

Appendix C: Owner's Project Requirements Example

The following document is a sample Owner's Project Requirements document for reference only. The values and requirements stated herein are for example purposes, except under the Energy Section, in which the language and numbers reflect the Roadmap to Energy Affordability requirements.

Owner & User Requirements – describe the primary purpose, program and use of the project. Provide overarching goals relative to program needs, future expansion, flexibility, quality of materials, construction and operational costs.

The Project is an affordable multi-family housing facility with 32 units including 3 units that meet ADA standards. The building design will use double loaded corridors and will not exceed 3 stories above grade. The building design shall encourage people to use the stairs rather than the elevator. Parking for 50 cars will be provided in an unheated below grade garage.

Site layout will provide safe access for students boarding school buses and for all parties using public transportation services to the site. Site lighting shall provide security while complying with Dark Skies guidelines. Roof lines, walkways and building entries shall be coordinated to minimize hazards from falling ice or snow.

The facility will be constructed to the standards of permanent affordability including:

- The building life is expected to be 100 years.
- Per Unit energy cost of \$75/month in 2025
- Annual maintenance costs for building shell, interior upkeep and equipment preventive service shall not exceed: \$ xx/sq ft/year average for 5 years and \$yy/sq ft per year ten year average.
- Component life shall be in accordance with the following table:

Component	Expected Life	Notes
Roof	50 years	Roofing material shall be recyclable.
Siding	50 years	Refinishing of siding shall be required no more frequently than every 10 years at a cost not to exceed xx in current dollars.
Windows	30 years	Windows shall not require refinishing over their lifetime
Kitchen Cabinetry	30 years	Cabinetry shall not require refinishing over its lifetime
Appliances	15 years	
Interior doors and hardware	30 years	No refinishing
Interior wall and ceiling finishes	5 years	

Interior floor finishes common areas	30 years	
Interior floor finishes apartments	15 years	
Central heating and domestic hot water equipment	20 years	
Central pumps	15 years	
In unit distribution of heat and ventilation (baseboards, diffusers, etc.)	15 years	No refinishing required, Owner should address cleaning expectations
Ventilation System	15 years	
Fixed lighting – lamp life	10,000 hours minimum	Spare lamps for in unit lighting shall be provided to ensure replacement lamps are available for 15 years.

The total budget for the project is \$xxx including y% for soft costs.

Provide any specific budget limitations for building components or other budget detail that will assist the team specifying and constructing the building that most closely meets the owner's vision during the budgeting process.

Environmental and Sustainability Goals – describe specific environmental requirements or goals

The Project will not pursue a LEED rating. However, the following aspects of the design and construction shall be completed in compliance with the related LEED credit requirements as indicated in LEED 2009. Compliance with all LEED prerequisites is required for this project.

Owner selects specific areas that are priorities for the project and lists them here – suggested areas may include:

Sustainable Sites – site vegetation, low albedo roof, light pollution

Water Efficiency – reference flow values for plumbing fixtures below

Energy and Environment Credits - including energy performance (see energy goals set below)

Materials and resources – construction waste recycling, regional materials xx%

Indoor Environmental Quality – limit VOCs, include walk-off areas etc. (see indoor environmental goals below)

Energy Efficiency Goals – describe overall project energy efficiency goals relative to the local energy code, ASHRAE etc. Describe any goals or requirements for building orientation, landscaping, façade, fenestration, envelop, roof and energy systems.

The building energy use for heating and ventilation shall not exceed 6 MBTU/sq-ft/year.

The Project shall be oriented with the long axis running east/west to control solar heat gain. Exterior shading shall be provided on the southern and western façades to minimize direct summer solar incidence. The building envelop shall be designed and constructed in accordance with the permanently affordable option described in the *Roadmap to Affordable Housing Version 1, 2011*. Building Envelop performance testing is required for this project. Testing shall be specified by the architect and performed by an approved testing entity and attended by the Owner's representative, architect and contractor responsible for building shell construction.

The building will be heated and have a mechanical ventilation system. In unit cooling is not included in the design. Building mechanical systems shall be designed and constructed in accordance with the *Mechanical Design Guide for Affordable Housing Version 1, 2011*. Mechanical system commissioning is required and shall be performed by an approved testing entity.

Appliances shall be Energy Star Rated and shall be rated at the highest efficiency level available. Refrigerators shall be Maytag xxx units. Appliances to be furnished to each unit include: Refrigerator – yyy ; dishwasher model yyy. Central laundry facilities shall be provided on each floor including yyy.

In unit lighting shall be linear or compact fluorescent and shall include at least one fixed lighting fixture in every room. Designers shall submit a schedule showing lighting wattage, lamp life, watts per square foot, average and minimum footcandle levels in each space as part of the Basis of Design documentation. Designers shall use IESNA as a guide; however IESNA footcandles should be considered the maximum to be provided by fixed lighting as occupants may provide supplemental lighting where needed. Common area lighting shall be automatically demand controlled and provide a minimal level of night lighting to ensure people are not walking into dark, unlit spaces at night. Use daylighting in common areas to minimize the use of electric lighting use during daytime hours.

Indoor Environmental Requirements – *For each program or area describe the intended use, anticipated occupancy, space environmental requirements, including lighting, temperature, humidity, acoustics, air quality and ventilation), desired adjustability of system controls, and accommodations for after-hours use.*

Common areas including the building main lobby, corridors and stairwells shall maintain a temperature of 72 degrees F in the winter. Summer temperatures shall not generally exceed xx – however, mechanical cooling is not to be included in the design. Shading and ventilation strategies shall be applied to minimize the impacts of hot days.

Dwelling units shall be designed to maintain a temperature of 70 degrees F in the winter. Summer temperatures shall not generally exceed xx – however, mechanical cooling is not to be included in the design. Shading and ventilation strategies shall be applied to minimize temperature rise on hot days.

Time to delivery of hot water to a bathroom sink shall not exceed 10 seconds.

Equipment and system expectations – Describe the level of quality, reliability, type, automation, flexibility and maintenance requirements for building systems other than those addressed in the Mechanical Guide, if any. When known, provide specific efficiency targets, desired technologies, or preferred manufacturers for building systems.

Garage Ventilation System shall be variable speed controlled via carbon monoxide sensors to ensure air quality while limiting energy consumption.

Building occupants shall have individual thermostats controlling the temperature in the general living space and in the bedroom(s). The thermostats shall (not) be programmable type xxx. A thermostat operating guide shall be provided to occupants. Building occupant control of the ventilation system is (not) allowed. Building occupants are expected to have a low acceptance of difficult controls – controls shall be simple and readily understood.

Low flow devices shall be used with flow rates as follows: (EVT or HVT provide rates)

Kitchen Sink

Toilet

Shower

Bathroom sink

Documentation, Training and Operational Requirements

Project documentation shall be in electronic format and shall be used to develop as-built documents. Complete and accurate electronic as-built documents shall be provided to the Owner at the conclusion of construction.

Mechanical equipment maintenance will be provided by a third party service contractor. On site preventive maintenance shall be required no more frequently than once per year for equipment service and four times per year for filter changing.

Facility operation shall be fully automated. There will be no building operator assigned to this facility. Failure of critical equipment for heating and ventilation shall be alarmed to an external monitoring source.

Operator training shall be specified and provided as outlined in the attached training matrix.

Project will include remote monitoring of energy use via XXX system. Install meters on main electric service, hot water use and heating water use.