sec. 7044, Business and Professions Code: The Contractors License Law does not apply to an owner of property who builds or improves thereon, and who contracts for such projects with a contractor(s) licensed pursuant to the Contractors License Law).

_____, I am exempt under Sec. _____ B & PC for this reason: _____

Date 08/17/06 Owner Signature [Signature]

IN ISSUING THIS BUILDING PERMIT, the applicant represents, and the city relies on the representation of the applicant, that the applicant verified all measurements and locations shown on the application or accompanying drawings and that the improvement to be constructed does not violate any law or private agreement relating to permissible or prohibited locations for such improvements. This improvement does not authorize any illegal location of any improvement or the violation of any private agreement relating to location of improvements.

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

Date 08/17/06 Applicant/Agent Signature [Signature]

WORKER'S COMPENSATION DECLARATION: I hereby affirm under penalty of perjury one of the following declarations:

_____, I have and will maintain a certificate of consent to self-insure for workers' compensation as provided for by Section 3700 of the Labor Code, for the performance of work for which the permit is issued.

_____, I have and will maintain workers' compensation insurance, as required by Section 3700 of the Labor Code, for the performance of the work for which this permit is issued. My workers' compensation insurance carrier and policy number are:

Carrier _____ Policy Number _____ Exp Date _____

(This section need not be completed if the permit is for \$100 or less) I certify that in the performance of the work for which this permit is issued, I shall not employ any person in any manner so as to become subject to the workers' compensation laws of California and agree that if I should become subject to the workers' compensation provisions of Section 3700 of the Labor Code, I shall forthwith comply with those provisions.

Date 08/17/06 Applicant Signature [Signature]

WARNING: FAILURE TO SECURE WORKER'S COMPENSATION COVERAGE IS UNLAWFUL AND SHALL SUBJECT AN EMPLOYER TO CRIMINAL PENALTIES AND CIVIL FINES UP TO ONE HUNDRED THOUSAND DOLLARS (\$100,000) IN ADDITION TO THE COST OF COMPENSATION, DAMAGES AS PROVIDED FOR IN SECTION 3706 OF THE LABOR CODE, INTEREST AND ATTORNEY'S FEE.

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



CITY OF SACRAMENTO

www.cityofsacramento.org

Help Line: 1-916-808-5656 OR 1-866-EZ-PERMIT
Inspection: 1-916-808-7622

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

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

OWNER BUILDER VERIFICATION

1. Check one below - I or my immediate family (parent, spouse, or child) will perform:

- A - all the work authorized by this permit.
- B - a portion of the work.
- C - none of the work.

If B or C is checked, complete 2 or 3 below.

2. A State licensed contractor (*) will be hired to do:

- all of the authorized work.
- a portion of the authorized work.

Name _____ Phone _____
Address _____
Type of Work _____

Name _____ Phone _____
Address _____
Type of Work _____

Name _____ Phone _____
Address _____
Type of Work _____

Name _____ Phone _____
Address _____
Type of Work _____

3. I will utilize unlicensed person(s) other than my immediate family to perform all or portions of the authorized work. A Certificate of Workers Compensation must be on file at this office.

I declare under penalty of perjury that the above is true and correct. I have read and understand the owner-builder information on the reverse side of this form.

Signed: Property Owner PAVEL RYBCHENKO _____
(Printed name) (Signature)
Date 8-17-06 Case No. _____ Permit No. 0611089
Job Address 4055 32nd St

Note: * Information regarding unknown contractors or change in subcontractors shall be submitted to the Building Inspection field office.

Downtown Permit Center
1231 J Street, Suite 200
Sacramento, CA 95814
Help Line: 1-916-264-5656

CITY OF SACRAMENTO
DEVELOPMENT SERVICES DEPARTMENT
BUILDING DIVISION
www.cityofsacramento.org

North Permit Center
2101 Arena Blvd., Suite 200
Sacramento, CA 95834
Inspection: 1-916-808-4677

SITE DRAINAGE AND ENCROACHMENT QUESTIONNAIRE

PARCEL # 020 - 0043 - 018 PERMIT # 0611089
SITE ADDRESS 4055 32nd Street ACREAGE 62.00 SQ. FT.

The City of Sacramento requires a building site to be graded to drain correctly and site drainage routed to an approved location. To help us understand the site drainage for your project and determine if a driveway permit or an encroachment permit is required please answer the following questions. All questions must be answered.

1. Are there existing structures on the site? Y N
2. Is there an existing concrete or paved driveway to this parcel from the street? Y N
3. Will the existing access to this parcel be changed in any way for this project? *Y N
4. Are all portions of the lot higher than the crown of the street? Y *N
5. Are all portions of the lot higher than the back of the sidewalk? Y *N
6. Is there a curb and gutter at the street level? Y N
7. Is there a sidewalk with a curb and gutter at the street? Y N
8. Is the curb at the street square? *Y N N/A
9. Is there a rolled curb at the street? *see detail* Y N N/A
10. Is there a drainage ditch or culvert at the street? Y *N N/A
11. Does the lot drain from back to front? Y *N
12. Does the lot drain from front to rear? Y N
13. Does another lot drain across this parcel? *Y N
14. Does the lot drain from side to side? *Y N
15. Does the site have an existing low area or drainage swale? *Y N
16. Does the drainage swale drain to an adjacent parcel? *Y N N/A
17. Does the drainage swale drain to the street? Y *N N/A
18. Will existing drainage be re-routed? *Y N
19. Will drainage ditches or culverts be constructed or modified? *Y N N/A
20. Did this project require approval from the Zoning Administrator? *Y N
21. Did the project require approval from the Planning Administrator? *Y N

SITE DRAINAGE AND ENCROACHMENT QUESTIONNAIRE

- | | | |
|---|----|---|
| 22. Is there any tree, telephone pole, guy wire or similar obstruction located at the front of the property adjacent to the street or road? | *Y | <input checked="" type="radio"/> N |
| 23. Is this a corner lot? | *Y | <input checked="" type="radio"/> N |
| 24. Is the posted speed limit on this street greater than 25 MPH? | *Y | <input checked="" type="radio"/> N |
| 25. Is this parcel located on a four-lane street? | *Y | <input checked="" type="radio"/> N |
| 26. If site is greater than 1/2 acre has an erosion and sediment control plan been submitted? | Y | *N <input checked="" type="radio"/> N/A |
| 27. If site disturbs 1 acre or more has a copy of the State General Permit NOI and SWPPP been submitted? | Y | *N <input checked="" type="radio"/> N/A |
| 28. If site is part of a larger subdivision greater than 1 acre has a copy of the State General Permit NOI and SWPPP been submitted? | Y | *N <input checked="" type="radio"/> N/A |

CIRCLE THE DRAWING NUMBER BELOW THAT BEST ILLUSTRATES THE EXISTING CONDITION AT THE LOCATION OF THE PROPOSED DRIVEWAY OR SITE ACCESS.

#1) NO CURB, CUTTER OR SIDEWALK



#2) SIDEWALK



#3) SIDEWALK



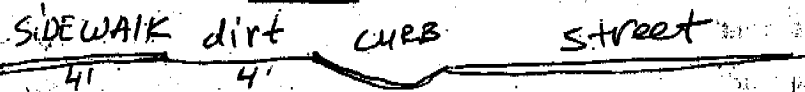
#4) NO SIDEWALK

DITCH WITH CULVERT

ROAD



**#5 OTHER
PROVIDE
DETAIL HERE**



The information provided on this document is accurate. I understand that if this form is incomplete, contains inaccurate or misleading information, the project located at this address may be delayed until any drainage or encroachment issues are resolved to the satisfaction of the City of Sacramento.

SIGNED

M. [Signature]

DATE

08.10.06

TITLE

PHONE NO.

(916) 947-6202

TITLE 24 REPORT

Title 24 Report for:
4055 32nd STREET
4055 32nd STREET
SACRAMENTO, CA 95820

Project Designer:
Leshchik N.

Report Prepared By:
Edward F
Feitse Sons Construction
1220 Melody Lane Suite 110
Roseville, CA 95678
(916) 784-3006

*REVISED title 24 for
0611 089 8-28-06*

Job Number:

JOB COPY **Date:**
8/25/2006



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. Approved By: *[Signature]*

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.

TABLE OF CONTENTS

| | |
|---|----|
| Cover Page | 1 |
| Table of Contents | 2 |
| Form CF-1R Certificate of Compliance | 3 |
| Form MF-1R Mandatory Measures Summary | 7 |
| Form WS-5R Residential Kitchen Lighting | 9 |
| HVAC System Heating and Cooling Loads Summary | 10 |
| Room Load Summary | 11 |
| Room Heating Peak Loads | 12 |
| Room Cooling Peak Loads | 13 |
| Form ECON-1 Energy Use and Cost Summary | 14 |

Certificate Of Compliance : Residential

(Part 1 of 4) **CF-1R**

4055 32nd STREET

8/25/2006

Project Title

4055 32nd STREET SACRAMENTO

Project Address

(916) 784-3006

Feitse Sons Construction

Telephone

Documentation Author

12

EnergyPro

Climate Zone

Compliance Method

Date

Building Permit #

Plan Check/Date

Field Check/Date

| TDV (kBtu/sf-yr) | Standard Design | Proposed Design | Compliance Margin |
|--------------------|-----------------|-----------------|-------------------|
| Space Heating | 17.29 | 16.61 | 0.68 |
| Space Cooling | 9.45 | 8.98 | 0.47 |
| Fans | 2.32 | 2.95 | -0.63 |
| Domestic Hot Water | 14.18 | 12.64 | 1.54 |
| Pumps | 0.00 | 0.00 | 0.00 |
| Totals | 43.24 | 41.18 | 2.07 |
| | | | 4.8% |

Percent better than Standard:

BUILDING COMPLIES - HERS VERIFICATION REQUIRED

| | | | | | |
|-----------------------------|---|---|-------------------------------|---------------------------|-----------------------|
| Building Type: | <input checked="" type="checkbox"/> Single Family | <input type="checkbox"/> Addition | Total Conditioned Floor Area: | 1,480 ft ² | |
| | <input type="checkbox"/> Multi Family | <input type="checkbox"/> Existing + Add/Alt | Existing Floor Area: | n/a ft ² | |
| Building Front Orientation: | (E) 90 deg | | | Raised Floor Area: | 0 ft ² |
| Fuel Type: | Natural Gas | | | Slab on Grade Area: | 1,480 ft ² |
| Fenestration: | | | Average Ceiling Height: | 9.0 ft | |
| Area: | 207 ft ² | Avg. U: | 0.39 | Number of Dwelling Units: | 1.00 |
| Ratio: | 14.0% | Avg. SHGC: | 0.37 | Number of Stories: | 1 |

BUILDING ZONE INFORMATION

| Zone Name | Floor Area | Volume | # of Units | Zone Type | Thermostat Type | Vent Hgt. | Vent Area |
|-------------|------------|--------|------------|-------------|-----------------|-----------|-----------|
| HVAC System | 1,480 | 13,320 | 1.00 | Conditioned | Setback | 2 | n/a |

OPAQUE SURFACES

| Type | Frame | Area | U-Fac. | Insulation Cav. | Cont. | Act. Azm. | Tilt | Gains Y/N | Condition Status | JA IV Reference | Location / Comments |
|------|-------|-------|--------|-----------------|-------|-----------|------|-----------|------------------|-----------------|---------------------|
| Wall | Wood | 210 | 0.102 | R-13 | R-0.0 | 0 | 90 | X | New | 09-A3 | 1st Floor |
| Door | None | 30 | 0.500 | None | R-0.0 | 0 | 90 | X | New | 28-A4 | 1st Floor |
| Wall | Wood | 492 | 0.102 | R-13 | R-0.0 | 90 | 90 | X | New | 09-A3 | 1st Floor |
| Wall | Wood | 250 | 0.102 | R-13 | R-0.0 | 180 | 90 | X | New | 09-A3 | 1st Floor |
| Wall | Wood | 467 | 0.102 | R-13 | R-0.0 | 270 | 90 | X | New | 09-A3 | 1st Floor |
| Roof | Wood | 1,480 | 0.032 | R-30 | R-0.0 | 0 | 0 | X | New | 01-A17 | 1st Floor |

Run Initiation Time: 08/25/06 15:07:54

Run Code: 1156543674

EnergyPro 4.2 by EnergySoft

User Number: 5913

Job Number:

Page: 3 of 14

Certificate Of Compliance : Residential

(Part 3 of 4) **CF-1R**

4055 32nd STREET

8/25/2006

Project Title

Date

HVAC SYSTEMS

| Location | Heating Type | Minimum Eff | Cooling Type | Minimum Eff | Condition Status | Thermostat Type |
|-------------|-----------------|-------------|-----------------------|-------------|------------------|-----------------|
| HVAC System | Central Furnace | 80% AFUE | Split Air Conditioner | 13.0 SEER | New | Setback |

HVAC DISTRIBUTION

| Location | Heating | Cooling | Duct Location | Duct R-Value | Condition Status | Ducts Tested? |
|-------------|---------|---------|---------------|--------------|------------------|---------------|
| HVAC System | Ducted | Ducted | Attic | 6.0 | New | Yes |

| Hydronic Piping System Name | Pipe Length | Pipe Diameter | Insul. Thick. |
|-----------------------------|-------------|---------------|---------------|
| | | | |

WATER HEATING SYSTEMS

| System Name | Water Heater Type | Distribution | # in Syst. | Rated Input (Btu/hr) | Tank Cap. (gal) | Condition Status | Energy Factor or RE | Standby Loss (%) | Tank Insul. R-Value Ext. |
|-----------------|-------------------|--------------------|------------|----------------------|-----------------|------------------|---------------------|------------------|--------------------------|
| Rheem 41VRP50PT | Small Gas | No Pipe Insulation | 1 | 40,000 | 50 | New | 0.65 | n/a | n/a |

Multi-Family Central Water Heating Details

| Control | Hot Water Pump | | | Hot Water Piping Length (ft) | | | Add 1/2" Insulation |
|---------|----------------|----|------|------------------------------|---------|--------|---------------------|
| | # | HP | Type | In Plenum | Outside | Buried | |
| | | | | | | | |

REMARKS

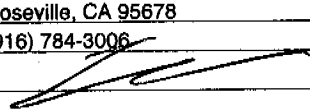
COMPLIANCE STATEMENT

This certificate of compliance lists the building features and specifications needed to comply with Title 24, Parts 1 and 6 of the California Code of Regulations, and the administrative regulations to implement them. This certificate has been signed by the individual with overall design responsibility. The undersigned recognizes that compliance using duct design, duct sealing, verification of refrigerant charge and TXVs, insulation installation quality, and building envelope sealing require installer testing and certification and field verification by an approved HERS rater.

Designer or Owner (per Business & Professions Code)

Name: _____
 Title/Firm: Leshchik N.
 Address: _____
 Telephone: _____ Lic. #: _____
 (signature) _____ (date) _____

Documentation Author

Name: Edward F
 Title/Firm: Feitse Sons Construction
 Address: 1220 Melody Lane Suite 110
Roseville, CA 95678
 Telephone: (916) 784-3006
 (signature)  (date) 8/25/06

Enforcement Agency

Name: _____
 Title/Firm: _____
 Address: _____
 Telephone: _____
 (signature) _____ (date) _____

STAMP

NOTE: Lowrise residential buildings subject to the Standards must contain these measures regardless of the compliance approach used. More stringent compliance requirements from the Certificate of Compliance supercede the items marked with an asterisk (*) below. When this checklist is incorporated into the permit documents, the features noted shall be considered by all parties as minimum component performance specifications for the mandatory measures whether they are shown elsewhere in the documents or on this checklist only.

| DESCRIPTION | Check or Initial applicable boxes or check NA if not applicable and included with the permit application documentation. | | | ENFORCE- MENT |
|---|---|-------------------------------------|--------------------------|------------------|
| | N/A | DESIGNER | | |
| Building Envelope Measures | | | | |
| * § 150(a): Minimum R-19 in wood ceiling insulation or equivalent U-factor in metal frame ceiling. | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| § 150(b): Loose fill insulation manufacturer's labeled R-Value: _____. | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| * § 150(c): Minimum R-13 wall insulation in wood framed walls or equivalent U-factor in metal frame walls (does not apply to exterior mass walls). | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| * § 150(d): Minimum R-13 raised floor insulation in framed floors or equivalent U-factor. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| § 150(e): Installation of Fireplaces, Decorative Gas Appliances and Gas Logs. | | | | |
| 1. Masonry and factory-built fireplaces have: | | | | |
| a. closable metal or glass door covering the entire opening of the firebox | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| b. outside air intake with damper and control, flue damper and control | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 2. No continuous burning gas pilot lights allowed. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| § 150(f): Air retarding wrap installed to comply with §151 meets requirements specified in the ACM Residential Manual. | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| § 150(g): Vapor barriers mandatory in Climate Zones 14 and 16 only. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| § 150(i): Slab edge insulation - water absorption rate for the insulation alone without facings no greater than 0.3%, water vapor permeance rate no greater than 2.0 perm/inch. | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| § 118: Insulation specified or installed meets insulation installation quality standards. Indicate type and include CF-6R Form: _____ | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| § 116-17: Fenestration Products, Exterior Doors, and Infiltration/Exfiltration Controls. | | | | |
| 1. Doors and windows between conditioned and unconditioned spaces designed to limit air leakage. | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| 2. Fenestration products (except field fabricated) have label with certified U-Factor, certified Solar Heat Gain Coefficient (SHGC), and infiltration certification. | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| 3. Exterior doors and windows weatherstripped; all joints and penetrations caulked and sealed. | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| Space Conditioning, Water Heating and Plumbing System Measures | | | | |
| § 110-13: HVAC equipment, water heaters, showerheads and faucets certified by the Energy Commission. | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| § 150(h): Heating and/or cooling loads calculated in accordance with ASHRAE, SMACNA or ACCA. | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| § 150(i): Setback thermostat on all applicable heating and/or cooling systems. | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| § 150(j): Water system pipe and tank insulation and cooling systems line insulation. | | | | |
| 1. Storage gas water heaters rated with an Energy Factor less than 0.58 must be externally wrapped with insulation having an installed thermal resistance of R-12 or greater. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 2. Back-up tanks for solar systems, unfired storage tanks, or other indirect hot water tanks have R-12 external insulation or R-16 internal insulation and indicated on the exterior of the tank showing the R-value. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 3. The following piping is insulated according to Table 150-A/B or Equation 150-A Insulation Thickness: | | | | |
| 1. First 5 feet of hot and cold water pipes closest to water heater tank, non-recirculating systems, and entire length of recirculating sections of hot water pipes shall be insulated to Table 150B. | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| 2. Cooling system piping (suction, chilled water, or brine lines), piping insulated between heating source and indirect hot water tank shall be insulated to Table 150-B and Equation 150-A. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 4. Steam hydronic heating systems or hot water systems > 15 psi, meet requirements of Table 123-A. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 5. Insulation must be protected from damage, including that due to sunlight, moisture, equipment maintenance, and wind. | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| 6. Insulation for chilled water piping and refrigerant suction piping includes a vapor retardant or is enclosed entirely in conditioned space. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 7. Solar water-heating systems/collectors are certified by the Solar Rating and Certification Corporation. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |

NOTE: Lowrise residential buildings subject to the Standards must contain these measures regardless of the compliance approach used. More stringent compliance requirements from the Certificate of Compliance supercede the items marked with an asterisk (*) below. When this checklist is incorporated into the permit documents, the features noted shall be considered by all parties as minimum component performance specifications for the mandatory measures whether they are shown elsewhere in the documents or on this checklist only.

| DESCRIPTION | Instructions: Check or initial applicable boxes when completed or check N/A if not applicable. | | |
|--|--|-------------------------------------|--------------------------|
| | N/A | DESIGNER | ENFORCEMENT |
| Space Conditioning, Water Heating and Plumbing System Measures: (continued) | | | |
| § 150(m): Ducts and Fans | | | |
| 1. All ducts and plenums installed, sealed and insulated to meet the requirements of the CMC Sections 601, 602, 603, 604, 605, and Standard 6-5; supply-air and return-air ducts and plenums are insulated to a minimum installed level of R-4.2 or enclosed entirely in conditioned space. Openings shall be sealed with mastic, tape or other duct-closure system that meets the applicable requirements of UL 181, UL 181A, or UL 181B or aerosol sealant that meets the requirements of UL 723. If mastic or tape is used to seal openings greater than 1/4 inch, the combination of mastic and either mesh or tape shall be used. | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 2. Building cavities, support platforms for air handlers, and plenums defined or constructed with materials other than sealed sheet metal, duct board or flexible duct shall not be used for conveying conditioned air. Building cavities and support platforms may contain ducts. Ducts installed in cavities and support platforms shall not be compressed to cause reductions in the cross-sectional area of the ducts. | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 3. Joints and seams of duct systems and their components shall not be sealed with cloth back rubber adhesive duct tapes unless such tape is used in combination with mastic and draw bands. | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 4. Exhaust fan systems have back draft or automatic dampers. | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 5. Gravity ventilating systems serving conditioned space have either automatic or readily accessible, manually operating dampers. | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 6. Protection of Insulation. Insulation shall be protected from damage, including that due to sunlight, moisture, equipment maintenance, and wind. Cellular foam insulation shall be protected as above or painted with a coating that is water retardant and provides shielding from solar radiation that can cause degradation of the material. | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 7. Flexible ducts cannot have porous inner cores. | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| § 114: Pool and Spa Heating Systems and Equipment | | | |
| 1. A thermal efficiency that complies with the Appliance Efficiency Regulations, on-off switch mounted outside of the heater, weatherproof operating instructions, no electric resistance heating and no pilot light. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 2. System is installed with: | | | |
| a. At least 36" of pipe between filter and heater for future solar heating. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| b. Cover for outdoor pools or outdoor spas. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 3. Pool system has directional inlets and a circulation pump time switch. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| § 115: Gas fired fan-type central furnaces, pool heaters, spa heaters or household cooking appliances have no continuously burning pilot light. (Exception: Non-electrical cooking appliances with pilot < 150 Btu/hr) | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| § 118 (i): Cool Roof material meets specified criteria | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Lighting Measures | | | |
| § 150(k)1: HIGH EFFICACY LUMINAIRES OTHER THAN OUTDOOR HID: contain only high efficacy lamps as outlined in Table 150-C, and do not contain a medium screw base socket (E24/E26). Ballasts for lamps 13 Watts or greater are electric and have an output frequency no less than 20 kHz. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| § 150(k)1: HIGH EFFICACY LUMINAIRES - OUTDOOR HID: contain only high efficacy lamps as outlined in Table 150-C, luminaire has factory installed HID ballast. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| § 150(k)2: Permanently installed luminaires in kitchens shall be high efficacy luminaires. Up to 50% of the Wattage, as determined in Section 130(c), of permanently installed luminaires in kitchens may be in luminaires that are not high efficacy luminaires, provided that these luminaires are controlled by switches separate from those controlling the high efficacy luminaires. | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| § 150(k)3: Permanently installed luminaires in bathrooms, garages, laundry rooms, utility rooms shall be high efficacy luminaires. OR are controlled by an occupant sensor(s) certified to comply with Section 119(d). | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| § 150(k)4: Permanently installed luminaires located other than in kitchens, bathrooms, garages, laundry rooms, and utility rooms shall be high efficacy luminaires (except closets less than 70 ft) OR are controlled by a dimmer switch OR are controlled by an occupant sensor that complies with Section 119(d) that does not turn on automatically or have an always on option. | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| § 150(k)5: Luminaires that are recessed into insulated ceilings are approved for zero clearance insulation cover (IC) and are certified to ASTM E283 and labeled as air tight (AT) to less than 2.0 CFM at 75 Pascals. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| § 150(k)6: Luminaires providing outdoor lighting and permanently mounted to a residential building or to other buildings on the same lot shall be high efficacy luminaires (not including lighting around swimming pools/water features or other Article 680 locations) OR are controlled by occupant sensors with integral photo control certified to comply with Section 119(d). | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| § 150(k)7: Lighting for parking lots for 8 or more vehicles shall have lighting that complies with Sections 130, 132, and 147. Lighting for parking garages for 8 or more vehicles shall have lighting that complies with Section 130, 131, and 146. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| § 150(k)8: Permanently installed lighting in the enclosed, non-dwelling spaces of low-rise residential buildings with four or more dwelling units shall be high efficacy luminaires OR are controlled by occupant sensor(s) certified to comply with Section 119(d). | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| EnergyPro 4.2 by EnergySoft | User Number: 5913 | Job Number: | Page:8 of 14 |

HVAC SYSTEM HEATING AND COOLING LOADS SUMMARY

| | |
|----------------------------------|---------------------|
| PROJECT NAME 4055 32nd STREET | DATE 8/25/2006 |
| SYSTEM NAME HVAC System | FLOOR AREA 1,480 |

ENGINEERING CHECKS

| | |
|--------------------------|--------|
| Number of Systems | 1 |
| Heating System | |
| Output per System | 51,000 |
| Total Output (Btuh) | 51,000 |
| Output (Btuh/sqft) | 34.5 |
| Cooling System | |
| Output per System | 29,400 |
| Total Output (Btuh) | 29,400 |
| Total Output (Tons) | 2.5 |
| Total Output (Btuh/sqft) | 19.9 |
| Total Output (sqft/Ton) | 604.1 |
| Air System | |
| CFM per System | 1,270 |
| Airflow (cfm) | 1,270 |
| Airflow (cfm/sqft) | 0.86 |
| Airflow (cfm/Ton) | 518.4 |
| Outside Air (%) | 0.0 |
| Outside Air (cfm/sqft) | 0.00 |

Note: values above given at ARI conditions

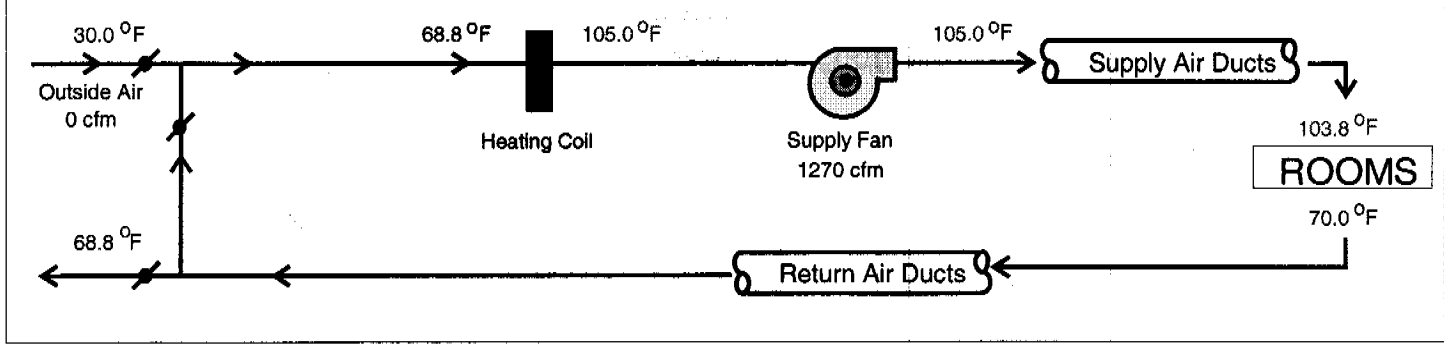
SYSTEM LOAD

| | COIL COOLING PEAK | | | COIL HTG. PEAK | |
|--------------------------|-------------------|---------------|------------|----------------|---------------|
| | CFM | Sensible | Latent | CFM | Sensible |
| Total Room Loads | 711 | 17,612 | 410 | 549 | 20,699 |
| Return Vented Lighting | | 0 | | | |
| Return Air Ducts | | 1,409 | | | 1,649 |
| Return Fan | | 0 | | | 0 |
| Ventilation | 0 | 0 | 0 | 0 | 0 |
| Supply Fan | | 0 | | | 0 |
| Supply Air Ducts | | 1,409 | | | 1,649 |
| TOTAL SYSTEM LOAD | | 20,429 | 410 | | 23,997 |

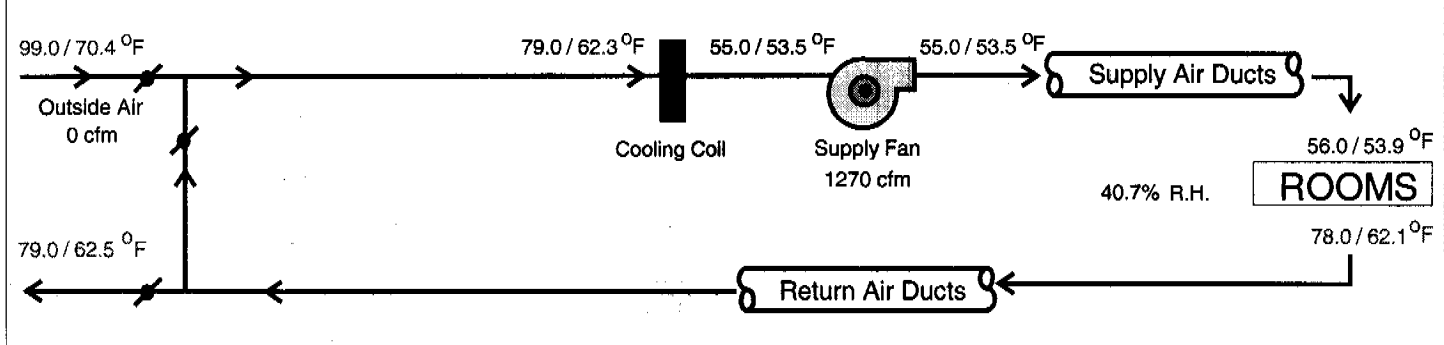
HVAC EQUIPMENT SELECTION

| | | | |
|---|--------|----------|-----------|
| Bryant 331AAV036065/538ANX030-C | 23,656 | 3,067 | 51,000 |
| Total Adjusted System Output (Adjusted for Peak Design Conditions) | | | |
| | 23,656 | 3,067 | 51,000 |
| TIME OF SYSTEM PEAK | | Aug 2 pm | Jan 12 am |

HEATING SYSTEM PSYCHROMETRICS (Airstream Temperatures at Time of Heating Peak)



COOLING SYSTEM PSYCHROMETRICS (Airstream Temperatures at Time of Cooling Peak)



RESIDENTIAL ROOM COOLING LOAD SUMMARY

| | | |
|--|------------------|--|
| Project Title 4055 32nd STREET | | Date 8/25/2006 |
| Room Information | | Design Conditions |
| Room Name: | 1st Floor | Outdoor Dry Bulb Temperature: 100°F |
| Floor Area: | 1,480 sf | Outdoor Web Bulb Temperature: 71°F |
| Indoor Dry Bulb Temperature: | 78 °F | Outdoor Daily Range: 32°F |

| Opaque Surfaces | Orientation | Area | U-Factor | CLTD ¹ | Btu/hr |
|-------------------|-------------|-----------|----------|-------------------|--------------|
| R-13 Wall | (N) | 210.0 x | 0.1020 x | 13.0 = | 278 |
| Wood Door | (N) | 30.0 x | 0.5000 x | 13.0 = | 195 |
| R-13 Wall | (E) | 492.0 x | 0.1020 x | 23.0 = | 1,154 |
| R-13 Wall | (S) | 250.0 x | 0.1020 x | 16.0 = | 408 |
| R-13 Wall | (W) | 467.0 x | 0.1020 x | 23.0 = | 1,096 |
| R-30 Roof Attic | (N) | 1,480.0 x | 0.0320 x | 47.0 = | 2,226 |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| Page Total | | | | | 5,357 |

Items shown with an asterisk (*) denote conduction through an interior surface to another room.

1. Cooling Load Temperature Difference (CLTD)

| Fenestration | Orientation | Shaded | | Unshaded | | Btu/hr |
|-------------------|-------------|--------|--------|----------|--------|--------------|
| | | Area | GLF | Area | GLF | |
| Window | (N) | 0.0 x | 19.1 + | 30.0 x | 19.1 = | 573 |
| Window | (E) | 0.0 x | 19.1 + | 66.0 x | 41.1 = | 2,712 |
| Window | (S) | 0.0 x | 19.1 + | 20.0 x | 25.9 = | 517 |
| Window | (W) | 0.0 x | 19.1 + | 91.0 x | 41.1 = | 3,739 |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| Page Total | | | | | | 7,541 |

| Internal Gain | | | | | Btu/hr |
|---------------|--------------|------------------|------------------|------|--------|
| Occupants | 4 x | Occupants x | 230 Btu/occ. | = | 920 |
| Equipment | 1 x | Dwelling Units x | 1,600 Watts/sqft | = | 1,600 |
| Infiltration: | 1.077 x | 0.99 x | 93.77 x | 22 = | 2,194 |
| | Air Sensible | CFM | ELA | ΔT | |

TOTAL HOURLY SENSIBLE HEAT GAIN FOR ROOM **17,612**

| Latent Gain | | | | | Btu/hr |
|---------------|------------|-------------|--------------|------------|--------|
| Occupants | 4 x | Occupants x | 200 Btu/occ. | = | 800 |
| Infiltration: | 4,827 x | 0.99 x | 93.77 x | -0.00087 = | -390 |
| | Air Latent | CFM | ELA | ΔW | |

TOTAL HOURLY LATENT HEAT GAIN FOR ROOM **410**

ENERGY USE AND COST SUMMARY

ECON-1

PROJECT NAME
4055 32nd STREET

DATE
8/25/2006

| | STANDARD | | | PROPOSED | | | MARGIN | | |
|------|------------------|------------------|-----------|------------------|------------------|-----------|------------------|------------------|-----------|
| | Energy Use (kWh) | Peak Demand (kW) | Cost (\$) | Energy Use (kWh) | Peak Demand (kW) | Cost (\$) | Energy Use (kWh) | Peak Demand (kW) | Cost (\$) |
| Jan | 29 | 0 | | 29 | 0 | | 0 | 0 | |
| Feb | 19 | 0 | | 19 | 0 | | 0 | 0 | |
| Mar | 13 | 0 | | 12 | 0 | | 1 | 0 | |
| Apr | 9 | 0 | | 9 | 1 | | 0 | 0 | |
| May | 21 | 2 | | 32 | 3 | | -11 | 0 | |
| Jun | 92 | 3 | | 109 | 3 | | -17 | 0 | |
| Jul | 171 | 3 | | 184 | 3 | | -13 | 0 | |
| Aug | 157 | 3 | | 160 | 3 | | -3 | 0 | |
| Sep | 74 | 3 | | 72 | 3 | | 2 | 0 | |
| Oct | 7 | 1 | | 5 | 1 | | 2 | 0 | |
| Nov | 10 | 0 | | 10 | 0 | | 0 | 0 | |
| Dec | 26 | 0 | | 26 | 0 | | 0 | 0 | |
| Year | 626 | 3 | \$ | 666 | 3 | \$ | -39 | 0 | \$ |

| | STANDARD | | | PROPOSED | | | MARGIN | | |
|------|---------------------|-----------------------|-----------|---------------------|-----------------------|-----------|---------------------|-----------------------|-----------|
| | Energy Use (therms) | Peak Demand (kBtu/hr) | Cost (\$) | Energy Use (therms) | Peak Demand (kBtu/hr) | Cost (\$) | Energy Use (therms) | Peak Demand (kBtu/hr) | Cost (\$) |
| Jan | 92 | 47 | | 88 | 46 | | 4 | 2 | |
| Feb | 66 | 45 | | 62 | 43 | | 4 | 2 | |
| Mar | 52 | 38 | | 48 | 37 | | 4 | 1 | |
| Apr | 37 | 34 | | 32 | 33 | | 4 | 1 | |
| May | 19 | 8 | | 17 | 7 | | 2 | 1 | |
| Jun | 18 | 5 | | 16 | 5 | | 2 | 0 | |
| Jul | 18 | 5 | | 16 | 4 | | 2 | 0 | |
| Aug | 18 | 5 | | 16 | 4 | | 2 | 0 | |
| Sep | 17 | 5 | | 15 | 4 | | 2 | 0 | |
| Oct | 20 | 21 | | 17 | 19 | | 2 | 2 | |
| Nov | 43 | 36 | | 41 | 35 | | 2 | 1 | |
| Dec | 84 | 44 | | 80 | 42 | | 4 | 2 | |
| Year | 483 | 47 | \$ | 448 | 46 | \$ | 35 | 2 | \$ |

| Annual Totals | Energy | Demand | Cost | Cost/sqft | Virtual Rate |
|---------------|------------|------------|-------------|---------------------|---------------|
| Electricity | 666 kWh | 3 kW | \$ 0 | \$ 0.00/sqft | \$ 0.00/kWh |
| Natural Gas | 448 therms | 46 kBtu/hr | \$ 0 | \$ 0.00/sqft | \$ 0.00/therm |
| Total | | | \$ 0 | \$ 0.00/sqft | |

The values shown here are based upon the results of an EnergyPro Compliance energy analysis that uses Title 24 profiles as specified in the Residential ACM manual.