# Energy and Water Efficiency Compliance Report

**Echo Park – Taix Square**
1911 Sunset Blvd.
Los Angeles, CA 90026

**June 30, 2020**

prepared for

**1911 Sunset Investors, LLC**
5000 E. Spring St., Ste 500
Long Beach, CA 90815

prepared by

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# TABLE OF CONTENTS

# 1. EXECUTIVE SUMMARY

## 1.1. PROJECT DESCRIPTION

The project consists of a new, one hundred seventy (170) unit multi-family complex located at 1911 Sunset Blvd. in Los Angeles, California. The project includes (13) studio, (13) Jr. one-bedroom, (100) one-bedroom, (36) two-bedroom, (4) three-bedroom units, and (4) town homes with 13,000 sf of commercial area over two (2) levels of subterranean garage on Levels P1 & P2. The project is generally described in the architectural set drawing package provided to the Consultant as prepared by TSM Architects and dated June 18, 2020. The report sets forth the energy and water performance requirements for the project and the simulation process utilized, the simulation results, systems, and equipment modeled to achieve the performance results. The systems and equipment modeled have been selected to meet the minimum energy requirements committed under the project's entitlement requirements and related programs and codes.

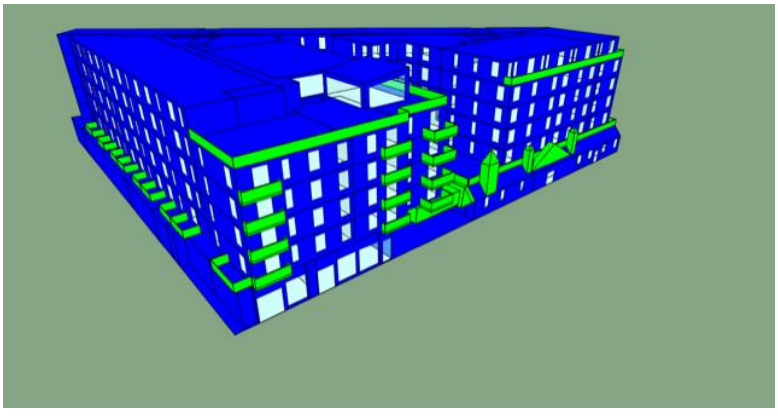
## 1.2. PROJECT TARGETS

The project has identified the following energy targets to ensure compliance with funding and code requirements:

- **21155.1 CEQA exemption for transit priority project subsection**: The buildings in the transit priority project are 15 percent more energy efficiency than required by Chapter 6 of the Title 24 of the California Code of Regulations and the buildings and landscaping are designed to achieve 25 percent less water usage than the average household in the region. The project design exceeds both objectives above.

## 1.3. ENERGY SIMULATION PROCESS

The CBECC Com software platform was selected for demonstrating energy performance under the 2016 Building Energy Efficiency Standards (2016 Title 24, Part 6). The software links CBECC-Com and EnergyPlus simulation engines for compliance runs and is approved by the California Energy Commission (CEC) for use under the 2016 Building Energy Efficiency Standards. The building geometry was modeled within IES VE based on the approved architectural bid set drawing package provided to the Consultant by the Client as prepared by TSM Architects and dated June 18, 2020. The energy model was developed under the Performance Method. Internal loads and schedules were specified in the model as dictated by the simulation protocol.



# 2. ENERGY EFFICIENCY

## 2.1. ENERGY EFFICIENCY MEASURES

The preliminary energy model for the building was developed basing our initial assumptions on the referenced project drawings and specifications and Prescriptive criteria outlined in 2016 Title 24, Part 6 Building Energy Efficiency Standards for high-rise residential buildings, when not defined. This prescriptive baseline is what the energy performance of the project will be ultimately compared against when we look at the percentage of time dependent value (TDV) energy savings over the Standard. The "Proposed Target" systems were used to generate the initial energy simulation results in full report in Appendices.

**Building Envelope**

- **External Wall (Wood framed) [U-factor]:** 0.065 (2x6, 16" O.C. R-21 cavity ins.)
- **External Wall (Metal framed) [U-factor]:** 0.149 (2x6, 16"O.C. R-19 cavity plus two layers of gypsum board on interior surface of wall)
- **External Wall (Concrete) [U-factor]:** 0.549 (140 lb/ft3 - 8in.)
- **Roof (Wood framed rafter) [U-factor]:** 0.034 (2x12 16" O.C. R-30 cavity ins.)
- **Roof (Wood framed rafter) [aged reflectance / aged emittance]:** 0.85 / 0.85 (must be CRRC Certified Cool Roofing)
- **Floor / Soffits (Wood Framed):** 0.091 (2x6 16" O.C. R-13 cavity ins.)

**Envelope - Glazing**

- **Window to Wall Ratio (WWR) [%]:** 21.5%
- **Fixed Window (NFRC) [U-factor / SHGC / Vis Trans]:** 0.28 / 0.22 / 0.71
- **Curtainwall or Storefront (NFRC) [U-factor / SHGC / Vis Trans]:** 0.41 / 0.22 / 0.50

**Lighting**

- **High-efficacy, LED lamp types for common areas:** Target lighting power density reduction in non-residential areas of 17.6% with LED lighting and T24 controls.

**HVAC - Space Heating and Cooling**

- **High-efficiency 16 SEER/HSPF=9.5 split system heat pumps for heating, ventilating, and air-conditioning (HVAC):** Split system heat pumps have one outdoor unit connected to one indoor fan coil units (FCU). Seasonal energy efficiency ratio (SEER) represents the "average" efficiency of HVAC equipment. By increasing this value over typical code-minimum efficiencies, the equipment provides the same amount of heating and cooling while using less electricity to operate it. Providing individual systems for each apartment allows the system to be powered from the tenant's electric meter, which tends to encourage more responsible use and lower energy consumption.

**Domestic Water Heating**

- **central hot water systems: Central** Gas water heaters have a 95% thermal efficiency and a 50% solar thermal fraction to achieve a 36.0% TDV energy savings versus baseline.
- **High-efficiency water fixtures:** Using water-efficient fixtures inherently uses less hot water, which reduces the amount of water being heated and overall energy consumption.

## 2.2. HVAC EQUIPMENT SIZING AND SELECTION

The residential heating and cooling loads were auto-sized per apartment unit and the HVAC systems were assigned based on assignments in the architectural bid set drawing package.

Table 1 - HVAC System selection and assignment

| Space | Indoor Fan coil | Outdoor Heat Pump | Cooling | | | | Heating | | Fan | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Net capacity (kBtuh) | Sensible capacity (kBtuh) | SEER | EER | Net Capacity (kBtuh) | HSPF | Supply air (cfm) | Fan power (HP) |
| Standard-Res Units | Performance Spec | Performance Spec | Auto-size | Auto-size | 16.0 | 13.0 | Auto-size | 9.5 | 400/T | AS |
| Amenity | Performance Spec | Performance Spec | Auto-size | Auto-size | 16.0 | 13.0 | Auto-size | 9.5 | 400/T | AS |

NOTE:
All corridors all buildings are mechanically ventilated, and not directly conditioned.
All split system heat pumps are AHRI certified. Performance data retrieved from AHRI product rating certificate.
Occupancy density for all spaces were assumed to be equal to what is prescribed by code unless otherwise mentioned.

## 2.3. ENERGY EFFICIENCY UPDATES REQUIRED

The bullet points below are the updates that are required to be made to the model to achieve the compliance total.

- Update and Improve HVAC split system heat pumps performance to achieve SEER=16 & HSPF=9.5 or greater for all residential units as well as units serving amenity areas.
- Update and Improve window performance for residential units of U-factor=0.28 and SHGC=0.22 for all residential windows and NFRC certificates.
- Update and improve storefront window performance for retail and lobby and other areas with storefront glazing to U-factor=0.41 and SHGC=0.22 with CMA NFRC certificates.
- Update Metal framed wall assemblies to be a maximum U-factor=0.151 or less on exterior walls which is a Mandatory Measure in section 120.7 of Energy Code.

## 2.4. ENERGY SAVINGS SUMMARY

Once the energy simulation models were completed based on the Architectural Set drawings, a comparative analysis was done to determine the energy and water performance relative to the Project Energy Targets above.

The performance of the current proposed design energy model (in kBtu/ sq.ft TDV) anticipates using 17.3% less energy than Title 24-2016 energy code requirements for the building. Refer to the Building Energy Analysis Report below to see additional details about the result by each energy end-use.

# 3. WATER EFFICIENCY

## 3.1. WATER EFFICIENCY MEASURES

The water calculation table was developed based on the projected plumbing water fixtures that is anticipated per architectural plans. It was compared against the average regional water use in Gallons Per Capita Per Day of 131 gallons as stated in the Metropolitan Water District *Water Tomorrow Annual Report to the California State Legislature, Covering Fiscal Year July 2018 – June 2019*. This baseline is multiplied by 2.42 people per unit (170 units) to determine the average daily water use baseline per residential unit, which is 317 gallons per unit per day.

The projected water fixture flow rates based on City of LA Green Building requirements and water conservation ordinances will be met as shown below. Other elements are calculated using accepted industry practice such as for landscape irrigation areas of 3,413 sf potable water use was calculated with conservative figures using the LEED water calculator and derived a daily rate of 164 gallons. The plumbing fixture flow rates are as follows and are based on the 2020 City of Los Angeles GRN 16 form for maximum plumbing fixture flow rates:

- **Showerheads:** 1.8 GPM (gallons per minute)
- **Lavatory faucets:** 1.2 GPM
- **Kitchen faucets:** 1.5 GPM
- **Tank water closets (toilets):** 1.0 GPF (gallons per flush)
- **Clothes washers:** Energy Star certified, 5.1 WF (water factor)
- **Dishwashers:** Energy Star certified, 4 GPC (gallons per cycle)

## 3.2. WATER SAVINGS SUMMARY

Once the water table calculations were completed based on projected plumbing water fixture selections, a comparative analysis was done to determine the water consumption relative to the regional average household water use. The savings of the current proposed water plumbing fixtures calculations (in gallons) results in using 73.9% less water than the regional average household water use. Refer to Water Use Calculation Table.

# TITLE 24-2016 COMPLIANCE REPORT

**FULL REPORT ON FOLLOWING PAGES**

| | | | |
|---|---|---|---|
| Project Name: | Echo Park - Taix Square | NRCC-PRF-01-E | Page 1 of 44 |
| Project Address: | 1911 Sunset Blvd Los Angeles 90026 | Calculation Date/Time: | 14:06, Thu, Jun 18, 2020 |
| Compliance Scope: | NewComplete | Input File Name: | 2020_0618 Echo Park Taix Square_v2.cibd16x |

**A. PROJECT GENERAL INFORMATION**

| | | | | | |
|---|---|---|---|---|---|
| **1.** | Project Location (city) | Los Angeles | **8.** | Standards Version | Compliance2016 |
| **2.** | CA Zip Code | 90026 | **9.** | Compliance Software (version) | CBECC-Com 2016.3.0 SP2 |
| **3.** | Climate Zone | 9 | **10.** | Weather File | LOS-ANGELES-DOWNTOWN_722874_CZ2010.epw |
| **4.** | Total Conditioned Floor Area in Scope | 154,775 $ft^2$ | **11.** | Building Orientation (deg) | (N) 0 deg |
| **5.** | Total Unconditioned Floor Area | 126,355 $ft^2$ | **12.** | Permitted Scope of Work | NewComplete |
| **6.** | Total # of Stories (Habitable Above Grade) | 6 | 13 | Building Type(s) | High-Rise Residential |
| **7.** | Total # of dwelling units | 170 | 14 | Gas Type | NaturalGas |

**B. COMPLIANCE RESULTS FOR PERFORMANCE COMPONENTS (Annual TDV Energy Use, kBtu/$ft^2$-yr)** **§ 140.1**

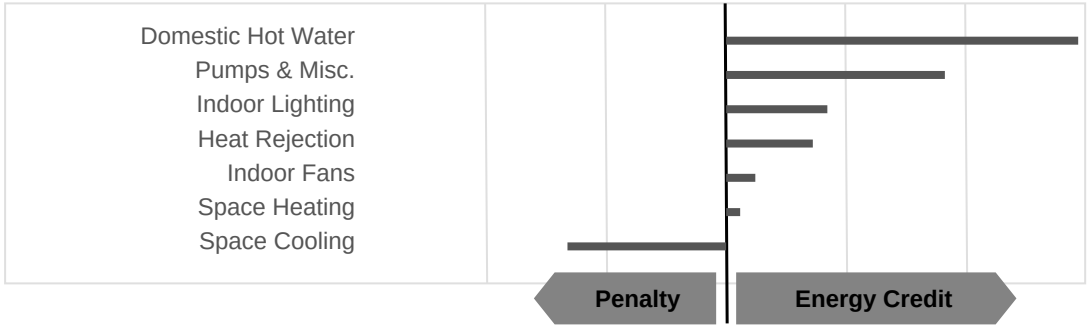
## BUILDING COMPLIES

| 1. Energy Component | 2. Standard Design (TDV) | 3. Proposed Design (TDV) | 4. Compliance Margin (TDV) | 5. Percent Better than Standard |
|---|---|---|---|---|
| Space Heating | 0.91 | 0.72 | 0.19 | 20.9% |
| Space Cooling | 14.19 | 16.67 | -2.48 | -17.5% |
| Indoor Fans | 13.80 | 13.37 | 0.43 | 3.1% |
| Heat Rejection | 1.34 | -- | 1.34 | -- |
| Pumps & Misc. | 3.43 | -- | 3.43 | -- |
| Domestic Hot Water | 15.40 | 9.86 | 5.54 | 36.0% |
| Indoor Lighting | 8.90 | 7.33 | 1.57 | 17.6% |
| **COMPLIANCE TOTAL** | **57.97** | **47.95** | **10.02** | **17.3%** |
| Receptacle | 45.03 | 45.03 | 0.0 | 0.0% |
| Process | -- | -- | -- | -- |
| Other Ltg | 38.17 | 36.81 | 1.4 | 3.6% |
| Process Motors | -- | -- | -- | -- |
| **TOTAL** | **141.17** | **129.79** | **11.4** | **8.1%** |

**C. PRIORITY PLAN CHECK/ INSPECTION ITEMS** (in order of highest to lowest TDV energy savings)

| | |
|---|---|
| 1st | Domestic Hot Water: Check mechanical |
| 2nd | Pumps & Misc.: Check mechanical |
| 3rd | Indoor Lighting: Check lighting |
| 4th | Heat Rejection: Check envelope and mechanical |
| 5th | Indoor Fans: Check envelope and mechanical |
| 6th | Space Heating: Check envelope and mechanical |
| 7th | Space Cooling: Check envelope and mechanical |

***Compliance Margin By Energy Component (from Table B column 4)***




**D. EXCEPTIONAL CONDITIONS**

The aged solar reflectance and aged thermal emittance must be listed in the Cool Roof Rating Council database of certified products. For projects where initial reflectance is used, the initial reflectance must be listed, and the aged reflectance is calculated by the software program and used in the compliance model.

This project includes Domestic Hot Water in the analysis. Please verify that Domestic Hot Water is included in the design for the permitted scope of work.

**E. HERS VERIFICATION**

This Section Does Not Apply

**F. ADDITIONAL REMARKS**

-specify-

## G. COMPLIANCE PATH & CERTIFICATE OF COMPLIANCE SUMMARY

*Identify which building components use the performance or prescriptive path for compliance. "NA"= not in project*

*For components that utilize the performance path, indicate the sheet number that includes mandatory notes on plans.*

| Building Component | Compliance Path | | Compliance Forms *(required for submittal)* | Location of Mandatory Notes on Plans |
|---|---|---|---|---|
| Envelope | ☒ | Performance | NRCC-PRF-ENV-DETAILS (section of the NRCC-PRF-01-E) | -specify- |
| | ☐ | Prescriptive | NRCC-ENV-01 / 02 / 03 / 04 / 05 / 06-E | |
| | ☐ | NA | | |
| Mechanical | ☒ | Performance | NRCC-PRF-MCH-DETAILS (section of the NRCC-PRF-01-E) | -specify- |
| | ☐ | Prescriptive | NRCC-MCH-01 / 02 / 03 / 04 / 05 / 06 / 07-E | |
| | ☐ | NA | | |
| Domestic Hot Water | ☒ | Performance | NRCC-PRF-PLB-DETAILS (section of the NRCC-PRF-01-E) | -specify- |
| | ☐ | Prescriptive | NRCC-PLB-01-E | |
| | ☐ | NA | | |
| Lighting (Indoor Conditioned) | ☒ | Performance | NRCC-PRF-LTI-DETAILS (section of the NRCC-PRF-01-E) | -specify- |
| | ☐ | Prescriptive | NRCC-LTI-01 / 02 / 03 / 04 / 05-E | |
| | ☐ | NA | | |
| Covered Process: Commercial Kitchens | ☐ | Performance | S2 (section of the NRCC-PRF-01-E) | |
| | ☐ | Prescriptive | NRCC-PRC-01/ 03-E | |
| | ☒ | NA | | |
| Covered Process: Computer Rooms | ☐ | Performance | S3 (section of the NRCC-PRF-01-E) | |
| | ☐ | Prescriptive | NRCC-PRC-01/ 04-E | |
| | ☒ | NA | | |
| Covered Process: Laboratory Exhaust | ☐ | Performance | S4 (section of the NRCC-PRF-01-E) | |
| | ☐ | Prescriptive | NRCC-PRC-01/ 09-E | |
| | ☒ | NA | | |

## G. COMPLIANCE PATH & CERTIFICATE OF COMPLIANCE SUMMARY

| *The following building components are only eligible for prescriptive compliance. Indicate which are relevant to the project.* | | | | *The following building components may have mandatory requirements per Part 6. Indicate which are relevant to the project.* | | | |
|---|---|---|---|---|---|---|---|
| **Yes** | **NA** | **Prescriptive Requirement** | **Compliance Forms** | **Yes** | **NA** | **Mandatory Requirement** | **Compliance Forms** |
| ☐ | ☒ | Lighting (Indoor Unconditioned) §140.6 | NRCC-LTI-01 / 02 / 03 / 04 / 05-E | ☐<br>☐ | ☒<br>☒ | Commissioning: §120.8<br>Simple Systems<br>Complex Systems | <br>NRCC-CXR-01 / 02 / 03 / 05-E<br>NRCC-CXR-01 / 02 / 04 / 05-E |
| ☐ | ☒ | Lighting (Outdoor) §140.7 | NRCC-LTO-01 / 02 / 03-E | ☐ | ☒ | Electrical: §130.5 | NRCC-ELC-01-E |
| ☐ | ☒ | Lighting (Sign) §140.8 | NRCC-LTS-01-E | ☐ | ☒ | Solar Ready: §110.10 | NRCC-SRA-01 / 02-E |
| ☐ | ☒ | Solar Thermal Water Heating: §140.5 | NRCC-STH-01-E | ☐<br>☐<br>☐<br>☐<br>☐ | ☒<br>☒<br>☒<br>☒<br>☒ | Covered Process: §120.6<br>Parking Garage<br>Commercial Refrigeration<br>Warehouse Refrigeration<br>Compressed Air<br>Process Boilers | NRCC-PRC-01-E<br>NRCC-PRC-02-E<br>NRCC-PRC-05-E<br>NRCC-PRC-06/07/08-E<br>NRCC-PRC-10-E<br>NRCC-PRC-11-E |

| **H. CERTIFICATE OF INSTALLATION, CERTIFICATE OF ACCEPTANCE & CERTIFICATE OF VERIFICATION SUMMARY (NRCI/NRCA/NRCV)** – Documentation Author to indicate which Certificates must be submitted for the features to be recognized for compliance (Retain copies and verify forms are completed and signed to post in field for Field Inspector to verify). See Tables G. and H. in MCH and LTI Details Sections for Acceptance Tests and forms by equipment. | | **Confirmed** | |
|---|---|---|---|
| **Building Component** | **Compliance Forms *(required for submittal)*** | **Pass** | **Fail** |
| Envelope | ☐ NRCI-ENV-01-E - For all buildings | ☐ | ☐ |
| | ☐ NRCA-ENV-02-F- NFRC label verification for fenestration | ☐ | ☐ |
| Mechanical | ☐ NRCI-MCH-01-E - For all buildings with Mechanical Systems | ☐ | ☐ |
| | ☐ NRCA-MCH-02-A- Outdoor Air | ☐ | ☐ |
| | ☐ NRCA-MCH-03-A – Constant Volume Single Zone HVAC | ☐ | ☐ |
| | ☐ NRCA-MCH-04-H- Air Distribution Duct Leakage | ☐ | ☐ |
| | ☐ NRCA-MCH-05-A- Air Economizer Controls | ☐ | ☐ |
| | ☐ NRCA-MCH-06-A- Demand Control Ventilation | ☐ | ☐ |
| | ☐ NRCA-MCH-07-A – Supply Fan Variable Flow Controls | ☐ | ☐ |
| | ☐ NRCA-MCH-08-A- Valve Leakage Test | ☐ | ☐ |
| | ☐ NRCA-MCH-09-A – Supply Water Temp Reset Controls | ☐ | ☐ |
| | ☐ NRCA-MCH-10-A- Hydronic System Variable Flow Controls | ☐ | ☐ |
| | ☐ NRCA-MCH-11-A – Auto Demand Shed Controls | ☐ | ☐ |
| | ☐ NRCA-MCH-12-A- Packaged Direct Expansion Units | ☐ | ☐ |
| | ☐ NRCA-MCH-13-A- Air Handling Units and Zone Terminal Units | ☐ | ☐ |
| | ☐ NRCA-MCH-14-A- Distributed Energy Storage | ☐ | ☐ |
| | ☐ NRCA-MCH-15-A – Thermal Energy Storage | ☐ | ☐ |
| | ☐ NRCA-MCH-16-A- Supply Air Temp Reset Controls | ☐ | ☐ |
| | ☐ NRCA-MCH-17-A – Condensate Water Temp Reset Controls | ☐ | ☐ |
| | ☐ NRCA-MCH-18-A- Energy Management Controls Systems | ☐ | ☐ |
| | ☐ NRCV-MCH-04-H- Duct Leakage Test | ☐ | ☐ |

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|---|---|---|---|
| **Building Component** | **Compliance Forms *(required for submittal)*** | **Pass** | **Fail** |
| Plumbing | ☐ NRCI-PLB-01-E - For all buildings with Plumbing Systems | ☐ | ☐ |
| | ☐ NRCI-PLB-02-E - required on central systems in high-rise residential, hotel/motel application. | ☐ | ☐ |
| | ☐ NRCI-PLB-03-E - Single dwelling unit systems in high-rise residential, hotel/motel application. | ☐ | ☐ |
| | ☐ NRCI-PLB-21-E - HERS verified central systems in high-rise residential, hotel/motel application. | ☐ | ☐ |
| | ☐ NRCI-PLB-22-E - HERS verified single dwelling unit systems in high-rise residential, hotel/motel application. | ☐ | ☐ |
| | ☐ NRCV-PLB-21-H- HERS verified central systems in high-rise residential, hotel/motel application. | ☐ | ☐ |
| | ☐ NRCV-PLB-22-H - HERS verified single dwelling unit systems in high-rise residential, hotel/motel application. | ☐ | ☐ |
| | ☐ NRCI-STH-01-E - Any solar water heating | ☐ | ☐ |
| Indoor Lighting | ☐ NRCI-LTI-01-E - For all buildings | ☐ | ☐ |
| | ☐ NRCI-LTI-02-E - Lighting control system, or for an Energy Management Control System (EMCS) | ☐ | ☐ |
| | ☐ NRCI-LTI-03-E - Line-voltage track lighting integral current limiter, or for a supplementary overcurrent protection panel used to energize only line-voltage track lighting | ☐ | ☐ |
| | ☐ NRCI-LTI-04-E - Two interlocked systems serving an auditorium, a convention center, a conference room, or a theater | ☐ | ☐ |
| | ☐ NRCI-LTI-05-E - Lighting Control Credit Power Adjustment Factor (PAF) | ☐ | ☐ |
| | ☐ NRCI-LTI-06-E - Additional wattage installed in a video conferencing studio | ☐ | ☐ |
| | ☐ NRCA-LTI-02-A - Occupancy sensors and automatic time switch controls. | ☐ | ☐ |
| | ☐ NRCA-LTI-03-A - Automatic daylighting controls | ☐ | ☐ |
| | ☐ NRCA-LTI-04-A - Demand responsive lighting controls | ☐ | ☐ |
| Outdoor Lighting | ☐ NRCI-LTO-01-E – Outdoor Lighting | ☐ | ☐ |
| | ☐ NRCI-LTO-02-E- EMCS Lighting Control System | ☐ | ☐ |
| | ☐ NRCA-LTO-02-A - Outdoor Lighting Control | ☐ | ☐ |
| Sign Lighting | ☐ NRCI-LTS-01-E – Sign Lighting | ☐ | ☐ |
| Electrical | ☐ NRCI-ELC-01-E - Electrical Power Distribution | ☐ | ☐ |
| Photovoltaic | ☐ NRCI-SPV-01-E Photovoltaic Systems | ☐ | ☐ |

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|---|---|---|---|
| **Building Component** | **Compliance Forms *(required for submittal)*** | **Pass** | **Fail** |
| Covered Process | ☐ NRCI-PRC-01-E Covered Processes | ☐ | ☐ |
| | ☐ NRCA-PRC-01-F- Compressed Air Systems | ☐ | ☐ |
| | ☐ NRCA-PRC-02-F- Kitchen Exhaust | ☐ | ☐ |
| | ☐ NRCA-PRC-03-F- Garage Exhaust | ☐ | ☐ |
| | ☐ NRCA-PRC-04-F- Refrigerated Warehouse- Evaporator Fan Motor Controls | ☐ | ☐ |
| | ☐ NRCA-PRC-05-F- Refrigerated Warehouse- Evaporative Condenser Controls | ☐ | ☐ |
| | ☐ NRCA-PRC-06-F- Refrigerated Warehouse- Air Cooled Condenser Controls | ☐ | ☐ |
| | ☐ NRCA-PRC-07F- Refrigerated Warehouse- Variable Speed Compressor | ☐ | ☐ |
| | ☐ NRCA-PRC-08-F- Electrical Resistance Underslab Heating System | ☐ | ☐ |

**I. ENVELOPE GENERAL INFORMATION (See NRCC-PRF-ENV-DETAILS for more information)**

| | | | | | | **Confirmed** | |
|---|---|---|---|---|---|---|---|
| **1.** | Total Conditioned Floor Area | 154,775 ft$^2$ | **5.** | Number of Floors Above Grade | 6 | | |
| **2.** | Total Unconditioned Floor Area | 126,355 ft$^2$ | **6.** | Number of Floors Below Grade | 0 | **Pass** | **Fail** |
| **3.** | Addition Conditioned Floor Area | 0 ft$^2$ | | | | | |
| **4.** | Addition Unconditioned Floor Area | 0 ft$^2$ | | | | | |

| **7. Opaque Surfaces & Orientation** | **8. Total Gross Surface Area** | **9. Total Fenestration Area** | **10. Window to Wall Ratio** | **Pass** | **Fail** |
|---|---|---|---|---|---|
| North Wall | 14,329 ft$^2$ | 3,318 ft$^2$ | 23.2% | ☐ | ☐ |
| East Wall | 11,643 ft$^2$ | 2,775 ft$^2$ | 23.8% | ☐ | ☐ |
| South Wall | 13,053 ft$^2$ | 3,304 ft$^2$ | 25.3% | ☐ | ☐ |
| West Wall | 19,466 ft$^2$ | 3,197 ft$^2$ | 16.4% | ☐ | ☐ |
| Total | **58,491 ft$^2$** | **12,594 ft$^2$** | **21.5%** | ☐ | ☐ |
| Roof | 33,333 ft$^2$ | 0 ft$^2$ | 00.0% | ☐ | ☐ |

**J. FENESTRATION ASSEMBLY SUMMARY** — § 110.6 — Confirmed

| 1. Fenestration Assembly Name / Tag or I.D. | 2. Fenestration Type / Product Type / Frame Type | 3. Certification Method[1] | 4. Assembly Method | 5. Area ft² | 6. Overall U-factor | 7. Overall SHGC | 8. Overall VT | 9. Status[2] | Pass | Fail |
|---|---|---|---|---|---|---|---|---|---|---|
| T24 Fixed Window U-0.28 SHGC-0.22 | VerticalFenestration OperableWindow N/A | NFRC Rated | Manufactured | 10407 | 0.28 | 0.22 | 0.71 | N | ☐ | ☐ |
| T24 Storefront U-0.41 SHGC-0.22 | VerticalFenestration CurtainWall N/A | NFRC Rated | SiteBuilt | 2603 | 0.41 | 0.22 | 0.50 | N | ☐ | ☐ |

*[1] Newly installed fenestration shall have a certified NFRC Label Certificate or use the CEC default tables found in Table 110.6-A and Table 110.6-B. Center of Glass (COG) values are for the glass-only, determined by the manufacturer, and are shown for ease of verification. Site-built fenestration values are calculated per Nonresidential Appendix NA6 and are used in the analysis.*

*[2] Status: N - New, A – Altered, E – Existing*

| | |
|---|---|
| **Taking compliance credit for fenestration shading devices?** (if "Yes", see NRCC-PRF-ENV-DETAILS for more information) | No |

**K. OPAQUE SURFACE ASSEMBLY SUMMARY** — § 120.7/ § 140.3 — Confirmed

| 1. Surface Name | 2. Surface Type | 3. Area (ft²) | 4. Framing Type | 5. Cavity R-Value | 6. Continuous R-Value | 7. U-Factor / F-Factor / C-Factor | 8. Status[1] | Pass | Fail |
|---|---|---|---|---|---|---|---|---|---|
| Internal Wood Ceiling/Floor | InteriorFloor | 125749 | Wood | 13 | NA | U-Factor: 0.062 | N | ☐ | ☐ |
| InternalWoodPartition | InteriorWall | 103899 | Wood | 13 | NA | U-Factor: 0.091 | N | ☐ | ☐ |
| WoodFrameWall | ExteriorWall | 55829 | Wood | 21 | NA | U-Factor: 0.065 | N | ☐ | ☐ |
| FlatNonresWoodFramingAndOtherRoofU034 L1 | Roof | 7979 | NA | 0 | 29 | U-Factor: 0.034 | N | ☐ | ☐ |
| FlatNonresWoodFramingAndOtherRoofU034 | Roof | 34486 | NA | 0 | 29 | U-Factor: 0.034 | N | ☐ | ☐ |
| MassFloorU269 | ExteriorFloor | 971 | NA | 0 | NA | U-Factor: 0.174 | N | ☐ | ☐ |
| Underground wall | ExteriorWall | 16405 | NA | 0 | NA | U-Factor: 0.549 | N | ☐ | ☐ |
| Underground floor | ExteriorFloor | 41154 | NA | 0 | NA | U-Factor: 0.485 | N | ☐ | ☐ |
| MetalFrameWall | ExteriorWall | 12731 | Metal | 19 | NA | U-Factor: 0.149 | N | ☐ | ☐ |
| InternalMetalPartitionR13 | InteriorWall | 26727 | Metal | 0 | NA | U-Factor: 0.320 | N | ☐ | ☐ |
| Internal Concrete Floor/Ceiling | InteriorFloor | 113255 | NA | 0 | NA | U-Factor: 0.184 | N | ☐ | ☐ |
| InternalMetalPartitionR19 | InteriorWall | 6319 | Metal | 19 | NA | U-Factor: 0.144 | N | ☐ | ☐ |

*[1] Status: N - New, A – Altered, E – Existing*

**L. ROOFING PRODUCT SUMMARY** — **§ 140.3** — **Confirmed**

| 1. Product Type | 2. Product Density (lb/ft²) | 3. Aged Solar Reflectance | 4. Thermal Emittance | 5. SRI | 6. Cool Roof Credit | 7. Roofing Product Description | Pass | Fail |
|---|---|---|---|---|---|---|---|---|
| FlatNonresWoodFramingAndOtherRoofU034 L1 | 1.006 | 0.85 | 0.85 | Not Provided | Yes | CRRC Prod. ID: 123 | ☐ | ☐ |
| FlatNonresWoodFramingAndOtherRoofU034 | 1.006 | 0.85 | 0.85 | Not Provided | Yes | CRRC Prod. ID: 434 | ☐ | ☐ |

**M. HVAC SYSTEM SUMMARY (see NRCC-PRF-MCH-DETAILS for more information)** — **§ 110.1 / § 110.2**

Dry System Equipment [1] (Fan & Economizer info included below in Table N) — **Confirmed**

| 1. Equip Name | 2. Equip Type | 3. System Type (Simple [2] or Complex [3]) | 4. Qty | 5. Total Heating Output (kBtu/h) | 6. Supp Heat Source (Y/N) | 7. Supp Heat Output (kBtuh) | 8. Total Cooling Output (kBtu/h) | 9. Efficiency | | 10. Acceptance Testing Required? (Y/N) [4] | 11. Status[5] | Pass | Fail |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Cooling | Heating | | | | |
| Sys L1 GYM | SZHP (Packaged3Phase) | Simple | 1 | 69 | No | 0 | 69 | EER-13.0 | COP-3.40 | No | N | ☐ | ☐ |
| Sys L1 OFFICE | SZHP (Split1Phase) | Simple | 1 | 22 | No | 0 | 22 | SEER-16.000 / EER-13.000 | HSPF-9.500 | No | N | ☐ | ☐ |
| Sys L1 RETAIL 1-2 | SZHP (Packaged3Phase) | Simple | 1 | 64 | No | 0 | 64 | SEER-16.00 / EER-13.00 | HSPF-9.50 | No | N | ☐ | ☐ |
| Sys L1 RETAIL 03 | SZHP (Packaged3Phase) | Simple | 1 | 92 | No | 0 | 92 | EER-13.0 | COP-3.40 | No | N | ☐ | ☐ |
| Sys L1 RETAIL 04 | SZHP (Packaged3Phase) | Simple | 1 | 75 | No | 0 | 75 | EER-13.0 | COP-3.40 | No | N | ☐ | ☐ |
| Sys L6 AMENETIES | SZHP (Packaged3Phase) | Simple | 1 | 27 | No | 0 | 27 | SEER-16.00 / EER-13.00 | HSPF-9.50 | No | N | ☐ | ☐ |
| Sys L2 RES UNIT 1BRx4 | SZHP (Split1Phase) | Simple | 1 | 15 | No | 0 | 15 | SEER-16.000 / EER-13.000 | HSPF-9.500 | No | N | ☐ | ☐ |
| Sys L2 RES UNIT 1Bx3 | SZHP (Split1Phase) | Simple | 1 | 12 | No | 0 | 12 | SEER-16.000 / EER-13.000 | HSPF-9.500 | No | N | ☐ | ☐ |

**M. HVAC SYSTEM SUMMARY (see NRCC-PRF-MCH-DETAILS for more information)** — **§ 110.1 / § 110.2**

Dry System Equipment [1] (Fan & Economizer info included below in Table N) — **Confirmed**

| 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. | | 10. | 11. | Pass | Fail |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Equip Name** | **Equip Type** | **System Type (Simple [2] or Complex [3])** | **Qty** | **Total Heating Output (kBtu/h)** | **Supp Heat Source (Y/N)** | **Supp Heat Output (kBtuh)** | **Total Cooling Output (kBtu/h)** | **Efficiency** | | **Acceptance Testing Required? (Y/N) [4]** | **Status[5]** | | |
| | | | | | | | | **Cooling** | **Heating** | | | | |
| Sys L2 RES UNIT 1Bx4 JR1Bx4 01 | SZHP (Split1Phase) | Simple | 1 | 33 | No | 0 | 33 | SEER-16.000 / EER-13.000 | HSPF-9.500 | No | N | ☐ | ☐ |
| Sys L2 RES UNIT 1Bx4 JR1Bx4 02 | SZHP (Split1Phase) | Simple | 1 | 32 | No | 0 | 32 | SEER-16.000 / EER-13.000 | HSPF-9.500 | No | N | ☐ | ☐ |
| Sys L2 RES UNIT 2Bx1 | SZHP (Split1Phase) | Simple | 1 | 6 | No | 0 | 6 | SEER-16.000 / EER-13.000 | HSPF-9.500 | No | N | ☐ | ☐ |
| Sys L2 RES UNIT 2Bx2 | SZHP (Split1Phase) | Simple | 1 | 12 | No | 0 | 12 | SEER-16.000 / EER-13.000 | HSPF-9.500 | No | N | ☐ | ☐ |
| Sys L2 RES UNIT 2Bx3 | SZHP (Split1Phase) | Simple | 1 | 17 | No | 0 | 17 | SEER-16.000 / EER-13.000 | HSPF-9.500 | No | N | ☐ | ☐ |
| Sys L2 RES UNIT 3Bx1 1Bx1 JR1Bx1 | SZHP (Split1Phase) | Simple | 1 | 18 | No | 0 | 18 | SEER-16.000 / EER-13.000 | HSPF-9.500 | No | N | ☐ | ☐ |
| Sys L2 RES UNIT 3Bx1 2Bx2 | SZHP (Split1Phase) | Simple | 1 | 20 | No | 0 | 20 | SEER-16.000 / EER-13.000 | HSPF-9.500 | No | N | ☐ | ☐ |
| Sys L3 RES UNIT 1Bx3 | SZHP (Split1Phase) | Simple | 1 | 12 | No | 0 | 12 | SEER-16.000 / EER-13.000 | HSPF-9.500 | No | N | ☐ | ☐ |
| Sys L3 RES UNIT 1Bx4 | SZHP (Split1Phase) | Simple | 1 | 15 | No | 0 | 15 | SEER-16.000 / EER-13.000 | HSPF-9.500 | No | N | ☐ | ☐ |
| Sys L3 RES UNIT 1Bx5 JR1Bx3 | SZHP (Split1Phase) | Simple | 1 | 31 | No | 0 | 31 | SEER-16.000 / EER-13.000 | HSPF-9.500 | No | N | ☐ | ☐ |

**M. HVAC SYSTEM SUMMARY (see NRCC-PRF-MCH-DETAILS for more information)** — **§ 110.1 / § 110.2**

Dry System Equipment [1] (Fan & Economizer info included below in Table N) — **Confirmed**

| 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. | | 10. | 11. | Pass | Fail |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Equip Name** | **Equip Type** | **System Type (Simple [2] or Complex [3])** | **Qty** | **Total Heating Output (kBtu/h)** | **Supp Heat Source (Y/N)** | **Supp Heat Output (kBtuh)** | **Total Cooling Output (kBtu/h)** | **Efficiency** | | **Acceptance Testing Required? (Y/N) [4]** | **Status[5]** | | |
| | | | | | | | | **Cooling** | **Heating** | | | | |
| Sys L3 RES UNIT 1Bx7 JR1Bx4 | SZHP (Split1Phase) | Simple | 1 | 43 | No | 0 | 43 | SEER-16.000 / EER-13.000 | HSPF-9.500 | No | N | ☐ | ☐ |
| Sys L3 RES UNIT 2Bx1 | SZHP (Split1Phase) | Simple | 1 | 5 | No | 0 | 5 | SEER-16.000 / EER-13.000 | HSPF-9.500 | No | N | ☐ | ☐ |
| Sys L3 RES UNIT 2Bx2 | SZHP (Split1Phase) | Simple | 1 | 12 | No | 0 | 12 | SEER-16.000 / EER-13.000 | HSPF-9.500 | No | N | ☐ | ☐ |
| Sys L3 RES UNIT 2Bx3 | SZHP (Split1Phase) | Simple | 1 | 17 | No | 0 | 17 | SEER-16.000 / EER-13.000 | HSPF-9.500 | No | N | ☐ | ☐ |
| Sys L3 RES UNIT 3Bx1 2Bx2 | SZHP (Split1Phase) | Simple | 1 | 20 | No | 0 | 20 | SEER-16.000 / EER-13.000 | HSPF-9.500 | No | N | ☐ | ☐ |
| Sys L4 RES UNIT 1Bx3 | SZHP (Split1Phase) | Simple | 1 | 12 | No | 0 | 12 | SEER-16.000 / EER-13.000 | HSPF-9.500 | No | N | ☐ | ☐ |
| Sys L4 RES UNIT 1Bx4 | SZHP (Split1Phase) | Simple | 1 | 15 | No | 0 | 15 | SEER-16.000 / EER-13.000 | HSPF-9.500 | No | N | ☐ | ☐ |
| Sys L4 RES UNIT 1Bx5 JR1Bx3 | SZHP (Split1Phase) | Simple | 1 | 31 | No | 0 | 31 | SEER-16.000 / EER-13.000 | HSPF-9.500 | No | N | ☐ | ☐ |
| Sys L4 RES UNIT 1Bx7 JR1Bx4 | SZHP (Split1Phase) | Simple | 1 | 43 | No | 0 | 43 | SEER-16.000 / EER-13.000 | HSPF-9.500 | No | N | ☐ | ☐ |
| Sys L4 RES UNIT 2Bx1 | SZHP (Split1Phase) | Simple | 1 | 5 | No | 0 | 5 | SEER-16.000 / EER-13.000 | HSPF-9.500 | No | N | ☐ | ☐ |

**M. HVAC SYSTEM SUMMARY (see NRCC-PRF-MCH-DETAILS for more information)** — **§ 110.1 / § 110.2**

Dry System Equipment [1] (Fan & Economizer info included below in Table N) — **Confirmed**

| 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. | | 10. | 11. | Pass | Fail |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Equip Name** | **Equip Type** | **System Type (Simple [2] or Complex [3])** | **Qty** | **Total Heating Output (kBtu/h)** | **Supp Heat Source (Y/N)** | **Supp Heat Output (kBtuh)** | **Total Cooling Output (kBtu/h)** | **Efficiency** | | **Acceptance Testing Required? (Y/N) [4]** | **Status[5]** | | |
| | | | | | | | | **Cooling** | **Heating** | | | | |
| Sys L4 RES UNIT 2Bx2 | SZHP (Split1Phase) | Simple | 1 | 12 | No | 0 | 12 | SEER-16.000 / EER-13.000 | HSPF-9.500 | No | N | ☐ | ☐ |
| Sys L4 RES UNIT 2Bx3 | SZHP (Split1Phase) | Simple | 1 | 17 | No | 0 | 17 | SEER-16.000 / EER-13.000 | HSPF-9.500 | No | N | ☐ | ☐ |
| Sys L4 RES UNIT 3Bx1 2Bx2 | SZHP (Split1Phase) | Simple | 1 | 20 | No | 0 | 20 | SEER-16.000 / EER-13.000 | HSPF-9.500 | No | N | ☐ | ☐ |
| Sys L5 RES UNIT 1Bx3 | SZHP (Split1Phase) | Simple | 1 | 12 | No | 0 | 12 | SEER-16.000 / EER-13.000 | HSPF-9.500 | No | N | ☐ | ☐ |
| Sys L5 RES UNIT 1Bx4 | SZHP (Split1Phase) | Simple | 1 | 15 | No | 0 | 15 | SEER-16.000 / EER-13.000 | HSPF-9.500 | No | N | ☐ | ☐ |
| Sys L5 RES UNIT 1Bx5 JR1Bx3 | SZHP (Split1Phase) | Simple | 1 | 31 | No | 0 | 31 | SEER-16.000 / EER-13.000 | HSPF-9.500 | No | N | ☐ | ☐ |
| Sys L5 RES UNIT 1Bx7 JR1Bx4 | SZHP (Split1Phase) | Simple | 1 | 45 | No | 0 | 45 | SEER-16.000 / EER-13.000 | HSPF-9.500 | No | N | ☐ | ☐ |
| Sys L5 RES UNIT 2Bx1 | SZHP (Split1Phase) | Simple | 1 | 6 | No | 0 | 6 | SEER-16.000 / EER-13.000 | HSPF-9.500 | No | N | ☐ | ☐ |
| Sys L5 RES UNIT 2Bx2 | SZHP (Split1Phase) | Simple | 1 | 13 | No | 0 | 13 | SEER-16.000 / EER-13.000 | HSPF-9.500 | No | N | ☐ | ☐ |
| Sys L5 RES UNIT 2Bx3 | SZHP (Split1Phase) | Simple | 1 | 18 | No | 0 | 18 | SEER-16.000 / EER-13.000 | HSPF-9.500 | No | N | ☐ | ☐ |

**M. HVAC SYSTEM SUMMARY (see NRCC-PRF-MCH-DETAILS for more information)** — **§ 110.1 / § 110.2**

Dry System Equipment [1] (Fan & Economizer info included below in Table N) — **Confirmed**

| 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. | | 10. | 11. | Pass | Fail |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Equip Name** | **Equip Type** | **System Type (Simple [2] or Complex [3])** | **Qty** | **Total Heating Output (kBtu/h)** | **Supp Heat Source (Y/N)** | **Supp Heat Output (kBtuh)** | **Total Cooling Output (kBtu/h)** | **Efficiency** | | **Acceptance Testing Required? (Y/N) [4]** | **Status[5]** | | |
| | | | | | | | | **Cooling** | **Heating** | | | | |
| Sys L5 RES UNIT 3Bx1 2Bx2 | SZHP (Split1Phase) | Simple | 1 | 25 | No | 0 | 25 | SEER-16.000 / EER-13.000 | HSPF-9.500 | No | N | ☐ | ☐ |
| Sys L6 RES UNIT 1Bx2 | SZHP (Split1Phase) | Simple | 1 | 11 | No | 0 | 11 | SEER-16.000 / EER-13.000 | HSPF-9.500 | No | N | ☐ | ☐ |
| Sys L6 RES UNIT 1Bx3 01 | SZHP (Split1Phase) | Simple | 1 | 21 | No | 0 | 21 | SEER-16.000 / EER-13.000 | HSPF-9.500 | No | N | ☐ | ☐ |
| Sys L6 RES UNIT 1Bx3 02 | SZHP (Split1Phase) | Simple | 1 | 12 | No | 0 | 12 | SEER-16.000 / EER-13.000 | HSPF-9.500 | No | N | ☐ | ☐ |
| Sys L6 RES UNIT 1Bx4 01 | SZHP (Split1Phase) | Simple | 1 | 19 | No | 0 | 19 | SEER-16.000 / EER-13.000 | HSPF-9.500 | No | N | ☐ | ☐ |
| Sys L6 RES UNIT 1Bx4 02 | SZHP (Split1Phase) | Simple | 1 | 19 | No | 0 | 19 | SEER-16.000 / EER-13.000 | HSPF-9.500 | No | N | ☐ | ☐ |
| Sys L6 RES UNIT 1Bx4 JR1Bx3 | SZHP (Split1Phase) | Simple | 1 | 35 | No | 0 | 35 | SEER-16.000 / EER-13.000 | HSPF-9.500 | No | N | ☐ | ☐ |
| Sys L6 RES UNIT 2Bx1 | SZHP (Split1Phase) | Simple | 1 | 6 | No | 0 | 6 | SEER-16.000 / EER-13.000 | HSPF-9.500 | No | N | ☐ | ☐ |
| Sys L6 RES UNIT Sx1 2Bx1 | SZHP (Split1Phase) | Simple | 1 | 12 | No | 0 | 12 | SEER-16.000 / EER-13.000 | HSPF-9.500 | No | N | ☐ | ☐ |

*[1] Dry System Equipment includes furnaces, air handling units, heat pumps, etc.*

*[2] Simple Systems must complete NRCC-CXR-03-E commissioning design review form*

*[3] Complex Systems must complete NRCC-CXR-04-E commissioning design review form*

*[4] A summary of which acceptance tests are applicable is provided in NRCC-PRF-MCH-DETAILS*

*[5] Status: N - New, A – Altered, E – Existing*

| *Wet System Equipment [1]* | | | | | | | | *Pumps* | | | | | Confirmed | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **12.** | **13.** | **14.** | **15.** | **16.** | **17.** | **18.** | **19.** | **20.** | **21.** | **22.** | **23.** | **24.** | | |
| **Equip Name** | **Equip Type** | **Qty** | **Vol (gal)** | **Rated Capacity (kBtu/h)** | **Efficiency** | **Standby Loss** | **Tank Ext. R Value** | **Qty** | **GPM** | **HP** | **VSD (Y/N)** | **Status[2]** | **Pass** | **Fail** |
| SHW Heater | Storage | 1 | 150.00 | 400 | Thrml. Eff.: 0.95 | SBLF: 0.020 | NA | | NA | | No | N | ☐ | ☐ |
| RDHW Heater | Boiler | 1 | 150.00 | 500 | Thrml. Eff.: 0.950 | NA | 12.0 | NA | NA | (kW) | NA | N | ☐ | ☐ |

*[1] Wet System Equipment includes boilers, chillers, cooling towers, water heaters, etc.*

*[2] Status: N - New, A – Altered, E – Existing*

| | |
|---|---|
| **Discrepancy between modeled and designed equipment sizing?** (if "Yes", see Table F. "Additional Remarks" for an explanation) | No |

| **N. ECONOMIZER & FAN SYSTEMS SUMMARY[1]** | | | | | | | | | | | | **§ 140.4** | **Confirmed** | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **1.** | **2.** | **3.** | | | | | **4.** | | | | | **5.** | | |
| **Equip Name** | **Outside Air** | **Supply Fan** | | | | | **Return Fan** | | | | | **Economizer Type (if present)** | **Pass** | **Fail** |
| | **CFM** | **CFM** | **HP** | **BHP** | **TSP (inch WC)** | **Control** | **CFM** | **HP** | **BHP** | **TSP (inch WC)** | **Control** | | | |
| Sys L1 GYM | 343 | 2730 | 1.500 | 1.434 | 3.00 | ConstantVolume | NA | NA | NA | NA | NA | NoEconomizer | ☐ | ☐ |
| Sys L1 OFFICE | 237 | 990 | 0.750 | 0.520 | 3.00 | ConstantVolume | NA | NA | NA | NA | NA | NoEconomizer | ☐ | ☐ |
| Sys L1 RETAIL 1-2 | 574 | 2930 | 2.000 | 1.539 | 3.00 | ConstantVolume | NA | NA | NA | NA | NA | NoEconomizer | ☐ | ☐ |
| Sys L1 RETAIL 03 | 1026 | 4190 | 3.000 | 2.201 | 3.00 | ConstantVolume | NA | NA | NA | NA | NA | NoEconomizer | ☐ | ☐ |
| Sys L1 RETAIL 04 | 745 | 3420 | 2.000 | 1.797 | 3.00 | ConstantVolume | NA | NA | NA | NA | NA | NoEconomizer | ☐ | ☐ |
| Sys L6 AMENETIES | 304 | 1220 | 0.750 | 0.641 | 3.00 | ConstantVolume | NA | NA | NA | NA | NA | NoEconomizer | ☐ | ☐ |
| Sys L2 RES UNIT 1BRx4 | 257 | 530 | 0.250 | 0.152 | 1.00 | ConstantVolume | NA | NA | NA | NA | NA | NA | ☐ | ☐ |
| Sys L2 RES UNIT 1Bx3 | 148 | 420 | 0.167 | 0.120 | 1.00 | ConstantVolume | NA | NA | NA | NA | NA | NA | ☐ | ☐ |

**N. ECONOMIZER & FAN SYSTEMS SUMMARY[1]** — § 140.4 — Confirmed

| 1. | 2. | 3. | | | | | 4. | | | | | 5. | Pass | Fail |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Equip Name | Outside Air | Supply Fan | | | | | Return Fan | | | | | Economizer Type (if present) | | |
| | CFM | CFM | HP | BHP | TSP (inch WC) | Control | CFM | HP | BHP | TSP (inch WC) | Control | | | |
| Sys L2 RES UNIT 1Bx4 JR1Bx4 01 | 435 | 1160 | 0.500 | 0.332 | 1.00 | ConstantVolume | NA | NA | NA | NA | NA | NA | ☐ | ☐ |
| Sys L2 RES UNIT 1Bx4 JR1Bx4 02 | 436 | 1120 | 0.500 | 0.321 | 1.00 | ConstantVolume | NA | NA | NA | NA | NA | NA | ☐ | ☐ |
| Sys L2 RES UNIT 2Bx1 | 94 | 200 | 0.100 | 0.057 | 1.00 | ConstantVolume | NA | NA | NA | NA | NA | NA | ☐ | ☐ |
| Sys L2 RES UNIT 2Bx2 | 185 | 430 | 0.167 | 0.123 | 1.00 | ConstantVolume | NA | NA | NA | NA | NA | NA | ☐ | ☐ |
| Sys L2 RES UNIT 2Bx3 | 258 | 580 | 0.250 | 0.166 | 1.00 | ConstantVolume | NA | NA | NA | NA | NA | NA | ☐ | ☐ |
| Sys L2 RES UNIT 3Bx1 1Bx1 JR1Bx1 | 220 | 610 | 0.250 | 0.175 | 1.00 | ConstantVolume | NA | NA | NA | NA | NA | NA | ☐ | ☐ |
| Sys L2 RES UNIT 3Bx1 2Bx2 | 276 | 700 | 0.250 | 0.201 | 1.00 | ConstantVolume | NA | NA | NA | NA | NA | NA | ☐ | ☐ |
| Sys L3 RES UNIT 1Bx3 | 156 | 420 | 0.167 | 0.120 | 1.00 | ConstantVolume | NA | NA | NA | NA | NA | NA | ☐ | ☐ |
| Sys L3 RES UNIT 1Bx4 | 257 | 520 | 0.250 | 0.149 | 1.00 | ConstantVolume | NA | NA | NA | NA | NA | NA | ☐ | ☐ |
| Sys L3 RES UNIT 1Bx5 JR1Bx3 | 448 | 1090 | 0.500 | 0.312 | 1.00 | ConstantVolume | NA | NA | NA | NA | NA | NA | ☐ | ☐ |
| Sys L3 RES UNIT 1Bx7 JR1Bx4 | 683 | 1470 | 0.750 | 0.421 | 1.00 | ConstantVolume | NA | NA | NA | NA | NA | NA | ☐ | ☐ |
| Sys L3 RES UNIT 2Bx1 | 94 | 190 | 0.100 | 0.054 | 1.00 | ConstantVolume | NA | NA | NA | NA | NA | NA | ☐ | ☐ |
| Sys L3 RES UNIT 2Bx2 | 185 | 430 | 0.167 | 0.123 | 1.00 | ConstantVolume | NA | NA | NA | NA | NA | NA | ☐ | ☐ |

**N. ECONOMIZER & FAN SYSTEMS SUMMARY[1]** — § 140.4 — Confirmed

| 1. | 2. | 3. | | | | | 4. | | | | | 5. | Pass | Fail |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Equip Name | Outside Air | Supply Fan | | | | | Return Fan | | | | | Economizer Type (if present) | | |
| | CFM | CFM | HP | BHP | TSP (inch WC) | Control | CFM | HP | BHP | TSP (inch WC) | Control | | | |
| Sys L3 RES UNIT 2Bx3 | 258 | 600 | 0.250 | 0.172 | 1.00 | ConstantVolume | NA | NA | NA | NA | NA | NA | ☐ | ☐ |
| Sys L3 RES UNIT 3Bx1 2Bx2 | 276 | 680 | 0.250 | 0.195 | 1.00 | ConstantVolume | NA | NA | NA | NA | NA | NA | ☐ | ☐ |
| Sys L4 RES UNIT 1Bx3 | 156 | 420 | 0.167 | 0.120 | 1.00 | ConstantVolume | NA | NA | NA | NA | NA | NA | ☐ | ☐ |
| Sys L4 RES UNIT 1Bx4 | 257 | 520 | 0.250 | 0.149 | 1.00 | ConstantVolume | NA | NA | NA | NA | NA | NA | ☐ | ☐ |
| Sys L4 RES UNIT 1Bx5 JR1Bx3 | 448 | 1080 | 0.500 | 0.309 | 1.00 | ConstantVolume | NA | NA | NA | NA | NA | NA | ☐ | ☐ |
| Sys L4 RES UNIT 1Bx7 JR1Bx4 | 683 | 1470 | 0.750 | 0.421 | 1.00 | ConstantVolume | NA | NA | NA | NA | NA | NA | ☐ | ☐ |
| Sys L4 RES UNIT 2Bx1 | 94 | 190 | 0.100 | 0.054 | 1.00 | ConstantVolume | NA | NA | NA | NA | NA | NA | ☐ | ☐ |
| Sys L4 RES UNIT 2Bx2 | 185 | 430 | 0.167 | 0.123 | 1.00 | ConstantVolume | NA | NA | NA | NA | NA | NA | ☐ | ☐ |
| Sys L4 RES UNIT 2Bx3 | 258 | 600 | 0.250 | 0.172 | 1.00 | ConstantVolume | NA | NA | NA | NA | NA | NA | ☐ | ☐ |
| Sys L4 RES UNIT 3Bx1 2Bx2 | 276 | 680 | 0.250 | 0.195 | 1.00 | ConstantVolume | NA | NA | NA | NA | NA | NA | ☐ | ☐ |
| Sys L5 RES UNIT 1Bx3 | 156 | 420 | 0.167 | 0.120 | 1.00 | ConstantVolume | NA | NA | NA | NA | NA | NA | ☐ | ☐ |
| Sys L5 RES UNIT 1Bx4 | 257 | 530 | 0.250 | 0.152 | 1.00 | ConstantVolume | NA | NA | NA | NA | NA | NA | ☐ | ☐ |
| Sys L5 RES UNIT 1Bx5 JR1Bx3 | 448 | 1090 | 0.500 | 0.312 | 1.00 | ConstantVolume | NA | NA | NA | NA | NA | NA | ☐ | ☐ |
| Sys L5 RES UNIT 1Bx7 JR1Bx4 | 683 | 1570 | 0.750 | 0.450 | 1.00 | ConstantVolume | NA | NA | NA | NA | NA | NA | ☐ | ☐ |

**N. ECONOMIZER & FAN SYSTEMS SUMMARY**[1]

| 1. | 2. | 3. | | | | | 4. | | | | | 5. | Pass | Fail |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Equip Name | Outside Air | Supply Fan | | | | | Return Fan | | | | | Economizer Type (if present) | | |
| | CFM | CFM | HP | BHP | TSP (inch WC) | Control | CFM | HP | BHP | TSP (inch WC) | Control | | | |
| Sys L5 RES UNIT 2Bx1 | 94 | 190 | 0.100 | 0.054 | 1.00 | ConstantVolume | NA | NA | NA | NA | NA | NA | ☐ | ☐ |
| Sys L5 RES UNIT 2Bx2 | 185 | 440 | 0.167 | 0.126 | 1.00 | ConstantVolume | NA | NA | NA | NA | NA | NA | ☐ | ☐ |
| Sys L5 RES UNIT 2Bx3 | 258 | 610 | 0.250 | 0.175 | 1.00 | ConstantVolume | NA | NA | NA | NA | NA | NA | ☐ | ☐ |
| Sys L5 RES UNIT 3Bx1 2Bx2 | 276 | 860 | 0.333 | 0.246 | 1.00 | ConstantVolume | NA | NA | NA | NA | NA | NA | ☐ | ☐ |
| Sys L6 RES UNIT 1Bx2 | 126 | 390 | 0.167 | 0.112 | 1.00 | ConstantVolume | NA | NA | NA | NA | NA | NA | ☐ | ☐ |
| Sys L6 RES UNIT 1Bx3 01 | 232 | 740 | 0.333 | 0.212 | 1.00 | ConstantVolume | NA | NA | NA | NA | NA | NA | ☐ | ☐ |
| Sys L6 RES UNIT 1Bx3 02 | 156 | 420 | 0.167 | 0.120 | 1.00 | ConstantVolume | NA | NA | NA | NA | NA | NA | ☐ | ☐ |
| Sys L6 RES UNIT 1Bx4 01 | 257 | 650 | 0.250 | 0.186 | 1.00 | ConstantVolume | NA | NA | NA | NA | NA | NA | ☐ | ☐ |
| Sys L6 RES UNIT 1Bx4 02 | 249 | 660 | 0.250 | 0.189 | 1.00 | ConstantVolume | NA | NA | NA | NA | NA | NA | ☐ | ☐ |
| Sys L6 RES UNIT 1Bx4 JR1Bx3 | 456 | 1210 | 0.500 | 0.347 | 1.00 | ConstantVolume | NA | NA | NA | NA | NA | NA | ☐ | ☐ |
| Sys L6 RES UNIT 2Bx1 | 94 | 210 | 0.100 | 0.060 | 1.00 | ConstantVolume | NA | NA | NA | NA | NA | NA | ☐ | ☐ |
| Sys L6 RES UNIT Sx1 2Bx1 | 136 | 420 | 0.167 | 0.120 | 1.00 | ConstantVolume | NA | NA | NA | NA | NA | NA | ☐ | ☐ |

[1] *Mechanical ventilation calculations and exhaust fans are included in the NRCC-PRF-MCH-DETAILS section*

**O. EQUIPMENT CONTROLS** — **§ 120.2** — **Confirmed**

| 1. Equip Name | 2. Equip Type | 3. Controls | Pass | Fail |
|---|---|---|---|---|
| Sys L1 GYM | SZHP | No DCV Controls<br>No Economizer<br>No Supply Air Temp. Control<br>Optimum Start<br>No Evaporative Cooler<br>No Heat Recovery | ☐ | ☐ |
| Sys L1 OFFICE | SZHP | No DCV Controls<br>No Economizer<br>No Supply Air Temp. Control<br>Optimum Start<br>No Evaporative Cooler<br>No Heat Recovery | ☐ | ☐ |
| Sys L1 RETAIL 1-2 | SZHP | No DCV Controls<br>No Economizer<br>No Supply Air Temp. Control<br>Optimum Start<br>No Evaporative Cooler<br>No Heat Recovery | ☐ | ☐ |
| Sys L1 RETAIL 03 | SZHP | No DCV Controls<br>No Economizer<br>No Supply Air Temp. Control<br>Optimum Start<br>No Evaporative Cooler<br>No Heat Recovery | ☐ | ☐ |
| Sys L1 RETAIL 04 | SZHP | No DCV Controls<br>No Economizer<br>No Supply Air Temp. Control<br>Optimum Start<br>No Evaporative Cooler<br>No Heat Recovery | ☐ | ☐ |
| Sys L6 AMENETIES | SZHP | 1 Zones With CO2Sensor Vent. Control<br>No Economizer<br>No Supply Air Temp. Control<br>Optimum Start<br>No Evaporative Cooler<br>No Heat Recovery | ☐ | ☐ |

| **O. EQUIPMENT CONTROLS** | | | **§ 120.2** | **Confirmed** |
|---|---|---|---|---|
| **1.** | **2.** | **3.** | **Pass** | **Fail** |
| **Equip Name** | **Equip Type** | **Controls** | | |
| SHWFluidSys | Service Hot Water, Primary Only | Fixed Temperature Control, No DDC<br>No Heat Recovery | ☐ | ☐ |

| **P. SYSTEM DISTRIBUTION SUMMARY** | | | | | | | **§ 120.4/ § 140.4(l)** | |
|---|---|---|---|---|---|---|---|---|
| | | ***Dry System Distribution*** | | | | | **Confirmed** | |
| **1.** | **2.** | **3.** | **4.** | **5.** | | **6.** | **Pass** | **Fail** |
| **Equip Name** | **Equip Type** | **Duct Leakage and Sealing Required per 140.4(l)** | **Duct Leakage will be verified per NA1 and NA2** | **Ducts** | | **Status[1]** | | |
| | | | | **Insulation R-Value** | **Location** | | | |
| Sys L1 GYM | SZHP | No | No | 4.2 | Conditioned | N | ☐ | ☐ |
| Sys L1 OFFICE | SZHP | No | No | 4.2 | Conditioned | N | ☐ | ☐ |
| Sys L1 RETAIL 1-2 | SZHP | No | No | 4.2 | Conditioned | N | ☐ | ☐ |
| Sys L1 RETAIL 03 | SZHP | No | No | 4.2 | Conditioned | N | ☐ | ☐ |
| Sys L1 RETAIL 04 | SZHP | No | No | 4.2 | Conditioned | N | ☐ | ☐ |
| Sys L6 AMENETIES | SZHP | No | No | 4.2 | Conditioned | N | ☐ | ☐ |
| Sys L2 RES UNIT 1BRx4 | SZHP | No | No | 4.2 | Conditioned | N | ☐ | ☐ |
| Sys L2 RES UNIT 1Bx3 | SZHP | No | No | 4.2 | Conditioned | N | ☐ | ☐ |
| Sys L2 RES UNIT 1Bx4 JR1Bx4 01 | SZHP | No | No | 4.2 | Conditioned | N | ☐ | ☐ |
| Sys L2 RES UNIT 1Bx4 JR1Bx4 02 | SZHP | No | No | 4.2 | Conditioned | N | ☐ | ☐ |
| Sys L2 RES UNIT 2Bx1 | SZHP | No | No | 4.2 | Conditioned | N | ☐ | ☐ |
| Sys L2 RES UNIT 2Bx2 | SZHP | No | No | 4.2 | Conditioned | N | ☐ | ☐ |
| Sys L2 RES UNIT 2Bx3 | SZHP | No | No | 4.2 | Conditioned | N | ☐ | ☐ |
| Sys L2 RES UNIT 3Bx1 1Bx1 JR1Bx1 | SZHP | No | No | 4.2 | Conditioned | N | ☐ | ☐ |
| Sys L2 RES UNIT 3Bx1 2Bx2 | SZHP | No | No | 4.2 | Conditioned | N | ☐ | ☐ |
| Sys L3 RES UNIT 1Bx3 | SZHP | No | No | 4.2 | Conditioned | N | ☐ | ☐ |

**P. SYSTEM DISTRIBUTION SUMMARY** — **§ 120.4/ § 140.4(l)**

| | | *Dry System Distribution* | | | | | Confirmed | |
|---|---|---|---|---|---|---|---|---|
| 1. | 2. | 3. | 4. | 5. | | 6. | | |
| Equip Name | Equip Type | Duct Leakage and Sealing Required per 140.4(l) | Duct Leakage will be verified per NA1 and NA2 | Ducts | | Status[1] | Pass | Fail |
| | | | | Insulation R-Value | Location | | | |
| Sys L3 RES UNIT 1Bx4 | SZHP | No | No | 4.2 | Conditioned | N | ☐ | ☐ |
| Sys L3 RES UNIT 1Bx5 JR1Bx3 | SZHP | No | No | 4.2 | Conditioned | N | ☐ | ☐ |
| Sys L3 RES UNIT 1Bx7 JR1Bx4 | SZHP | No | No | 4.2 | Conditioned | N | ☐ | ☐ |
| Sys L3 RES UNIT 2Bx1 | SZHP | No | No | 4.2 | Conditioned | N | ☐ | ☐ |
| Sys L3 RES UNIT 2Bx2 | SZHP | No | No | 4.2 | Conditioned | N | ☐ | ☐ |
| Sys L3 RES UNIT 2Bx3 | SZHP | No | No | 4.2 | Conditioned | N | ☐ | ☐ |
| Sys L3 RES UNIT 3Bx1 2Bx2 | SZHP | No | No | 4.2 | Conditioned | N | ☐ | ☐ |
| Sys L4 RES UNIT 1Bx3 | SZHP | No | No | 4.2 | Conditioned | N | ☐ | ☐ |
| Sys L4 RES UNIT 1Bx4 | SZHP | No | No | 4.2 | Conditioned | N | ☐ | ☐ |
| Sys L4 RES UNIT 1Bx5 JR1Bx3 | SZHP | No | No | 4.2 | Conditioned | N | ☐ | ☐ |
| Sys L4 RES UNIT 1Bx7 JR1Bx4 | SZHP | No | No | 4.2 | Conditioned | N | ☐ | ☐ |
| Sys L4 RES UNIT 2Bx1 | SZHP | No | No | 4.2 | Conditioned | N | ☐ | ☐ |
| Sys L4 RES UNIT 2Bx2 | SZHP | No | No | 4.2 | Conditioned | N | ☐ | ☐ |
| Sys L4 RES UNIT 2Bx3 | SZHP | No | No | 4.2 | Conditioned | N | ☐ | ☐ |
| Sys L4 RES UNIT 3Bx1 2Bx2 | SZHP | No | No | 4.2 | Conditioned | N | ☐ | ☐ |
| Sys L5 RES UNIT 1Bx3 | SZHP | No | No | 4.2 | Conditioned | N | ☐ | ☐ |
| Sys L5 RES UNIT 1Bx4 | SZHP | No | No | 4.2 | Conditioned | N | ☐ | ☐ |
| Sys L5 RES UNIT 1Bx5 JR1Bx3 | SZHP | No | No | 4.2 | Conditioned | N | ☐ | ☐ |
| Sys L5 RES UNIT 1Bx7 JR1Bx4 | SZHP | No | No | 4.2 | Conditioned | N | ☐ | ☐ |
| Sys L5 RES UNIT 2Bx1 | SZHP | No | No | 4.2 | Conditioned | N | ☐ | ☐ |

**P. SYSTEM DISTRIBUTION SUMMARY** — **§ 120.4/ § 140.4(l)**

| | | *Dry System Distribution* | | | | | Confirmed | |
|---|---|---|---|---|---|---|---|---|
| 1. | 2. | 3. | 4. | 5. | | 6. | Pass | Fail |
| Equip Name | Equip Type | Duct Leakage and Sealing Required per 140.4(l) | Duct Leakage will be verified per NA1 and NA2 | Ducts | | Status[1] | | |
| | | | | Insulation R-Value | Location | | | |
| Sys L5 RES UNIT 2Bx2 | SZHP | No | No | 4.2 | Conditioned | N | ☐ | ☐ |
| Sys L5 RES UNIT 2Bx3 | SZHP | No | No | 4.2 | Conditioned | N | ☐ | ☐ |
| Sys L5 RES UNIT 3Bx1 2Bx2 | SZHP | No | No | 4.2 | Conditioned | N | ☐ | ☐ |
| Sys L6 RES UNIT 1Bx2 | SZHP | No | No | 4.2 | Conditioned | N | ☐ | ☐ |
| Sys L6 RES UNIT 1Bx3 01 | SZHP | No | No | 4.2 | Conditioned | N | ☐ | ☐ |
| Sys L6 RES UNIT 1Bx3 02 | SZHP | No | No | 4.2 | Conditioned | N | ☐ | ☐ |
| Sys L6 RES UNIT 1Bx4 01 | SZHP | No | No | 4.2 | Conditioned | N | ☐ | ☐ |
| Sys L6 RES UNIT 1Bx4 02 | SZHP | No | No | 4.2 | Conditioned | N | ☐ | ☐ |
| Sys L6 RES UNIT 1Bx4 JR1Bx3 | SZHP | No | No | 4.2 | Conditioned | N | ☐ | ☐ |
| Sys L6 RES UNIT 2Bx1 | SZHP | No | No | 4.2 | Conditioned | N | ☐ | ☐ |
| Sys L6 RES UNIT Sx1 2Bx1 | SZHP | No | No | 4.2 | Conditioned | N | ☐ | ☐ |

[1] *Status: N - New, E – Existing*

| | |
|---|---|
| **Does the Project Include Zonal Systems? (if "Yes", see NRCC-PRF-MCH-DETAILS for system information)** | Yes |
| **Does the Project Include a Solar Hot Water System? (if "Yes", see NRCC-PRF-MCH-DETAILS for system information)** | Yes |
| **Multifamily or Hotel/ Motel Occupancy? (if "Yes", see NRCC-PRF-MCH-DETAILS for DHW system information)** | Yes |

**Q. INDOOR CONDITIONED LIGHTING GENERAL INFO** (see NRCC-PRF-LTI-DETAILS for more info)[3] — **§ 140.6**

| | | | | | | Confirmed | |
|---|---|---|---|---|---|---|---|
| 1. | 2. | 3. | 4. | 5. | | Pass | Fail |
| Occupancy Type [1] | Conditioned Floor Area [2] ($ft^2$) | Installed Lighting Power (Watts) | Lighting Control Credits (Watts) | Additional (Custom) Allowance | | | |
| | | | | Area Category Footnotes (Watts) | Tailored Method (Watts) | ☐ | ☐ |
| Exercise Room | 2,285 | 2,285 | 0 | 0 | 0 | ☐ | ☐ |

**Q. INDOOR CONDITIONED LIGHTING GENERAL INFO** (see NRCC-PRF-LTI-DETAILS for more info)[3] **§ 140.6**

**Confirmed**

| 1. | 2. | 3. | 4. | 5. | | Pass | Fail |
|---|---|---|---|---|---|---|---|
| **Occupancy Type [1]** | **Conditioned Floor Area [2] ($ft^2$)** | **Installed Lighting Power (Watts)** | **Lighting Control Credits (Watts)** | **Additional (Custom) Allowance** | | | |
| | | | | **Area Category Footnotes (Watts)** | **Tailored Method (Watts)** | ☐ | ☐ |
| Office (250 square feet in floor area or less) | 1,583 | 1,266 | 0 | 0 | 0 | ☐ | ☐ |
| Retail Merchandise Sales, Wholesale Showroom | 11,723 | 11,256 | 0 | 0 | 0 | ☐ | ☐ |
| High-Rise Residential Living Spaces | 138,575 | | 0 | 0 | 0 | ☐ | ☐ |
| Lounge, Recreation | 609 | 438 | 0 | 0 | 0 | ☐ | ☐ |
| **Building Totals:** | **154,775** | **15,245** | **0** | **0** | **0** | | |

[1] *See Table 140.6-C*

[2] *See NRCC-LTI-01-E for unconditioned spaces*

[3] *Lighting information for existing spaces modeled is not included in the table*

**R. INDOOR CONDITIONED LIGHTING SCHEDULE** (Adapted from NRCC-LTI-01-E)[1] **§ 130.0**

This Section Does Not Apply

[1] *If lighting power densities were used in the compliance model Building Departments will need to check prescriptive forms for Luminaire Schedule details.*

**S1. COVERED PROCESS SUMMARY – ENCLOSED PARKING GARAGES** **§ 140.9**

This Section Does Not Apply

**S2. COVERED PROCESS SUMMARY – COMMERCIAL KITCHENS** **§ 140.9**

This Section Does Not Apply

**S3. COVERED PROCESS SUMMARY – COMPUTER ROOMS** **§ 140.9**

This Section Does Not Apply

| **S4. COVERED PROCESS SUMMARY – LABORATORY EXHAUSTS** | **§ 140.9** |
|---|---|
| This Section Does Not Apply | |

**T. UNMET LOAD HOURS**

This Section Does Not Apply

**U. ENERGY USE SUMMARY**

| Energy Component | Standard Design Site (MWh) | Proposed Design Site (MWh) | Margin (MWh) | Standard Design Site (MBtu) | Proposed Design Site (MBtu) | Margin (MBtu) |
|---|---|---|---|---|---|---|
| Space Heating | 0.0 | 6.6 | -- | 82.1 | -- | -- |
| Space Cooling | 55.5 | 64.2 | -8.7 | -- | -- | -- |
| Indoor Fans | 88.5 | 96.3 | -7.8 | -- | -- | -- |
| Heat Rejection | 5.1 | -- | -- | -- | -- | -- |
| Pumps & Misc. | 21.8 | -- | -- | -- | -- | -- |
| Domestic Hot Water | 1.1 | 1.1 | 0.0 | 1,632.2 | 1,039.8 | -- |
| Indoor Lighting | 56.3 | 46.4 | 9.9 | -- | -- | -- |
| **COMPLIANCE TOTAL** | **228.3** | **214.6** | **13.7** | **1,714.3** | **1,039.8** | **--** |
| Receptacle | 315.5 | 315.5 | 0.0 | 100.1 | 100.1 | 0.0 |
| Process | -- | -- | -- | -- | -- | -- |
| Other Ltg | 279.0 | 270.1 | 8.9 | -- | -- | -- |
| Process Motors | -- | -- | -- | -- | -- | -- |
| **TOTAL** | **822.8** | **800.2** | **22.6** | **1,814.4** | **1,139.9** | **--** |

| **DOCUMENTATION AUTHOR'S DECLARATION STATEMENT** | **§ 10-103** |
|---|---|
| I certify that this Certificate of Compliance documentation is accurate and complete. | |
| Documentation Author Name: Jason Lorcher<br>Company: Green Dinosaur | Signature: |
| Address: 8695 Washington Blvd | Signature Date: 06/18/2020 |
| City/State/Zip: Culver City CA 90232 | CEA Identification (If applicable): NR16-15-20004 |
| Phone: 2134553311 | |

**RESPONSIBLE PERSON'S DECLARATION STATEMENT**

I certify the following under penalty of perjury, under the laws of the State of California:

| | |
|---|---|
| 1 | 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, mechanical engineer, electrical engineer, or I am a licensed architect. |
| 2 | I affirm that I am eligible under the provisions of 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. |
| 3 | I affirm that I am eligible under Division 3 of the Business and Professions Code to sign this document because it pertains to a structure or type of work described as exempt pursuant to Business and Professions Code Sections 5537, 5538 and 6737.1. |

| | | |
|---|---|---|
| Responsible Envelope Designer Name:<br>Company: | **Signature:** | |
| Address: | Date Signed: | |
| City/State/Zip: CA 0 | Declaration Statement Type: | |
| Phone: | Title: | License #: |
| Responsible Lighting Designer Name:<br>Company: | **Signature:** | |
| Address: | Date Signed: | |
| City/State/Zip: CA 0 | Declaration Statement Type: | |
| Phone: | Title: | License #: |
| Responsible Mechanical Designer Name: -specify-<br>Company: | **Signature:** | |
| Address: | Date Signed: | |
| City/State/Zip: CA 0 | Declaration Statement Type: | |
| Phone: | Title: | License #: |

## NRCC-PRF-ENV-DETAILS -SECTION START-

| A. OPAQUE SURFACE ASSEMBLY DETAILS | | | | Confirmed | |
|---|---|---|---|---|---|
| 1. | 2. | 3. | 4. | Pass | Fail |
| **Surface Name** | **Surface Type** | **Description of Assembly Layers** | **Notes** | | |
| Internal Wood Ceiling/Floor | InteriorFloor | Gypsum Board - 5/8 in.<br>Wood framed roof, 16in. OC, 5.5in., R-13<br>Carpet - 3/4 in. | | ☐ | ☐ |
| InternalWoodPartition | InteriorWall | Gypsum Board - 5/8 in.<br>Wood framed wall, 16in. OC, 3.5in., R-13<br>Gypsum Board - 5/8 in. | | ☐ | ☐ |
| WoodFrameWall | ExteriorWall | Stucco - 7/8 in.<br>Plywood - 1/2 in.<br>Wood framed wall, 16in. OC, 5.5in., R-21<br>Gypsum Board - 5/8 in. | | ☐ | ☐ |
| FlatNonresWoodFramingAndOtherRoofU034 L1 | Roof | Single Ply Roofing - 1/4 in.<br>Compliance Insulation R28.63 | | ☐ | ☐ |
| FlatNonresWoodFramingAndOtherRoofU034 | Roof | Single Ply Roofing - 1/4 in.<br>Compliance Insulation R28.63 | | ☐ | ☐ |
| MassFloorU269 | ExteriorFloor | Gypsum Board - 5/8 in.<br>Air - Ceiling - 3/4 in.<br>Concrete - 100 lb/ft3 - 6 in.<br>Carpet - 3/4 in. | | ☐ | ☐ |
| Underground wall | ExteriorWall | Concrete - 100 lb/ft3 - 6 in. | | ☐ | ☐ |
| Underground floor | ExteriorFloor | Concrete - 100 lb/ft3 - 6 in. | | ☐ | ☐ |
| MetalFrameWall | ExteriorWall | Stucco - 7/8 in.<br>Plywood - 1/2 in.<br>Metal framed wall, 16in. OC, 5.5in., R-19<br>Gypsum Board - 5/8 in.<br>Gypsum Board - 5/8 in. | | ☐ | ☐ |
| InternalMetalPartitionR13 | InteriorWall | Gypsum Board - 5/8 in.<br>Metal framed wall, 16in. OC, 3.5in., R-0<br>Gypsum Board - 5/8 in. | | ☐ | ☐ |
| Internal Concrete Floor/Ceiling | InteriorFloor | Gypsum Board - 5/8 in.<br>Concrete - 100 lb/ft3 - 6 in.<br>Carpet - 3/4 in. | | ☐ | ☐ |

**A. OPAQUE SURFACE ASSEMBLY DETAILS** — Confirmed

| 1. Surface Name | 2. Surface Type | 3. Description of Assembly Layers | 4. Notes | Pass | Fail |
|---|---|---|---|---|---|
| InternalMetalPartitionR19 | InteriorWall | Gypsum Board - 5/8 in.<br>Metal framed wall, 16in. OC, 5.5in., R-19<br>Gypsum Board - 5/8 in.<br>Gypsum Board - 5/8 in. | | ☐ | ☐ |

**B. OVERHANG DETAILS (Adapted from NRCC-ENV-02-E)**

This Section Does Not Apply

**C. OPAQUE DOOR SUMMARY** — Confirmed

| 1. Opaque Door Assembly Name / Tag or I.D. | 2. Door Type | 3. Certification Method | 4. Operation | 5. Area | 6. Overall U-factor | 7. Status[1] | Pass | Fail |
|---|---|---|---|---|---|---|---|---|
| ExtDoorU145 | MetalInsulatedSingleLayerSectionalDoor | NFRCRated | Swinging | 47 | 1.450 | N | ☐ | ☐ |
| Door | MetalInsulatedSingleLayerSectionalDoor | NFRCRated | Swinging | 3971 | 1.450 | N | ☐ | ☐ |

[1] *Status: N - New, A – Altered, E – Existing*

## NRCC-PRF-MCH-DETAILS -SECTION START-

**A. MECHANICAL VENTILATION AND REHEAT *(Adapted from 2016-NRCC-MCH-03-E)*** — Confirmed

| | 1. DESIGN AIR FLOWS | | | | | | | 2. VENTILATION (§ 120.1) | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CONDITIONED ZONE NAME | HEATING/COOLING SYSTEM ID | DESIGN PRIMARY AIR FLOW (CFM) | DESIGN PRIMARY MINIMUM AIR FLOW (CFM) | MINIMUM PRIMARY AIR FLOW FRACTION | MAXIMUM HEATING AIR FLOW (CFM) | MAXIMUM HEATING AIR FLOW FRACTION | DDC CONTROL (Y/N) | VENT SYSTEM ID | CONDITIONED AREA (ft2) | MIN. VENT PER AREA (CFM/ft2) | DESIGN NUM. OF PEOPLE | MIN. VENT PER PERSON (CFM/person) | REQ'D VENT AIR FLOW (CFM) | DESIGN VENT AIR FLOW (CFM) | TRANSFER AIRFLOW (CFM) | DCV (Y/N) | Operable Window Interlock § 140.4(n) (Y/N) | Pass | Fail |
| Zn L1 GYM | Sys L1 GYM | 2,730 | NA | 0.00 | NA | NA | N | Sys L1 GYM | 2,285 | 0.15 | 22.85 | 15.00 | 343 | 343 | NA | N | NA | ☐ | ☐ |

**A. MECHANICAL VENTILATION AND REHEAT *(Adapted from 2016-NRCC-MCH-03-E)*** — **Confirmed**

| 1. DESIGN AIR FLOWS | | | | | | | | 2. VENTILATION (§ 120.1) | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **CONDITIONED ZONE NAME** | **HEATING/COOLING SYSTEM ID** | **DESIGN PRIMARY AIR FLOW (CFM)** | **DESIGN PRIMARY MINIMUM AIR FLOW (CFM)** | **MINIMUM PRIMARY AIR FLOW FRACTION** | **MAXIMUM HEATING AIR FLOW (CFM)** | **MAXIMUM HEATING AIR FLOW FRACTION** | **DDC CONTROL (Y/N)** | **VENT SYSTEM ID** | **CONDITIONED AREA (ft2)** | **MIN. VENT PER AREA (CFM/ft2)** | **DESIGN NUM. OF PEOPLE** | **MIN. VENT PER PERSON (CFM/person)** | **REQ'D VENT AIR FLOW (CFM)** | **DESIGN VENT AIR FLOW (CFM)** | **TRANSFER AIRFLOW (CFM)** | **DCV (Y/N)** | **Operable Window Interlock § 140.4(n) (Y/N)** | **Pass** | **Fail** |
| Zn L1 OFFICE | Sys L1 OFFICE | 990 | NA | 0.00 | NA | NA | N | Sys L1 OFFICE | 1,583 | 0.15 | 7.91 | 30.00 | 237 | 237 | NA | N | NA | ☐ | ☐ |
| Zn L1 RETAIL 1-2 | Sys L1 RETAIL 1-2 | 2,930 | NA | 0.00 | NA | NA | N | Sys L1 RETAIL 1-2 | 2,870 | 0.20 | 23.92 | 24.00 | 574 | 574 | NA | N | NA | ☐ | ☐ |
| Zn L1 RETAIL 03 | Sys L1 RETAIL 03 | 4,190 | NA | 0.00 | NA | NA | N | Sys L1 RETAIL 03 | 5,130 | 0.20 | 42.76 | 24.00 | 1,026 | 1,026 | NA | N | NA | ☐ | ☐ |
| Zn L1 RETAIL 04 | Sys L1 RETAIL 04 | 3,420 | NA | 0.00 | NA | NA | N | Sys L1 RETAIL 04 | 3,723 | 0.20 | 31.03 | 24.00 | 745 | 745 | NA | N | NA | ☐ | ☐ |
| Zn L2 RES UNIT 1BRx4 | Sys L2 RES UNIT 1BRx4 | NA | NA | 0.00 | NA | NA | N | Sys L2 RES UNIT 1BRx4 | 3,213 | 0.08 | 10.00 | 24.28 | 243 | 257 | NA | N | N | ☐ | ☐ |
| Zn L2 RES UNIT 1Bx3 | Sys L2 RES UNIT 1Bx3 | NA | NA | 0.00 | NA | NA | N | Sys L2 RES UNIT 1Bx3 | 1,848 | 0.08 | 8.00 | 18.86 | 151 | 148 | 3 | N | N | ☐ | ☐ |
| Zn L2 RES UNIT 1Bx4 JR1Bx4 01 | Sys L2 RES UNIT 1Bx4 JR1Bx4 01 | NA | NA | 0.00 | NA | NA | N | Sys L2 RES UNIT 1Bx4 JR1Bx4 01 | 5,440 | 0.08 | 18.00 | 23.13 | 416 | 435 | NA | N | N | ☐ | ☐ |
| Zn L2 RES UNIT 1Bx4 JR1Bx4 02 | Sys L2 RES UNIT 1Bx4 JR1Bx4 02 | NA | NA | 0.00 | NA | NA | N | Sys L2 RES UNIT 1Bx4 JR1Bx4 02 | 5,449 | 0.07 | 16.00 | 25.43 | 407 | 436 | NA | N | N | ☐ | ☐ |
| Zn L2 RES UNIT 2Bx1 | Sys L2 RES UNIT 2Bx1 | NA | NA | 0.00 | NA | NA | N | Sys L2 RES UNIT 2Bx1 | 1,180 | 0.07 | 3.00 | 28.60 | 86 | 94 | NA | N | N | ☐ | ☐ |
| Zn L2 RES UNIT 2Bx2 | Sys L2 RES UNIT 2Bx2 | NA | NA | 0.00 | NA | NA | N | Sys L2 RES UNIT 2Bx2 | 2,314 | 0.07 | 6.00 | 28.14 | 169 | 185 | NA | N | N | ☐ | ☐ |
| Zn L2 RES UNIT 2Bx3 | Sys L2 RES UNIT 2Bx3 | NA | NA | 0.00 | NA | NA | N | Sys L2 RES UNIT 2Bx3 | 3,219 | 0.07 | 9.00 | 26.46 | 238 | 258 | NA | N | N | ☐ | ☐ |

**A. MECHANICAL VENTILATION AND REHEAT *(Adapted from 2016-NRCC-MCH-03-E)*** — **Confirmed**

| | 1. DESIGN AIR FLOWS | | | | | | | 2. VENTILATION (§ 120.1) | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **CONDITIONED ZONE NAME** | **HEATING/COOLING SYSTEM ID** | **DESIGN PRIMARY AIR FLOW (CFM)** | **DESIGN PRIMARY MINIMUM AIR FLOW (CFM)** | **MINIMUM PRIMARY AIR FLOW FRACTION** | **MAXIMUM HEATING AIR FLOW (CFM)** | **MAXIMUM HEATING AIR FLOW FRACTION** | **DDC CONTROL (Y/N)** | **VENT SYSTEM ID** | **CONDITIONED AREA (ft2)** | **MIN. VENT PER AREA (CFM/ft2)** | **DESIGN NUM. OF PEOPLE** | **MIN. VENT PER PERSON (CFM/person)** | **REQ'D VENT AIR FLOW (CFM)** | **DESIGN VENT AIR FLOW (CFM)** | **TRANSFER AIRFLOW (CFM)** | **DCV (Y/N)** | **Operable Window Interlock § 140.4(n) (Y/N)** | **Pass** | **Fail** |
| Zn L2 RES UNIT 3Bx1 1Bx1 JR1Bx1 | Sys L2 RES UNIT 3Bx1 1Bx1 JR1Bx1 | NA | NA | 0.00 | NA | NA | N | Sys L2 RES UNIT 3Bx1 1Bx1 JR1Bx1 | 2,753 | 0.07 | 8.00 | 25.65 | 205 | 220 | NA | N | N | ☐ | ☐ |
| Zn L2 RES UNIT 3Bx1 2Bx2 | Sys L2 RES UNIT 3Bx1 2Bx2 | NA | NA | 0.00 | NA | NA | N | Sys L2 RES UNIT 3Bx1 2Bx2 | 3,448 | 0.07 | 10.00 | 25.69 | 257 | 276 | NA | N | N | ☐ | ☐ |
| Zn L3 RES UNIT 1Bx3 | Sys L3 RES UNIT 1Bx3 | NA | NA | 0.00 | NA | NA | N | Sys L3 RES UNIT 1Bx3 | 1,948 | 0.08 | 6.00 | 24.48 | 147 | 156 | NA | N | N | ☐ | ☐ |
| Zn L3 RES UNIT 1Bx4 | Sys L3 RES UNIT 1Bx4 | NA | NA | 0.00 | NA | NA | N | Sys L3 RES UNIT 1Bx4 | 3,213 | 0.07 | 8.00 | 29.09 | 233 | 257 | NA | N | N | ☐ | ☐ |
| Zn L3 RES UNIT 1Bx5 JR1Bx3 | Sys L3 RES UNIT 1Bx5 JR1Bx3 | NA | NA | 0.00 | NA | NA | N | Sys L3 RES UNIT 1Bx5 JR1Bx3 | 5,600 | 0.07 | 16.00 | 26.00 | 416 | 448 | NA | N | N | ☐ | ☐ |
| Zn L3 RES UNIT 1Bx7 JR1Bx4 | Sys L3 RES UNIT 1Bx7 JR1Bx4 | NA | NA | 0.00 | NA | NA | N | Sys L3 RES UNIT 1Bx7 JR1Bx4 | 8,534 | 0.07 | 22.00 | 28.27 | 622 | 683 | NA | N | N | ☐ | ☐ |
| Zn L3 RES UNIT 2Bx1 | Sys L3 RES UNIT 2Bx1 | NA | NA | 0.00 | NA | NA | N | Sys L3 RES UNIT 2Bx1 | 1,180 | 0.07 | 3.00 | 28.60 | 86 | 94 | NA | N | N | ☐ | ☐ |
| Zn L3 RES UNIT 2Bx2 | Sys L3 RES UNIT 2Bx2 | NA | NA | 0.00 | NA | NA | N | Sys L3 RES UNIT 2Bx2 | 2,314 | 0.07 | 6.00 | 28.14 | 169 | 185 | NA | N | N | ☐ | ☐ |
| Zn L3 RES UNIT 2Bx3 | Sys L3 RES UNIT 2Bx3 | NA | NA | 0.00 | NA | NA | N | Sys L3 RES UNIT 2Bx3 | 3,219 | 0.07 | 9.00 | 26.46 | 238 | 258 | NA | N | N | ☐ | ☐ |

**A. MECHANICAL VENTILATION AND REHEAT *(Adapted from 2016-NRCC-MCH-03-E)*** — **Confirmed**

| | 1. DESIGN AIR FLOWS | | | | | | | 2. VENTILATION (§ 120.1) | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **CONDITIONED ZONE NAME** | **HEATING/COOLING SYSTEM ID** | **DESIGN PRIMARY AIR FLOW (CFM)** | **DESIGN PRIMARY MINIMUM AIR FLOW (CFM)** | **MINIMUM PRIMARY AIR FLOW FRACTION** | **MAXIMUM HEATING AIR FLOW (CFM)** | **MAXIMUM HEATING AIR FLOW FRACTION** | **DDC CONTROL (Y/N)** | **VENT SYSTEM ID** | **CONDITIONED AREA (ft2)** | **MIN. VENT PER AREA (CFM/ft2)** | **DESIGN NUM. OF PEOPLE** | **MIN. VENT PER PERSON (CFM/person)** | **REQ'D VENT AIR FLOW (CFM)** | **DESIGN VENT AIR FLOW (CFM)** | **TRANSFER AIRFLOW (CFM)** | **DCV (Y/N)** | **Operable Window Interlock § 140.4(n) (Y/N)** | **Pass** | **Fail** |
| Zn L3 RES UNIT 3Bx1 2Bx2 | Sys L3 RES UNIT 3Bx1 2Bx2 | NA | NA | 0.00 | NA | NA | N | Sys L3 RES UNIT 3Bx1 2Bx2 | 3,448 | 0.07 | 10.00 | 25.69 | 257 | 276 | NA | N | N | ☐ | ☐ |
| Zn L4 RES UNIT 1Bx3 | Sys L4 RES UNIT 1Bx3 | NA | NA | 0.00 | NA | NA | N | Sys L4 RES UNIT 1Bx3 | 1,948 | 0.08 | 6.00 | 24.48 | 147 | 156 | NA | N | N | ☐ | ☐ |
| Zn L4 RES UNIT 1Bx4 | Sys L4 RES UNIT 1Bx4 | NA | NA | 0.00 | NA | NA | N | Sys L4 RES UNIT 1Bx4 | 3,213 | 0.07 | 8.00 | 29.09 | 233 | 257 | NA | N | N | ☐ | ☐ |
| Zn L4 RES UNIT 1Bx5 JR1Bx3 | Sys L4 RES UNIT 1Bx5 JR1Bx3 | NA | NA | 0.00 | NA | NA | N | Sys L4 RES UNIT 1Bx5 JR1Bx3 | 5,600 | 0.07 | 16.00 | 26.00 | 416 | 448 | NA | N | N | ☐ | ☐ |
| Zn L4 RES UNIT 1Bx7 JR1Bx4 | Sys L4 RES UNIT 1Bx7 JR1Bx4 | NA | NA | 0.00 | NA | NA | N | Sys L4 RES UNIT 1Bx7 JR1Bx4 | 8,534 | 0.07 | 22.00 | 28.27 | 622 | 683 | NA | N | N | ☐ | ☐ |
| Zn L4 RES UNIT 2Bx1 | Sys L4 RES UNIT 2Bx1 | NA | NA | 0.00 | NA | NA | N | Sys L4 RES UNIT 2Bx1 | 1,180 | 0.07 | 3.00 | 28.60 | 86 | 94 | NA | N | N | ☐ | ☐ |
| Zn L4 RES UNIT 2Bx2 | Sys L4 RES UNIT 2Bx2 | NA | NA | 0.00 | NA | NA | N | Sys L4 RES UNIT 2Bx2 | 2,314 | 0.07 | 6.00 | 28.14 | 169 | 185 | NA | N | N | ☐ | ☐ |
| Zn L4 RES UNIT 2Bx3 | Sys L4 RES UNIT 2Bx3 | NA | NA | 0.00 | NA | NA | N | Sys L4 RES UNIT 2Bx3 | 3,219 | 0.07 | 9.00 | 26.46 | 238 | 258 | NA | N | N | ☐ | ☐ |
| Zn L4 RES UNIT 3Bx1 2Bx2 | Sys L4 RES UNIT 3Bx1 2Bx2 | NA | NA | 0.00 | NA | NA | N | Sys L4 RES UNIT 3Bx1 2Bx2 | 3,448 | 0.07 | 10.00 | 25.69 | 257 | 276 | NA | N | N | ☐ | ☐ |
| Zn L5 RES UNIT 1Bx3 | Sys L5 RES UNIT 1Bx3 | NA | NA | 0.00 | NA | NA | N | Sys L5 RES UNIT 1Bx3 | 1,948 | 0.08 | 6.00 | 24.48 | 147 | 156 | NA | N | N | ☐ | ☐ |

**A. MECHANICAL VENTILATION AND REHEAT *(Adapted from 2016-NRCC-MCH-03-E)*** — **Confirmed**

| | 1. DESIGN AIR FLOWS | | | | | | | 2. VENTILATION (§ 120.1) | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **CONDITIONED ZONE NAME** | **HEATING/COOLING SYSTEM ID** | **DESIGN PRIMARY AIR FLOW (CFM)** | **DESIGN PRIMARY MINIMUM AIR FLOW (CFM)** | **MINIMUM PRIMARY AIR FLOW FRACTION** | **MAXIMUM HEATING AIR FLOW (CFM)** | **MAXIMUM HEATING AIR FLOW FRACTION** | **DDC CONTROL (Y/N)** | **VENT SYSTEM ID** | **CONDITIONED AREA (ft2)** | **MIN. VENT PER AREA (CFM/ft2)** | **DESIGN NUM. OF PEOPLE** | **MIN. VENT PER PERSON (CFM/person)** | **REQ'D VENT AIR FLOW (CFM)** | **DESIGN VENT AIR FLOW (CFM)** | **TRANSFER AIRFLOW (CFM)** | **DCV (Y/N)** | **Operable Window Interlock § 140.4(n) (Y/N)** | **Pass** | **Fail** |
| Zn L5 RES UNIT 1Bx4 | Sys L5 RES UNIT 1Bx4 | NA | NA | 0.00 | NA | NA | N | Sys L5 RES UNIT 1Bx4 | 3,213 | 0.07 | 8.00 | 29.09 | 233 | 257 | NA | N | N | ☐ | ☐ |
| Zn L5 RES UNIT 1Bx5 JR1Bx3 | Sys L5 RES UNIT 1Bx5 JR1Bx3 | NA | NA | 0.00 | NA | NA | N | Sys L5 RES UNIT 1Bx5 JR1Bx3 | 5,600 | 0.07 | 16.00 | 26.00 | 416 | 448 | NA | N | N | ☐ | ☐ |
| Zn L5 RES UNIT 1Bx7 JR1Bx4 | Sys L5 RES UNIT 1Bx7 JR1Bx4 | NA | NA | 0.00 | NA | NA | N | Sys L5 RES UNIT 1Bx7 JR1Bx4 | 8,534 | 0.07 | 22.00 | 28.27 | 622 | 683 | NA | N | N | ☐ | ☐ |
| Zn L5 RES UNIT 2Bx1 | Sys L5 RES UNIT 2Bx1 | NA | NA | 0.00 | NA | NA | N | Sys L5 RES UNIT 2Bx1 | 1,180 | 0.07 | 3.00 | 28.60 | 86 | 94 | NA | N | N | ☐ | ☐ |
| Zn L5 RES UNIT 2Bx2 | Sys L5 RES UNIT 2Bx2 | NA | NA | 0.00 | NA | NA | N | Sys L5 RES UNIT 2Bx2 | 2,314 | 0.07 | 6.00 | 28.14 | 169 | 185 | NA | N | N | ☐ | ☐ |
| Zn L5 RES UNIT 2Bx3 | Sys L5 RES UNIT 2Bx3 | NA | NA | 0.00 | NA | NA | N | Sys L5 RES UNIT 2Bx3 | 3,219 | 0.07 | 9.00 | 26.46 | 238 | 258 | NA | N | N | ☐ | ☐ |
| Zn L5 RES UNIT 3Bx1 2Bx2 | Sys L5 RES UNIT 3Bx1 2Bx2 | NA | NA | 0.00 | NA | NA | N | Sys L5 RES UNIT 3Bx1 2Bx2 | 3,448 | 0.07 | 10.00 | 25.69 | 257 | 276 | NA | N | N | ☐ | ☐ |
| Zn L6 AMENETIES | Sys L6 AMENETIES | 1,220 | NA | 0.00 | NA | NA | N | Sys L6 AMENETIES | 609 | 0.50 | 20.30 | 15.00 | 304 | 304 | NA | Y | NA | ☐ | ☐ |
| Zn L6 RES UNIT 1Bx2 | Sys L6 RES UNIT 1Bx2 | NA | NA | 0.00 | NA | NA | N | Sys L6 RES UNIT 1Bx2 | 1,574 | 0.07 | 4.00 | 28.60 | 114 | 126 | NA | N | N | ☐ | ☐ |
| Zn L6 RES UNIT 1Bx3 01 | Sys L6 RES UNIT 1Bx3 01 | NA | NA | 0.00 | NA | NA | N | Sys L6 RES UNIT 1Bx3 01 | 2,903 | 0.07 | 6.00 | 34.03 | 204 | 232 | NA | N | N | ☐ | ☐ |

**A. MECHANICAL VENTILATION AND REHEAT *(Adapted from 2016-NRCC-MCH-03-E)*** — **Confirmed**

| 1. DESIGN AIR FLOWS | | | | | | | | 2. VENTILATION (§ 120.1) | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **CONDITIONED ZONE NAME** | **HEATING/COOLING SYSTEM ID** | **DESIGN PRIMARY AIR FLOW (CFM)** | **DESIGN PRIMARY MINIMUM AIR FLOW (CFM)** | **MINIMUM PRIMARY AIR FLOW FRACTION** | **MAXIMUM HEATING AIR FLOW (CFM)** | **MAXIMUM HEATING AIR FLOW FRACTION** | **DDC CONTROL (Y/N)** | **VENT SYSTEM ID** | **CONDITIONED AREA (ft2)** | **MIN. VENT PER AREA (CFM/ft2)** | **DESIGN NUM. OF PEOPLE** | **MIN. VENT PER PERSON (CFM/person)** | **REQ'D VENT AIR FLOW (CFM)** | **DESIGN VENT AIR FLOW (CFM)** | **TRANSFER AIRFLOW (CFM)** | **DCV (Y/N)** | **Operable Window Interlock § 140.4(n) (Y/N)** | **Pass** | **Fail** |
| Zn L6 RES UNIT 1Bx3 02 | Sys L6 RES UNIT 1Bx3 02 | NA | NA | 0.00 | NA | NA | N | Sys L6 RES UNIT 1Bx3 02 | 1,948 | 0.08 | 6.00 | 24.48 | 147 | 156 | NA | N | N | ☐ | ☐ |
| Zn L6 RES UNIT 1Bx4 01 | Sys L6 RES UNIT 1Bx4 01 | NA | NA | 0.00 | NA | NA | N | Sys L6 RES UNIT 1Bx4 01 | 3,213 | 0.07 | 8.00 | 29.09 | 233 | 257 | NA | N | N | ☐ | ☐ |
| Zn L6 RES UNIT 1Bx4 02 | Sys L6 RES UNIT 1Bx4 02 | NA | NA | 0.00 | NA | NA | N | Sys L6 RES UNIT 1Bx4 02 | 3,117 | 0.07 | 8.00 | 28.37 | 227 | 249 | NA | N | N | ☐ | ☐ |
| Zn L6 RES UNIT 1Bx4 JR1Bx3 | Sys L6 RES UNIT 1Bx4 JR1Bx3 | NA | NA | 0.00 | NA | NA | N | Sys L6 RES UNIT 1Bx4 JR1Bx3 | 5,701 | 0.08 | 22.00 | 20.55 | 452 | 456 | NA | N | N | ☐ | ☐ |
| Zn L6 RES UNIT 2Bx1 | Sys L6 RES UNIT 2Bx1 | NA | NA | 0.00 | NA | NA | N | Sys L6 RES UNIT 2Bx1 | 1,180 | 0.07 | 3.00 | 28.60 | 86 | 94 | NA | N | N | ☐ | ☐ |
| Zn L6 RES UNIT Sx1 2Bx1 | Sys L6 RES UNIT Sx1 2Bx1 | NA | NA | 0.00 | NA | NA | N | Sys L6 RES UNIT Sx1 2Bx1 | 1,707 | 0.07 | 5.00 | 25.48 | 127 | 136 | NA | N | N | ☐ | ☐ |
| | | | | | | | | **TOTAL** | 154,775 | | 538.77 | | 13,495 | 14,315 | 3 | | | ☐ | ☐ |

**B. ZONAL SYSTEM AND TERMINAL UNIT SUMMARY** — **§ 140.4**

| 1. | 2. | 3. | 4. | | 5. | 6. | 7. | | | 8. | | | Confirmed | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| System ID | System Type | Qty | Rated Capacity (kBtuh) | | Economizer | Zone Name | Airflow (cfm) | | | Fan | | | Pass | Fail |
| | | | Heating | Cooling | | | Design | Min. | Min. Ratio | BHP | Cycles | ECM Motor | | |
| Sys L2 RES UNIT 1BRx4 | SZHP | 1 | 15.00 | 15.00 | No | Zn L2 RES UNIT 1BRx4 | 530 | NA | NA | 0.152 | ☐ | ☐ | ☐ | ☐ |
| Sys L2 RES UNIT 1Bx3 | SZHP | 1 | 12.00 | 12.00 | No | Zn L2 RES UNIT 1Bx3 | 420 | NA | NA | 0.120 | ☐ | ☐ | ☐ | ☐ |
| Sys L2 RES UNIT 1Bx4 JR1Bx4 01 | SZHP | 1 | 33.00 | 33.00 | No | Zn L2 RES UNIT 1Bx4 JR1Bx4 01 | 1160 | NA | NA | 0.332 | ☐ | ☐ | ☐ | ☐ |
| Sys L2 RES UNIT 1Bx4 JR1Bx4 02 | SZHP | 1 | 32.00 | 32.00 | No | Zn L2 RES UNIT 1Bx4 JR1Bx4 02 | 1120 | NA | NA | 0.321 | ☐ | ☐ | ☐ | ☐ |
| Sys L2 RES UNIT 2Bx1 | SZHP | 1 | 6.00 | 6.00 | No | Zn L2 RES UNIT 2Bx1 | 200 | NA | NA | 0.057 | ☐ | ☐ | ☐ | ☐ |
| Sys L2 RES UNIT 2Bx2 | SZHP | 1 | 12.00 | 12.00 | No | Zn L2 RES UNIT 2Bx2 | 430 | NA | NA | 0.123 | ☐ | ☐ | ☐ | ☐ |
| Sys L2 RES UNIT 2Bx3 | SZHP | 1 | 17.00 | 17.00 | No | Zn L2 RES UNIT 2Bx3 | 580 | NA | NA | 0.166 | ☐ | ☐ | ☐ | ☐ |
| Sys L2 RES UNIT 3Bx1 1Bx1 JR1Bx1 | SZHP | 1 | 18.00 | 18.00 | No | Zn L2 RES UNIT 3Bx1 1Bx1 JR1Bx1 | 610 | NA | NA | 0.175 | ☐ | ☐ | ☐ | ☐ |
| Sys L2 RES UNIT 3Bx1 2Bx2 | SZHP | 1 | 20.00 | 20.00 | No | Zn L2 RES UNIT 3Bx1 2Bx2 | 700 | NA | NA | 0.201 | ☐ | ☐ | ☐ | ☐ |
| Sys L3 RES UNIT 1Bx3 | SZHP | 1 | 12.00 | 12.00 | No | Zn L3 RES UNIT 1Bx3 | 420 | NA | NA | 0.120 | ☐ | ☐ | ☐ | ☐ |
| Sys L3 RES UNIT 1Bx4 | SZHP | 1 | 15.00 | 15.00 | No | Zn L3 RES UNIT 1Bx4 | 520 | NA | NA | 0.149 | ☐ | ☐ | ☐ | ☐ |
| Sys L3 RES UNIT 1Bx5 JR1Bx3 | SZHP | 1 | 31.00 | 31.00 | No | Zn L3 RES UNIT 1Bx5 JR1Bx3 | 1090 | NA | NA | 0.312 | ☐ | ☐ | ☐ | ☐ |
| Sys L3 RES UNIT 1Bx7 JR1Bx4 | SZHP | 1 | 43.00 | 43.00 | No | Zn L3 RES UNIT 1Bx7 JR1Bx4 | 1470 | NA | NA | 0.421 | ☐ | ☐ | ☐ | ☐ |
| Sys L3 RES UNIT 2Bx1 | SZHP | 1 | 5.00 | 5.00 | No | Zn L3 RES UNIT 2Bx1 | 190 | NA | NA | 0.054 | ☐ | ☐ | ☐ | ☐ |
| Sys L3 RES UNIT 2Bx2 | SZHP | 1 | 12.00 | 12.00 | No | Zn L3 RES UNIT 2Bx2 | 430 | NA | NA | 0.123 | ☐ | ☐ | ☐ | ☐ |
| Sys L3 RES UNIT 2Bx3 | SZHP | 1 | 17.00 | 17.00 | No | Zn L3 RES UNIT 2Bx3 | 600 | NA | NA | 0.172 | ☐ | ☐ | ☐ | ☐ |
| Sys L3 RES UNIT 3Bx1 2Bx2 | SZHP | 1 | 20.00 | 20.00 | No | Zn L3 RES UNIT 3Bx1 2Bx2 | 680 | NA | NA | 0.195 | ☐ | ☐ | ☐ | ☐ |
| Sys L4 RES UNIT 1Bx3 | SZHP | 1 | 12.00 | 12.00 | No | Zn L4 RES UNIT 1Bx3 | 420 | NA | NA | 0.120 | ☐ | ☐ | ☐ | ☐ |
| Sys L4 RES UNIT 1Bx4 | SZHP | 1 | 15.00 | 15.00 | No | Zn L4 RES UNIT 1Bx4 | 520 | NA | NA | 0.149 | ☐ | ☐ | ☐ | ☐ |

**B. ZONAL SYSTEM AND TERMINAL UNIT SUMMARY** — **§ 140.4**

| 1. | 2. | 3. | 4. | | 5. | 6. | 7. | | | 8. | | | Confirmed | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| System ID | System Type | Qty | Rated Capacity (kBtuh) | | Economizer | Zone Name | Airflow (cfm) | | | Fan | | | Pass | Fail |
| | | | Heating | Cooling | | | Design | Min. | Min. Ratio | BHP | Cycles | ECM Motor | | |
| Sys L4 RES UNIT 1Bx5 JR1Bx3 | SZHP | 1 | 31.00 | 31.00 | No | Zn L4 RES UNIT 1Bx5 JR1Bx3 | 1080 | NA | NA | 0.309 | ☐ | ☐ | ☐ | ☐ |
| Sys L4 RES UNIT 1Bx7 JR1Bx4 | SZHP | 1 | 43.00 | 43.00 | No | Zn L4 RES UNIT 1Bx7 JR1Bx4 | 1470 | NA | NA | 0.421 | ☐ | ☐ | ☐ | ☐ |
| Sys L4 RES UNIT 2Bx1 | SZHP | 1 | 5.00 | 5.00 | No | Zn L4 RES UNIT 2Bx1 | 190 | NA | NA | 0.054 | ☐ | ☐ | ☐ | ☐ |
| Sys L4 RES UNIT 2Bx2 | SZHP | 1 | 12.00 | 12.00 | No | Zn L4 RES UNIT 2Bx2 | 430 | NA | NA | 0.123 | ☐ | ☐ | ☐ | ☐ |
| Sys L4 RES UNIT 2Bx3 | SZHP | 1 | 17.00 | 17.00 | No | Zn L4 RES UNIT 2Bx3 | 600 | NA | NA | 0.172 | ☐ | ☐ | ☐ | ☐ |
| Sys L4 RES UNIT 3Bx1 2Bx2 | SZHP | 1 | 20.00 | 20.00 | No | Zn L4 RES UNIT 3Bx1 2Bx2 | 680 | NA | NA | 0.195 | ☐ | ☐ | ☐ | ☐ |
| Sys L5 RES UNIT 1Bx3 | SZHP | 1 | 12.00 | 12.00 | No | Zn L5 RES UNIT 1Bx3 | 420 | NA | NA | 0.120 | ☐ | ☐ | ☐ | ☐ |
| Sys L5 RES UNIT 1Bx4 | SZHP | 1 | 15.00 | 15.00 | No | Zn L5 RES UNIT 1Bx4 | 530 | NA | NA | 0.152 | ☐ | ☐ | ☐ | ☐ |
| Sys L5 RES UNIT 1Bx5 JR1Bx3 | SZHP | 1 | 31.00 | 31.00 | No | Zn L5 RES UNIT 1Bx5 JR1Bx3 | 1090 | NA | NA | 0.312 | ☐ | ☐ | ☐ | ☐ |
| Sys L5 RES UNIT 1Bx7 JR1Bx4 | SZHP | 1 | 45.00 | 45.00 | No | Zn L5 RES UNIT 1Bx7 JR1Bx4 | 1570 | NA | NA | 0.450 | ☐ | ☐ | ☐ | ☐ |
| Sys L5 RES UNIT 2Bx1 | SZHP | 1 | 6.00 | 6.00 | No | Zn L5 RES UNIT 2Bx1 | 190 | NA | NA | 0.054 | ☐ | ☐ | ☐ | ☐ |
| Sys L5 RES UNIT 2Bx2 | SZHP | 1 | 13.00 | 13.00 | No | Zn L5 RES UNIT 2Bx2 | 440 | NA | NA | 0.126 | ☐ | ☐ | ☐ | ☐ |
| Sys L5 RES UNIT 2Bx3 | SZHP | 1 | 18.00 | 18.00 | No | Zn L5 RES UNIT 2Bx3 | 610 | NA | NA | 0.175 | ☐ | ☐ | ☐ | ☐ |
| Sys L5 RES UNIT 3Bx1 2Bx2 | SZHP | 1 | 25.00 | 25.00 | No | Zn L5 RES UNIT 3Bx1 2Bx2 | 860 | NA | NA | 0.246 | ☐ | ☐ | ☐ | ☐ |
| Sys L6 RES UNIT 1Bx2 | SZHP | 1 | 11.00 | 11.00 | No | Zn L6 RES UNIT 1Bx2 | 390 | NA | NA | 0.112 | ☐ | ☐ | ☐ | ☐ |
| Sys L6 RES UNIT 1Bx3 01 | SZHP | 1 | 21.00 | 21.00 | No | Zn L6 RES UNIT 1Bx3 01 | 740 | NA | NA | 0.212 | ☐ | ☐ | ☐ | ☐ |
| Sys L6 RES UNIT 1Bx3 02 | SZHP | 1 | 12.00 | 12.00 | No | Zn L6 RES UNIT 1Bx3 02 | 420 | NA | NA | 0.120 | ☐ | ☐ | ☐ | ☐ |
| Sys L6 RES UNIT 1Bx4 01 | SZHP | 1 | 19.00 | 19.00 | No | Zn L6 RES UNIT 1Bx4 01 | 650 | NA | NA | 0.186 | ☐ | ☐ | ☐ | ☐ |

**B. ZONAL SYSTEM AND TERMINAL UNIT SUMMARY** — § 140.4 — Confirmed

| 1. | 2. | 3. | 4. | | 5. | 6. | 7. | | | 8. | | | Pass | Fail |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| System ID | System Type | Qty | Rated Capacity (kBtuh) | | Economizer | Zone Name | Airflow (cfm) | | | Fan | | | | |
| | | | Heating | Cooling | | | Design | Min. | Min. Ratio | BHP | Cycles | ECM Motor | | |
| Sys L6 RES UNIT 1Bx4 02 | SZHP | 1 | 19.00 | 19.00 | No | Zn L6 RES UNIT 1Bx4 02 | 660 | NA | NA | 0.189 | ☐ | ☐ | ☐ | ☐ |
| Sys L6 RES UNIT 1Bx4 JR1Bx3 | SZHP | 1 | 35.00 | 35.00 | No | Zn L6 RES UNIT 1Bx4 JR1Bx3 | 1210 | NA | NA | 0.347 | ☐ | ☐ | ☐ | ☐ |
| Sys L6 RES UNIT 2Bx1 | SZHP | 1 | 6.00 | 6.00 | No | Zn L6 RES UNIT 2Bx1 | 210 | NA | NA | 0.060 | ☐ | ☐ | ☐ | ☐ |
| Sys L6 RES UNIT Sx1 2Bx1 | SZHP | 1 | 12.00 | 12.00 | No | Zn L6 RES UNIT Sx1 2Bx1 | 420 | NA | NA | 0.120 | ☐ | ☐ | ☐ | ☐ |
| Sys L1 GYM TU | Uncontrolled | 1 | NA | NA | NA | Zn L1 GYM | 2730 | NA | 0.00 | NA | NA | ☐ | ☐ | ☐ |
| Sys L1 OFFICE TU | Uncontrolled | 1 | NA | NA | NA | Zn L1 OFFICE | 990 | NA | 0.00 | NA | NA | ☐ | ☐ | ☐ |
| Sys L1 RETAIL 1-2 TU | Uncontrolled | 1 | NA | NA | NA | Zn L1 RETAIL 1-2 | 2930 | NA | 0.00 | NA | NA | ☐ | ☐ | ☐ |
| Sys L1 RETAIL 03 TU | Uncontrolled | 1 | NA | NA | NA | Zn L1 RETAIL 03 | 4190 | NA | 0.00 | NA | NA | ☐ | ☐ | ☐ |
| Sys L1 RETAIL 04 TU | Uncontrolled | 1 | NA | NA | NA | Zn L1 RETAIL 04 | 3420 | NA | 0.00 | NA | NA | ☐ | ☐ | ☐ |
| Sys L6 AMENETIES TU | Uncontrolled | 1 | NA | NA | NA | Zn L6 AMENETIES | 1220 | NA | 0.00 | NA | NA | ☐ | ☐ | ☐ |

**C. EXHAUST FAN SUMMARY**

This Section Does Not Apply

**D. DHW EQUIPMENT SUMMARY – *(Adapted from NRCC-PLB-01)*** — § 110.3 — Confirmed

| 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. | 10. | 11. | Pass | Fail |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DHW Name | Heater Element Type | Tank Type | Qty | Tank Vol (gal) | Rated Input (kBtu/h) | Efficiency | Tank Insulation R-value (Int/Ext) | Standby Loss Fraction | Heat Pump Type | Tank Location or Ambient Condition | | |
| SHW Heater | Gas | Storage | 1 | 150.00 | 400 | Thrml. Eff.: 0.95 | NA | SBLF: 0.020 | NA | NA | ☐ | ☐ |
| RDHW Heater | Gas | Boiler | 1 | 150.00 | 500 | Thrml. Eff.: 0.950 | 12.0/0.0 | NA | NA | Conditioned | ☐ | ☐ |

**E. MULTI-FAMILY CENTRAL DHW SYSTEM DETAILS** | **§ 110.3** | **Confirmed**

| 1. | 2. | 3. | 4. | 5. | 6. | 7. | | 8. | 9. | 10. | Pass | Fail |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| System Name | Number of Dwelling Units Served by System | System Type | Number of Water Heaters / System | Multi-Family Distribution Type | Solar Fraction (%) | Recirculating Pump | | Number of Recirculation Loops | Recirculation Loop Insulation Thickness | Recirculation Loop Location | | |
| | | | | | | Eff | BHP | | | | | |
| RDHW system | 173 | Standard | 1 | Demand Control (Standard Design for new construction) | 0.50 | 0.60 | 0.50 | 1 | 1.5 | Conditioned | ☐ | ☐ |

**F. SOLAR HOT WATER HEATING SUMMARY (Adapted from NRCC-STH-01)** | **G. § RA4**

| 1. | 2. Collector | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| System Name | Manufacturer | Brand | Model # | SRRC Cert | Type | Area ft$^2$ | Rated Eff.Curve Slope | Rated Eff.Curve Intercept | Number | Fluid | Angle from true north (degrees) | Slope from horizontal (degrees) |
| SHWFluidSys | | | | | | | | | | | | |
| RDHW system | | | | | | | | | | | | |

**F. SOLAR HOT WATER HEATING SUMMARY (Adapted from NRCC-STH-01)** | **G. § RA4**

| 1. | 3. Software | | 4. Storage | | 5. | 6 | Confirmed | |
|---|---|---|---|---|---|---|---|---|
| System Name | Name of program used | Version | Water Heater Tank Volume (gallons) | Secondary Tank Volume (gallons) | # of Identical Dwelling Units | Solar Fraction | Pass | Fail |
| SHWFluidSys | | | 150 | | | 0.5 | ☐ | ☐ |
| RDHW system | | | | | | 0.50 | ☐ | ☐ |

## G. MECHANICAL HVAC ACCEPTANCE TESTS & FORMS *(Adapted from 2016-NRCC-MCH-01-E)* § RA4

**Declaration of Required Acceptance Certificates (NRCA)** – Acceptance Certificates that may be submitted. (Retain copies and verify forms are completed and signed to post in field for Field Inspector to verify).

| Test Description | | MCH-02A | MCH-03A | MCH-04A | MCH-05A | MCH-06A | MCH-07A | MCH-08A | MCH-09A | MCH-10A | MCH-11A | MCH-12A | MCH-13A | MCH-14A | MCH-15A | MCH-16A | MCH-17A | MCH-18A | Confirmed | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Equipment Requiring Testing or Verification | # of units | Outdoor Air | Single Zone Unitary | Air Dist. Ducts | Economizer Controls | DCV | Supply Fan VAV | Valve leakage | Supply Water Temp. Reset | Hyd. Variable Flow Control | Auto Demand Shed Control | FDD for DX Units | Auto FDD for Air & Zone | Dist. Energy Storage DX AC | TES Systems | Supply Air Temp. Reset | Condenser Water Reset Controls | ECMS | Pass | Fail |
| SHWFluidSys | 1 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | ☐ | ☐ |
| Sys L1 GYM | 1 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | ☐ | ☐ |
| Sys L1 OFFICE | 1 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | ☐ | ☐ |
| Sys L1 RETAIL 1-2 | 1 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | ☐ | ☐ |
| Sys L1 RETAIL 03 | 1 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | ☐ | ☐ |
| Sys L1 RETAIL 04 | 1 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | ☐ | ☐ |
| Sys L6 AMENETIES | 1 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | ☐ | ☐ |
| Sys L2 RES UNIT 1BRx4 | 1 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | ☐ | ☐ |
| Sys L2 RES UNIT 1Bx3 | 1 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | ☐ | ☐ |
| Sys L2 RES UNIT 1Bx4 JR1Bx4 01 | 1 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | ☐ | ☐ |

## G. MECHANICAL HVAC ACCEPTANCE TESTS & FORMS *(Adapted from 2016-NRCC-MCH-01-E)* § RA4

**Declaration of Required Acceptance Certificates (NRCA)** – Acceptance Certificates that may be submitted. (Retain copies and verify forms are completed and signed to post in field for Field Inspector to verify).

| Test Description | | MCH-02A | MCH-03A | MCH-04A | MCH-05A | MCH-06A | MCH-07A | MCH-08A | MCH-09A | MCH-10A | MCH-11A | MCH-12A | MCH-13A | MCH-14A | MCH-15A | MCH-16A | MCH-17A | MCH-18A | Confirmed | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Equipment Requiring Testing or Verification | # of units | Outdoor Air | Single Zone Unitary | Air Dist. Ducts | Economizer Controls | DCV | Supply Fan VAV | Valve leakage | Supply Water Temp. Reset | Hyd. Variable Flow Control | Auto Demand Shed Control | FDD for DX Units | Auto FDD for Air & Zone | Dist. Energy Storage DX AC | TES Systems | Supply Air Temp. Reset | Condenser Water Reset Controls | ECMS | Pass | Fail |
| Sys L2 RES UNIT 1Bx4 JR1Bx4 02 | 1 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | ☐ | ☐ |
| Sys L2 RES UNIT 2Bx1 | 1 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | ☐ | ☐ |
| Sys L2 RES UNIT 2Bx2 | 1 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | ☐ | ☐ |
| Sys L2 RES UNIT 2Bx3 | 1 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | ☐ | ☐ |
| Sys L2 RES UNIT 3Bx1 1Bx1 JR1Bx1 | 1 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | ☐ | ☐ |
| Sys L2 RES UNIT 3Bx1 2Bx2 | 1 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | ☐ | ☐ |
| Sys L3 RES UNIT 1Bx3 | 1 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | ☐ | ☐ |
| Sys L3 RES UNIT 1Bx4 | 1 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | ☐ | ☐ |

## G. MECHANICAL HVAC ACCEPTANCE TESTS & FORMS *(Adapted from 2016-NRCC-MCH-01-E)* § RA4

**Declaration of Required Acceptance Certificates (NRCA)** – Acceptance Certificates that may be submitted. (Retain copies and verify forms are completed and signed to post in field for Field Inspector to verify).

| Test Description | | MCH-02A | MCH-03A | MCH-04A | MCH-05A | MCH-06A | MCH-07A | MCH-08A | MCH-09A | MCH-10A | MCH-11A | MCH-12A | MCH-13A | MCH-14A | MCH-15A | MCH-16A | MCH-17A | MCH-18A | Confirmed | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Equipment Requiring Testing or Verification | # of units | Outdoor Air | Single Zone Unitary | Air Dist. Ducts | Economizer Controls | DCV | Supply Fan VAV | Valve leakage | Supply Water Temp. Reset | Hyd. Variable Flow Control | Auto Demand Shed Control | FDD for DX Units | Auto FDD for Air & Zone | Dist. Energy Storage DX AC | TES Systems | Supply Air Temp. Reset | Condenser Water Reset Controls | ECMS | Pass | Fail |
| Sys L3 RES UNIT 1Bx5 JR1Bx3 | 1 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | ☐ | ☐ |
| Sys L3 RES UNIT 1Bx7 JR1Bx4 | 1 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | ☐ | ☐ |
| Sys L3 RES UNIT 2Bx1 | 1 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | ☐ | ☐ |
| Sys L3 RES UNIT 2Bx2 | 1 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | ☐ | ☐ |
| Sys L3 RES UNIT 2Bx3 | 1 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | ☐ | ☐ |
| Sys L3 RES UNIT 3Bx1 2Bx2 | 1 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | ☐ | ☐ |
| Sys L4 RES UNIT 1Bx3 | 1 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | ☐ | ☐ |
| Sys L4 RES UNIT 1Bx4 | 1 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | ☐ | ☐ |

## G. MECHANICAL HVAC ACCEPTANCE TESTS & FORMS *(Adapted from 2016-NRCC-MCH-01-E)* § RA4

**Declaration of Required Acceptance Certificates (NRCA)** – Acceptance Certificates that may be submitted. (Retain copies and verify forms are completed and signed to post in field for Field Inspector to verify).

| Test Description | | MCH-02A | MCH-03A | MCH-04A | MCH-05A | MCH-06A | MCH-07A | MCH-08A | MCH-09A | MCH-10A | MCH-11A | MCH-12A | MCH-13A | MCH-14A | MCH-15A | MCH-16A | MCH-17A | MCH-18A | Confirmed | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Equipment Requiring Testing or Verification | # of units | Outdoor Air | Single Zone Unitary | Air Dist. Ducts | Economizer Controls | DCV | Supply Fan VAV | Valve leakage | Supply Water Temp. Reset | Hyd. Variable Flow Control | Auto Demand Shed Control | FDD for DX Units | Auto FDD for Air & Zone | Dist. Energy Storage DX AC | TES Systems | Supply Air Temp. Reset | Condenser Water Reset Controls | ECMS | Pass | Fail |
| Sys L4 RES UNIT 1Bx5 JR1Bx3 | 1 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | ☐ | ☐ |
| Sys L4 RES UNIT 1Bx7 JR1Bx4 | 1 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | ☐ | ☐ |
| Sys L4 RES UNIT 2Bx1 | 1 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | ☐ | ☐ |
| Sys L4 RES UNIT 2Bx2 | 1 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | ☐ | ☐ |
| Sys L4 RES UNIT 2Bx3 | 1 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | ☐ | ☐ |
| Sys L4 RES UNIT 3Bx1 2Bx2 | 1 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | ☐ | ☐ |
| Sys L5 RES UNIT 1Bx3 | 1 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | ☐ | ☐ |
| Sys L5 RES UNIT 1Bx4 | 1 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | ☐ | ☐ |

## G. MECHANICAL HVAC ACCEPTANCE TESTS & FORMS *(Adapted from 2016-NRCC-MCH-01-E)* § RA4

**Declaration of Required Acceptance Certificates (NRCA)** – Acceptance Certificates that may be submitted. (Retain copies and verify forms are completed and signed to post in field for Field Inspector to verify).

| Test Description | | MCH-02A | MCH-03A | MCH-04A | MCH-05A | MCH-06A | MCH-07A | MCH-08A | MCH-09A | MCH-10A | MCH-11A | MCH-12A | MCH-13A | MCH-14A | MCH-15A | MCH-16A | MCH-17A | MCH-18A | Confirmed | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Equipment Requiring Testing or Verification | # of units | Outdoor Air | Single Zone Unitary | Air Dist. Ducts | Economizer Controls | DCV | Supply Fan VAV | Valve leakage | Supply Water Temp. Reset | Hyd. Variable Flow Control | Auto Demand Shed Control | FDD for DX Units | Auto FDD for Air & Zone | Dist. Energy Storage DX AC | TES Systems | Supply Air Temp. Reset | Condenser Water Reset Controls | ECMS | Pass | Fail |
| Sys L5 RES UNIT 1Bx5 JR1Bx3 | 1 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | ☐ | ☐ |
| Sys L5 RES UNIT 1Bx7 JR1Bx4 | 1 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | ☐ | ☐ |
| Sys L5 RES UNIT 2Bx1 | 1 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | ☐ | ☐ |
| Sys L5 RES UNIT 2Bx2 | 1 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | ☐ | ☐ |
| Sys L5 RES UNIT 2Bx3 | 1 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | ☐ | ☐ |
| Sys L5 RES UNIT 3Bx1 2Bx2 | 1 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | ☐ | ☐ |
| Sys L6 RES UNIT 1Bx2 | 1 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | ☐ | ☐ |
| Sys L6 RES UNIT 1Bx3 01 | 1 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | ☐ | ☐ |

## G. MECHANICAL HVAC ACCEPTANCE TESTS & FORMS *(Adapted from 2016-NRCC-MCH-01-E)* § RA4

**Declaration of Required Acceptance Certificates (NRCA)** – Acceptance Certificates that may be submitted. (Retain copies and verify forms are completed and signed to post in field for Field Inspector to verify).

| Test Description | | MCH-02A | MCH-03A | MCH-04A | MCH-05A | MCH-06A | MCH-07A | MCH-08A | MCH-09A | MCH-10A | MCH-11A | MCH-12A | MCH-13A | MCH-14A | MCH-15A | MCH-16A | MCH-17A | MCH-18A | Confirmed | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Equipment Requiring Testing or Verification | # of units | Outdoor Air | Single Zone Unitary | Air Dist. Ducts | Economizer Controls | DCV | Supply Fan VAV | Valve leakage | Supply Water Temp. Reset | Hyd. Variable Flow Control | Auto Demand Shed Control | FDD for DX Units | Auto FDD for Air & Zone | Dist. Energy Storage DX AC | TES Systems | Supply Air Temp. Reset | Condenser Water Reset Controls | ECMS | Pass | Fail |
| Sys L6 RES UNIT 1Bx302 | 1 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | ☐ | ☐ |
| Sys L6 RES UNIT 1Bx401 | 1 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | ☐ | ☐ |
| Sys L6 RES UNIT 1Bx402 | 1 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | ☐ | ☐ |
| Sys L6 RES UNIT 1Bx4 JR1Bx3 | 1 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | ☐ | ☐ |
| Sys L6 RES UNIT 2Bx1 | 1 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | ☐ | ☐ |
| Sys L6 RES UNIT Sx1 2Bx1 | 1 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | ☐ | ☐ |

## H. EVAPORATIVE COOLER SUMMARY

This Section Does Not Apply

## NRCC-PRF-LTI-DETAILS -SECTION START-

| **A. INDOOR CONDITIONED LIGHTING CONTROL CREDITS (Adapted from NRCC-LTI-02-E)** | **§ 140.6** |
|---|---|
| This Section Does Not Apply | |

| **B. INDOOR CONDITIONED LIGHTING MANDATORY LIGHTING CONTROLS (Adapted from NRCC-LTI-02-E)** | **§ 130.1** |
|---|---|
| This Section Does Not Apply | |

*§130.1(a) = Manual area controls; §130.0(b) = Multi Level; §130.1(c) = Auto Shut-Off; §130.1(d) = Mandatory Daylight; §130.1(e) = Demand Responsive*

| **C. TAILORED METHOD CONDITIONED LIGHTING POWER ALLOWANCE SUMMARY AND CHECKLIST (Adapted from NRCC-LTI-04-E)** | **§ 140.6** |
|---|---|
| General lighting power (see Table D) | 0 |
| General lighting power from special function areas (see Table E) | NA |
| Additional "use it or lose it" (See Table G) | 0 |
| **Total watts** | 0 |

| **D. GENERAL LIGHTING POWER (Adapted from NRCC-LTI-04-E)** | **§ 140.6-D** |
|---|---|
| This Section Does Not Apply | |

**E. GENERAL LIGHTING FROM SPECIAL FUNCTION AREAS (Adapted from NRCC-LTI-04-E)** — **§ 140.6(c) 3H**

| Room Number | Primary Function Area | Illuminance Value (LUX) | Room Cavity Ratio (Table G) | Allowed LPD | Floor Area ($ft^2$) | **Allowed Watts** | **Confirmed** | |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | **Pass** | **Fail** |
| NA | NA | NA | NA | NA | NA | NA | ☐ | ☐ |

*Note: Tailored Method for Special Function Areas is not currently implemented*

**F. ROOM CAVITY RATIO (Adapted from NRCC-LTI-04-E)**

**Rectangular Spaces**

| Room Number | Task/Activity Description | Room Length (ft) | Room Width (ft) | Room Cavity Height (ft) | **RCR** | **Confirmed** | |
|---|---|---|---|---|---|---|---|
| | | | | | | **Pass** | **Fail** |
| NA | NA | NA | NA | NA | NA | ☐ | ☐ |

**Non-Rectangular Spaces**

This Section Does Not Apply

*Note: All applicable spaces are listed under the Non-Rectangular Spaces table*

**G. ADDITIONAL "USE IT OR LOSE IT" (Adapted from NRCC-LTI-04-E)**

| 1. | 2. | 3. | 4. | Allowed Watts | Confirmed | |
|---|---|---|---|---|---|---|
| Wall Display | Combined Floor Display and Task Lighting | Combined Ornamental and Special Effects Lighting | Very Valuable Merchandise | | Pass | Fail |
| 0 | 0 | 0 | 0 | **0** | ☐ | ☐ |

**5. Wall Display**

This Section Does Not Apply

**6. Floor Display and Task Lighting**

This Section Does Not Apply

**7. Combined Ornamental and Special Effects Lighting**

This Section Does Not Apply

**8. Very Valuable Merchandise**

This Section Does Not Apply

**H. INDOOR & OUTDOOR LIGHTING ACCEPTANCE TESTS & FORMS (Adapted from NRCC-LTI-01-E and NRCC-LTO-01-E)** **§ 130.4**

**Declaration of Required Acceptance Certificates (NRCA) –Acceptance Certificates that must be verified in the field. (Retain copies and verify forms are completed and signed to post in field for Field Inspector to verify).**

| Test Description | | Indoor | | | Outdoor | Confirmed | |
|---|---|---|---|---|---|---|---|
| | | NRCA-LTI-02-A | NRCA-LTI-03-A | NRCA-LTI-04-A | NRCA-LTO-02-A | Pass | Fail |
| Equipment Requiring Testing or Verification | # of units | Occ Sensors / Auto Time Switch | Auto Daylight | Demand Responsive | Outdoor Controls | | |
| Occupant Sensors | | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Automatic Time Switch | | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Automatic Daylighting | | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Demand Responsive | | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Outdoor Controls | | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |

# WATER USE CALCULATION TABLE

**FULL REPORT ON FOLLOWING PAGES**

6/24/2020
Echo Park - Taix Square

## Water Use Calculation Table

| Fixture Type | Flow Rate* (gpm or gpf) | | Duration (min or # flush) | | Daily Uses | | Occupants | | Gallons Per Day |
|---|---|---|---|---|---|---|---|---|---|
| **Residential Water Use** | | | | | | | | | |
| Showerheads | 1.8 | x | 8 | x | 1 | x | 411 | = | 5918.4 |
| Lavatory faucets | 1.2 | x | 0.25 | x | 5 | x | 411 | = | 616.5 |
| Kitchen faucets | 1.5 | x | 4 | x | 1 | x | 411 | = | 2466.0 |
| Tank water closets (M) | 1.28 | x | 1 | x | 5 | x | 205 | = | 1312.0 |
| Tank water closets (F) | 1.28 | x | 1 | x | 5 | x | 206 | = | 1318.4 |
| | | | | | | | **Subtotal** | = | 11631.3 |
| Clotheswashers (gal/person-day)** | 5.1 | | | | | | **411** | = | 2096.1 |
| Dishwashers (gal/person-day)*** | 0.43 | | | | | | **411** | = | 176.7 |
| Potable Water Irrigation (daily) **** | | | | | | | | = | 164.0 |

| | | |
|---|---|---|
| **Total Daily Baseline Water Use (BWU) in Gallons Per Day** | = | **14068.1** |
| **Average use per Household per Day = 14,068/170** | = | **82.8** |

| | |
|---|---|
| **Current Water Use per Multi-Family Household (MWD 2018/19 Annual Report Gallons Per Capita Per Day of 131 x estimate of 2.42 occupants per multi-family residential unit)** | **317** |
| **Water Use per Unit per Day (inc. appliances & irrigation)** | **82.8** |
| **Percent Reduction from MWD Baseline** | **73.9%** |

**Assumptions**

| |
|---|
| `- 170 units, 411 occupants ~2.42 occupants/unit According to the City of Los Angeles Department of City Planning, the most recent estimated household size for multi-family housing units in the City of Los Angeles area is 2.42 persons per unit. Source: Jack Tsao, Data Analyst II, Los Angeles Department of City Planning, July 31, 2019. |
| * Flow rates are the maximum allowed under City of Los Angeles Green Building Code (Form GRN 16). |
| ** Clothes Washer assumed in each unit. Los Angeles Green Building Code requires Energy Star certified units. Typical Energy Star unit = 3.2 WF (Water Factor) = 5.08 gal per person per day. |
| *** Dishwasher assumed in each unit. Los Angeles Green Building Code required Energy Star certified units. Typical Energy Star unit = 4 GPC (Gallons per Cycle) = 0.43 per person per day. |
| ****irrigation potable water was estimated by using LEED v4 at 3,413 sf and assumed to be native landscaping with a daily potable water gallons rate shown above (grey water expected to make up if additional irrigation is needed pending final landscaping designs. |