

LEED v4 - Compatibility & Conflict Among Certification Programs

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ABSTRACT

Design requirements, modeling tools, testing methods, and verification documentation between certification programs are compatible in some instances but conflicting in others. Based upon the case study of a single family home the following will be presented: Kitchen exhaust design rates were a conflict between PHIUS and ES Rev 7 but Rev 8 rectified that with this footnote: 50 as an alternative to Item 8.1, homes that are PHIUS+ certified are permitted to use a continuous kitchen exhaust rate of 25 CFM per 2009 IRC Table M1507.3. When designed to ES Rev 7 (which was the requirement when 59N began) the kitchen exhaust would need to meet 5ACH continuous which is 97 cfm continuous for 59N. During an intermediate inspection the rater noticed that a recirculating fan with charcoal filter above the range was planned which meets PH but not ES requirements. An additional HRV exhaust was installed which runs continuously at 30cfm (meeting ES Rev 8); it was an easy fix since it was caught prior to drywall installation. Whole house ventilation was also conflicting since the tested ventilation rate for ES Rev 7 was 100% to 120% of the ASHRAE 62.2-2010 calculation (68 to 82 cfm) but the PHPP rate is significantly higher (112 cfm). ES Rev 8 permits ASHRAE 62.2-2010 or later and allows tested rates 15% or 15cfm of the design. 59N was tested for total flows at the HRV intake and exhaust using a Kele Air Flow Measuring Tool and at each supply and exhaust using an Anor LoFlo Balometer Capture Hood. These tests were required by PHIUS whereas ES v3 testing requires only one of these three options (all exhaust flows or all supply flows or the total flow at the HRV).

PHIUS requires PHPP or WUFI Passive modeling and REM/Rate, Energy Star also requires REM/Rate and LBC requires a completed Energy Production and Demand Table be completed after at least 12 months occupancy. LEED accepts the HERS Index from REM/Rate for points in the energy category but verification documentation for the 8 categories is structured differently than for LBC petals. This means calculations, photos, and maps may be edited and saved one way for one program and another way for another. Both PHIUS and LBC set up drop boxes for support documentation while LEED for Homes verification documents stay with the rater and provider unless specifically requested during the GBCI audit. ES, IAP, WS, and DOE ZERH are all free programs which require partnership agreements. LEED, PHIUS, and LBC have registration and/or certification fees that range from \$525 (LEED) to \$1000 (PHIUS) and \$1750 (LBC).

BIOGRAPHY

Ms. Butterfield is a sustainability consultant at SWA, working with residential buildings. Her expertise is in sustainable consulting services, program certification support and implementation of high performance building technologies. With architects, developers, builders, and homeowners, she develops specific sustainability strategies for both new construction and

renovations. Karla is an integral part of the initial strategic planning sessions and stakeholder workshops based on program criteria; she verifies in the LEED® for Homes, Passive House, Energy Star, and National Green Building Standard programs.