LEED Certification Review Report

This report contains the results of the technical review of an application for LEED® certification submitted for the specified project. LEED certification is an official recognition that a project complies with the requirements prescribed within the LEED rating systems as created and maintained by the U.S. Green Building Council® (USGBC®). The LEED certification program is administered by Green Business Certification Inc. (GBCI®).

BGSU Kuhlin Center

Project ID	1000053888
Rating system & version	LEED-NC v2009
Project registration date	01/20/2015

CERTIFIED SILVER GOLD PLATINUM

Construction Application Decision

CERTIFIED: 40-49, SILVER: 50-59, GOLD: 60-79, PLATINUM: 80+

LEED 2009 NEW CONSTRUCTION

ATTEMPTED: 62, DENIED: 1, PENDING: 0, AWARDED: 62 OF 107 POINTS

SUSTAINABLE SITES — 18 OF 26

SSp1	Construction Activity Pollution Prevention	Y
SSc1	Site Selection	1 / 1
SSc2	Development Density and Community Connectivity	5 / 5
SSc3	Brownfield Redevelopment	1 / 1
SSc4.1	Alternative Transportation-Public Transportation Access	6 / 6
SSc4.2	Alternative Transportation-Bicycle Storage and Changing Room	0 / 1
SSc4.3	Alternative Transportation-Low-Emitting and Fuel-Efficient V	0 / 3
SSc4.4	Alternative Transportation-Parking Capacity	2 / 2
SSc5.1	Site Development-Protect or Restore Habitat	0 / 1
SSc5.2	Site Development-Maximize Open Space	1 / 1
SSc6.1	Stormwater Design-Quantity Control	0 / 1
SSc6.2	Stormwater Design-Quality Control	0 / 1
SSc7.1	Heat Island Effect, Non-Roof	1 / 1
SSc7.2	Heat Island Effect-Roof	1 / 1
SSc8	Light Pollution Reduction	0 / 1

WATER EFFICIENCY — 4 OF 10

WEp1	Water Use Reduction-20% Reduction	Y
WEc1	Water Efficient Landscaping	0 / 4
WEc2	Innovative Wastewater Technologies	0 / 2
WEc3	Water Use Reduction	4 / 4

ENERGY AND ATMOSPHERE — 13 OF 35

EAp1	Fundamental Commissioning of the Building Energy Systems	Y
EAp2	Minimum Energy Performance	Y
EAp3	Fundamental Refrigerant Mgmt	Y
EAc1	Optimize Energy Performance	6 / 19
EAc2	On-Site Renewable Energy	0 / 7
EAc3	Enhanced Commissioning	2 / 2
EAc4	Enhanced Refrigerant Mgmt	0 / 2
EAc5	Measurement and Verification	3 / 3
EAc6	Green Power	2 / 2

MATERIALS AND RESOURCES — 10 OF 14

MRp1	Storage and Collection of Recyclables	Y
MRc1.1	Building Reuse-Maintain Existing Walls, Floors and Roof	3 / 3
MRc1.2	Building Reuse - Maintain 50% of Interior Non-Structural Ele	0 / 1
MRc2	Construction Waste Mgmt	2 / 2
MRc3	Materials Reuse	0 / 2
MRc4	Recycled Content	2 / 2

MATERIALS AND RESOURCES — CONTINUED

MRc5	Regional Materials	2 / 2
MRc6	Rapidly Renewable Materials	0 / 1
MRc7	Certified Wood	1 / 1

INDOOR ENVIRONMENTAL QUALITY — 11 OF 15

IEQp1	Minimum IAQ Performance	Y
IEQp2	Environmental Tobacco Smoke (ETS) Control	Y
IEQc1	Outdoor Air Delivery Monitoring	0 / 1
IEQc2	Increased Ventilation	0 / 1
IEQc3.1	Construction IAQ Mgmt Plan-During Construction	1 / 1
IEQc3.2	Construction IAQ Mgmt Plan-Before Occupancy	1 / 1
IEQc4.1	Low-Emitting Materials-Adhesives and Sealants	1 / 1
IEQc4.2	Low-Emitting Materials-Paints and Coatings	1 / 1
IEQc4.3	Low-Emitting Materials-Flooring Systems	1 / 1
IEQc4.4	Low-Emitting Materials-Composite Wood and Agrifiber Products	1 / 1
IEQc5	Indoor Chemical and Pollutant Source Control	0 / 1
IEQc6.1	Controllability of Systems-Lighting	1 / 1
IEQc6.2	Controllability of Systems-Thermal Comfort	1 / 1
IEQc7.1	Thermal Comfort-Design	1 / 1
IEQc7.2	Thermal Comfort-Verification	1 / 1
IEQc8.1	Daylight and Views-Daylight	0 / 1
IEQc8.2	Daylight and Views-Views	1 / 1

INNOVATION IN DESIGN — 5 OF 6

IDc1.1	Innovation in Design: Reduced Mercury in Lamps	1 / 1
IDc1.1	Innovation in Design	0 / 1
IDc1.2	Innovation in Design	1 / 1
IDc1.2	Innovation in Design	0 / 1
IDc1.3	Innovation in Design	0 / 1
IDc1.3	EAc6 Green Power	1 / 1
IDc1.4	Innovation in Design	0 / 1
IDc1.4	Green Cleaning Policy/Program	1 / 1
IDc1.5	Innovation in Design	0 / 1
IDc1.5	Innovation in Design	0 / 1
IDc2	LEED® Accredited Professional	1 / 1

REGIONAL PRIORITY CREDITS — 1 OF 1

SSc3	Brownfield Redevelopment	1 / 1

TOTAL — **62 OF 107**

CREDIT DETAILS

Project Information Forms

PIf1: Minimum Program Requirements — Approved

09/14/2016 DESIGN PRELIMINARY REVIEW

The LEED Form states that the project complies with all Minimum Program Requirements. The project will comply with MPR 6: Must Commit to Sharing Whole-Building Energy and Water Usage Data via Option 1: Third Party Data Source. The project is located in Bowling Green, Ohio.

PIf2: Project Summary Details — Approved

12/11/2016 DESIGN FINAL REVIEW

The additional documentation demonstrates compliance and the inconsistency with IEQp1: Minimum Indoor Air Quality Performance has been explained.

09/20/2016 DESIGN PRELIMINARY REVIEW

The LEED Form includes the required project summary details. There is one building in this LEED application with a total of four stories and 52,688 gross square feet. However, to demonstrate compliance, the following must be addressed.

TECHNICAL ADVICE

1. The total area reported here (52,688 square feet) is inconsistent with that within IEQp1: Minimum Indoor Air Quality Performance (36,173 square feet). Square footage values must be reported consistently. Provide a narrative and revise the form to ensure that the total gross square footage is consistent across all submittals.

PIf3: Occupant and Usage Data — Approved

09/14/2016 DESIGN PRELIMINARY REVIEW

The LEED Form includes the required occupant and usage data. The project consists primarily of Core Learning Space: College/University spaces. The average users value is 598, the peak users value is 673, and the FTE value is 73.

PIf4: Schedule and Overview Documents — Approved

12/11/2016 DESIGN FINAL REVIEW

This form was previously approved in the Design Preliminary Review phase. The form has been revised and states that the date of substantial completion is July 1, 2016 and the date of occupancy is August 15, 2016. The documentation continues to demonstrate compliance.

09/14/2016 DESIGN PRELIMINARY REVIEW

The LEED Form includes the design and construction schedule. The date of substantial completion is June 8, 2016 and the date of occupancy is July 25, 2016. The required documents have been uploaded.

Sustainable Sites

SSp1: Construction Activity Pollution Prevention — Awarded

02/27/2017 CONSTRUCTION PRELIMINARY REVIEW

The LEED Form states that the project has implemented an erosion and sedimentation control (ESC) plan that conforms to the 2003 EPA Construction General Permit (CGP).

SSc1: Site Selection — Awarded: 1

POSSIBLE POINTS: 1
ATTEMPTED: 1, DENIED: 0, PENDING: 0, AWARDED: 1

09/14/2016 DESIGN PRELIMINARY REVIEW

The LEED Form states that the project site does not meet any of the prohibited criteria.

SSc2: Development Density and Community Connectivity — Awarded: 5

POSSIBLE POINTS: 5
ATTEMPTED: 5, DENIED: 0, PENDING: 0, AWARDED: 5

09/14/2016 DESIGN PRELIMINARY REVIEW

The LEED Form states that the project complies with Option 2: Community Connectivity.

SSc3: Brownfield Redevelopment — Awarded: 1

POSSIBLE POINTS: 1
ATTEMPTED: 1, DENIED: 0, PENDING: 0, AWARDED: 1

09/09/2016 DESIGN PRELIMINARY REVIEW

The LEED Form states that the project has documented asbestos contamination in the building. Remediation of the asbestos has been or will be remediated as part of the project scope according to an acceptable standard.

SSc4.1: Alternative Transportation-Public Transportation Access — Awarded: 6

POSSIBLE POINTS: 6
ATTEMPTED: 6, DENIED: 0, PENDING: 0, AWARDED: 6

09/14/2016 DESIGN PRELIMINARY REVIEW

The LEED Form states that the project complies with Option 2: Bus Station Proximity and is located within one-quarter mile walking distance of one or more stops for two or more public, campus, or private bus lines usable by building occupants.

SSc4.2: Alternative Transportation-Bicycle Storage and Changing Rooms — Not Attempted

POSSIBLE POINTS: 1

SSc4.3: Alternative Transportation-Low-Emitting and Fuel-Efficient Vehicles — Not Attempted

POSSIBLE POINTS: 3

SSc4.4: Alternative Transportation-Parking Capacity — Awarded: 2

POSSIBLE POINTS: 2
ATTEMPTED: 2, DENIED: 0, PENDING: 0, AWARDED: 2

09/14/2016 DESIGN PRELIMINARY REVIEW

The LEED Form states that no new parking has been created within the LEED project scope of work.

SSc5.1: Site Development-Protect or Restore Habitat — Not Attempted

POSSIBLE POINTS: 1

SSc5.2: Site Development-Maximize Open Space **Awarded: 1**
POSSIBLE POINTS: 1
ATTEMPTED: 1, DENIED: 0, PENDING: 0, AWARDED: 1

09/09/2016 DESIGN PRELIMINARY REVIEW

The LEED Form states that the project complies with Case 2: Sites with No Local Zoning Requirements. The open space provided is equal to or greater than the footprint of the LEED project building.

SSc6.1: Stormwater Design-Quantity Control **Not Attempted**
POSSIBLE POINTS: 1

SSc6.2: Stormwater Design-Quality Control **Not Attempted**
POSSIBLE POINTS: 1

SSc7.1: Heat Island Effect, Non-Roof **Awarded: 1**
POSSIBLE POINTS: 1
ATTEMPTED: 1, DENIED: 0, PENDING: 0, AWARDED: 1

03/09/2017 CONSTRUCTION PRELIMINARY REVIEW

The LEED Form states that the project complies with Option 1 and 86% of nonroof base building hardscape surfaces will be mitigated through the use of materials with an SRI of at least 29.

SSc7.2: Heat Island Effect-Roof **Awarded: 1**
POSSIBLE POINTS: 1
ATTEMPTED: 1, DENIED: 0, PENDING: 0, AWARDED: 1

12/11/2016 DESIGN FINAL REVIEW

The additional documentation demonstrates compliance.

09/14/2016 DESIGN PRELIMINARY REVIEW

The LEED Form states that the project complies with Option 1 and 100% of the building roof surface has a Solar Reflectance Index meeting the credit requirements. The project has selected the Licensed Professional Exemption (LPE). However, to demonstrate compliance, the following must be addressed.

TECHNICAL ADVICE

1. The Team Administration tab indicates that the license for Bryan Greene expired on 12/31/2013. Provide a narrative and ensure that the LPE has been claimed by an individual with a professional license that is in good-standing at the time the LPE was claimed on the Credit Form. If a licensed professional is not valid, select the full documentation path and provide the additional required documentation.

SSc8: Light Pollution Reduction **Not Attempted**
POSSIBLE POINTS: 1

Water Efficiency

WEp1: Water Use Reduction-20% Reduction **Awarded**

09/14/2016 DESIGN PRELIMINARY REVIEW

The LEED Form states that the project has reduced potable water use by 40.87%.

WEc1: Water Efficient Landscaping **Not Attempted**
POSSIBLE POINTS: 4

WEc2: Innovative Wastewater Technologies **Not Attempted**
POSSIBLE POINTS: 2

WEc3: Water Use Reduction **Awarded: 4**
POSSIBLE POINTS: 4
ATTEMPTED: 4, DENIED: 0, PENDING: 0, AWARDED: 4

09/14/2016 DESIGN PRELIMINARY REVIEW

The LEED Form states that the project has reduced potable water use by 40.87%.

Energy and Atmosphere

EAp1: Fundamental Commissioning of the Building Energy Systems — Awarded

03/04/2017 CONSTRUCTION PRELIMINARY REVIEW

The LEED Form states that fundamental commissioning is complete.

EAp2: Minimum Energy Performance — Awarded

12/08/2016 DESIGN FINAL REVIEW

The LEED Form states that the project complies with Option 1: Whole Building Energy Simulation and has achieved an energy cost savings of 18.47%. The total predicted annual energy consumption for the project is 594,576 kWh of electricity and 3,629 therms of natural gas.

09/19/2016 DESIGN PRELIMINARY REVIEW

The LEED Form states that the project complies with Option 1: Whole Building Energy Simulation and has achieved an energy cost savings of 19.03%. However, to demonstrate compliance, the following comments requiring a project response must be addressed for the Final Review.

TECHNICAL ADVICE

1. Provide the following:

a. A narrative response to each Preliminary Review comment below.

b. A narrative describing any additional changes made to the energy models between the Preliminary and Final Review phases not addressed by the responses to the review comments. The mandatory comments are perceived to reduce the projected savings for the Proposed design. If the projected savings increase substantially in the Final submission, without implementing any optional comments that may improve performance, a narrative explanation for these results must be provided.

2. Supplemental Table 1.4.7A indicates the MERV 13 filter pressure credit has been calculated using the full supply air flow rate for each Baseline system. Based upon the mechanical drawings provided in PIf4: Schedule and Overview Documents, only the three DOAS systems have been provided with MERV 13 filters in the actual design; therefore, this pressure credit must be calculated using only the outdoor air flow rate for each Baseline system. Revise Table 1.4.7A so that the MERV 13 credit is calculated using only the outside air flow rate, update the Baseline model with the revised fan power allowance, and revise the submittal documentation accordingly.

3. It is unclear whether the Proposed Case HVAC systems was modeled as designed because the DOAS capacities and fan powers reported in Table 1.4.7B do not appear to be consistent with the mechanical schedule uploaded under PIf4: Schedule and Overview Documents. Additionally, while it is understood the DOAS unities utilize air-side heat recovery, the reported cooling efficiencies (19.52 EER to 28.62 EER) appear significantly greater than expected for water-cooled heat pumps. ASHRAE 90.1-2007 Table G3.1.10 (b)(Proposed) requires that the model be consistent with the design documents. Update the model so that all HVAC system parameters (e.g. fan volumes, fan powers, efficiencies, heating/cooling capacities, etc.) are consistent with the design documents, update Supplemental Table 1.4.7B to reflect all changes made, and update the form to reflect any changes made. Provide manufacturer selections or cut sheets confirming the DOAS efficiencies.

EAp3: Fundamental Refrigerant Management — Awarded

09/15/2016 DESIGN PRELIMINARY REVIEW

The LEED Form states that there are no CFC-based refrigerants serving the project building.

EAc1: Optimize Energy Performance — Awarded: 6

POSSIBLE POINTS: 19

ATTEMPTED: 6, DENIED: 0, PENDING: 0, AWARDED: 6

12/08/2016 DESIGN FINAL REVIEW

Additional documentation has been provided for EAp2: Minimum Energy Performance claiming an energy cost savings of 18.47%.

09/15/2016 DESIGN PRELIMINARY REVIEW

The LEED Form states that the project has achieved an energy cost savings of 19.03%. However, to demonstrate compliance, the following must be addressed.

TECHNICAL ADVICE

1. Refer to the comments within EAp2: Minimum Energy Performance and resubmit this credit.

EAc2: On-Site Renewable Energy — **Not Attempted**
POSSIBLE POINTS: 7

EAc3: Enhanced Commissioning — **Awarded: 2**
POSSIBLE POINTS: 2
ATTEMPTED: 2, DENIED: 0, PENDING: 0, AWARDED: 2

03/04/2017 CONSTRUCTION PRELIMINARY REVIEW

The LEED Form states that enhanced commissioning has been implemented.

EAc4: Enhanced Refrigerant Management — **Not Attempted**
POSSIBLE POINTS: 2

EAc5: Measurement and Verification — **Awarded: 3**
POSSIBLE POINTS: 3
ATTEMPTED: 3, DENIED: 1, PENDING: 0, AWARDED: 3

05/13/2018 CONSTRUCTION FINAL REVIEW

This credit was previously awarded following Option 3 during the Construction Preliminary Review. The LEED Form has been revised and states that the project complies with Option 1 and has developed and implemented a Measurement and Verification (M&V) plan consistent with Option D: Calibrated Simulation (Savings Estimation Method) in the IPMVP Volume III: Concepts and Options for Determining Energy Savings in New Construction, April 2003.

03/04/2017 CONSTRUCTION PRELIMINARY REVIEW

The LEED Form states that the project complies with Option 3 and has committed to sharing whole-building energy and water data through the ENERGY STAR Portfolio Manager.

EAc6: Green Power — **Awarded: 2**
POSSIBLE POINTS: 2
ATTEMPTED: 2, DENIED: 0, PENDING: 0, AWARDED: 2

05/13/2018 CONSTRUCTION FINAL REVIEW

This credit was submitted for initial review during the Construction Final Review. The LEED Form states that the project has a two-year purchase agreement to procure 70.05% of electricity for this LEED project that meets the Green-e definition for renewable power using Option 1: Whole Building Energy Simulation.

Materials and Resources

MRp1: Storage and Collection of Recyclables — Awarded

09/14/2016 DESIGN PRELIMINARY REVIEW

The LEED Form states that the project has provided appropriately sized dedicated areas for the collection and storage of materials for recycling.

MRc1.1: Building Reuse-Maintain Existing Walls, Floors and Roof — Awarded: 3

POSSIBLE POINTS: 3
ATTEMPTED: 3, DENIED: 0, PENDING: 0, AWARDED: 3

03/09/2017 CONSTRUCTION PRELIMINARY REVIEW

The LEED Form states that the project is undergoing a major renovation, includes additions equal to 33.56% of the existing gross floor area, and that 96.06% of the existing structural elements are being reused.

MRc1.2: Building Reuse - Maintain 50% of Interior Non-Structural Elements — Not Attempted

POSSIBLE POINTS: 1

MRc2: Construction Waste Management — Awarded: 2

POSSIBLE POINTS: 2
ATTEMPTED: 2, DENIED: 0, PENDING: 0, AWARDED: 2

03/09/2017 CONSTRUCTION PRELIMINARY REVIEW

The LEED Form states that the project has diverted 90.3% of the on-site generated construction waste from landfill.

MRc3: Materials Reuse — Not Attempted

POSSIBLE POINTS: 2

MRc4: Recycled Content — Awarded: 2

POSSIBLE POINTS: 2
ATTEMPTED: 2, DENIED: 0, PENDING: 0, AWARDED: 2

05/14/2018 CONSTRUCTION FINAL REVIEW

The additional documentation demonstrates compliance and states that 24.94% of the total building materials content, by value, has been manufactured using recycled materials.

03/10/2017 CONSTRUCTION PRELIMINARY REVIEW

The LEED Form states that 24.96% of the total building materials content, by value, has been manufactured using recycled materials. However, to demonstrate compliance, the following must be addressed.

TECHNICAL ADVICE

1. PIf2: Project Summary Details states that the project budget is $24,000,000 but the hard costs for CSI MasterFormat 2004 Divisions 3-10, 31.60.00, 32.10.00, 32.30.00, and 32.90.00 shown in the calculator provided is $6,995,738 resulting in a total materials cost for the LEED project of 3,148,082.10 or 13% of the project budget. These costs appear low compared to the project budget. Provide a narrative explaining the project costs and confirm that all of the hard costs have been accounted for in the calculations. Revise the calculator as needed.

2. The Centria Metal Panel Type 1 and Type 3 document states that the recycled content came from the Steel Recycling Institute rather than specific information for the installed project as noted in LEED Interpretation 10246. If no data is available for a steel product, the project team may use the 25% post-consumer LEED default. Provide additional manufacturer documentation specific to the LEED project and/or revise the calculator as appropriate.

MRc5: Regional Materials — Awarded: 2

POSSIBLE POINTS: 2
ATTEMPTED: 2, DENIED: 0, PENDING: 0, AWARDED: 2

05/14/2018 CONSTRUCTION FINAL REVIEW

The additional documentation demonstrates compliance.

03/10/2017 CONSTRUCTION PRELIMINARY REVIEW

The LEED Form states that 21.89% of the total building materials value includes materials and products that have been manufactured and extracted within 500 miles of the project site. However, to demonstrate compliance, the following must be addressed.

TECHNICAL ADVICE

1. PIf2: Project Summary Details states that the project budget is $24,000,000 but the hard costs for CSI MasterFormat 2004 Divisions 3-10, 31.60.00, 32.10.00, 32.30.00, and 32.90.00 shown in the calculator provided is $6,995,738 resulting in a total materials cost for the LEED project of 3,148,082.10 or 13% of the project budget. These costs appear low compared to the project budget. Provide a narrative explaining the project costs and confirm that all of the hard costs have been accounted for in the calculations. Revise the calculator as needed.

MRc6: Rapidly Renewable Materials — **Not Attempted**
POSSIBLE POINTS: 1

MRc7: Certified Wood — **Awarded: 1**
POSSIBLE POINTS: 1
ATTEMPTED: 1, DENIED: 0, PENDING: 0, AWARDED: 1

05/14/2018 CONSTRUCTION FINAL REVIEW

The additional documentation demonstrates compliance and states that 63.4% of the total wood-based building materials are certified in accordance with the principles and criteria of the Forest Stewardship Council (FSC).

03/10/2017 CONSTRUCTION PRELIMINARY REVIEW

The LEED Form states that 64.85% of the total wood-based building materials are certified in accordance with the principles and criteria of the Forest Stewardship Council (FSC). However, to demonstrate compliance, the following must be addressed.

TECHNICAL ADVICE

1. MRc4: Recycled Content and MRc5: Regional Materials have not been awarded due to issues with the reported Total Materials Cost. After addressing the issues within MRc4 and MRc5, ensure that all new (virgin) wood is included in the Total New Wood Materials Cost for this credit. Revise the calculation and provide additional invoices if necessary.

2. The invoice provided for the Marshfield Door Systems states that the flush wood doors are FSC Mix 81%, but 100% has been entered in the calculator for the Percent New Wood that is FSC Certified. Revise the calculator with the correct FSC percentage for the product.

Indoor Environmental Quality

IEQp1: Minimum Indoor Air Quality Performance — Awarded

12/08/2016 DESIGN FINAL REVIEW

The additional documentation demonstrates compliance.

09/15/2016 DESIGN PRELIMINARY REVIEW

The LEED Form states that the project is mechanically ventilated and that the ventilation system has met the minimum requirements of ASHRAE 62.1-2007. However, to demonstrate compliance, the following must be addressed.

TECHNICAL ADVICE

1. The total area of 36,173 square feet documented for this prerequisite varies substantially from the total gross area of 52,688 square feet reported in PIf2: Project Summary Details. It is unclear whether all occupiable space (as defined by ASHRAE 62.1-2007) has been accounted for within the ventilation rate procedure calculations. Although some of the difference can be attributed to non-occupiable spaces (e.g., mechanical rooms, inactive stairwells, shafts, and gross versus net area) and space types that are only required to meet the exhaust requirements of Table 6-4 (e.g., restrooms, kitchens) a justification for any difference in excess of roughly 10% must be provided. All occupiable spaces (which can include regularly occupied, non-regularly occupied, and unconditioned areas) must be provided with ventilation that meets the minimum requirements in accordance with ASHRAE 62.1-2007. Update the Ventilation Rate Procedure calculations to include all occupiable spaces and ensure that the area is reported consistently among all credits. If the difference in area is greater than 10%, provide a detailed narrative that describes the approximate area breakdown of the excluded spaces by space type to confirm that all occupiable spaces have been included in the calculations.

The Project Team is provided with the following educational comment for future projects:

2. The ventilation distribution design includes ducting outside air from dedicated outdoor air units to VRV fan coil units. Note that any system which provides a distinct mix of recirculated air and ventilation air to one or more breathing zones is considered a ventilation system, and separate VRP calculations should be provided for each ventilation system. If the outside air is received from an upstream 100% outside air system, separate VRP calculations do not need to be provided for the 100% outside air system; the outside air intake requirement for any 100% outside air system which only serves other ventilation systems (i.e. sub-systems for ventilation purposes) is simply the algebraic sum of the sub-system corrected outside air intake requirements (sum of the sub-system Vot values). If a 100% outside air system also provides ventilation air directly to one or more breathing zones, then separate VRP calculations must be provided for that 100% outside air system. The total outside air intake rate for any such system would be the algebraic sum of the individual breathing zone ventilation requirements (Vou) and the Vot rates of any sub-systems, as determined by separate VRP calculations for those sub-systems. The submittal documentation must clearly indicate which zones or sub-systems are served by each 100% outside air system. In the case of this project, which utilizes single-zone sub-systems, the provided VRP results are mathematically equal to individual single-zone calculations. However, for future projects, ensure the VRP calculations are itemized by ventilation system, which is any system that provides a distinct mix of recirculated air and ventilation air to one or more breathing zones.

IEQp2: Environmental Tobacco Smoke (ETS) Control — Awarded

09/20/2016 DESIGN PRELIMINARY REVIEW

The LEED Form states that smoking is prohibited on the project site. Additionally, smoking is prohibited within the building.

IEQc1: Outdoor Air Delivery Monitoring — Not Attempted
POSSIBLE POINTS: 1

IEQc2: Increased Ventilation — Not Attempted
POSSIBLE POINTS: 1

IEQc3.1: Construction IAQ Management Plan-During Construction — Awarded: 1
POSSIBLE POINTS: 1

ATTEMPTED: 1, DENIED: 0, PENDING: 0, AWARDED: 1

03/09/2017 CONSTRUCTION PRELIMINARY REVIEW

The LEED Form states that the project reduces air quality problems resulting from construction to promote the comfort and well-being of construction workers and building occupants.

IEQc3.2: Construction IAQ Management Plan-Before Occupancy — Awarded: 1

POSSIBLE POINTS: 1
ATTEMPTED: 1, DENIED: 0, PENDING: 0, AWARDED: 1

03/04/2017 CONSTRUCTION PRELIMINARY REVIEW

The LEED Form states that an Indoor Air Quality (IAQ) Management Plan was developed and implemented and that the project complies with Option 2: IAQ Testing.

IEQc4.1: Low-Emitting Materials-Adhesives and Sealants — Awarded: 1

POSSIBLE POINTS: 1
ATTEMPTED: 1, DENIED: 0, PENDING: 0, AWARDED: 1

03/09/2017 CONSTRUCTION PRELIMINARY REVIEW

The LEED Form states that all adhesive and sealant products used on the inside of the weatherproofing system and applied on-site have been included in the tables and comply with the VOC limits of the referenced standards for this credit.

IEQc4.2: Low-Emitting Materials-Paints and Coatings — Awarded: 1

POSSIBLE POINTS: 1
ATTEMPTED: 1, DENIED: 0, PENDING: 0, AWARDED: 1

03/09/2017 CONSTRUCTION PRELIMINARY REVIEW

The LEED Form states that all paint and coating products used on the inside of the weatherproofing system and applied on-site have been included in the tables and comply with the VOC limits of the referenced standards for this credit.

IEQc4.3: Low-Emitting Materials-Flooring Systems — Awarded: 1

POSSIBLE POINTS: 1
ATTEMPTED: 1, DENIED: 0, PENDING: 0, AWARDED: 1

03/09/2017 CONSTRUCTION PRELIMINARY REVIEW

The LEED Form states that all interior flooring materials meet or exceed applicable criteria for the Carpet and Rug Institute, South Coast Air Quality Management District, the California Department of Health Standard, or FloorScore; the carpet adhesives used have a VOC level of less than 50 g/L; all floor finishes meet the requirements of SCAQMD Rule 1113; and all tile setting adhesives and grout meet SCAQMD Rule 1168.

IEQc4.4: Low-Emitting Materials-Composite Wood and Agrifiber Products — Awarded: 1

POSSIBLE POINTS: 1
ATTEMPTED: 1, DENIED: 0, PENDING: 0, AWARDED: 1

05/15/2018 CONSTRUCTION FINAL REVIEW

The additional documentation demonstrates compliance.

03/09/2017 CONSTRUCTION PRELIMINARY REVIEW

The LEED Form states that all composite wood and agrifiber products used on the interior of the building and all laminating adhesives used to fabricate on-site and shop-applied composite wood and agrifiber assemblies contain no added urea-formaldehyde resins. However, to demonstrate compliance, the following must be addressed.

TECHNICAL ADVICE

1. Laminating adhesives have not been included in the table. Revise the form to include all laminating adhesives used to fabricate on-site and shop-applied composite wood and agrifiber assemblies. Provide additional manufacturer documentation and a narrative if necessary.

2. The websites for the RPG Modffusors and Tafipan Evolo indicates a low level of formaldehyde but does not state that there is no added urea-formaldehyde. Provide documentation from the manufacturer highlighting the non-urea formaldehyde resin or binder that is present and/or confirming that the material contains no added urea-formaldehyde.

Alternatively, if the product uses melamine urea formaldehyde (MUF), as described in LEED Interpretation 10250, and is compliant with the California Air Resource Board (CARB) Airborne Toxic Control Measure (ATCM) 93120 requirements for no-added formaldehyde (NAF) based resins or the requirements for ultra-low-emitting formaldehyde resins (ULEF),

provide manufacturer documentation demonstrating that the product uses MUF as a binder and is compliant with CARB NAF or CARB ULEF.

IEQc5: Indoor Chemical and Pollutant Source Control — **Not Attempted**
POSSIBLE POINTS: 1

IEQc6.1: Controllability of Systems-Lighting — **Awarded: 1**
POSSIBLE POINTS: 1
ATTEMPTED: 1, DENIED: 0, PENDING: 0, AWARDED: 1

09/15/2016 DESIGN PRELIMINARY REVIEW

The LEED Form states that lighting controls are provided for 91.53% of building occupants and 100% of shared multi-occupant spaces to enable adjustments that meet needs and preferences.

IEQc6.2: Controllability of Systems-Thermal Comfort — **Awarded: 1**
POSSIBLE POINTS: 1
ATTEMPTED: 1, DENIED: 0, PENDING: 0, AWARDED: 1

12/08/2016 DESIGN FINAL REVIEW

A response narrative has been provided clarifying the individual workstation counts and quantity of individual thermal comfort controls. The project has provided thermal comfort controls for 50% of individual workstations and 100% of multi-occupant spaces. The additional documentation demonstrates compliance.

09/15/2016 DESIGN PRELIMINARY REVIEW

The LEED Form states that thermal controls are provided for 50% of building occupants and 100% of shared multi-occupant spaces to enable adjustments that meet needs and preferences. However, to demonstrate compliance, the following must be addressed.

TECHNICAL ADVICE

1. It is unclear how the seven thermal comfort controls reported in Table IEQc6.2-1 for Graduate Offices were determined. The lighting plans provided under IEQc6.1: Controllability of Systems Lighting indicate the open plan workstations are in 202 Masters Office (second floor), 315 GA Office (third floor), and 405 GA Office (fourth floor). Combined, these spaces include 39 of the 118 individual workstations, and three space temperature controls (thermostats). When these quantities are included with the private office, audio/visual, workshop, and reception station quantities in Table IEQc6.2-1, it appears the project has provided thermal comfort controls for 46.7% of the individual workstations. Clarify the method by which the values reported in Table IEQc6.2-1 were determined. Provide drawings demonstrating that at least 50% of the occupants are provided with individual thermal controls. Note that separate VRV fan coil units which share a thermostat cannot be counted as separate thermal comfort controls; the control is limited by the thermostat quantity. Additionally, the quantity of individual workstations and multi-occupant spaces must be reported consistently across all submittals, including IEQc6.1.

IEQc7.1: Thermal Comfort-Design — **Awarded: 1**
POSSIBLE POINTS: 1
ATTEMPTED: 1, DENIED: 0, PENDING: 0, AWARDED: 1

09/15/2016 DESIGN PRELIMINARY REVIEW

The LEED Form states that the mechanically ventilated and mechanically conditioned project space is in compliance with ASHRAE 55-2004.

IEQc7.2: Thermal Comfort-Verification — **Awarded: 1**
POSSIBLE POINTS: 1
ATTEMPTED: 1, DENIED: 0, PENDING: 0, AWARDED: 1

09/15/2016 DESIGN PRELIMINARY REVIEW

The LEED Form states that a permanent monitoring system will be installed and a thermal comfort survey of building occupants will be conducted between six and 18 months after occupancy.

IEQc8.1: Daylight and Views-Daylight — **Not Attempted**
POSSIBLE POINTS: 1

IEQc8.2: Daylight and Views-Views Awarded: 1

POSSIBLE POINTS: 1

ATTEMPTED: 1, DENIED: 0, PENDING: 0, AWARDED: 1

09/27/2016 DESIGN PRELIMINARY REVIEW

The LEED Form states that the project has provided direct line of sight views from 91.29% of all regularly occupied spaces.

Innovation in Design

IDc1.1: Innovation in Design — Awarded: 1

POSSIBLE POINTS: 1
ATTEMPTED: 1, DENIED: 0, PENDING: 0, AWARDED: 1

09/15/2016 DESIGN PRELIMINARY REVIEW

The LEED Form states that the project team has developed and implemented an ID credit proposal in compliance with LEED Interpretation 5500. The project has an average mercury content in picograms per lumen hour of 24.41 for lamps, which is less than 80 as required. The calculation and cut sheets documenting the mercury content in all installed lamps have been provided.

IDc1.1: Innovation in Design — Not Attempted

POSSIBLE POINTS: 1

IDc1.2: Innovation in Design — Awarded: 1

POSSIBLE POINTS: 1
ATTEMPTED: 1, DENIED: 0, PENDING: 0, AWARDED: 1

09/14/2016 DESIGN PRELIMINARY REVIEW

The LEED Form states that the project achieves exemplary performance for SSc5.2: Site Development - Maximize Open Space. The requirement for exemplary performance is to provide open space equal to or greater than two times the footprint of the LEED project building and the project has documented 2.3 times the building footprint.

IDc1.2: Innovation in Design — Not Attempted

POSSIBLE POINTS: 1

IDc1.3: Innovation in Design — Not Attempted

POSSIBLE POINTS: 1

IDc1.3: EAc6 Green Power — Awarded: 1

POSSIBLE POINTS: 1
ATTEMPTED: 1, DENIED: 0, PENDING: 0, AWARDED: 1

05/13/2018 CONSTRUCTION FINAL REVIEW

This credit was submitted for initial review during the Construction Final Review. The LEED Form states that the project achieves exemplary performance for EAc6: Green Power as specified in the LEED BD+C v2009 Reference Guide.

IDc1.4: Innovation in Design — Not Attempted

POSSIBLE POINTS: 1

IDc1.4: Green Cleaning Policy/Program — Awarded: 1

POSSIBLE POINTS: 1
ATTEMPTED: 1, DENIED: 0, PENDING: 0, AWARDED: 1

05/15/2018 CONSTRUCTION FINAL REVIEW

This credit was submitted for initial review during the Construction Final Review.

The LEED Form states that the project team has developed and implemented a Green Housekeeping program. The project must demonstrate compliance with LEED-EBOM 2009 IEQp3: Green Cleaning Policy. The Green Cleaning Policy follows the LEED-EBOM Policy Model and demonstrates the development of a comprehensive and quantitative green cleaning program that includes detailed information regarding staff training, cleaning processes and chemicals, and occupant feedback.

IDc1.5: Innovation in Design — Not Attempted

POSSIBLE POINTS: 1

IDc1.5: Innovation in Design — Not Attempted

POSSIBLE POINTS: 1

IDc2: LEED® Accredited Professional Awarded: 1

POSSIBLE POINTS: 1

ATTEMPTED: 1, DENIED: 0, PENDING: 0, AWARDED: 1

03/09/2017 CONSTRUCTION PRELIMINARY REVIEW

The LEED Form states that a LEED AP has been a participant on the project development team.

Regional priority

SSc3: Brownfield Redevelopment

POSSIBLE POINTS: 1

ATTEMPTED: 1, DENIED: , PENDING: , AWARDED: 1

TOTAL	**107**	**62**	**1**	**0**	**62**

REVIEW SUMMARY

Review	SUBMITTED	RETURNED	POINTS: SUBMITTED	DENIED	PENDING	AWARDED
Design Preliminary	**08/04/2016**	**09/28/2016**	**35**	**0**	**8**	**27**

Credit	STATUS	TYPE	POINTS: ATTEMPTED	DENIED	PENDING	AWARDED
PIf1: Minimum Program Requirements	**Approved**		**0**	**0**	**0**	**0**
PIf2: Project Summary Details	**Not Approved**		**0**	**0**	**0**	**0**
PIf3: Occupant and Usage Data	**Approved**		**0**	**0**	**0**	**0**
PIf4: Schedule and Overview Documents	**Approved**		**0**	**0**	**0**	**0**
SSc1: Site Selection	**Anticipated**	Design	**1**	**0**	**0**	**1**
SSc2: Development Density and Community Connectivity	**Anticipated**	Design	**5**	**0**	**0**	**5**
SSc3: Brownfield Redevelopment	**Anticipated**	Design	**2**	**0**	**0**	**2**
SSc4.1: Alternative Transportation-Public Transportation Access	**Anticipated**	Design	**6**	**0**	**0**	**6**
SSc4.4: Alternative Transportation-Parking Capacity	**Anticipated**	Design	**2**	**0**	**0**	**2**
SSc5.2: Site Development-Maximize Open Space	**Anticipated**	Design	**1**	**0**	**0**	**1**
SSc7.2: Heat Island Effect-Roof	**Pending**	Design	**1**	**0**	**1**	**0**
WEp1: Water Use Reduction-20% Reduction	**Anticipated**	Design	**0**	**0**	**0**	**0**
WEc3: Water Use Reduction	**Anticipated**	Design	**4**	**0**	**0**	**4**
EAp2: Minimum Energy Performance	**Pending**	Design	**0**	**0**	**0**	**0**
EAp3: Fundamental Refrigerant Management	**Anticipated**	Design	**0**	**0**	**0**	**0**
EAc1: Optimize Energy Performance	**Pending**	Design	**6**	**0**	**6**	**0**
MRp1: Storage and Collection of Recyclables	**Anticipated**	Design	**0**	**0**	**0**	**0**
IEQp1: Minimum Indoor Air Quality Performance	**Pending**	Design	**0**	**0**	**0**	**0**
IEQp2: Environmental Tobacco Smoke (ETS) Control	**Anticipated**	Design	**0**	**0**	**0**	**0**
IEQc6.1: Controllability of Systems-Lighting	**Anticipated**	Design	**1**	**0**	**0**	**1**
IEQc6.2: Controllability of Systems-Thermal Comfort	**Pending**	Design	**1**	**0**	**1**	**0**
IEQc7.1: Thermal Comfort-Design	**Anticipated**	Design	**1**	**0**	**0**	**1**
IEQc7.2: Thermal Comfort-Verification	**Anticipated**	Design	**1**	**0**	**0**	**1**
IEQc8.2: Daylight and Views-Views	**Anticipated**	Design	**1**	**0**	**0**	**1**
IDc1.1: Innovation in Design: Reduced Mercury in Lamps	**Anticipated**	Design	**1**	**0**	**0**	**1**
IDc1.2: Innovation in Design	**Anticipated**	Design	**1**	**0**	**0**	**1**

Design Final	**11/29/2016**	**12/23/2016**	**9**	**0**	**0**	**9**

Credit	STATUS	TYPE	POINTS: ATTEMPTED	DENIED	PENDING	AWARDED
PIf2: Project Summary Details	**Approved**		**0**	**0**	**0**	**0**
PIf4: Schedule and Overview Documents	**Approved**		**0**	**0**	**0**	**0**
SSc7.2: Heat Island Effect-Roof	**Anticipated**	Design	**1**	**0**	**0**	**1**
EAp2: Minimum Energy Performance	**Anticipated**	Design	**0**	**0**	**0**	**0**
EAc1: Optimize Energy Performance	**Anticipated**	Design	**6**	**0**	**0**	**6**
IEQp1: Minimum Indoor Air Quality Performance	**Anticipated**	Design	**0**	**0**	**0**	**0**
IEQc6.2: Controllability of Systems-Thermal Comfort	**Anticipated**	Design	**1**	**0**	**0**	**1**
IEQc7.2: Thermal Comfort-Verification	**Anticipated**	Design	**1**	**0**	**0**	**1**

Construction Preliminary	02/20/2017	03/13/2017	21	0	6	15

Credit	STATUS	TYPE	POINTS: ATTEMPTED	DENIED	PENDING	AWARDED
SSp1: Construction Activity Pollution Prevention	Awarded	Construction	0	0	0	0
SSc7.1: Heat Island Effect, Non-Roof	Awarded	Construction	1	0	0	1
EAp1: Fundamental Commissioning of the Building Energy Systems	Awarded	Construction	0	0	0	0
EAc3: Enhanced Commissioning	Awarded	Construction	2	0	0	2
EAc5: Measurement and Verification	Awarded	Construction	1	0	0	1
MRc1.1: Building Reuse-Maintain Existing Walls, Floors and Roof	Awarded	Construction	3	0	0	3
MRc2: Construction Waste Management	Awarded	Construction	2	0	0	2
MRc4: Recycled Content	Pending	Construction	2	0	2	0
MRc5: Regional Materials	Pending	Construction	2	0	2	0
MRc7: Certified Wood	Pending	Construction	1	0	1	0
IEQc3.1: Construction IAQ Management Plan-During Construction	Awarded	Construction	1	0	0	1
IEQc3.2: Construction IAQ Management Plan-Before Occupancy	Awarded	Construction	1	0	0	1
IEQc4.1: Low-Emitting Materials-Adhesives and Sealants	Awarded	Construction	1	0	0	1
IEQc4.2: Low-Emitting Materials-Paints and Coatings	Awarded	Construction	1	0	0	1
IEQc4.3: Low-Emitting Materials-Flooring Systems	Awarded	Construction	1	0	0	1
IEQc4.4: Low-Emitting Materials-Composite Wood and Agrifiber Products	Pending	Construction	1	0	1	0
IDc2: LEED® Accredited Professional	Awarded	Construction	1	0	0	1

Construction Final	**05/03/2018**	**05/17/2018**	**13**	**1**	**0**	**13**

Credit	STATUS	TYPE	POINTS: ATTEMPTED	DENIED	PENDING	AWARDED
EAc5: Measurement and Verification	**Awarded**	Construction	**3**	**1**	**0**	**3**
EAc6: Green Power	**Awarded**	Construction	**2**	**0**	**0**	**2**
MRc4: Recycled Content	**Awarded**	Construction	**2**	**0**	**0**	**2**
MRc5: Regional Materials	**Awarded**	Construction	**2**	**0**	**0**	**2**
MRc7: Certified Wood	**Awarded**	Construction	**1**	**0**	**0**	**1**
IEQc4.4: Low-Emitting Materials-Composite Wood and Agrifiber Products	**Awarded**	Construction	**1**	**0**	**0**	**1**
IDc1.3: EAc6 Green Power	**Awarded**	Construction	**1**	**0**	**0**	**1**
IDc1.4: Green Cleaning Policy/Program	**Awarded**	Construction	**1**	**0**	**0**	**1**