



## Built Green Canada Database of Requests for Information or Interpretation (RFI's) for HD

RFI #	Inquiry			Response	Status	Status Date	Checklist Updated /	
	Point No.	Point No. Description & Point Value	Date					Inquiry Description
2013-001HD	#2-8	Use Optimum Value Engineering (OVE) to reduce wood use in framing: - Exterior and interior wall stud spacing at 24" on-center (2 points) or 19.2" on-center (1 pt.) - Elimination of headers at non-bearing interior and exterior walls. (1 pt.) - Use of header hangers instead of jack studs. (1 pt.) - Elimination of cripples on hung windows. (1 pt.) - Elimination of double plates, use single plates with connectors by lining up roof framing with wall & floor framing (1 pt.) - Use of two stud corner framing with drywall clips or scrap lumber for drywall backing instead of studs. (1 pt.)	20-Jun-12	Inquiry from Verifier wrt steel construction... the steel they're using is locally sourced, made to size.	The point of this item is to eliminate waste. Steel is largely optimized as a general practice.  We would be open to reconsidering how we might award points to enhanced steel framing practices that are above and beyond industry standard practice. Points can be awarded for leadership, and we would be pleased to learn what leadership looks like in the steel framing industry.	Denied	08/10/2013	no change
2013-002HD	#2-16 - 2-28	Building Materials Cont... Deck (1pt.), balcony surfaces (1pt.), and/or veranda structure (1 pt.) made from a third-party certified sustainable harvested wood source or third-party certified sustainable concrete (1 to 3 points) through... Advanced sealing package, non-HCFC expanding foam around window, door openings and all exterior wall penetrations (2 pts.). All sill plates sealed with foam gaskets or a continuous bead of acoustical sealant (1 pt.) (1 to 3 points).	20-Jun-12	As above	Concrete can get 2-16, 18-20, and steel can get 2-18-20. 2-25 through 2-28 are off topic: wood won't get them either. Other input: Steel is okay. Sustainably sources - recycled content, oxygen arc furnace.	Waiting	08/10/2013	Delegated to RC & DS to take a first cut
2013-003HD	#3-6 - 3-13	Exterior and Interior Finishes... Natural cementitious stone/stucco/brick or fiber cement siding – complete or combination thereof for 100% of exterior cladding (4 points) through... Minimum 25% recycled-content roofing material (3 points).	20-Jun-12	Same as above - word versus steel.	These are finishing systems. Nothing to do with wood framing, and it does not advantage wood over anything else. <b>Could be OK if the steel has a requisite recycled content.</b>	Waiting	08/10/2013	Delegated to RC & DS to take a first cut
2013-004HD	4-11 - 15	Indoor Air Quality... All insulation in the project is third-party certified as low or zero formaldehyde (2 points) through... Low formaldehyde particle board/MDF used for shelving (ANSI A208.2 – 2009 concentration ≤ 0.21 ppm) (1 point).	20-Jun-12	This only addresses wood construction.	4-11 is about insulation. They'd better have insulation in their building. 4-12 is about sub-floors. 4-13 is about underlayment (ex. under carpet). 14 and 15 are about cabinets and shelving. All of section 4 has nothing to do with framing. Other input: Should get a point. Low VOC or low for mel.. furnace is steel itself - whether steel produced in oxygen furnace or art furnace.	Waiting	08/10/2013	Delegated to RC & DS to take a first cut
2013-005HD	#5-2 - 5-10	Waste Management... Collection of waste materials from site by a waste management company that is a current member of a provincial recycling council or equivalent association and verifies that a minimum of 10% of the materials collected from the construction site have been recycled (4 points) through... Install built-in recycling center with two or more bins in each unit (2 pts.) and/or provide composter to each unit (1 additional pt.) (2 to 3 points).	20-Jun-12	On-site recycling versus factory built. Commercial sites versus residential sites and downtown transportation, trades take the bus.	Note: This point and those above are from a builder using steel. The sense is that approximately 60% of the checklist items don't apply to their building. The BoD wants concrete and steel materials to be addressed to ensure those builders using these materials can effectively participate. Other input: A need to find a way to quantify... <b>Quantifying factory built has been in discussions for a while. Also waste management when not done by a local company.</b>	Waiting	08/10/2013	
2013-006HD	#1-1	All ductwork joints and penetrations sealed with low toxic mastic or aerosolized sealant system (3 points).	04-Sep-13	What is considered non-toxic? Is there a VOC limit for the mastic sealant of the aerosolized sealant system?	below 400g/L or below 70% by weight	Approved	08/10/2013	
2013-042	4-11 - 4-16	All insulation in the project is third-party certified as low or zero formaldehyde (2 points). The other checklist items within this range reference low formaldehyde.	04-Sep-13	Which company or certification body provides an acceptable third party certification for low or zero formaldehyde building products?	Any nationally recognized formal body or independent third party with appropriately licensed professionals: Green Guard, Ecologo, etc.	Approved	08/10/2013	no change

2013-043	2-13	All insulation used in the project is third-party certified to contain a minimum recycled content: 40% (1 point) or 50% (2 points).	04-Sep-13	Which company or certification body provides an acceptable third party certification for recycled content? Does the manufacturer need to provide documentation demonstrating compliance with ISO 14022? Or is a letter from the manufacturer adequate to demonstrate proof of recycled content in a product?	Yes, a manufacturer letter is adequate, provided that the letter includes independent verification from an appropriately qualified third party.	Approved	08/10/2013	no change
2013-013HD	#4-9	Seal all permanent ductwork upon installation, removing seals once all phases of construction are complete (1 point).	06-Sep-13	All of our supply diffusers and return intakes are mounted from the ceiling. Does this satisfy the intent of the credit, by preventing debris from entering the ductwork during construction? Note this is pertaining to a HD Project.	No. This point can only be awarded if the ducts are closed and sealed throughout construction.	Denied	08/10/2013	no change
2013-009HD	Not point specific	Credits relating to recycled content...	04-Sep-13	Are pre- and post-consumer recycled content considered equal?	Yes. Post-consumer recycled content has significantly greater net environmental benefit, but pre-consumer content is recognized equally in Built Green at present.	Approved	08/10/2013	no change
2013-010HD	3-5	Concrete used in home has a minimum supplementary cementing material of 25% (1 point) and/or 40% (2 points) and is within the scope of proper engineering practices.	04-Sep-13	Could you provide an acceptable methodology for calculating Supplementary Cementing Materials?	Unfortunately no. Contact the cement supplier.	Denied	08/10/2013	no change
2013-011HD	2-16, 2-17, 3-1, 3-3, 3-4, 3-14, 3-25	Begins with... Deck (1 point), balcony surfaces (1 point) and/or veranda structure (1 point) from a third-party certified sustainable harvested wood source or third-party certified sustainable concrete. Ends with... Solid hardwood trim from third-party.... approved for millwork (2 points) and/or cabinets (2 points).	04-Sep-13	Which third-party certification do you accept for sustainable harvested wood? Do you require Chain of Custodies or certificates? This is covered in the single family guide, can we assume this is the same for HD?	Yes. The HD guide will include similar detail as soon as it is available.	Denied	08/10/2013	no change
2013-012HD	1-19, 1-20	50% (2 points) or 100% (2 points) of electricity used during construction of the project is generated by wind power or equivalent green power certificate/50% (2 points) or 100% (4 points) of electricity used by building during first year of occupancy is generated by wind power or equivalent green power certificate (prepaid by builder).	04-Sep-13	Which green power standards do you accept (EcoLogo, Green-e)?	Any recognized independent third-party.	Denied	08/10/2013	no change
2013-014HD	#5-9	Reusable bracing is used for framing (1 point).	18-Sep-13	By prefabricating and assembling the components on-site requires no bracing. Do we meet the credit intent here with the factory built process?	Intent is to reduce waste. Prefab still requires bracing for on-site assembly in many cases.	Denied	08/10/2013	no change
2013-015HD	#1-13	Install a district high efficiency domestic hot water heating system, with min. 85% AFUE boiler, or min. 0.67 EF gas storage water heater (3 pts). Alternatively install an instantaneous "tankless" domestic hot water system in each unit (3 pts).	02-Oct-13	What is the world "district" referring to?	"District" = "central". A "district" unit is a central unit(s) for the whole building as opposed to an individual unit in a suite. I'm much fonder of the district as there is a greater potential for energy recovery with this system (Dave Turnbull). The question was answered.	Approved	08/10/2013	no change
2013-016HD	#1-14	Hot water storage tanks insulated by manufacturer to a minimum R-15. An insulation blanket will reduce the standby heat loss of the hot water in the tank.		Another has arisen for item 1-14, we have checked with most storage tank manufactures. They all meet the Ashraf 90.1 requirement of R12.5 insulation, however none meet the R-15 standard mentioned in the Built Green. Therefore is it acceptable to field insulate the tanks to the R-15 or perhaps add a blanket to achieve this requirement?	Checklist updated. R12.5 will be accepted.	Approved	08/10/2013	no change
2013-017HD	#1-21	Install a central drain water heat recovery, with a minimum of 1 DWHR unit installed per 4 apartments (2 pt.) or per 2 apartments (3 pts.).	10-Oct-13	Unfortunately the boilers specified are 84% efficiency and Built Green requires 90% for the 3 point credit. I'd like to apply for another credit exemption here, since the system includes a water to water heat exchanger, which would increase the system's performance. The Checklist does not recognize this heat exchanger	The reason we use 90% for boilers is that 84% is among the lowest performing boilers you can buy (Dave T). The heat exchanger will not necessarily increase efficiency: it would need to be receiving primary heat from another more efficient source. We will need more evidence of efficiency gains before we can award this point.	Denied	16/10/2013	
2013-017HD con't			10-Oct-13	Also, the domestic hot water system does not meet the requirements as well, this drops us below the minimum energy requirements. How will this affect the application if we fail to meet one of the categories?	Need more detail here. Are they not using boilers for domestic hot water?			
2013-018HD			22-Oct-13	How do you prove the energy piece?	Testing/proof is through EE4 modelling.		22/10/2013	no change
2013-019HD	#1-4	Calculate design heat loss and properly size HVAC equipment using CSA F280-M90 or ASHRAE/ACCA Standard 183, and/or implement a boiler management system to match the system operation to building loads and optimize controls for maximum energy savings.	24-Oct-13	Isn't this a code requirement? Jay DeVilbiss, Mission Green Buildings				
2013-019HD	#1-13a	Install high efficiency pump drive motors for service water distribution with variable speed/flow capabilities.	24-Oct-13	Do we need to define what qualifies as "high efficiency"? Jay DeVilbiss, Mission Green Buildings				
2013-019HD	#1-14	Hot water storage tanks insulated by manufacturer to a minimum R-15.	24-Oct-13	Is this an overall insulation value? Is there a standard calc method? Jay DeVilbiss, Mission Green Buildings				
2013-019HD	#1-16	Provide roof area (min. 10% area of total) designed for future solar collector (Make solar ready; with solar thermal or PV conduit installed).	24-Oct-13	This is a lot less stringent than the SF solar ready credit. Jay DeVilbiss, Mission Green Buildings				

2013-019HD	#1-19	50% (2 pts.) or 100% (4 pts.) of electricity used during construction of the project is generated by wind power or equivalent green power certificate.	24-Oct-13	We should include some guidance on how you estimate the total electricity used during construction. Jay DeVilbiss, Mission Green Buildings				
2013-019HD con't	#1-25	All Electric ranges use below 480 kWh/yr based on EnerGuide rating system.	24-Oct-13	State how gas ranges are treated. Jay DeVilbiss, Mission Green Buildings				
2013-019HD con't	#1-37	Minimum 50% of recessed lights in the entire building use halogen bulbs.	24-Oct-13	Halogen bulbs should not be considered energy efficient and this items seems unnecessary considering the two before it. Jay DeVilbiss, Mission Green Buildings				
2013-019HD con't	#2-6	Paint Parkade semi gloss white to reduce number of required lighting fixtures.	24-Oct-13	Clarify how much of the parkade needs to be painted to qualify. Jay DeVilbiss, Mission Green Buildings				
2013-019HD con't	#2-30	Builder has incorporated exterior horizontal and/or vertical shading devices for glazing (2 pts.), or exterior operational shading devices (4 pts.).	24-Oct-13	Would all windows need to have shading or just where deemed necessary? Jay DeVilbiss, Mission Green Buildings				
2013-019HD con't	#3-8	Exterior trim (3 pts.) and/or siding materials (4 pts.) have recycled and/or recovered-content (min. 50%).	24-Oct-13	Text is cut off in the checklist... Jay DeVilbiss, Mission Green Buildings				
2013-019HD con't	#3-29	PVD finish on all door hardware (1 pt.) PVD finish on all faucets (1 pt.).	24-Oct-13	PVD stands for Physical Vapor DEPOSITION (not Disposition). Jay Vilbiss, Mission Green Buildings				
2013-019HD con't	#5-6	Trees and natural features on site protected during construction.	24-Oct-13	No points if there are no features to protect?? Jay DeVilbiss, Mission Green Buildings				
2013-019HD con't	#5-7	Shared transportation benefits: provide one parking stall for a car-sharing vehicle (1 pt.), and/or a car sharing vehicle as one component of condominium association (3 pts.) and/or bicycle storage on site (1 pt.).	24-Oct-13	WHY is this in the Waste Section? Move to 7.0?? Jay DeVilbiss, Mission Green Buildings				
2013-019HD con't	#6-15	Greywater is collected, treated and reused throughout the project for landscaping and/or indoor water use.	24-Oct-13	TYPO OF "PRACTICE" IN CELL C 349. Jay DeVilbiss, Mission Green Buildings				
2013-019HD con't	#7-18	Contracted trades and/or suppliers have successfully taken BUILT GREEN Builder Training. (1 pt. per company, max 3 pts.).	24-Oct-13	Only 1 person per company required? Jay DeVilbiss, Mission Green Buildings				
2013-020HD	#7-12	Make provision Truck Management Plan, to avoid high congestion areas during construction.	06-Nov-13	The HD Checklist for Item 7-12 Truck Management Plan are pretty scare, and I'm not having much luck finding supporting information online. As there doesn't appear to be an HD Guide available, do you have any suggestions on where I can find more information on what a good Truck Management Plan should look like and include? Do you have any sample TMP's available for demonstration? Jay DeVilbiss, Mission Green Buildings				
2013-021HD	See rows 12-19	Further question pertaining to all of these rows...	08-Nov-13	Could you tell me the verification and audit requirements for the attached list of credits? Curtis Dorosh				
2014-022HD	2-8a	Use Optimum Value Engineering (OVE) to reduce wood use in framing: - Exterior and interior wall stud spacing at 24" on-center (2 points) or 19.2" on-center (1 pt.). - Elimination of headers at non-bearing interior and exterior walls. (1 pt.) - Use of header hangers instead of jack studs. (1 pt.) - Elimination of cripples on hung windows. (1 pt.) - Elimination of double plates, use single plates with connectors by lining up roof framing with wall & floor framing (1 pt.) - Use of two stud corner framing with drywall clips or scrap lumber for drywall backing instead of studs. (1 pt.)	07-Feb-14	Many items in Section II - Building Materials (including Item 2-8) reward best practices in wood frame construction. However, similar mechanisms do not exist in the checklist to recognize best practices in steel and concrete construction, despite the fact that they can lead to significant material savings. Recommended point value of 5. Checklist items should read: Cambering of slabs is incorporated to reduce slab thickness (5 pts.). This uncommon approach allows for a 10-15% reduction in slab thickness. Also the reduced slab thickness allows for smaller columns and foundations which results in a total project concrete savings of about 8 to 10 %. (Matt)	For HD Checklist Updates. This is approved so long as you can demonstrate that an excess of 8 - 10% has been saved. As we move forward with the completion of the HD Checklist updates, the TSC is hopeful you will offer your input into the final details on this point.			
2014-023HD	2-8b	See above	07-Feb-14	Many items in Section II - Building Materials (including Item 2-8) reward best practices in wood frame construction. However, similar mechanisms do not exist in the checklist to recognize best practices in steel and concrete construction, despite the fact that they can lead to significant material savings. Should read: HVAC ductwork is incorporated into the slabs (2 pts.). This uncommon approach results in reduced material use due to the elimination of bulkheads. (Matt)	This was not approved; however, if there is a different way of defining the idea, please know the TSC would be open to this. They felt there are too many unknowns at this point, which I will attempt to convey—is this actually a design improvement; relating to materials, was there an elimination but also a replacement (such that there is question on what was achieved); and there are other markets where this is not special.			

2014-024HD	5-7	Shared transportation benefits: provide one parking stall for a car-sharing vehicle (1 pt.), and/or a car sharing vehicle as one component of condominium association (3 pts.) and/or bicycle storage on site (1 pt.).	28-Feb-14	Just went through the checklist today and thought I would share an issue that had come up with this credit. The point is rewarded for car sharing programs but this is often difficult to implement as many buildings have reduced parking. I am interpreting this as an incentive to reduce single-occupancy vehicles.; if so, would it be possible to look into alternatives? Just wanted to run that by you and see if we could look into this for the next revision of the checklist. (Helen Lui, E3 ECO Group)	Good comment. Consider new checklist point for next version.			
2014-025HD		Energy Performance Metric	21-May-14	<ul style="list-style-type: none"> <li>• The HD checklist currently, and for the last few years, has had set minimum energy performance levels for achieving various certification thresholds. The 2 options for gauging energy performance that the checklist lists are:               <ol style="list-style-type: none"> <li>1. Model National Energy Code (MNECB) 1997, and Canadian developed standard; or</li> <li>2. ASHRAE 90.1 2007, from the U.S.</li> </ol> </li> <li>• For some context, this is essentially how LEED Canada NC has handled evaluating energy performance for commercial buildings. The % energy performance targets set in the BG HD checklist were, to some degree, influenced by those set in LEED-NC.</li> <li>• Each of the above 2 standards has published detailed, well-established procedures for evaluating a building's energy performance vs. that standard. MNECB relies on the procedure outlined in the 1st attachment, whereas ASHRAE 90.1 2007 relies on the modelling procedure detailed in Appendix G of the ASHRAE 90.1 standard (I haven't attached that due to copyright issues, but trust me, it exists)</li> <li>• Both procedures are fairly technical in nature and cover the proper energy modelling procedure for creating the proposed and referenced building energy models, with the end goal of getting a '% better than reference' energy performance metric for the proposed building design</li> <li>• There is clearly some confusion about what the proper metric is for gauging energy performance within Built Green HD; many feel that it should be energy consumption. While this may be consistent with the MNECB protocol for evaluating energy performance, ASHRAE 90.1's procedure for evaluating energy performance, set out in Appendix G, are based on energy cost, i.e. if you're evaluating you're building's performance vs. ASHRAE 90.1 in terms of energy consumption, you're deviating from ASHRAE 90.1's very own procedure for evaluating energy performance, and essentially going rogue with your own procedure.</li> </ul>	Regardless of whether energy performance is better defined in terms of energy cost (i.e. \$ / yr) or energy consumption (MJ / yr), the standards that Built Green HD is referencing, ASHRAE 90.1 and MNECB, each have inherent within them their own established procedures for evaluating energy performance. Built Green should not take it upon itself to re-invent these evaluation procedures. Also, it's important to note that the minimum % energy performance targets currently set in the BG HD checklist were influenced by those set in LEED-NC, which for ASHRAE 90.1 does defer to Appendix G for energy performance evaluation. Future iterations of the BG HD checklist explicitly reference the procedures within each of the standards for gauging energy performance, in order to avoid all this confusion, and absolving Built Green of having to come up with its own energy performance evaluation procedure. If this creates problems with currently active HD projects who claim the checklist was not clear enough, I'm ok with treating them as 'pilot-projects' and affording some grace in the interpretation, though from what we learned on the call today, it's possible that this clarification would help current HD projects pursuing ASHRAE path anyhow. This should be revisited as we review the HD checklist, and if changes are required in order to align the checklist more adequately with industry best practice and the committee's intent, then we should discuss this more fully.			
2014-026HD		Energy Modelling Software		<p>Do you have to use EE4 software or just the same calculation procedure? We use much more sophisticated software (EnergyPlus) for energy code compliance and would like to build off of that model for BuiltGreen. Do you see any issue with this?</p> <p>It would seem an unnecessary cost to switch software just for this purpose if we have the capability to do the same analysis using existing models. Thoughts?</p>	You can use EnergyPlus for your energy modelling software.			

2014-027HD		<p>Energy Performance "Building performance must be modelled and verified by an appropriately qualified energy professional (ie: Professional Engineer) using industry accepted energy modelling software (eg: EE4, eQuest, Energy Plus, or other software specially approved by Built Green Canada's Technical and Standards Committee).</p> <p>The final certification documents submitted to Built Green Canada must include an energy report, signed and bearing the seal of the qualified energy professional (ie: Professional Engineer), demonstrating a minimum of 15% energy efficiency achieved over the Model National Energy Code for Buildings (MNECB, 1997), ASHRAE 90.1-2007."</p>	29-Apr-14	<p>the document mentions conformity to MNECB, 1997, as well as approved software. It also seems to require a professional engineer, and does not mention the title "Verifier". Of interest, among other things, is the fact that EE4 is not specifically a compliance document designed for MNECB 1997. In fact it references a combination of MNECB and CBIP standards, raising the question of its suitability as a compliance path based strictly on MNECB. Unlike Energy Plus, EE4 compiles data for the reference building, which is not in all respects the same as the MNECB reference building. The above also mentions ASHRAE 90.1-2007, but does not indicate if both, or either standard is acceptable or required. (Rene Ballard)</p> <p>In brief, if I were submitting documents to Built Green, including an energy report, pursuant to the above, I would have some difficulty determining what exactly is required. That is why I was hoping that you might be able to answer some of these questions, or forward a more explicit set of requirements.</p> <p>For example, if you said that one should follow the NRC publication Performance Compliance for Buildings, Specifications for Calculation Procedures for Demonstrating Compliance to the Model National Energy Code for Buildings Using Whole Building Performance, published May, 1999, I would have a much better idea of what is required.</p>	<p>You're correct in asserting that the verification procedures on energy modelling for BG HD are a bit unclear. If you're accustomed to LEED projects then you should find this liberating. I work on both LEED and BG, and the BG process is far less encumbering. The program verification methods will mature over time, but the HD program in particular is relatively young, so you're benefiting from your early participation and are receiving a bit of extra flexibility.</p> <p>In short, as long as you have a qualified professional (eg: a P.Eng.) produce and seal a report that explains how your building design conserves a minimum of 15% of baseline energy use, where your baseline is either mNECB 1997 or ASHRAE 90.1-2007, then that will suffice. You're correct that the checklist does not clearly say that either mNECB or ASHRAE is acceptable: the checklist was intended to clearly say "either". Further, we are not particularly choosy about which software you use. EE4 and EQuest are acceptable, but you are free to propose others so long as they are government recognized, and you have sufficient past experience that you are comfortable putting your seal on a report generated with those tools.</p> <p>At some level, Built Green Canada is placing faith in the Engineering Profession and the rigours of licensure with the Engineer's Association: if you get a P.Eng. to sign and seal an energy model report that clearly references the baseline to one of the aforementioned standards and clearly shows how savings were achieved, then that will be acceptable to us.</p> <p>The reference to a "Verifier" is this: at some point your project will be audited by one of Built Green Canada's licensed Verifiers, and that Verifier will want to see the qualified person's seal on an energy model report.</p>			
2014-028HD	Energy Performance		07-Jul-14	<p>We are wondering about the 30% better than ASHRAE 90.1-2007 requirement for Built Green Gold. Is this 30% by energy better than ASHRAE 90.1-2007? I am pretty sure Built Green refers to energy savings while LEED uses cost, but I just wanted to be certain. Also if you could show me where this is confirmed in writing?(Curtis Dorosh, Light House)</p>	<p><del>You're correct in asserting that the verification procedures on energy modelling</del></p> <p>Unfortunately this is an area where Built Green Canada's intent and the written document do not align as was originally intended, and there is an ongoing internal debate about how best to resolve it. For the present, the written document references both ASHRAE (energy cost) and MNECB (energy consumption) methods of calculating efficiency, and both are accepted as equally valid. It is up to the design team to determine which method suits their preference: either will be accepted. In short, as long as you have a qualified professional (eg: a P.Eng.) produce and seal a report that explains how your building design conserves a minimum of 15% of baseline energy use, where your baseline is either mNECB 1997 or ASHRAE 90.1-2007, then that will suffice. You're correct that the checklist does not clearly say that either mNECB or ASHRAE is acceptable: the checklist was intended to clearly say "either". Further, we are not particularly choosy about which software you use: EE4 and EQuest are acceptable, but you</p>			
2014-029HD	1-8	<p>Install ground/water/solar heat pumps (10) or air-source heat pumps (7), either radiant or forced air, to supply majority of space heating and cooling loads.</p>		<p>Wondering if a District Energy Utility can substitute for an ASHP or GSHP in an HD Development. Could the DEU could fit one of these areas? We are seeing a lot of DEU systems being implemented across the Lower Mainland. (Troy)</p>	<p>The inclusion of District Energy Utility is currently under review. For this project, the team is encouraged to use modelling to demonstrate the efficiency gains from their DE system. If they can show (via modelling) that their DEU system provides the same gains as a heat pump, then we will approve this as a one-time special case RFI to award these points, provided that they can also show that their energy source is environmentally benign—the benefits of the DEU will need to somehow be quantified and put into context against boiler efficiency of 90% as per 1-3. Then, perhaps we could establish a defensible scale of points that could be awarded "in lieu" of 1-8 as a project would most likely not install heat pumps if it is connected to a DEU.</p>			
2014-039HD	3-27	<p>Natural granite, concrete, recycled glass or stone countertops in 100% of the kitchens (2 pts.) and all other countertop areas (1 pt.). 1 to 3 points. Natural product is more durable; easy to clean and maintain and is resistant to heat and scoring.</p>	26-Jul-14	<p>So I presume – not sure if I'm correct – but Caesar Stone is not acceptable for this credit. They are using 93% quartz. From their website: "Quartz is one of nature's hardest minerals. Our surfaces are composed of up to 93% quartz, and are therefore designed to last. (Troy). In a unique Caesarstone-patented process, we take the innate strength of quartz and combine it with numerous polymers and dyes of pigments. The result: A range of durable and beautiful quartz surfaces in a wide variety of colors and finishes. All that's needed is your inner designer to bring them spectacularly to life, any way you see fit. From feature walls to custom-made furniture, the sky's the limit."</p>				

2014-040	6-2	Install a dual flush or 1.2 GPF toilet in one or more bathrooms in each unit (2 pts. for one bathroom, 3 pts. for all). These toilets offer a choice between two water levels for every flush; 1.6 GPF (6 LPF) or 0.8 GPF (3 LPF).	12-Aug-14	Will the TSC accept a cUPC certified but not CSA certified? Also, for the dual flush, the client has a cUPC certified toilet that has a 6 litre flush that is dual flush, which does not meet the Dual Flush requirements but does meet the single flush requirements (but is not CAS certified). Is this allowed? (Troy)				
2014-041	1-1	Ductwork joints and penetrations sealed	04-Sep-14	Is the credit applicable to projects that do not have forced air and are using ductwork only for exhaust and make up air in corridors? In our project it may only apply to the MUA. Please confirm if there is a minimum amount of ductwork before the credit can be targeted. Joanne Sawatzky, Light House Sustainable Building Centre	For the checklist points, the requirement is that everything is sealed.			
2014-042	1-7	Units contain multiple heating/cooling zones	04-Sep-14	Our project has multiple sized residential units and therefore has multiple # of zones. The suites may have either 2 or 3 zones with thermostat control. In such a case how do we attribute the point threshold for this credit. Do we achieve 2 points if the majority, more than half, of all units have two zones? Joanne Sawatzky, Light House Sustainable Building Centre	We require that you go with the worst case scenario. To clarify, whatever is claimed must be applicable to all.			
2014-043	1-9	Provide electricity and/or natural gas direct metering for each unit	04-Sep-14	Our project is using a district hotwater system and each suite will have a hydronic meter. Can we achieve a point for this under this credit in lieu of natural gas. They will also have individual electricity suite meters. Joanne Sawatzky, Light House Sustainable Building Centre	This system should be metering both space and domestic water heating (i.e. it should account for all of a unit's gas usage). If this is the case, the intent of the point has been met. For this project, it does not include the domestic water, for example shower water, and only meters the hot water used in the hydronic heating system—therefore, the gas metering point cannot be credited.			
2014-044	1-16	Provide roof area designed for future solar collector (make solar ready; with solar thermal or PV conduit installed).	04-Sep-14	Our project's boiler is on the roof therefore no shaft would be necessary. Will providing the location of future solar collectors and sizing roof structure to support future storage tanks and collectors be acceptable? Joanne Sawatzky, Light House Sustainable Building Centre	Yes, either/or.			
2014-045	1-31	Interior motion sensor lighting	04-Sep-14	The credit states: "Install interior motion sensor light switches in over 25% (1 pt.), 50% (2 pts.) or 75% (3 pts.) of hallways/corridors and stairwells." Do you require motion sensors in both exit stairs and corridors to meet the credit? Our project has 100% motion sensors in the exit stairs but none in the hallways/corridors for safety reasons. How is the % to be measured? Is it based on % of common floor area OR % of light fixtures that are on a motion sensor? Joanne Sawatzky, Light House Sustainable Building Centre	Yes, whichever you want.			
2014-046	1-37	Minimum 50% of recessed lights in the entire building use halogen bulbs.	04-Sep-14	Can this credit be also targeted if the project uses LED's for 50% of all recessed lights in the building in lieu of halogen bulbs? Joanne Sawatzky, Light House Sustainable Building Centre	Yes. Please note we are currently updating our HD Checklist, anticipating that this will be updated and ready in a couple of months. And so, for now this is a 'yes' at this time..			
2014-047	2-17	Dimensional lumber from a third-party certified sustainable harvested source used for floor framing (1 pt.), wall framing (2 pts.), and/or roof framing (1 pt.).	04-Sep-14	Can TJI joist be considered as dimensional lumber? I am assuming this is not the case, but I have been asked to confirm. Joanne Sawatzky, Light House Sustainable Building Centre	Yes, providing the manufacturer provides a FSC certificate.			
2014-048	2-18	Environmentally engineered flooring system (i.e.. Uses reclaimed/recycled/rapidly renewable wood waste, fly ash concrete (1pt-30%), recycled steel (1pt-90%)).	04-Sep-14	Can TJI floor joist be considered environmentally engineered? Would this only apply if the TJI's contained wood waste either reclaimed wood or recycled wood or wood from fast growth forests? Joanne Sawatzky, Light House Sustainable Building Centre	Yes, so long as there's documentation from the manufacturer confirming it is reclaimed/recycled content.			
2014-049	3-20	Laminate flooring for a min of 300 sqft/unit.	04-Sep-14	This credit mentions laminate flooring is made of up of sustainable raw materials in the credit description. But not all laminate flooring is made of sustainable raw materials. Would vinyl laminate flooring comply with the credit intent? It doesn't seem like it. I am assuming this credit is more targeted to marmoleum or linoleum type flooring. Joanne Sawatzky, Light House Sustainable Building Centre	Yes, providing there is reasonable evidence from manufacturer.			
2014-050	4-1	Install pleated media filter.	04-Sep-14	This credit may apply to forced air furnaces only. Our project will have a pleated filter on the MUAs. Will this be applicable to achieve the credit? Joanne Sawatzky, Light House Sustainable Building Centre	Yes, a point.			
2014-051	4-9	Seal all permanent ductwork upon installation, removing seals once all phases of construction are complete (1 pt.), and/or power vacuum all HVAC ducting prior to occupancy (1 pt.).	04-Sep-14	Similar to 1-1. Is the credit applicable to projects that do not have forced air and are using ductwork only for exhaust and make up air in corridors? In our project it may only apply to the MUA. Please confirm if this point can be achieved by sealing and/or vacuuming return air and/or MUA ductwork in lieu of forced air duct systems. Joanne Sawatzky, Light House Sustainable Building Centre	Yes, if ductwork is used this applies.			

2014-052	7-13	Delivery Area wheel washed/ treated during construction.	04-Sep-14	A wheel wash will be in place during excavation however is not required/necessary during framing and finishing. Can this credit still be targeted if the wheel wash is not in place throughout the entire construction process? Joanne Sawatzky, Light House Sustainable Building Centre	The intent of this point is to keep dirt and so forth onsite and not transfer dust, etc. Wondering why the wheel wash would not be in place for the framing and finishing. And so, you would need to prove there was no transfer of dust, etc. during this phase.			
2014-053	3-27	Natural granite, concrete, recycled glass or stone countertops in 100% of the kitchens (2pts.) and all other countertop areas (1 pt.). 1 to 3 points. Natural product is more durable; easy to clean and maintain and is resistant to heat and scoring.	10-Oct-14	Can you kindly clarify requirement 3-27 for me. It reads "...recycled glass or stone countertops..." Does the stone countertop have to be recycled or just a glass countertop? We have quartz counters in all of our kitchen specs and I'm wondering if this will suffice for 2 points or if the quartz has to be made from recycled material. SENG SENGSAVANH				
2014-054	2-28	2-28- Advanced sealing package, non- HCFC expanding foam around window, door openings and all exterior wall penetrations.....	03-Nov-14	Our building science consultant is concerned about the detail around the window, specifically around waterproofing. They are recommending that for this project a rod and caulk detail around the windows be applied to allow drainage. The credit is intended to control air leakage and with well applied caulking to the small joints (approx. 3/8") our consultant feels this complies with the intent of the credit. They have concerns around filling the gap with expanding foam as any water ingress would unlikely drain as designed. Can the detail describe be an acceptable alternate to contribute to this credit? Joanne Sawatzky, Light House	Yes, the rod and caulk used as an alternative for the 2 pts. is acceptable.			
2014-055	3-1	Exterior doors with a minimum of 15% recycled, recovered, or third party sustainably harvested content.	03-Nov-14	Can this credit be achieved with exterior doors that are not wood? Joanne Sawatzky, Light House	Yes.			
2014-056	3-19	100% recycled or recovered content underlayment or use of concrete finishes to enable the flooring to remain concrete.	03-Nov-14	What is the intent of this credit? Is it to protect the concrete so it can be used as a finished floor in the future? Our project will use luxury vinyl planks that will be glued down. Does this comply with the credit intent? Joanne Sawatzky, Light House	The intent of this point is not to protect concrete; rather, it is to reward recycled--to minimize the use of virgin materials.			
2014-057	3-20 and 4-19	Install a minimum of 300 square feet per unit of laminate flooring. (3-20). All wood or laminate flooring in the project is factory finished (4-19).	03-Nov-14	Can luxury vinyl planks and vinyl tiles be considered laminate? Joanne Sawatzky, Light House	The discussion on vinyl not being included is about durability, as well as it potentially containing numerous toxic substances--off-gassing, and so forth.			
2014-058	3-27	Natural granite, concrete, recycled glass or stone countertops in 100% of the kitchens (2 pts.) and all other countertop areas (1 pt.).	03-Nov-14	Does quartz (caesarstone) comply? Caesarstone composition: 93% crushed quartz aggregate combined with resin and pigments and fabricated into slabs using a vacuum-compaction process. Joanne Sawatzky, Light House	Yes.			
2014-059	3-29	PVD finish on all door hardware (1 pt.) PVD finish on all faucets (1 pt.).	03-Nov-14	Our interior designer has provided the following question/comments regards to PVD. Please confirm if PVD applied only on brushed nickel products is considered in compliance with the credit. Joanne Sawatzky, Light House	In this case it should be allowed.			
2014-060	2-28	Advanced sealing package, non-HCFC expanding foam around window, door openings and all exterior wall penetrations (2 pts.). All sill plates sealed with foam gaskets or a continuous bead of acoustical sealant (1 pt.).	03-Nov-14	1. Can we use a rod and caulk joint as per the details provided by Trevor Carman from Spratt Emanuel the Building Envelope Consultant? Though spray foam performs better thermally around windows, it has a greater tendency to lead and in our climate (north Vancouver), and for this scale of project (6-storey rental), the rod and caulk joint is the conventional direct that building envelope consultant would like us to follow. Refer to inserted comment. Also, can caulking that is non HCFC emitting contribute to this credit? Joanne Sawatzky, Light House	Rod and caulk is an acceptable method of doing air tightness at the window rough framing interface.			
2014-061 (a)	5-2	Collection of waste materials from site by a waste management company that is a current member of a provincial recycling council or equivalent association and verifies that a minimum of 10% of the materials collected from the construction site have been recycled. Not only does this reduce overall waste of product, it ensures that as much product as possible is being utilized for the production of future resources.	24-Nov-14	Have you ever fielded questions about the definition of "recycling" as connected to items 5-2 and 5-4? 1) 1. What would be the definition of "recycling" in item 5-2? 2. Can a builder get points in both item 5-2 and 5-4 if he "recycles" enough of the material he "diverts from the waste stream"? Einar	Recycling is defined as "diverted for reuse" using a company to recycle said materials for a minimum of 25%.			
2014-061 (b)	5-4	Minimum 25% (2pts.) or 50% (4pts.) by weight of waste materials collected from construction site is diverted from waste stream. 2 or 4	24-Nov-14	See above.	Yes, 5.2 is the about the implementation of a recycling program (minimum of 25%) and 5.4 is based on quantity of materials over and above the 25% threshold. The amount would need to be provable and would be addressed as part of the High Density verification and audit.			

2014-062	6.11	Builder incorporates permeable landscaping that is water efficient (for 1 point), xeriscaped (50% of landscaping 2 points, 100% 4 points), or is 100% plant-free landscaping (4 points).	26-Nov-14	Do you have any idea why a plant-free landscape would be the highest point value? This seems counterintuitive: are you not encouraging ecologically diverse landscaping? Since your program is about overall sustainability, rather than just water efficiency (which is where that point comes from), and should, in my mind, give higher incentives for taking into account the larger picture, i.e. thriving ecological diversity through drought-resistant plants, rather than for a lack thereof.	This steps outside the reference items in the water conservation category and may be addressed in future versions.			
2015-063	Energy	Seeking clarification as to the exact meaning of the term "Energy Performance" as stated as a requirement on the Cover Page of the Built Green High Density (HD) Checklist as it refers to the % better than MNECB 1997 and to ASHRAE 90.1-2007 requirements.	01-Feb-15	<ol style="list-style-type: none"> <li>1. I find the term Energy Performance, with its different interpretations as outlined in the next bullet, without the necessary exactness on which to base a project on. It is important that I get clarification of the term so that I can be sure that I properly meet the requirements of the Built Green Program on behalf of my clients.</li> <li>2. The term Energy Performance can be interpreted as either the \$ (dollar) cost of energy savings OR the Joule energy savings depending on which program (LEED, Built Green, etc) and which standard (ASHRAE 90.1-2007, MNECB 2011, NECB 2011) and even which municipality is requesting the performance target.</li> <li>3. Even the word efficiency as used in ASHRAE 90.1 Appendix G refers, I am told on good authority, to efficiency calculations based on \$ energy cost and not on Joules (or equivalent energy units).</li> <li>4. Further, as far as I can see, though it is not stated explicitly, the terms annual energy target as used in the MNECB 1997 and the NECB 2011, refers to Joules (or equivalent energy units) as its definition uses the term energy consumption, which I can only assume refers to joules (or equivalent energy units). OR can I?</li> </ol>	Built Green Canada recognizes MNECB and ASHRAE as equally valid methods for modelling energy performance, and that both use different approaches (energy consumption in Joules for MNECB, or energy cost in dollars for ASHRAE). Some buildings may perform better in one method than in the other. Built Green Canada leaves it to the discretion of the project team to determine whichever method best suits their project needs.			
2015-064	Energy	Separating multiple buildings of one project into individual one building projects.	25-Jun-15	<p>When I model a multi building project, it is often the case that all the buildings share the amenities such as a common meeting room in one of the buildings, the parking, storage rooms, bike rooms, garbage and recycling areas, and electrical and mechanical rooms that are situated in the parking levels. It is a challenge to break up the energy loads for these spaces equitably for each building, especially when they are differently sized which is common.</p> <p>Questions:</p> <ol style="list-style-type: none"> <li>1) Can all the buildings be modeled in one model and the resulting % better than code energy consumption result for the whole project be used for each building separately as part of the checklist (item 1.0.1)?</li> <li>2) If no to 1) above, then how is best to separate the common loads shared by all into equitable loads for each building?             <ol style="list-style-type: none"> <li>a. By the floor area proportion of each building to total of all the buildings? Or,</li> <li>b. By occupant density--i.e. by the number of bedrooms in each building in proportion to the total bedrooms contained in all the buildings? Or,</li> <li>c. Some other method?</li> </ol> </li> </ol> <p>Enerlytics</p> <ol style="list-style-type: none"> <li>1) Can all the buildings be modeled in one model and the resulting % better than code energy consumption result for the whole project be used for each building separately as part of the checklist (item 1.0.1)?</li> <li>2) If no to 1) above, then how is best to separate the common loads shared by all into equitable loads for each building?             <ol style="list-style-type: none"> <li>a. By the floor area proportion of each building to total of all the buildings? Or,</li> <li>b. By occupant density--i.e. by the number of bedrooms in each building in proportion to the total bedrooms contained in all the buildings? Or,</li> <li>c. Some other method?</li> </ol> </li> </ol>	As long as the buildings are similar in nature, for example, all buildings have similar/equivalent windows, operating systems, etc. and the checklist items are the same. There are logistical issues wrt separating them on the model and therefore, these can be modelled as one; however, explanations in the modeller report must show why it was done this way. It is up to the HD Verifier how to break up equitably. With separate buildings, the energy model needs to allocate whatever way is justifiable.			



2015-065	Energy	Energy modelling for mixed-use buildings.	31-Jul-15	Is the modelling to include the commercial/retail space? ii) What about the parkade? Is this to be included in the model?	This can include either: (1) The commercial/retail space is omitted completely from the model, or (2) The commercial/retail space is included in the energy model as long as the same modelling rules are used for the residential. The standard has been to ignore the commercial area as they tend to have more glazing and the developer has no control over the tenant improvements. Or, even if it is a sold unit, the buyer usually supplies their own heating/air-conditioning requirements. Regarding the parkade, it depends on function. If it is to serve residential needs, yes. In ASHRE, parkade is included and in MNECB, please refer to standards. It is strictly residential in use, then it should be counted in. It is used as a commercial enterprise, then it is dicey and the recommendation is to stick with the residential.			
2015-066	1.2.4 (v2015)	Install high efficiency heating systems for all units and systems serving common areas (minimum 90% AFUE gas furnace; minimum 85% AFUE oil furnace; or minimum 85% AFUE oil/gas boiler).	17-Dec-15	In order to meet the intent of the item - reducing energy consumption by having efficient systems in place - to include the use of air or water source heat pumps. More precisely, rooftop units which are often multi purpose providing cooling, heating and ventilation (Packaged OAU [outdoor air units] for whole or part of the building. Their use is likely in the climatic regions where winter temperatures are moderate. The typical efficiency ratings for these units are, for example a 65,000 Btu/h unit, HSPF: 7.7 to 8.5 and SEER: 13 to 16. (Roger)	The points associated with air source heat pumps are now harmonized (see checklist item 1.2.7 (2016 v 2016). Yes, an air source heat pump for the common area could be considered and recognized as an equivalent system for heating common areas, so long as the efficiency numbers of the equipment are equal to or greater than 8.2 HSPF.			
2015-067	2.2.13 (v2015)	- Install carpet that has a minimum of 50% recycled content. - "Natural or 100% recycled-content carpet pad (e.g. made from textile, carpet cushion, or tire waste, re-bond qualifies). A minimum of 150 ft2 per dwelling unit is required." - Save materials by eliminating carpet: have minimum 150 ft² of concrete floor finished (e.g. stamped, acid-etched, etc.) and left exposed in each dwelling unit. - Install ecologically preferred bamboo, cork, or hardwood flooring for a minimum of 300 ft² in each dwelling unit (1 point); more than 50% of all indoor floors (2 points) or more than 90% of all indoor floors (3 points). Products must be third-party certified from sustainably managed forests or certified sustainable sources (e.g. Rainforest Alliance, FSC, CSA, or SFI). - All ceramic tile installed in any dwelling unit has a minimum of 25% recycled content.	17-Dec-15	Consider carpets made from renewably sources materials, such as Dupont's Sorona line of carpets made from using corn. Evaluate an equivalency ratio to recycled content. One point. (Roger)	Carpets made from renewably sourced materials will be recognized. The threshold for renewable content will be a minimum of 30%.			
2015-068	1.2.8 (v 2015)	Install a centralized high efficiency domestic hot water heating system with minimum 85% AFUE boiler; minimum 0.67 EF gas water heater; or instantaneous tankless systems in each unit (3 points).	17-Dec-15	Commercial boilers are commonly used for DWH in multi-residential buildings. Their efficiency is rated using "thermal efficiency" expressed as a percentage, essentially a "steady state" efficiency. The AFUE or EF rating is not attributed to these units. Consider adding commercial boilers to the list with the appropriate percentage deemed energy efficient. 3 points. (Erik Heck)	The minimum thermal efficiency will be set at 90 for oil and 95 for gas.			
2016-069	1.1.11 (v 2016)	Install doors that are a minimum R6, and any sliding doors at minimum R4 (1 point).	28-Jan-16	For swing doors, is the intent that R6 be met for primarily opaque doors only? Could a lower performance threshold for fully glazed swing doors be added to distinguish between the two types? R6 is easily met with non-glazed insulated hollow metal or fiberglass doors. For glazed swing doors, such as in window wall or curtain wall systems (common in many HD buildings), this threshold is extremely difficult to meet. Note ENERGY STAR 2016 requirement for swing doors with full glazing is currently only R3.3. 2) For sliding doors, is the intent that R4 be met for the entire door assembly, or for the glazing only (centre of glass value)? Sliding door assemblies can currently meet R4 only with specific triple-glazed or heat-mirror glazing (usually fiberglass framed). If R4 applies to the glazing only, more compliance options become available (i.e. high-performance double glazed doors, aluminum or vinyl framing). Note ENERGY STAR 2016 requirement for doors with full glazing is currently only R3.3. (Erick Heck)	Amendment: Install opaque doors that are a minimum R6 and any glazed sliding or swing doors at minimum R4.			

2016-070	1.1.18 (v 2016)	Use roofing materials with a high solar reflectance index (SRI). (1 point).	29-Jan-16	Can rooftop patio areas provided as amenity space for residents be considered exempt areas or use a lower SRI value for compliance? High reflectance white surfaces are not suitable for public/residential amenity spaces. Currently roof areas which are covered by energy generation appliances (e.g. solar panels or wind turbines) or by vegetation (e.g. green roofing materials) are exempt. Consider setting a minimum value of building footprint that would need to be covered by a high SRI roofing material (i.e. 33%). Alternatively, require lower SRI value of >= 29 for patio surfaces. (Erick Heck)	This point remains as is.			
2016-071	1.2.7 (v2016)	Install heat pumps to supply majority of space heating and cooling loads: ground/water with minimum COP of 4 or SEER 15, or air source with minimum COP of 2 or SEER 15.	Con't	Regarding air source heat pumps. The current 2016 Checklist does not have this included - item 1.2.4. I am thinking that these systems are going to be used more frequently in the future here in BC especially and be reviewed, and included, as an alternative heating source for the common areas.	Item 1.2.7 (2016) - this is for the majority of space heating. In this case the ASHP unit is only providing heat for the common areas. Regarding item 1.2.7 (2016 version), the points associated with air source heat pumps are now harmonized. Yes, an air source heat pump could be considered and recognized as an equivalent system for heating common areas, so long as the efficiency numbers of the equipment are equal to or greater than 8.2 HSPF. In the 2013 Checklist Item 1-5a addresses the cooling of common areas by stating a 14 SEER minimum (see above).			
2016-072	NEW item for Sect I: Energy (1.2.15)	Proposed "NEW" Checklist item for independent commissioning.	05-Feb-16	Engage an independent Commissioning Engineer to review the Owner's HVAC and lighting system requirements and perform a review of drawings and specifications (approx. 90% working drawings) (2 points); AND - Verify installation and operation of HVAC and lighting systems (3 points); AND/OR - Carry out a follow up on site review of HVAC and lighting warranty items including comfort, controls and energy efficiency (1 point).	Effective April 13, 2016, this will be accepted for the remainder of 2016 and will be included in the 2017 checklist.			
2016-073	1.6.6	Buildings are built ready for plug-in electric vehicles for minimum 5% of allocated parking spaces: (1 point) for 240V plugs in the vehicle parking area, (2 points) for certified charging stations.	28-Jul-16	Regarding Credit 1.6.6. Part 2: (2 points) for certified charging stations: How do I determine if a Charging Station is certified or not? Who does the certifying and where can these stations be procured?	The key item to look at would be the charger plug compatibility itself. The industry standard in North America is currently SAE J1772 – Electric Vehicle Conductive Charge Coupler Standard. Those that use the industry standard SAE J1772 – Electric Vehicle Conductive Charge Coupler Standard. – Type 1 would meet the checklist requirement and therefore achieve the credit. We recognize those installing charging stations are early adopters. Should there be other comparable standards, our Technical Standards will always look at these and we welcome the input. Many companies are manufacturing these (e.g Leviton, Eaton, Sun Country Highway, Aerovironment etc.). Some sell directly, others through partners, online (i.e. Amazon.ca.) or through retailers. Canadian Tire offers a level 2 home charging station.			
2016-074	2.2.11	Insulation used in walls, roofs, and exposed floors (cantilevers) is certified by a third-party to contain a minimum recycled content: 25% (1 point) or 50% (2 points).	22-Aug-17	There are several types of insulation being used in the construction assemblies. Some, but not all have recycled content. For example, rigid insulation, used in exterior applications, is all new material. (1). Is this credit still valid when most of the insulation (the batt filling of all the exterior framed walls + some inside walls for acoustic purposes) has 25% recycled content, or does the no recycled content in the rigid exterior portion make this point unattainable? (2) I have seen some rigid insulation from Owen's Corning up to 20% recycled content. Do you know of any rigid products that would achieve the minimum of 25%? (3) If not, would the points be granted if all fiberglass batt applications have recycled content?	(1) If all insulation in the project achieves 25% recycled content overall, the intent is met. Some types of insulation could contain zero recycled content provided other insulation types have ≥25% to compensate. (2) Semi-rigid from roxul can contain up to 93% recycled content. (3) If the fiberglass batts are ≥25% recycled content the points may be achievable. Could be documented via cost, volume, or weight.			
2016-075	3.2.6	Insulation used is zero formaldehyde insulation.	22-Aug-17	(1) Are these points still attainable if most insulation is formaldehyde free, but there is some insulation with small amount of formaldehyde, such as mineral wool? (2) Is this only referring to insulation on the interior? i.e. can we exclude the exterior insulation from the BG assessment? (3) Could insulation on the exterior have some formaldehyde content as it would not be affecting the interior air quality?	(1) No, the intent is to prevent the introduction of formaldehyde into the building, and drive the market for safer alternatives. (2) We believe this could be considered is outside of a continuous air / vapour barrier membrane (e.g. peel and stick, or sprayed a/v barrier. (3) Could be considered if outside of a continuous air / vapour barrier membrane. Insulation installed between wall studs would not comply if it contains formaldehyde.			
2016-076	2.2.1	Use environmentally engineered flooring system, such as reclaimed/recycled/rapidly renewable wood waste, concrete with minimum 30% fly ash or other SCM, or minimum 75% recycled steel.	15-Sep-16	Is this by percentage, volume, or cost?	This is weight.			

2016-077	5.2	Implement a recycling program: collection of waste materials from site by a waste management company that is a current member of a provincial recycling council or equivalent association and verifies that a minimum of 25% of the materials collected from the construction site have been recycled.	01-Oct-16	Is total waste on site measured in volume or weight?	Weight, though if volume can be proven, this will be accepted.			
2016-078	2.2.13	Floor Coverings: (i) Install carpet that has a minimum of 50% recycled content. (ii) Natural or 100% recycled-content carpet pad (e.g. made from textile, carpet cushion, or tire waste, rebond qualifies). A minimum of 150 ft <sup>2</sup> per dwelling unit is required. (iii) Save materials by eliminating carpet: have minimum 150 ft <sup>2</sup> of concrete floor finished (e.g. stamped, acid-etched, etc.) and left exposed in each dwelling unit. (iv) Install ecologically preferred bamboo, cork, or hardwood flooring for a minimum of 300 ft <sup>2</sup> in each dwelling unit (1 point); more than 50% of all indoor floors (2 points) or more than 90% of all indoor floors (3 points). Products must be third-party certified from sustainably managed forests or certified sustainable sources (e.g. Rainforest Alliance, FSC, CSA, or SFI). (v) All ceramic tile installed in any dwelling unit has a minimum of 25% recycled content.	19-Oct-16	Is this applicable to the dwelling units or the entire building?	This is applicable for the entire building.			
2017-079	2.2.10	Concrete used in the building has a minimum supplementary cementitious material of 25% (1 point), 30% (2 points), or 40% (4 points) within the scope of proper engineering practices.	11-Jan-17	Can a blended % be used to achieve the intent of the item? For example, a higher percentage of SCM in footings and vertical elements and a lesser percentage of SCM in the concrete slab which would average out to meet one of the minimum requirements within the item.	Yes.			
2017-080	6.1.7	Provide front-loading clothes washer (3 points); or condensing combination wash/dry unit (4 points); or top-loading clothes washer having a rated water factor of less than 25 litres per cycle per cubic foot (3 points).	01-Mar-17	We are building two houses and if we put in a front loading washer do we receive three points, or does it have to have a rated water factor of less than 25 litres per cycle per cubic foot. I asked LG about their machine that was on energystar.gov and they sent me back some numbers that I cannot match to litres per cubic ft. From LG "The listed water consumption per cycle is 54.399, the Water Consumption Factor (L/cycle/L) is 0.428." This is from Energy Star: www.energystar.gov/most-efficient/me-certified-clothes-washers/details/2259874. From other website it looks like front load washers use about 14 gallons per load not sure if this is 2,3or 4 cycles. How do you figure out this water rating?	If front loading clothes washer, yes, three points will be awarded. **Special Ruling effective June 30, 2017: Provide Energy Star certified clothes washers: front loading (3 pts), top loading or laundry centre (combo washer/dryer) (2 pts), or combo ventless (4 pts). Alternatively, the integrated water factor (IWF) can be calculated and if below the maximum IWF, 3 points will be awarded.  - Front loading >2.5 cu ft capacity maximum IWF of 3.7 - Top loading >2.5 cu ft capacity maximum IWF of 4.3 - Washers <2.5 cu ft capacity maximum IWF of 4.2			
2017-081	6.1.8	Install water-saving dishwasher that uses less than 20.0 L/water per load.	01-Mar-17		** Special Ruling effective June 30, 2017: Provide dishwashers that are Energy Star labelled.			
2017-082	3.2.6 (2015 Checklist)	Insulation used is third-party certified to have zero formaldehyde.	01-Apr-17	A Client who has a building going through Built Green HD (2015 Checklist) plans to use Roxul for most/all the insulation. They want to claim 2 points for HD Checklist item 3.2.6 which refers to "zero formaldehyde" insulation. Roxul has provided me with spec sheets showing their product is not zero formaldehyde, but contains a small enough amount of formaldehyde to comply with CDPH 01350 which is cited in the Built Green HD Guide. Am I correct in understanding that as long as the product's formaldehyde content does not exceed the CDPH 01350 standard it will qualify for 2 points in item 3.2.6? Maybe 3.2.6 should refer to "zero or low formaldehyde" rather than just "zero formaldehyde"?	This will be accepted.			
2017-083	1.7.8	Install lighting with an automation control system capable of unified automation control of lighting loads for all common areas.	01-Jun-17	Can we include a control point on the BMS for lighting automation control?	Yes, if you can demonstrate it. This needs to be more than just a sensor.			
2017-084	3.2.8	Low formaldehyde underlayment is used throughout (third-party certified to less than 0.21 ppm).	01-Jun-17	Does this underlayment refer to wood or carpet underlay? If this refers to wood then how does this differ from sub-floor sheathing?	Underlayment is used for hard surfaces and should not be confused with sub-floor. Link to difference between subfloor and underlayment - <a href="http://fermaflooring.com/subfloor-vs-underlayment-know-difference/">http://fermaflooring.com/subfloor-vs-underlayment-know-difference/</a>			

2017-085	4.9	Install permanent (de)humidification control in each unit (ERVs are considered acceptable).	01-Jun-17	Is this needed for each residential suite or just per mechanical HVAC unit? Is on/off per mechanical unit considered control?	No, however, each unit does require an automated on/off switch such that there is individual humidity control.			
2017-086	6.1.3	Install efficient toilets with average flow rates less than or equal to 4.5L/flush for 1 point each (up to 3 points).	01-Jun-17	We cannot find any toilets that use 4.5 lpf in the market within North America. Is 4.8 lpf acceptable? Or does this credit refer to dual flush toilets (i.e.: 4.2 lpf for low setting, 4.8 lpf for high setting)?	The 4.8 lpf has been adopted as the accepted norm, including the weighted average of dual flush toilets. We have clients insisting on 3lpf toilets which do exist (don't recommend using them though). There are also mechanical sanitary systems which use a lot less being installed. TSC discussed at the meeting and agreed that 4.8 lpf is acceptable. Also, it was noted 4.5 lpf is too low.			
2017-087	6.1.6 / 6.1.7	Install low-flow aerated faucets for all lavatories (less than 5.7 lpm) including kitchen (less than 6.8 lpm) for 2 points, and all showers and tub/showers (less than 7.5 lpm) for 1 additional point. / Provide front-loading clothes washer (2 points), or condensing combination wash/dry unit (4 points), or top-loading clothes washer having a rated water factor of less than 25 litres per cycle per cubic foot (3 points).	01-Jun-17	Does this include commercial service areas or just residential units?	Just the residential units are to be included.			
2017-088	6.2.2	Design all impermeable hardscape surfaces to direct rainwater to an on-site infiltration feature (i.e. vegetated swale, rain-garden, cistern, etc.).	01-Jun-17	Does this apply to hardscapes at grade? Is a driveway considered hardscape or is this excluded?	Yes, this is acceptable.			
2017-089	7.2.2	Project site has a designated delivery area where truck wheels are washed/treated during construction (to contain dirt).	01-Jun-17	What is meant by treated?	The idea is to not have sediment from the washing station enter the eco system. Therefore the treated requirement comes into play. Essentially it is more sophisticated than someone holding a hose to clean off the tires as they watch the water flow down the drain on the street marked with a fish on it. Sedimentation and silt cannot go into the stream—if it does, it must be treated and filtered first through a third-party supplier. The system in place would have to be documented.			
	1.2.15	Engage an independent Commissioning Engineer to review the Owner's HVAC and lighting system requirements, and perform a review of drawings and specifications (approx. 90% working drawings (2 points); AND Verify installation and operation of HVAC and lighting systems (3 points); AND/OR Carry out a follow-up onsite review of HVAC and lighting warranty items including comfort, controls, and energy efficiency (1 point).		What is included in the commissioning scope (including what documentation is needed to prove commissioning services were completed)? Specifically: 1. Will these items provide BG with sufficient documentation/verification that a commissioning process was appropriately executed on the project: (a) Commissioning Contract w/ scope of work, (b) Bio/resume of CxA, (c) Final Cx Report including: scope of work + exclusions, team structure, sample test logs/scripts, corrective action logs, and (d) Commissioning specification. 2. Does the CxA need to: (a) review the basis of design to verify inclusion of Owner's project requirements? (b) verify operator training? (c) provide a review of the O-M manual? (d) conduct a design drawing review? (e) conduct shop drawing reviews? 3. Can you define 'independence' with respect to the Commissioning Agent ?	Question 1: Yes, these items will be sufficient documentation / verification that a commission process was appropriately executed. Question 2: (a) review the basis of design to verify inclusion of Owner's project requirements? Yes (b) verify operator training? No, not required (c) provide a review of the O+M manual? Not required (d) conduct a design drawing review? Yes (e) conduct shop drawing reviews? Not necessary. Question 3: It would have to be separate from the project's mechanical / electrical engineer.			