Residential + Urban Design

Sustainability Navigator

Baseline Information

The information in this brochure is based on the requirements for a four-story, wood-framed, Multi-family building including 100 affordable dwellings that are R-2 occupancies with a building total of approximately 100,000 sf, organized with approximately 60% 1-bed units + 40% 2-bed units.

- Slab-on-Grade - Gable roof
- Climate Zone 4 - Mixed-Humidity (DC/MD/VA)
- 30% Glazing - Vinyl windows
- Façade materials 50/50 of brick + fiber cement siding
- NFPA 13R Sprinkler Systems + one intermediate fire wall splitting floors into areas of 12,000 sf
- Electric Split System HVAC system for apartments + common areas
- Typical amenity spaces including lobby, small fitness room, community room, and 75-80% Residential Building Efficiency
- 2018 ICC code as baseline
- Assumes current versions of the following Sustainable Certification Programs as of Fall 2022

Please note that many of these Sustainable Programs have overlaps + crosswalks between Certifications + utilize Energy Star Certification as a prerequisite. The Database of State Incentives for Renewables + Efficiency (DSIRE) is the most comprehensive source of information on incentives + policies that support renewables + energy efficiency in the US. Our team will work tirelessly to find a program suitable for your project.

We look forward to collaborating and guiding you through these dynamic + continuously improving sustainability programs together while finding the best fit for your project.

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G+P GRIMM + PARKER
Creative Collaboration
Sustainable Solutions
Engaging Environments

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Sustainable Design Guidelines

for Multi-Family Residential Properties

2022

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What is required/recommended for a 100-unit, four-story, wood-framed, Multi-Family building at, 1,000 sf gross/unit? ☼

	CODE BASELINE			BETTER PRACTICES			HIGH PERFORMANCE				REGENERATIVE!		
	IECC 2018	ASHRAE 90.1-2010 ❖	IgCC 2018	FITWEL Multi-Family Residential or Senior Housing V2.1	ENERGY STAR Multi-Family New Construction (V1 in VA, V11 in MD, DC)	Enterprise Green Communities (EGC) 2020	LEED v4 Homes Multi-Family Mid-Rise Net Zero Certification option, Net Zero Emissions, energy,water, waste	Home Innovation Research Labs (NAHB) - NGBS 2020 (New Construction)	Viridiant Earthcraft - Multi-Family V6.5	Green Globes Multi-Family New Construction, MF Existing Buildings (15% savings) or MF Performance Plus (25% savings)	EGC 2020 Plus (PHIUS / ZERH) 🗲	Passive House PHIUS+ 2018 (w/ ZERH, ENERGY STAR + Indoor airPLUS)	Zero Carbon, Zero Energy, or CORE Green Building Certification (International Living Futures Institute)
Energy Modeling (and/or ComCheck; Sustainability Consultant required)	N/A	N/A	Yes	N/A	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
On-site Energy	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Optional points if selected	N/A	Zero Energy Ready	Yes Zero Ready/ off site
Third-Party Rater Required	N/A	N/A	N/A	N/A	Yes	Yes (ENERGY STAR req)	Yes	Yes	Yes (HERS)	Yes	Yes ZERH	Yes	Yes
Post Construction Verification	N/A	N/A	N/A	Yes Testing; Similar testing now code required, easier to achieve	Yes Testing; Similar testing now code required, easier to achieve	Utility information from tenants required	Optional points	Optional points	Months Utility Bills optional	Yes	Yes	Yes	Yes
Heat Pump Water Heaters Recommended	No	No	No	N/A	No	No	No	No	No	No	Yes	Yes	Yes
Exterior-venting range hoods	No	No	Yes	Yes	Yes	Yes	Yes	No	Required for gas ranges only	No	Yes	Yes	Yes
Fresh Air Intake at Apartments	Yes	Yes	Yes ☼	Yes ☼	Yes ☼	Yes ☼	Yes ☼	Yes ☼	Yes ☼	Yes	Yes ☼	Yes ☼	Yes
Split System SEER rating requirement and/or recommendation	SEER 13	SEER 13	SEER 15 ♦	N/A must meet code minimum	SEER 15 ♦	SEER 15 ♦	SEER 15 ♦	SEER 15 ♦	SEER 14	SEER 13 ★	SEER 16 ♦	SEER 20 ♦	SEER 13 ★
LED lights bulb requirement and/or recommendation	No	No	Yes ♦	No	Yes ♦	Yes ♦	Yes ♦	Yes ♦	Yes ♦	Yes	Yes ♦	Yes ♦	Yes ★
Fixture flow rates (Kit/Lav/Toilet/Shower) - Reference IPC 2018	2.2/2.2/ 1.6/2.5	N/A	1.8/1.5/1.28WS 2.0WS (Watersense)	N/A must meet code minimum	N/A	2.0/1.5/1.28/2.0 (Optional points for lower rates)	Optional points for lower rates	Optional points for lower rates	Optional points for lower rates	Optional points if selected	2.0/1.5/1.28/2.0 Optional points for lower rates	N/A	50% improvement
WaterSense (WS) labeled fixture requirements?	N/A	N/A	Some fixtures require the label	N/A	N/A	Yes to all	Optional points if selected	Optional points if selected	Optional points if selected	Optional points if selected	Yes to all	N/A	N/A
Blower door testing (Check with code and/or program requirements for required thresholds)	Yes	Yes	Yes (IECC)	N/A must meet code minimum	Yes (IECC)	Yes (IECC)	Yes (IECC)	Yes (IECC)	Yes	Yes	Yes (IECC)	Yes (IECC)	N/A
Duct blaster testing (Check with code and/or program requirements for required thresholds)	Yes	Yes	Yes (IECC)	N/A must meet code minimum	Yes (IECC)	Yes (IECC)	Yes (IECC)	Yes (IECC)	Yes	Yes	Yes (IECC)	Yes (IECC)	N/A
Commissioning of HVAC	Yes	N/A	Yes	N/A must meet code minimum	Yes (IECC)	Yes (IECC)	Yes (IECC)	Yes (IECC)	Yes (IECC)	N/A	Yes (IECC)	Yes (IECC)	N/A
Enhanced commissioning of HVAC	N/A	N/A	Yes	N/A must meet code minimum	No	Optional points if selected	Optional points if selected	Optional points if selected	N/A	N/A	Optional points if selected	Yes	N/A
Roof insulation value requirement and/or recommendation	R-38	R-38	R-38 (IECC)	N/A must meet code minimum	R-49 ♦	R-49 ♦	R-49 ♦	R-49 ♦	R-38 or greater ♦	R-49	R-49 ♦	R-49 ♦	N/A
Wood framed wall insulation value and/or exterior insulation requirements	R-20 or R13+3.8 c.i.	R-20 or R13+3.8 c.i.	R-20 or R13+3.8 c.i. (IECC)	N/A must meet code minimum	Flash (2") and Batt (3.5") - R27 ♦	Flash (2") and Batt (3.5") - R27 ♦	Flash (2") and Batt (3.5") - R27 ♦	Flash (2") and Batt (3.5") - R27 ♦	R-13 + CI required for cert. level ♦	R-20 or R13+3.8ci	Flash (2") + Batt (3.5") - R27 ♦	Blown Insulation w/ CI - R27 ♦	N/A
GC Forms + Requirement Complexity - Scale of 1-5 ♣	N/A	N/A	3	1	3	2	3	2	3	4	5	5	5
Comparison cost of program certification fees ♦	N/A	N/A	N/A	$500 registration + $5,500 - 8,000 (depending on sf)	$0	$1,250 Pre-Build $300 Post-Build	$1,200/bldg registration + 4,000 pre-cert.+.057/sf design + construction review fee.	$700/bldg + $30/unit	$75 - $85 / unit	$0.065/sf	$0 ($0 above the base EGC fees - see left)	$200/unit +/- (Based on Interior Calc. Floor Area [iCFA])	

💧 EGC 2020 or EGC 2020 Plus Certification also grants the project the WELL Building Certification from the International WELL Building Institute.
☼ Always consult your local county AHJ for additional requirements that may vary from this list.
♣ We always encourage the use of a cost estimating firm or GC for additional assistance with sustainable program cost requirements and variations that may be present in any region.
♦ These are recommended values, we also recommend the use of a sustainability consultant for additional information and the most up to date sustainable program requirements.

🗲 EGC 2020 Plus certification requires a PHIUS+ or DOE ZERH pathway in credit 5.2b to achieve this level of certification, for above + beyond energy efficiency and building envelope performance.
❖ Some jurisdictions are now starting to adopt the 2016 or later ASHRAE codes. Talk to your architects and sustainable consultants about the differences.
★ Baseline requirements but there are additional points for higher performance.