



15 Court Square, Suite 420  
Boston, MA 02108

*City of Newton – Rating System Narrative - Sustainable Development  
Design*

## **2Life Opus**

Winchester Street, Newton, MA

May 4, 2021

## I. Overview

The Opus project (the “Proposed Project”) includes the construction of a new building adjacent to the current Coleman House residence, and relocating Ryna Greenbaum Drive to allow for the new construction. The proposed building will include 174 residential units over two levels of a below grade parking garage. The residential structure will include approximately 252,000 square feet of residential space, 28,000 square feet of common amenity space and 108,000 square feet of garage area. The proposed project also includes 13 surface parking spaces and 230 subsurface garage parking spaces, 30 of which are dedicated to Coleman house, and 35 are to replace JCC parking spaces.

The Proposed Project will be designed and constructed under the guidelines of the U.S. Green Building Council’s (USGBC) Leadership in Energy and Environmental Design for Multifamily Midrise Version 4 (LEED MFMR v4) rating system. The buildings will meet or exceed the requirement of LEED certifiability at the Gold level. The following is an outline of the preliminary LEED compliance strategy for this project.

## II. LEED Multifamily Midrise v4 Scorecard – Opus

New Ecology, Inc. (NEI) has reviewed the preliminary project scope for the Opus project and understands the credit summary presented in Table 1 to be reasonable and achievable – the subsequent narrative identifies the project’s current approach to compliance with all checklist prerequisites and applicable, optional credits.

*Table 1: LEED Multifamily Midrise v4 Summary Scorecard*

<b>Category</b>	<b>Yes Points</b>	<b>Maybe Points</b>
Integrative Process	2	0
Location and Transportation	8	0
Sustainable Sites	4	0
Water Efficiency	5	0
Energy and Atmosphere	18.5	1
Materials and Resources	3.5	0
Indoor Environmental Quality	14	4
Innovation	4	1
Regional Priority	3	0
<b>Total Points<sup>1</sup></b>	<b>62</b>	<b>6</b>

<sup>1</sup> A minimum of 60 points are required to achieve LEED Gold certifiability

### III. Narrative for LEED Credits – Opus

The Projects will fulfill all the prerequisites for all categories.

Note: Only credits that will be pursued by the Project are discussed below; credits that will not be pursued are not included.

#### A. Integrative Process

IP Integrative Process	2 points
<p>In compliance with credit requirements, the project will complete the following tasks:</p> <ul style="list-style-type: none"> <li>• A preliminary Energy Model: during the schematic design phase, the team will model the project’s design and assess potential strategies associated with the site conditions, the extensive massing and required building orientation, the basic envelope design, lighting levels within the regularly occupied spaces, the thermal comfort ranges of the occupants, the plug and process load needs, and the programmatic and operational parameters of the building. All iterations and results will be documented and shared with the design team prior to final design decisions.</li> <li>• A preliminary Water-Use systems Analysis: also during the schematic design phase, the team will explore methods of reducing potable water loads within the building as well as any potable water required for irrigation of the building site and process water necessary for equipment within the building.</li> <li>• Integrative project team: As part of the design process, the project will assemble and involve a project team to meet three criteria. The team will include members from at least three of the following specialties: architecture, MEP, Building Science or Civil Engineering. The team members will be involved in at least three of these phases: Schematic Design, LEED planning, Preliminary Design, Design Development, Final Design, Construction. The project team will meet at least once a month.</li> <li>• A Design Charrette: The project team as defined above will conduct a one full-day workshop to establish project goals. This meeting will happen no later than the design development phase and preferably during schematic design.</li> </ul>	

#### B. Location and Transportation

LT Floodplain Avoidance	Required
<p>The project is located in FEMA Zone X an “Area of minimal flood hazard” which meets the LEED prerequisite standard for floodplain avoidance.</p>	

LT Site Selection: Avoidance of Sensitive Land	3 yes points
The project is located on a lot which satisfies the credit conditions by not developing a lot that is prime farmland, public parkland, displacing endangered species, or in a floodplain or a wetland.	
LT Site Selection: Open Space	1 yes point
The project is located within a short walk (0.3 miles) of Nahanton Park, meeting the credit requirement of providing access to ¾ of an acre of open space within a 1/2 mile of the project and earning the project 1 point.	
LT Site Selection: Street Network	1 yes point
The project is located in an area with a street and sidewalk network. Maps for the area show an intersection density of 133 intersections per square mile, exceeding the 90 intersections per mile requirement for this point.	
LT Compact Development	2 yes points
The project team is proposing unit density above 55 dwelling units per acre of land, earning the project 2 points.	
LT Community Resources	1 yes point
The Opus units are within a ½ mile walking distance of a number of community resources including a community center and a number of outdoor recreation spaces. The number of community resources within a short walk will earn the project 1 point.	

**C. Sustainable Sites**

SS Construction Activity Pollution Prevention	Required
The project’s construction documents will include a Soil Erosion and Sedimentation Control Plan. A Stormwater Pollution Prevention Plan (SWPPP) will also be developed for the site in accordance with the requirements for the US EPA’s Construction General Permit. These documents will be used to demonstrate compliance with this prerequisite.	
SS No Invasive Plants	Required
The project will complete and document an assessment of the planting plan for the project to ensure that no invasive plant species are introduced. The general contractor will also submit documentation to certify that no invasive plants were installed as part of the project.	
SS Heat Island Reduction	2 yes point
The project will utilize high albedo materials for hardscapes onsite, including both nonroof and roof installations. Installed materials will meet LEED requirements for either initial or three-year Solar Reflectance Index values. In addition, trees will be	

planted in order to shade hardscaped area, and Sedum will be included as vegetation on an area of the roof. The project team will set a goal that more than 75% of the hardscape area is either shaded by trees (after 10 years of growth), is a vegetated roof space, or covered in high albedo material earning 2 points.	
SS Nontoxic pest control	2 yes points
The project will make use of nontoxic pest control strategies onsite. Below grade, solid concrete walls will be used which will prevent pest entry. All external penetrations, joints, edges and entry points will be sealed and corrosion proof screens will be installed on all openings greater than 6mm. The project team will investigate opportunities to make further use of nontoxic pest control strategies, including keeping plantings and downspouts away from the foundation in order to earn another point. In addition, an integrated pest management policy that includes guidance for residents on pesticide use, housekeeping, and prompt reporting of pest problems will be implemented. This policy will be included in the resident/building manager education manual.	

#### D. Water Efficiency

WE Water Metering	Required
The project will comply with the requirements of this credit by installing a water meter for the building.	
WE Total Water Use	5 yes points
<p>The project will target reducing demand for potable water by at least 30% below the aggregate water consumption baseline through the installation of high efficiency fixtures within living spaces. This design will surpass the minimum requirement for 10% water use reduction. The design will specify WaterSense labeled fixtures and the following flow rates:</p> <ul style="list-style-type: none"> <li>• Shower: 2.0 GPM,</li> <li>• Bath Lavatory: 0.5 GPM, and</li> <li>• Toilet: 1.28 GPF</li> </ul> <p>EPA ENERGY STAR appliances will be used in units with the following consumption rates:</p> <ul style="list-style-type: none"> <li>• Clothes Washer: IWF of 4.3 or less</li> <li>• Dishwasher: 3.5 GPL or less</li> </ul>	

#### E. Energy and Atmosphere

EA Minimum Energy Performance	Required
<p>The project will meet this prerequisite, as well as the Massachusetts Stretch Energy Code. To comply with the LEED prerequisite the project will meet the following requirements:</p> <ul style="list-style-type: none"> <li>• Multifamily Midrise Whole Building Energy Simulation. Project will demonstrate a 5% improvement over baseline building performance rating according to the</li> </ul>	

building performance rating method of USGBC's residential midrise simulation guidelines, based on ASHRAE Standard 90.1-2010, Appendix G.

In addition, the project team will complete the following:

- Multifamily Midrise Commissioning Option 2: Commissioning using Prescriptive Path which includes the following:
  - Reduced Heating and Cooling Distribution system losses for In-unit HVAC. The project will retain the services of a rating company to test and verify design elements including duct air leakage rates.
  - Fundamental Commissioning of Central HVAC Systems. The project will retain the services of a 3<sup>rd</sup> party commissioning authority to confirm correct operation and functionality of centralized mechanical systems.
  - Construction Document Specifications. The project has retained the services of a sustainability consultant to review construction documents and assure the team that appropriate air sealing details and protocols are used
  - MFHR Thermal Enclosure Inspection Checklist. The project has retained the services of a 3<sup>rd</sup> party Green Rater to verify envelope design elements are correctly implemented during construction.

EA Energy Metering	Required
The project will include a building-level energy meter and gas meter.	
EA Education of Building Manager	Required
The project team will provide the building manager with an operations and maintenance manual that includes information about the building's green features.	
EA Annual Energy Use	15.5 yes points, 1 maybe point
The project plans to reduce energy consumption by 14% or more from the LEED baseline (ASHRAE 90.1-2010) The project will be designed to meet or exceed MA Stretch Code performance requirements, with the goal of passive house-level performance for the residential unit areas. Unit size will also earn the project an estimated 6.5 points for a Home Size Adjuster (HSA). The project team expects to earn 15.5 points for EA Annual Energy Use or more. The team will continue to explore additional strategies in order to reduce energy use further.	
EA Efficient Hot Water Distribution System	2 yes points
The project will include a fully insulated Domestic Hot Water (DHW) system with a minimum insulation level of R-4 on all DHW piping in order to earn 2 points.	
EA Advanced Utility Tracking	1 yes point
The project plans to have an automatic in-ground irrigation system and the landscape irrigated area is larger than 1,000 square feet (93 square meters). By installing a submeter to monitor all irrigation system components the project will earn 1 point.	

## F. Materials and Resources

MR Certified Tropical Wood	Required
The project team is committed to designing and building the units with wood that is either nontropical, reused or reclaimed, or certified by the Forest Stewardship Council.	
MR Durability Management Verification	1 yes point
The Green Rater from the project team will inspect and verify each measure listed in the ENERGY STAR for Homes, Version 3, water management system builder checklist.	
MR Environmentally Preferable Products	0.5 yes point
The project will include locally sourced materials where possible. Locally sourced aggregate for concrete for the foundation is generally available in the project area, earning ½ a point. The project team will explore the possibility of incorporating additional recycled materials in order to earn an additional point.	
MR Construction and Demolition Waste Management	2 yes points
The team is committed to reducing construction waste through at least 75% diversion including four material streams. The project team will document the means of meeting this diversion target and the details of the end use of recycled materials through the Construction and Demolition Waste Management Plan.	

## G. Indoor Environmental Quality

EQ Ventilation	Required
The project team is committed to reducing occupant exposure to indoor air pollutants by exhausting air to outside and providing ample ventilation with outdoor air. The project will ensure that all ventilation systems meet the LEED requirements by complying with Sections 4 through 7 of the ASHRAE 62.1-2010 standard for Acceptable Indoor Air Quality in all indoor spaces.	
EQ Combustion Venting	Required
<p>The project team is committed to reducing the use of combustion where possible, and will take the following steps to improve indoor air quality:</p> <ul style="list-style-type: none"> <li>• Domestic Hot Water (DHW) systems will be designed and installed with closed combustion,</li> <li>• Carbon Monoxide (CO) detectors will be installed on each floor and hard wired, with a battery backup.</li> <li>• The project will not include any fireplaces or woodstoves inside the building.</li> </ul>	
EQ Garage Pollutant Protection	Required
The project will be designed to include the following strategies to reduce occupants' exposure to air pollutants from the parking garage:	

<ul style="list-style-type: none"> <li>• All air-handling equipment will be placed outside the fire-rated envelope of the garage,</li> <li>• Carbon Monoxide (CO) detectors will be installed in all rooms adjacent to a garage, and all adjoining doors weather-stripped, and penetrations sealed,</li> <li>• All floor penetrations above garages will be sealed.</li> </ul>	
EQ Radon-Resistant Construction	Required
The project is in radon zone 1, therefore the project team will include radon mitigation techniques. The project is complying with this prerequisite by installing a garage under the building. Although not required by LEED, the garage will be mechanically ventilated.	
EQ Air Filtering	Required
Air handling systems used on this project will be equipped with filters meeting or exceeding the MERV 8 requirement on all recirculating space conditioning systems. All ductwork 10 feet or more in length supplying outdoor air will be filtered by a MERV 6 filter or higher.	
EQ Environmental Tobacco Smoke	Required
In order to limit occupant exposure to tobacco smoke, smoking will be prohibited in all common areas of the building. Outdoor smoking areas will be at least 25 feet away from any doors, windows or air intakes in order to further limit tobacco smoke exposure; these prohibitions will be indicated in all leasing agreements and will be displayed via onsite signage.	
EQ Compartmentalization	Required
The project team is committed to limiting occupants' exposure to indoor air pollutants by minimizing the air transfer between units. All units will be sealed to meet or exceed the compartmentalization requirements set out by the USGBC and effective sealing will be demonstrated by a blower door test.	
EQ Enhanced Ventilation	3 yes points
The project will include balanced, whole-house ventilation systems including supply and exhaust. In order to maximize energy savings, Energy Recovery Ventilation (ERV) systems will be used throughout the project and a continuously operating bath fan will be included.	
EQ Contaminant Control	1 yes point, 1 maybe point
In order to ensure that the indoor spaces are contaminant free, the project will include walk off mats at common entryways and primary unit entryways to earn ½ point. In addition, the team will protect all ductwork after installation, and will conduct a 48 hour full building flush in order to earn an additional ½ point. The project will investigate the inclusion of air quality testing in order to earn an additional point.	
EQ Balancing of Heating and Cooling Distribution Systems	3 yes points



Average unit size for the project qualifies it for 1 point under Option 1 for this credit. The project team will also ensure that supply air flow rates will be within (+/-20%) of calculated values from ACCA Manual J, in order to qualify for Option 2. In addition, the project team expects to achieve Option 3. Pressure Balancing. This path requires a minimal air pressure differential between all bedrooms when the air handler is operating at its highest speed.	
EQ Enhanced Compartmentalization	1 yes point, 2 maybe points
In order to minimize the exposure of building occupants to indoor air pollutants, the project team will minimize the transfer of air between units to a level at or below 0.23cfm @ 50 pascals of pressure. This qualifies the project for 1 point under LEED addenda #10465. The project team will explore an even stricter standard for the possibility of earning 2 additional points. The project team will verify the air leakage level with a blower door test.	
EQ Enhanced Combustion Venting	2 yes points
In order to improve indoor air quality and reduce energy use, the project does not include any fireplaces or wood stoves inside the building envelope.	
EQ Enhanced Garage Pollutant Protection	1 yes point
The project team is committed to reducing exposure to pollutants wherever possible. Ventilation in the garage space will be sufficient to create a negative pressure compared to the adjacent spaces in order to make sure that vehicle emissions are exhausted from the garage space. Self-closing doors will be installed and exhaust fans will either be operated continuously, or connected to a CO monitor which will trigger the fan.	
EQ Low Emitting Products	2 yes points, 1 maybe point
The project team will specify paints, coatings, adhesives, sealants, and composite wood that comply with California Department of Public Health Standard Method V1.1-2010, using CA Section 01350, and meet all applicable VOC content requirements. The team will target at least 2 LEED points and may seek an additional LEED point by meeting the requirements for all four product categories listed above.	

#### H. Innovation

IN Innovation	3 yes points, 1 maybe points
The project will seek to achieve at least 3 out of 4 applicable Innovation points, with 2 additional points possible. Targeted points include: Green Vehicles (as the EV charging station standard for this point will be exceeded by meeting the City of Newton charging station requirements) and HVAC Startup Credentialing, as well as targeting the Innovation point for Design for Active Occupants. Currently listed as a maybe point is Enhanced Commissioning.	

IN LEED Accredited Professional	1 yes point
Francis Stone, LEED AP, is coordinating the compliance process and LEED certification for this project.	

### I. Regional Priority

RP Regional Priority	3 yes points
<p>The project will likely meet the threshold for 3 Regional Priority points. Each points is earned by meeting a thresholds in each respective categories. The thresholds are identified below.</p> <ul style="list-style-type: none"> <li>• EQ Balancing of Heating and Cooling Distribution Systems, this Regional Priority point is earned once a project earns three points in this category;</li> <li>• SS Compact Development, this Regional Priority point is earned once a project earns two points in this category;</li> <li>• EA Annual Energy Use, this Regional Priority point is earned once a project earns fifteen points in this category.</li> </ul>	