

Minutes (Final)
GBI Consensus Body Meeting #15
BSR/GBI 01-201X
Webinar
Monday, May 9th, 2016 1:00 PM ET to 4:00 PM ET

Attendance:

No	Name	Organization(s)	5-9-16	5-25-16			
1	Gregg Bergmiller	S/L/A/M Collaborative	X				
2	Paul Bertram	Kingspan Insulated Panels, Inc.	Absent				
3	Allan Bilka	International Code Council	X				
4	Jeff Bradley	American Wood Council	X				
5	William Carroll	American Chemistry Council	Absent				
6	Chris Dixon	NBBJ (rep. self)	X				
7	Nicole Dovel-Moore	CTA Architects Engineers	X				
8	Amber Dzikowicz	NSF International	X				
9	David Eldridge	Grumman/Butkus Assoc.	X(by proxy)				
10	William Freeman	Resilient Floor Covering Institute	X				
11	Susan Gitlin	U.S. EPA	X				
12	Don Horn	GSA	X				
13	Josh Jacobs	UL Environment	Absent				
14	Greg Johnson	Johnson Consulting Services, Greenscape Alliance	X				
15	Karen Joslin		X				
	Leslie Kahn	Admin. Office of the U.S. Courts	Resigned				
16	Malee Kaolawanich	NIH (rep. self)	X				
17	Rachel Minnery	AIA	X				
18	Charles Kibert	University of Florida	X				
19	Gary Keclik	Keclik Associates	Absent				
20	John Koeller	Alliance for Water	X				

		Efficiency					
21	Jennifer Kowalonek	Alfred Benesch & Company	X				
23	Tien Peng	National Ready Mix Concrete Assn.	X				
	Bernadette Reyes	Clark Construction Group	Resigned				
	Angela Rivera	URS Corporation (rep. self)	Resigned				
24	Jane Rohde	JSR Assoc. Inc., Vinyl Institute	X(by proxy)				
25	Gord Shymko	G.F. Shymko & Associates, Inc.	X				
	Julie Sobelman	Independent Consultant	Resigned				
26	Kent Sovocool	Southern Nevada Water Authority	X(by proxy)				
27	Steve Strawn	JELD-WEN	Absent				
28	George Thompson	Chemical Compliance Systems, Inc.	X				
29	Angela Tin	American Lung Assn.	Absent				
30	Douglas Tucker	Misubishi Electric Cooling & Heating	X				
31	Erika Winters Downey	American Institute of Steel Construction	X				
Voting Alternates							
	Abby Brokaw	American Lung Assn. (voting Alternate for Angela Tin)					
	Paul Karrer	AIA (Alternate for Rachel Minnery)					
	Bill Hoffman	UL Environment (Voting Alternate for Josh Jacobs)					
	Lance Davis	GSA (Voting Alternate for Don Horn)					
	D'Lane Wisner	D'Lane Wisner (Voting Alternate for William Carroll)					

	John Cross	American Institute of Steel Construction (Voting Alternate for Erika Winters-Downey)					
TOTALS			24/31				
Visitors							
	Martha VanGeem	Self (Principal Engineer)	X				
	Kyle Thompson	IAPMO	X				
	Kelly Scanlon	U.S. EPA					
	Heather Dylla	National Asphalt Pavement Assn.	X				
	Wes Sullens	Stopwaste.org	X				
	Paula Melton	BuildingGreen, Ince	X				
Staff/Consultants							
	Wayne Trusty	Chair	Resigned				
	Michael Lehman	Chair	X				
	Vicki Worden	Executive Director, GBI					
	Emily Randolph	Secretariat Asst., GBI	X				
	Micah Thomas	Staff, GBI					
	Maria Woodbury	Secretariat, GBI	X				
	Chelsea Amaio	Staff, GBI	X				
	Kim Goldsworthy	Roberts-Rules Consulting	X				

Monday, May 9, 2016

Welcome & Roll Call

Secretariat, Maria Woodbury welcomed participants and conducted roll call to establish quorum. The anti-trust statement was reviewed and participants were requested to comply with it fully.

At this meeting, no members voted using a voting alternate . There were three members voting via proxy (Gord Shymko for David Eldridge, Bill Freeman for Jane Rohde, and Gregg Bergmiller for Kent Sovocool).

Woodbury reviewed the participation options, stating that while observers are welcome to participate in the discussion, only Consensus Body Members are able to vote. Participants were reminded to raise hands should they desire to add something new to the discussion and staff would then call on them in order.

Administrative Procedures and Related Matters

We're hoping to complete work on this draft in the next couple of meetings. If you have your hand is raised and your comment echos a sentiment someone else said, please keep it short so we can move forward in making progress.

The agenda was reviewed. It was noted that the order of the comments in the packet had been changed to coincide with the order of the comments on the agenda.

MOTION: A motion was made, seconded, and carried to approve the minutes from the previous Consensus Body Meeting on April 28th through 29th, 2016.

Discussion:

- The Secretariat Assistant compiled a list of errors found in the draft minutes and explained changes that were made on the minutes.
- A concern was raised that there were procedural errors that occurred during the Water discussion and that those errors should be reflected in the minutes. A request was made for staff to go back and incorporate language that reflects those procedural errors.
- The question was raised if the Consensus Body should wait until the language is updated to approve minutes
- The point was made that the issues are entirely separate. The corrections to the draft minutes are unrelated to the procedural errors.
- Karen: We just need to make sure the process is updated in the minutes.

Amendment: The amendment was made and seconded to defer the vote on the minutes from Meeting #14 to the next meeting so that staff can make edits and the Consensus Body can review.

At this time the Secretariat called on the parliamentarian on retainer to clarify the proper procedure for approving changes to the draft minutes. It was clarified that the minutes could be approved at this time and could be amendment at any subsequent meeting should the need arise.

The second was withdrawn and the amendment was withdrawn with the understanding that the procedural errors will be researched and the minutes from Meeting #14 will be amended and brought forward at the next meeting.

There was no objection to the withdrawal. AMENDMENT WITHDRAWN.

AMENDMENT: The amendment was made and seconded to change page 4, 1st bullet: from "previsions" to "provisions" and accept the minutes with the pointed out corrections with the understanding staff will research the minutes related to procedural errors which will be sent out at a later date.

There was no opposition to the amendment.

AMENDMENT: The amendment was made and seconded to approve the corrections to the minutes. There was no opposition to the amendment.

VOTE: the motion carried with 23 in favor, none opposed, and 1 abstained.

None Opposed.

Abstained: Jeff Bradley

Discussion of public comments

Subcommittee Reports

Materials

Charles Kibert, Chair of the Materials Subcommittee, presented the proposed responses to comments received on the Materials Assessment Area.

- **52 – 43. Substantive. 10.1: (Note: This comment has a motion on the floor that has not yet been voted)**
 - **Comment:** Suggest expanding life cycle impact categories to include those evaluated using TRACI 2.1: acidification, eutrophication, climate change, ozone depletion, human health, photochemical smog, and resource depletion.
 - **Reason:** TRACI (the Tool for the Reduction and Assessment of Chemical and Other Environmental Impacts) is a peer-reviewed, accepted impact assessment approach. Narrowing impact assessment to five categories limits decision making and increases likelihood of shifting environmental and health burdens to other life cycle stages or other impact categories.
 - **Proposed Response:** Accept as modified. Modify language: “(GWP) /climate change” 2nd. Not all impact categories are well defined yet, and not all were weighted equally, with global warming given the highest weighting by a stakeholder panel for BEES, ozone depletion the least
 - **Subcommittee Vote:** 8 in favor, 2 abstained

MOTION: The motion was made and seconded to accept the proposed response to maintain consistency with comment 7-9 as voted at the in-person meeting.

Discussion took place on the motion:

- The Secretariat Assistant clarified that this comment was previously discussed in Meeting #11 and that no vote took place. It was stated that the previous motion needed to be resolved.

MOTION: The motion was made and seconded to withdraw the motion from Meeting # 11.

There was no opposition to the withdrawal.

Motion withdrawn

- **Further discussion took place on the motion:** It was stated that this was a hotly contested discussion at the in-person meeting. The importance of adding these other categories was stressed. If these other categories aren't included, then there is no Life Cycle Assessment. It was clarified that LCAs ensure consequences aren't shifted from one area to another. It was encouraged to not accept this motion and find a way to fit these into the Green Globes rating system.

- The question was raised regarding when TRACI 2.1 made a specific change to the language. It was clarified that this language was proposed by the Materials Subcommittee as a result of discussion, not because it appears in TRACI 2.1.
- It was clarified that Global Warming Potential and Climate Change are not interchangeable.
- Sentiment echoed that a full Life Cycle Assessment should include a broader list of impact categories. It was strongly urged that the Consensus Body accept the comment as proposed.
- The argument was made that it is challenging for project teams to measure things like human health effects.
- It was stated that the question of Global Warming Potential and climate change is a good question. It was clarified that coupling human health into the LCA is good, but human health is already included under Risk Assessment. The point was made that once the Standard is approved it will move into Continuous Maintenance and that Risk Assessment can be merged with LCA capabilities in order to bring human health aspects into the Standard. The opinion was made the Consensus Body is getting ahead of the curve by trying to put human health into the LCA at this stage.
- It was clarified that the proposed response is Accept as modified with the modification adding the term “climate change”.

AMENDMENT: The amendment was made and seconded to add a sentence to the response that reads: “we’re rejecting the additional TRACI impact categories”.

There were no objections to the amendment.

Additional Discussion took place on the motion:

- It was clarified that the motion is focusing solely on the “Climate Change” word choice
- It was stated that the issue is that the Consensus Body is not adopting these other categories for an LCA and the climate change issue is minor compared to what the motion is potentially answering.
- It was stated that this needs to be relatable to Materials framework. It was suggested that the Consensus Body move forward with the vote and then add to the section at a later time.

VOTE: The motion as amended carried with 14 in favor, 10 opposed, and None abstained.

Opposed: Susan Gitlin, Nicole Dovel-Moore, Erika Winters-Downey, Allan Bilka, Gord Shymko, David Eldridge, Rachel Minnery, Don Horn, John Koeller, Tien Peng

None Abstained

- **7 – 10. Substantive. 10.1.1**
 - **Comment:** *10.1.1 (First paragraph, assessment protocol, proposed final design provision not shown)*
Operating energy consumption and MEP systems can be included. Structural material quantities are to be verified by a registered design professional competent in the practice of structural engineering.
 - *(Remainder of 10.1.1. not shown)*
 - **Reason:** Many of the available LCA tools perform parametrically based estimates of material quantities based on building square footage. While these estimates may be accurate for materials supplied to the project on a square footage basis (for example ceiling tile, carpeting, drywall...) they are not accurate for structural quantities that are

load and span dependent. A study performed by the AISC Steel Solutions Center on 100 building designs comparing structural steel tonnage between a structural design program (Bentley RAM) and a LCA tool (ATHENA) indicate a variation in results from a 40% understatement of steel quantities to a 80% overstatement. Needless to say, such variations in structural quantities completely invalidates the credibility of the results of any Whole Building Life Cycle Assessment.

In response to this study the ATHENA Institute stated in an email to AISC that:
As you know, it was originally intended for application very early in design, before significant materials decisions had been made, and therefore by definition the software has to make material estimates. This type of usage is typically educational in purpose. The second way to use the software is to generate LCA results for a designed project in order to help fine-tune decisions or to compare to a benchmark. In those cases, users will import a bill of materials from another source like a CAD file. We have decided to only advocate for the second type of usage when our software is being used to comply with LCA requirements in green building programs and standards. I hope you will find that helpful in addressing your concerns about LCA provisions in the green programs.

Just as we would not want a structural engineer without training in LCAs to evaluate environmental impacts, we would not want a LCA practitioner verifying structural quantities.

Bibliography:

Modern Steel Construction, "Up To Speed on LEED", February 2014,
http://msc.aisc.org/globalassets/modern-steel/archives/2014/02/2014v02_up_to_speed.pdf

- **Proposed Response:** Accept as modified. The language was modified to increase the confidence in the quantitate calculations.
 - **First Change:** "With the exception of existing buildings, structural material quantities are to be verified by a registered design professional.
 - **Subcommittee Vote:** 7 in favor, 2 opposed, 1 abstained
 - **Second Change:** Add the phrase "when using a bill of materials" to the end of the modification.
 - **Subcommittee Vote:** 5 in favor, 2 opposed, 3 abstained
- **Subcommittee Vote on Both Changes:** 5 in favor, 2 opposed, 3 abstained

MOTION: The motion was made and seconded to accept the first proposed change.

Discussion took place on the motion:

- The question was raised whether this change is necessary. The speaker wondered if this is more than what a designer running an LCA would need. It was stated that this could make it harder for a LCA to be used.
- It was stated that bills of materials tend to overestimate the amount of steel and concrete and rebar in a building. The speaker was not in favor of accepting the second change.
- An assessor on the line stated that this change is a double edged sword: it makes the assessment easier but assessment adds to the costs and, depending on size of project, could be a "show stopper".
- It was stated that "registered design professional" should be further defined.

- It was stated that this is something that a professional engineer can eyeball while some software programs do not measure this accurately.
- Concern was raised that the language orients toward one kind of building but the Standard is intended for many kinds of buildings. It was stated that the language should be “registered design professional or other qualified professional”. It was stated the Registered Design Professional is the correct language.
- Concern was raised that more specific language is needed clarifying what is being addressed. The question was raised whether structural material could be better defined.
- Concern was raised that this is getting to far into the “weeds” of what an LCA is doing.

VOTE: the motion carried with 15 in favor, 7 opposed, and 1 abstained.

Opposed: Greg Johnson, Chris Dixon, Gord Shymko, David Eldridge, Rachel Minnery, Jeff Bradley, Tien Peng

Abstained: John Koeller

MOTION: The motion was made and seconded to accept the second proposed change to add the phrase “when using a bill of materials” to the end of the modification.

Discussion took place on the motion:

- There was general disagreement with the motion with some arguments from the previous motion restated.

VOTE: the motion failed with 7 in favor, 15 opposed, and none abstained.

Opposed: Gregg Bergmiller, Kent Sovocool, Erika Winters-Downey, Allan Bilka, Susan Gitlin, Amber Dzikowicz, Doug Tucker, Gord Shymko, Rachel Minnery, William Freeman, Jane Rohde, Don Horn, John Koeller, Tien Peng

None Abstained

The question was raised whether a motion was needed to reject the comment. It was clarified that the motion that failed was a separate issue that arose during Subcommittee discussion based on the comment. The motion that carried before the failed motion addressed the comment.

- **41 – 3. Substantive. 10.3**
 - **Comment:** Screening-level risk assessment
 - **Reason:** The use of the term “risk assessment” in this section should be revised to clearly differentiate a chemical risk assessment approach from a screening tool. The practice of chemical risk assessment that is typically employed in the field of toxicology has been developed by the U.S. EPA (1993, 1995, and 2005), Dourson et al. (1994 and 1996), and many others. These methods incorporate the use of careful scientific judgement and data-driven adjustment factors that cannot be adequately captured by a screening tool.
 - **Proposed Response:** Accept. Add “Screening-level” to the title language of 10.3.1 and change each instance of risk assessment in f 10.3.1 and 10.3.2 to include screening-level.
 - **Subcommittee Vote:** 8 in favor, 1 opposed, 3 abstained.
 - **Proposed Response:** Modified the definition of risk assessment to incorporate the term screening level: “**risk assessment:** a scientific product composition screening-level analysis that determines if a product formulation, article, or constituent chemical will produce a risk, based upon constituent hazards, dose and exposure assessments, and risk characterization.”

- **Subcommittee Vote:** 10 in favor, 2 abstained

MOTION: The motion was made and seconded to accept first proposed change to add “Screening-level” to the title language of 10.3.1 and change each instance of risk assessment in f 10.3.1 and 10.3.2 to include screening-level.

Discussion took place on the motion:

The question was raised about why so many abstained during the Subcommittee Vote. It was stated that it could have been from lack of familiarity with the subject matter or lack of opinion, but that no exact reason is known.

VOTE: the motion carried with 23 in favor, none opposed, and none abstained.

None Opposed

None Abstained

MOTION: The motion was made and seconded to accept second proposed response: accepting modification to the definition.

Discussion took place on the motion:

- Clarification was requested whether this modification applied to the credit or to the glossary of terms. It was clarified that the definition in the glossary would be modified.
- It was clarified that this change makes the definition align with the credit language per the previous vote on the same comment.

VOTE: the motion carried with 20 in favor, none opposed, and 2 abstained.

None Opposed

Abstained: Tien Peng, Susan Gitlin

- **52 – 49. Substantive. 10.3.1**

- **Comment:** Add the definition of a risk assessment used for the purposes of this credit.
- **Reason:** A risk assessment is a complex method to estimate the risks to human health and the environment that may result from exposures to chemicals. It involves: the development of conceptual exposure models; data and assumptions on: environmental conditions, fate and transport of chemicals, and receptor exposures; deterministic or probabilistic modeling; and comparisons against acceptable risks. It is not clear how rigorous or complete of a risk assessment is expected under the Risk Assessment credit as compared to these steps. A clarification should be made by including a definition that at a minimum describes the risk assessment parameters -- scope, the steps involved and the needed level of conservativeness when making assumptions. The definition would be useful in ensuring consistency since the credit allows that different entities separately complete the risk assessments.
- **Proposed Response:** Accept. The committee has modified the definition of risk assessment and the risk assessment parameters are already defined in 10.3.1.
- **Subcommittee Vote:** 10 in favor, 1 abstained

MOTION: The motion was made and seconded to accept the proposed response.

Discussion took place on the motion:

- It was stated that all of these definitions involve human health and exposed chemicals and that risk assessment includes much more i.e. Business impact assessment, etc. The question was raised whether this limitation is on 10.3 as a whole or if it only applies to 10.3.1. It was stated that applying it to all of 10.3 seems limiting. It was clarified that this discussion took place in the Risk Assessment working group and that in 10.3 Risk Assessment does not go beyond product

risk. It was stated that the Resilience working group is currently working on a broader definition of risk assessment.

- It was reported that the Resilience group is working to address risk to facility and ongoing operations separate from risk to human health. It was stated that this may need to be readdressed at a later time, but that can be resolved when the time comes.
- It was clarified that there's an inclination to think that 10.3 focuses on human health and that's a misnomer. It was stated that chemical safety issues is the focus; ecological, health and safety are all part of the focus. The clarification was made that 10.3 does not address the external risks that the Resilience group is focusing on.

VOTE: the motion carried with 21 in favor, none opposed, and none abstained.

None Opposed

None Abstained

Site

At the start of the Site discussion, Chair Gregg Bergmiller experienced some technical difficulties. Subcommittee Vice Chair, Greg Johnson, presented the proposed responses until Bergmiller was able to rejoin the call.

- **52 – 25. Substantive. 7.5.1.3.1**
 - **Comment:** Add a clarification as to how the assessor will know that the plants are drought-tolerant.
 - **Reason:** None given
 - **Proposed Response:** Accept as Modified. The Commenter provided more specific language.

Informational References:

--State or local university, college or agency landscape reference guide

--Water Sense's "What to Plant":

https://www3.epa.gov/watersense/outdoor/what_to_plant.html

Required documentation: Website or literature that indicates that the given plant(s) are drought-tolerant, or require little to no supplemental water for the specific region.

- **Subcommittee Vote:** Unanimously in favor

MOTION: The motion was made and seconded to accept proposed response.

Discussion took place on the motion:

- It was questioned whether the Consensus Body should consider any aspect of this to be native or adaptive in addition to drought tolerant. It was clarified that the right-hand column incentivizes the use of native and adaptive plants. There was still concern that the emphasis is placed on drought tolerant plants. The question was raised whether an informational reference will be added that includes native and adaptive plants. It was stated that the Informational reference focuses on water. The point was raised that an informational reference is just a

reference and that it will be the purview of the designer to determine that plants are both drought-tolerant and non-invasive.

VOTE: the motion carried with 19 in favor, none opposed, and 2 abstained.

None Opposed

Abstained: Doug Tucker, John Koeller

- **52 – 26. Substantive. 7.5.1.3.1**
 - **Comment:** Combine this section with 9.8.1.
 - **Reason:** We agree that the use of drought-tolerant plants is a practice worth encouraging. However, it is unclear why these points are offered independently and separately from the points offered in 9.8.1 on Irrigation. That section focuses on minimizing the amount of water used for irrigation purposes. The points now offered in 7.5.1.3.1 seem redundant.
 - **Proposed Response:** Reject. Irrigation is a separate consideration. Vegetation selection drives water demand; irrigation is about selecting the most efficient means of delivering water. Moreover, this section, unlike 9.8.1, is about maintaining a good-looking, high performance, environmentally beneficial, sustainable landscape in periods of drought.
 - **Subcommittee Vote:** Unanimously in favor

MOTION: The motion was made and seconded to reject the comment using the proposed response.

Discussion took place on the motion:

- It was clarified that unclaimed water could be covered separately.

VOTE: the motion carried with 21 in favor, none opposed, and none abstained.

None Opposed

None Abstained

- **34 – 19. Substantive. 7.5.1.3.1**
 - **Comment:** Clarify point calculation
 - **Reason:** Points totals under 7.5.1.3 show max = 10 but max calculated if 100% drought tolerance and 100% native is 7 (4 + 3).
 - **Proposed Response:** Accept.
 - **Subcommittee Vote:** Unanimously in favor

MOTION: The motion was made and seconded to accept the proposed response. The motion carried with 20 in favor, none opposed, and none abstained.

None Opposed

None Abstained

- **28 – 2. Substantive. 7.5.1.3.2**
 - **Comment:** Minimum of 50% of vegetated area is covered with plants (new or salvaged plantings) that are native ~~and non-invasive~~.
 - **Points column:** Strike all references in to non-invasive plants in conjunction with native plants.
 - **Reason:** Native plants are generally not considered invasive. The appropriate prohibition on invasive plants is in relation to adapted plants.
 - **Proposed Response:** Accept

- **Subcommittee Vote:** Unanimously in favor

MOTION: The motion was made and seconded to accept the proposed response. The motion carried with 20 in favor, None opposed, and 1 abstained.

None Opposed

Abstained: Karen Joslin

- **34 – 21. Editorial. 7.5.1.6**
 - **Comment:** Move to 7.4 Stormwater
 - **Reason:** Pervious area calculations and impact are part of the stormwater design not the landscape.
 - **Proposed Response:** Accept
 - **Subcommittee Vote:** Unanimously in favor

MOTION: The motion was made and seconded to accept the proposed response.

Discussion took place on the motion:

- The question was raised whether there is an industry standard out for porous asphalt or permeable concrete designed for Stormwater mitigation. It was stated that there are standards in mix designs; designed for stormwater control and management systems that could be referenced.
- Visitor Heather Dylla offered to provide informational references.

AMENDMENT: The amendment was made and seconded to add informational references provided by Heather Dylla.

There were objections to the amendment.

Discussion took place on the amendment:

- Concern was raised that the comment and response should be voted on and that this additional information should be noted and evaluated at a later time.

The amendment and second were withdrawn with no objection.

VOTE: The motion carried with 20 in favor, none opposed, and 1 abstained.

None Opposed

Abstained: Doug Tucker

- **34 – 22. Substantive. 7.5.1.6**
 - **Comment:** Increase points and provide graduated point structure based on percentage pervious attained.
 - **Reason:** To encourage extended use of pervious surfaces, award credits based on percentage attained rather than 50% or bust. This in consideration with life cycle maintenance can be expensive option so given the benefits of such award more points to encourage use.
 - **Proposed Response:** Accept as modified. The committee is not adding more points but breaking down the allocated points. Overall Standard point allocation is to be reviewed at a later time.
2 points are awarded when 25% of pavement is permeable; 4 points are awarded when at least 50% of pavement is permeable.
 - **Subcommittee Vote:** Unanimously in favor

MOTION: The motion was made and seconded to accept the proposed response. The motion carried with 19 in favor, none opposed, and none abstained.

None Opposed

None Abstained

- **37 – 3. Substantive. 7.5.1.6**

- **Comment:** 50% of planned hardscape area (walkways, patios, driveways, etc.) uses ~~pervious~~ permeable materials that can include one or more of the following: • Clay or concrete paver with pervious joints/openings;
 - Bricks;
 - Gravel;
 - Vegetative paving systems;
 - Mulch; and/or
 - Pervious concrete
 - Porous asphalt
- **Reason:** The broader term that covers all hardscape systems that allow stormwater to run through the surface is permeable materials.
In addition, porous asphalt should be added to the list of acceptable permeable materials. Porous asphalt pavements have many benefits such as improved water quality, reduced stormwater runoff, reduction in deicing chemicals, and are 100% recyclable (FHWA 2015, EPA, UNHSC 2012, Roseen 2014, Roseen 2012).
Federal Highway Administration (FHWA). 2015. TechBrief: Porous Asphalt Pavements with Stone Reservoirs. Available online:
<http://www.fhwa.dot.gov/pavement/asphalt/pubs/hif15009.pdf>
EPA (n.d.). National Menu of Stormwater Best Management Practices: Porous Asphalt Pavements. Available online: water.epa.gov/polwaste/npdes/swbmp/Porous-Asphalt-Pavement.cfm
UNHSC (2012). 2012 Biennial Report. University of New Hampshire Stormwater Center, Durham, N.H. Available online at www.unh.edu/unhsc/sites/unh.edu.unhsc/files/docs/UNHSC.2012Report.10.10.12.pdf.
Roseen, R.M., T.P. Ballester, K. Houle, D. Heath, & J.J. Houle (2014). Assessment of Winter Maintenance of Porous Asphalt and Its Function for Chloride Source Control. Journal of Transportation Engineering, Vol. 140, No. 2, pp. 1–8. DOI: 10.1061/(ASCE)TE.1943-5436.0000618
Roseen, R.M., T.P. Ballester, J.J. Houle, J. Briggs, & K. Houle, (2012). Water Quality and Hydrologic Performance of a Porous Asphalt Pavement as a Storm-Water Treatment Strategy in a Cold Climate. Journal of Environmental Engineering, Vol. 138, No. 1, pp. 81–89. DOI: 10.1061/(ASCE)EE.1943-7870.0000459
- **Proposed Response:** Accept as modified. Underline the word permeable. Clarification that the word permeable is being added.

“50% of planned hardscape area (walkways, patios, driveways, etc.) uses ~~pervious~~ permeable materials that can include one or more of the following”
- **Subcommittee Vote:** Unanimously in favor

MOTION: The motion was made and seconded to accept the proposed response.

Discussion took place on the motion:

- It was stated that this is an inaccurate use of the term “permeable”. “Permeable” applies to the system while “pervious” and “porous” are used to describe the materials. It was stated that if the change is made to “permeable” the language should also be changed to “systems”
- It was clarified that the concrete industry uses the term “pervious concrete”. There was agreement that overall, “permeable” is a broader term that encompasses “pervious” and “porous”.
- It was stated that it should be emphasized that the hard areas should use materials to create a permeable system.

AMENDMENT: The amendment was made and seconded to change the word “materials” to “systems”

Discussion took place on the amendment:

- There was a question raised about the boundary of the system. It was stated that the system incorporates the planned hardscape area.

There were none opposed to the amendment.

VOTE: the motion carried with 18 in favor, none opposed, and 3 abstained.

None Opposed

Abstained: Greg Johnson, Susan Gitlin, John Koeller

- **24 – 12. Substantive. 7.5.1.6**
 - **Comment:** Add Porous Asphalt to the list of approved pervious paving materials.
 - **Reason:** If a list of approved materials is provided within the standard, there is no reason to omit an obvious counterpart of pervious concrete. In the event that there is just cause for its exclusion, verbiage to that effect probably should be included.
 - **Proposed Response:** Accept
 - **Subcommittee Vote:** Unanimously in favor

MOTION: The motion was made and seconded to accept the proposed response.

Discussion took place on the motion:

- The question was raised whether there were informational references for project teams and assessors to use. It was stated that there is no design standard for a gravel permeable system and there was uncertainty about whether there is a standard for brick. It was clarified that standards exist for concrete and asphalt.
- It was stated that the Consensus Body should ensure that the infiltration rate can be used for stormwater management.
- A question was raised about whether this would revisit the intent of the criterion. It was stated that this would not and it was clarified that the other materials are inherently pervious.

VOTE: the motion [carried] with 20 in favor, 1 opposed, and none abstained.

Opposed: Erika Winters-Downey

None Abstained

A request was made for informational materials that address permeable concrete, porous asphalt, etc. which would be acceptable for use in Section 7.5.1.6. It was stated that the Site Subcommittee can look into these references.

- **52 – 29. Substantive. 7.5.1.7**
 - **Comment:** Delete 7.5.1.7.1, 7.5.1.7.4, 7.5.1.7.5, 7.5.1.7.6, 7.5.1.7.7, 7.5.1.7.8, and 7.5.1.7.9. The remaining elements should be combined with 7.5.1.3 in a criterion that focuses on the elements of the landscape design.
 - **Reason:** Many of the activities in this section would be difficult, if not impossible, for an assessor to check, as they may be dependent upon who actually occupies the building and whether they opt to maintain these activities for the long-term. In other words, many of these activities are operational and not appropriate for a design standard. Given that the Site section is only allowed 150 points, it does not seem right to dedicate so many points to activities that an assessor would not be able to evaluate in any meaningful way.
 - **Proposed Response:** Accept as Modified. Keep 7.5.1.7.1 but delete the others as suggested by the commenter. A rooftop garden is not necessarily operational.
 - **Subcommittee Vote:** 6 in favor, 1 abstained

MOTION: The motion was made and seconded to accept proposed response.

Discussion took place on the motion:

- The statement was made that the intent of the comment was to delete the section numbers not the sub-criteria themselves. The commenter was present on the call and stated that their intent was to delete the sub-criteria.

VOTE: the motion carried with 19 in favor, 1 opposed, and 2 abstained.

Opposed: Allan Bilka

Abstained: Erika Winters-Downey, John Koeller

New Business:

The Secretariat stated that a parliamentarian is on retainer and was in attendance at this meeting to help clarify Roberts Rules of Order and will be in attendance on future meetings.

Chair, Mike Lehman thanked the Consensus Body for their hard work and reminded the Consensus Body to stay focused on task at hand to address the specific comment being discussed to help ensure timely completion of the discussion.

Update on Status Slide

The Secretariat Assistant updated the Consensus Body on overall progress, stating that after this meeting 58% of comments have been voted on.

Schedule:

Woodbury reviewed the schedule:

- Next Consensus Body meeting is Wednesday, May 25th: 1pm-4pm.
- Working on getting Doodle poll out tomorrow to schedule June meetings which will be two hours in duration.
- After this public comment response period is complete we will be sending responses to each commenter with a form letter thanking them for participation in the process.
- Commenters will have an opportunity to respond if they feel their comment has not been resolved.

- We may conduct a letter ballot on the Standard before sending the Standard out for the second public comment period.

Adjournment

MOTION: A motion was made, seconded and unanimously carried to adjourn the meeting at 3:53 PM ET.