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## 73 Summer Street LEED BD+C: Lowrise Narrative

### Introduction

73 Summer Street will be designed and built using construction industry best-practices for sustainability described within, and measure by, the LEED BD+C: Multifamily Lowrise rating system.  
(<https://www.usgbc.org/resources/leed-v4-homes-and-multifamily-midrise-current-version>)

An Integrated Project Team and process have been established to leverage all professional expertise and seek every opportunity to employ Green Building techniques and practices. The Project's Preliminary Rating shows performance in excess of the target of LEED Gold Certification with several additional credit opportunities in discussion ensuring no ground is lost toward that goal.

### BD+C Multifamily Lowrise Checklist Items

#### IP - Integrative Process

##### Preliminary Rating

The project team met April 27, 2021 to conduct the Preliminary Rating with the Green Rater and Integrative Project Team. The Preliminary Checklist was completed with the target of LEED Gold level achieved. Integrative process: The Architect, Civil Engineer, MEP Engineers, and others on the design team have been involved in regular discussions throughout all drawing phases of the project thus far, including preliminary design, energy and envelope systems design, and design development. Meetings/calls will be conducted with the team to review project status, discuss problems and formulate solutions.

##### Option 1: Integrative Project Team, 1 point

The team includes all of the requisite capabilities, has expertise for low-rise systems and experience modeling REM-Rate energy simulation for LEED BD+C: Multifamily Lowrise.

##### Option 3: Trades Training, 1 point

PSa will conduct an on-site LEED-specific training to convey LEED basics and project requirements during the early stage of site work and construction.

LT – Location and Transportation

LT Prerequisite Floodplain Avoidance

All LEED criteria are met, project not in a flood hazard area.

LT Credit Site Selection, 8 points

Option 1. Sensitive Land Protection, Previously Developed, 4 points

The site is 75+% previously developed.

Option 2. Infill Development, 2 points

The site is 100% bordered by previously developed land.

Option 3. Open Space, 1 point

The project will be built within ½ mile of Conway Park that is at least 3/4 acres.

Option 4. Street Network, 1 point

The project is located in a dense urban setting with 90+ intersections per square mile.

LT Credit Compact Development, 3 points

The project will include 87 units per acre, demonstrating exemplary performance in this credit area. Exemplary performance for Lowrise is granted over 35 units/acre.

0.33	Total project boundary area (acre)
0.31	Buildable land area (acre)
27	Number of dwelling units
87.10	DU/acre of buildable land

LT Credit Community Resources, 2 points

The location is dense with amenities within ½ mile walking distance (Google Maps) and will receive full credit as well as 1 exemplary performance credit in this category.

Cummings School, Early Childhood Edu	42 Prescott St.
Riverside Comm Outpatient Center, Med	117 Summer St.
Market Basket, Grocery	400 Somerville Ave.
Union Square Farmers Market	366 Somerville Ave.
Somerville Comm Growing Ctr., Comm Ctr.	22 Vinal Ave.
Highlander Café	81 Highland Ave.
T&C, Convenience Store	497 Somerville Ave.
Nunziato Field & Dog Park	7 Putnam St.
Bow Market, Market	1 Bow market Way
Walgreens, Pharmacy	530 Somerville Ave.
FedEx, Shipping	530 Somerville Ave.
UPS Store, Shipping/mailing	519 Somerville Ave.
Forge Baking Company, Bakery/Café	626 Somerville Ave.
Liberty Cannabis, Dispensary	304 Somerville Ave.

# Price Sustainability

a s s o c i a t e s

Dunkin' Café, takeout  
Aeronaut Brewing Co., Restaurant  
China Delight, Restaurant/Takeout  
Tasting Counter, Restaurant  
Wagner Floral Design, Florist  
Dollar Tree, Shopping  
CHA Union Square Family Health, Medical  
St. Anthony of Padua Parish/Worship  
Greek Orthodox Church, Worship  
Zen IT Works, Computer Services  
Takelessons, Music Instruction  
Esh Circus Arts, Training/Health  
Brooklyn Boulders, Rock Gym  
Conway Park Hockey Rink, Sport  
Keshar Nevatim Preschool, Daycare  
Naveo Credit Union, Bank  
Artisan's Asylum, Art School  
Studio M Salon, Beauty  
Back Bay Hair Designs, Beauty  
Harvard Bookstore Warehouse, Books

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519 Somerville Ave.  
14 Tyler St.  
524 Somerville Ave.  
14 Tyler St.  
508 Somerville Ave.  
622 Somerville Ave.  
26 Central St  
12 Properzi Way  
29 Central St.  
108 Summer St.  
25 Laurel St.  
44 Park St.  
12a Tyler St.  
8 Garden Ct.  
13 Garden Ct.  
493 Somerville Ave.  
10 Tyler St.  
583 Somerville Ave.  
595 Somerville Ave.  
14 Park St.

## LT Credit Access to Transit, 1 point

Public Transportation is readily available near the site and the project will receive 1 credit.

The main entry to the project is located within a ¼ mile walking distance of multiple existing bus stops serving Buses 83 and 87.

- Bus 83: weekday trips =50; weekend trips = 35
- Bus 87: weekday trips = 51; weekend trips = 41
- Total weekday = 101; Total weekend = 76

## SS - Sustainable Sites

### SS Prerequisite Construction Activity Pollution Protection

All measures will be met and the project team has created a conforming Erosion and Sedimentation Control Plans.

### SS Prerequisite No Invasive Plants

No invasive plant species will be introduced, invasive species are being mitigated, as well.

SS Credit Nontoxic Pest Control, 2 points

Several pest control strategies will be employed including: non-cellulosic material for structural elements, building gaps will be sealed with insect resistant screens, and a robust Integrated Pest Management Policy will be developed.

1. Non-cellulosic material used for all structural elements: concrete podium first/larking level
2. Ports installed for plumbing elements penetrating slab for ongoing maintenance
3. Discharge points for rain gutters, A/C condensate lines at least 24" from foundation
4. Landscape features at least 18" from foundation
5. Integrated Pest Management Policy included in HOM for occupants

WE - Water Efficiency

WE Prerequisite Water Metering

A Whole-Building water meter will be installed.

WE Credit Indoor Water Use, 5 points

All water fixtures (showers, lavatory faucets, and toilets) will be WaterSense certified, and high-limit thresholds will be met. Clothes Washers will be ENERGY STAR labeled.

Lav faucets: 1.0 GPM  
Showerheads 1.5 GPM  
Toilets 1.1 GPF

EA - Energy and Atmosphere

EA Prerequisite Minimum Energy Performance

ENERGY STAR Thermal Bypass Inspection Checklist will be followed to ensure insulation and air-barrier integrity of the buildings during the construction process. ENERGY STAR v3 checklists will be followed, qualified appliances will be installed, and duct runs will be fully ducted.

EA Prerequisite Energy Metering

Electric sub-meters will be included for each unit.

EA Prerequisite Education of Tenant and Building Manager

Ownership will provide an Operations & Maintenance Binder (or electronic version) to each occupant and Building Management and a one-hour educational walk-through will be provided to building occupants.

EA Credit Home Size Adjuster, 9 points

The unit sizes are smaller than the national average and will collect 9 credits in this category.

Building ID	0 Bedrooms		1 Bedroom		2 Bedrooms		3 Bedrooms		4 Bedrooms		5 Bedrooms		6 Bedrooms	
	Number of Units	Average Floor Area (sq ft)	Number of Units	Average Floor Area (sq ft)	Number of Units	Average Floor Area (sq ft)	Number of Units	Average Floor Area (sq ft)	Number of Units	Average Floor Area (sq ft)	Number of Units	Average Floor Area (sq ft)	Number of Units	Average Floor Area (sq ft)
	3	537.30	6	717.50	16	994.40	2	1,384.00						
Home size adjustment	46%		28%		38%		37%		0%		0%		0%	
Point adjustment	11.6		7.1		9.5		9.3		0.0		0.0		0.0	
Total number of units														27
<b>Average home size point adjustment</b>														<b>9.0</b>

## EA Credit Annual Energy Use, 16 points

The project is projected to achieve an 45%, or greater, energy savings against the IECC 2015 MA baseline.

## EA Credit Efficient Hot Water Distribution System, 2 points

Option 3. Pipe Insulation specified at R4, or greater including insulated elbows.

## EA Credit Active Solar-Ready Design, 1 point

The project is designed with roof space and infrastructure dedicated to future solar hot water and solar panel technology. EPA solar and solar hot water ready specifications will be met.

## Renewable Energy Ready Home Solar Photovoltaic Checklist

Home Location:		City:	State:	
<b>RERH Checklist</b> (See Renewable Energy Ready Home (RERH) specifications for details)			<b>Builder Verified</b>	<b>NA</b>
1.1	Designate a proposed array location and square footage on architectural diagram: _____sq. ft.			<input type="checkbox"/>
1.2	Identify orientation (azimuth) of proposed array location: _____degrees.			<input type="checkbox"/>
1.3	Identify inclination of proposed array location: _____degrees.			<input type="checkbox"/>
1.4	Conduct a shading study documenting impacts on proposed array location: _____% adjusted annual shading impact. If using monthly values as verified through the solar path assessments, check here: _____.			<input type="checkbox"/>
1.5	Assess if proposed array location supports a solar resource potential of more than 75 percent of the optimal solar resource potential for the same location using the online RERH Solar Site Assessment Tool (SSAT). Yes <input type="checkbox"/> This home meets the minimum recommended solar resource potential of 75 percent per the RERH SSAT results; continue with Section 2 below. No <input type="checkbox"/> This home does not meet the recommended solar resource potential per the RERH SSAT results; this location is not a good host for a future solar energy system and should not be made renewable energy ready.			<input type="checkbox"/>
2.1	Provide code-compliant documentation of the maximum allowable dead load and live load ratings of the existing roof; recommended allowable dead load rating can support an additional 6 lbs/sq. ft. for future solar system.			<input type="checkbox"/>
2.2	Install permanent roof anchor fall safety system (NA for roof pitch ≤ 3:12).			<input type="checkbox"/>
3.1	Install and label a 4' x 4' plywood panel area for mounting an inverter and balance of system components.			<input type="checkbox"/>
3.2	Install a 1" metal conduit for the DC wire run from the designated array location to the designated inverter location (cap and label both ends).			<input type="checkbox"/>
3.3	Install a 1" metal conduit from designated inverter location to electrical service panel (cap and label both ends).			<input type="checkbox"/>
3.4	Install and label a 70-amp dual pole circuit breaker in the electrical service panel for use by the PV system (label the service panel).			<input type="checkbox"/>
3.5	Provide architectural drawing and riser diagram of RERH solar PV system components.			<input type="checkbox"/>
4.1	Provide to the homeowner a copy of this checklist and all the support documents listed below (to be provided to future solar designer).			
	- Copy of the Renewable Energy Ready Home Specification guide			<input type="checkbox"/>
	- Fully completed RERH checklist (all sections)			<input type="checkbox"/>
	- Architectural drawings detailing proposed array location and square footage			<input type="checkbox"/>
	- Electrical drawings and riser diagram of RERH PV system components that detail the dedicated location for the mounting of the balance components			<input type="checkbox"/>
	- Shading study with percent monthly or adjusted annual shading impact(s)			<input type="checkbox"/>
	- Site assessment record generated by the online RERH SSAT indicating that the proposed site meets a minimum solar resource potential of 75 percent of optimal			<input type="checkbox"/>
	- Code-compliant documentation of the maximum allowable dead load and live load ratings of the roof			<input type="checkbox"/>
4.2	Record electric utility service providers contact information: Electric utility service providers name and Web address:			
5.1	Develop a detailed landscape plan with a clear emphasis on low-growth vegetation			<input type="checkbox"/>
5.2	Place roof penetrations above or north of the proposed array to prevent casting shadows on the array location			<input type="checkbox"/>
Builder Completion Date:		Builder Company Name:		
Builder Employee Name:		Builder Employee Signature:		
Interested in Solar Incentives? Please visit: <a href="http://www.dsireusa.org/solar/">http://www.dsireusa.org/solar/</a>				

MR - Material and Resources

MR Prerequisite Certified Tropical Woods

Suppliers will be notified of preference for FSC products and a request for the country of manufacture for each wood product. Any tropical woods used will be FSC Certified.

MR Prerequisite Durability Management

Each measure of the ENERGY STAR Water Management Builder Checklist will be installed by the Builder.

MR Credit Durability Management Verification, 1 point

Each Builder Durability measure will be verified on-site by PSA.

MR Credit Environmentally Preferable Products (EPP)

Option 1. Local Production, 1 point

Building components will be sourced within 100 miles of the site, qualifying for one point.

Option 2. EPP, 1.5 points

Building materials and finishes will be selected to comply with the EPP criteria.

MR Credit Construction Waste management, 1.5 points

The project team will target 30% reduction of total construction waste.

MR Credit Material Efficient Framing, 1 point

The project team will utilize Optimum Value Engineering (OVE) for framing, qualifying for 1 credit. Two-stud (California) corners will be used except in a few locations prevented by structural loads. Headers will be sized for actual loads. Interior wall studs will be spaced greater than 16" o.c.

## EQ - Indoor Environmental Quality

### EQ Prerequisite Ventilation

- Unit mechanical ventilation systems will meet the provisions of ASHRAE 62.2-2010, sections 5 and 7,
- Bath exhaust systems exhaust directly to outdoors and be ENERGY STAR labeled

### EQ Prerequisite Combustion Venting

No unvented combustion appliances are installed and CO monitors are installed per LEED and MA code.

### EQ Prerequisite Garage Pollutant Protection

Doors to living spaces will be gasketed, CO detectors will be installed, all penetrations from garage will be sealed.

### EQ Prerequisite Air Filtering

MERV 8 filters will be used for space conditioning equipment, MERV 6 for outdoor supply air on ventilation systems.

### EQ Prerequisite Environmental Tobacco Smoke

This will be a non-smoking building, signage is included.

### EQ Prerequisite Compartmentalization

Careful air-sealing measures will be implemented and units tested to comply with low LEED infiltration standards.

### EQ Credit Enhanced Ventilation, 3 points

- Continuous Ventilation in each unit will be provided
- Balanced whole-house ventilation will be installed which will comply with ASHRAE 62.2 (no more than 10% over)

### EQ Credit Contaminant Control, .5 point

Pre-occupancy flush will be conducted prior to building turnover.

### EQ Credit Balancing of Heating & Cooling Distribution Systems, 3 points

The project will incorporate at least 2 zones in units with bedrooms, conduct supply air-flow testing and pressure-balancing to ensure optimal distribution.

### EQ Credit Combustion venting, 2 points

There are no fireplaces or woodstoves within the living spaces.

### EQ Credit Enhanced Garage Pollutant Protection, 1 point

The garage is designed with exhaust fans to exchange fresh air in that space.

### EQ Credit Low-Emitting Products, 1 point



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The project team will select finishes with 90% of components which will meet the CA Section 01350 criteria for low emissions.

## IN - Innovation

Exemplary Performance – LT Compact Development, 1 point

Exemplary Performance – LT Community Resources, 1 point

Mark Price, LEED Green Rater

Principal Consultant

Price Sustainability Associates