

SECTION 018113 – SUSTAINABILITY REQUIREMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes general requirements and procedures for compliance with certain USGBC LEED prerequisites and credits needed for Project to give evidence of obtaining specified LEEDv4.1 credits for New Construction.
 - 1. Some prerequisites and credits needed to obtain LEED credits depend on product selections and may not be specifically identified as sustainability requirements. Compliance with requirements needed to obtain sustainability prerequisites and credits may be used as one criterion to evaluate substitution requests and comparable product requests.
 - 2. Additional prerequisites and credits needed to obtain LEED credits depend on project design and other aspects of Project that are not part of the Work of the Contract.
 - 3. The Sustainability Checklist for the Project identifies sustainability credits that are targeted for this project. The Sustainability Checklist is attached at the end of this Section for information only.
 - 4. Since overall LEED certification will not be required to be obtained by the Work of this Project, the term “LEED” is not used elsewhere throughout the Contract Documents other than in this Section to describe the baseline requirements for giving evidence for achieving the Project’s sustainable design elements. Elsewhere, requirements on attaining specific LEED credits, will be referenced as “sustainability requirements” or “sustainable design.”
- B. Related Sections:
 - 1. Divisions 01 through 33 Sections for commissioning and sustainability requirements specific to the work of each of these Sections.
 - 2. Division 01 Section “Construction Waste Management and Disposal” for salvaging, recycling and disposing of nonhazardous demolition and construction waste.

1.3 DEFINITIONS

- A. Building Interior: The area enclosed by, but not including, the building’s air barrier and weatherproofing system.
- B. LEED: Leadership in Energy & Environmental Design. LEED is a registered trademark of the United States Green Building Council (USGBC).
- C. Low VOC: Low volatile organic compound. Refers to level of organic compound emissions that are lower than those of standard products. Maximum rates of emission are specified.
- D. Regional Materials: Materials that have been extracted, harvested, or recovered, as well as manufactured, within 500 miles of Project site. If only a fraction of a product or material is extracted/harvested/recovered and manufactured locally, then only that percentage (by weight) shall contribute to the regional value.
- E. Recycled Content: The recycled content value of a material assembly shall be determined by weight. The recycled fraction of the assembly is then multiplied by the cost of assembly to determine the recycled content value.

1. "Post-consumer" material is defined as waste material generated by households or by commercial, industrial, and institutional facilities in their role as end users of the product, which can no longer be used for its intended purpose.
 2. "Pre-consumer" material is defined as material diverted from the waste stream during the manufacturing process. Excluded is reutilization of materials such as rework, regrind, or scrap generated in a process and capable of being reclaimed within the same process that generated it.
- F. Environmental Product Declaration (EPD) is a standardized way of communicating the environmental impacts, such as global warming potential and energy resource depletion, of a product or system
1. Product-specific declarations are publicly available and critically reviewed (but not necessarily verified) by a third party to ensure that they conform to ISO 14044, which defines how LCAs are critically reviewed.
 2. Industry-wide (generic) declarations have third-party (Type III) certification, which includes verification. The declaration is generic to a product, such as concrete, not specific to a particular manufacturer or company. For the product to be eligible, the manufacturer must claim representation either directly on the EPD or through the Program Operator for the associated EPD.
 3. Product-specific Type III declarations also use third-party certification that includes verification. Unlike generic EPDs, however, product-specific declarations are specific to a particular manufacturer and do not necessarily reflect the practices of the rest of the industry.

1.4 ADMINISTRATIVE REQUIREMENTS

- A. Respond to questions and requests from Architect and Engineers regarding sustainability requirements that are the responsibility of the Contractor, that depend on product selection or product qualities, or that depend on Contractor's procedures. Document responses as informational submittals.

1.5 ACTION SUBMITTALS

- A. General: Submit additional sustainability submittals required by other Specification Sections.
- B. For Sustainability Documentation Submittals, be prepared to provide the following documentation described throughout other Specification Sections, including but not limited to:
1. Provide photographs of erosion controls measures installed. Provide maintenance logs and inspection reports of erosion control measures.
 2. For site lighting fixtures, product diagram indicating that light is shielded at an angle that complies with dark sky requirement.
 3. Provide product data listing water efficiency of the plumbing fixtures.
 4. Provide product data listing water efficiency of the building process equipment.
 5. Comply with Division 01 Section "Construction Waste Management and Disposal."
 6. Provide Environmental Product Declaration for all products that indicate attainability of this documentation.
 - a. For Product-specific declarations provide the following information:
 - 1) Name (declaration holder or producer, typically the manufacturer)
 - 2) Contact information

- 3) Product type
 - 4) Product name
 - 5) Product description
 - 6) Summary of impact categories measured and overall values
 - 7) Functional unit
 - 8) Standards met
 - 9) Independent review entity's name and statement
 - b. For industry-wide (generic) declarations and product-specific Type III declarations, the project team must provide the following:
 - 1) Declaration holder (the company, usually the manufacturer, that the EPD is attributed to)
 - 2) EPD program operator (the entity that creates and registers the EPD)
 - 3) LCA verifier (the third-party entity that verifies the life-cycle assessment)
 - 4) PCR reviewer (the third-party entity that has reviewed the product category rules)
7. Indoor Air Quality:
- a. Construction indoor-air-quality management plan – During Construction: Submit a description of the approaches employed to manage indoor air quality during construction, such as regular cleaning of building entrance mats, protection of ducts from dust, protection of on-site stored or installed absorptive materials from moisture and odors, and other SMACNA approaches.
 - b. Construction Documentation: Submit six photographs at the beginning, middle and end of the construction period, along with a brief description of the SMACNA approach employed, documenting implementation of the indoor-air-quality management measures, such as protection of ducts and on-site stored or installed absorptive materials.
 - c. Product data for temporary HVAC filtration media used during construction, indicating MERV 8 or better.
 - d. Product data for HVAC filtration media used during occupancy, indicating MERV 8 or better.
8. Indoor Air Quality Management Plan:
- a. Construction indoor-air-quality management plan – Before Occupancy: Submit a description of the 30-day air flush or the air quality testing utilized to verify acceptable levels of volatile organic compounds.
9. Product data for adhesives and sealants used inside the Building Interior indicating VOC content of each product used.
- a. For each adhesive, sealant, sealant primer, aerosol adhesive, paint and coating product used inside the Building Interior, provide a list of the following:
 - 1) Product name
 - 2) Manufacturer's name
 - 3) Specific VOC data (g/L, less water)
 - 4) Allowable VOC requirement listed in Part 2.
10. Product data for paints and coatings used inside the Building Interior indicating VOC content of each product used.

- a. For each adhesive, sealant, sealant primer, aerosol adhesive, paint and coating product used inside the Building Interior, provide a list of the following:
 - 1) Product name
 - 2) Manufacturer's name
 - 3) Specific VOC data (g/L, less water)
 - 4) Allowable VOC requirement listed in Part 2.
11. Product data for flooring materials used inside the Building Interior indicating VOC content of each product used.
 - a. For each flooring product used inside the Building Interior, provide a list of the following:
 - 1) Product name
 - 2) Manufacturer's name
 - 3) Specific VOC data (ug/m3)
 - 4) Allowable VOC requirement listed in Part 2
12. Product data for ceiling materials used inside the Building Interior indicating VOC content of each product used.
 - a. For each ceiling product used inside the Building Interior, provide a list of the following:
 - 1) Product name
 - 2) Manufacturer's name
 - 3) Specific VOC data (ug/m3)
 - 4) Allowable VOC requirement listed in Part 2
13. Product data for wall panel materials used inside the Building Interior indicating VOC content of each product used.
 - a. For each wall panel product used inside the Building Interior, provide a list of the following:
 - 1) Product name
 - 2) Manufacturer's name
 - 3) Specific VOC data (ug/m3)
 - 4) Allowable VOC requirement listed in Part 2
14. Product data for furniture used inside the Building Interior indicating VOC content of each product used.
 - a. For each furniture product used inside the Building Interior, provide a list of the following:
 - 1) Product name
 - 2) Manufacturer's name
 - 3) Specific VOC data (ug/m3)
 - 4) Allowable VOC requirement listed in Part 2
15. Product data for insulation used inside the Building Interior indicating VOC content of each product used.
 - a. For each insulation product used inside the Building Interior, provide a list of the following:
 - 1) Product name
 - 2) Manufacturer's name
 - 3) Specific VOC data (ug/m3)

- 4) Allowable VOC requirement listed in Part 2
16. Product data for composite wood used inside the Building Interior indicating VOC content of each product used.
 - a. For each composite wood product used inside the Building Interior, provide a list of the following:
 - 1) Product name
 - 2) Manufacturer's name
 - 3) Specific VOC data (ug/m3)
 - 4) Allowable VOC requirement listed in Part 2
 17. Provide EPDs for project materials.
 - a. It is at the contractor's discretion to provide an EPD on a product-by-product basis as long as a minimum of 20 EPDs are provided by the end of construction.
 18. Provide chemical inventories of project materials to at least 0.1% using approved programs.
 - a. It is at the contractor's discretion to provide chemical inventories on a product-by-product basis as long as a minimum of 20 chemical inventories are provided by end of construction.
 - b. Approved programs are:
 - 1) Manufacturer Inventory
 - 2) Health Product Declaration
 - 3) Cradle to Cradle
 - 4) Declare
 - 5) ANSI/BIFMA e3 Furniture Sustainability Standard
 - 6) Product Lens Certification
 - 7) Facts – NSF/ANSI 336
 - 8) USGBC approved program

1.6 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For Sustainability coordinator.
- B. Project Materials Cost Data: Provide statement indicating total cost for materials used for Project. Costs exclude labor, overhead, and profit. Include breakout of costs for the following categories of items:
 1. Plumbing.
 2. Mechanical.
 3. Electrical.
 4. Specialty items such as elevators and equipment.
 5. Wood-based construction materials.
- C. Sustainability Action Plans: Provide preliminary submittals within 7 days of date established for the Notice to Proceed indicating how the following requirements will be met:
 1. Waste Management Plan complying with Division 01 Section "Construction Waste Management and Disposal."
 2. Construction Indoor-Air-Quality Management Plan. Plan to include agenda items to be discussed regularly at preconstruction and construction meetings. Plan to include porous material storage methods and location, cleaning methods, exhaust measures, and HVAC protection methods. Plan to include name of contractor's indoor air quality manager responsible for implementing and reviewing methods.

- D. Sustainability Progress Reports: Concurrent with each Application for Payment, submit reports comparing actual construction and purchasing activities with Sustainability Action Plan for the following:
 - 1. Construction Activity Pollution Prevention.
 - 2. Waste reduction progress reports complying with Division 01 Section "Construction Waste Management and Disposal."
 - 3. Construction IAQ Management Plan, During Construction.
 - 4. Low-Emitting Materials.
 - 5. EPDs
 - 6. Material Ingredient Reports

- E. Product Tracking Reports: Once a month, be prepared to present the current status of these lists and share copies at the Owner-Architect-Contractor Progress Meeting.
 - 1. Low-Emitting Materials List:
 - a. Maintain a list of each adhesive, sealant, sealant primer, aerosol product, paint, coating, and clear wood field-applied finishes used inside the building. Include manufacturer's name, product name, and specific VOC data (g/L, less water) for each product, as well as the corresponding allowable VOC from the referenced standard.

 - 2. EPD List:
 - a. Maintain a list of EPDs provided throughout the project. Include manufacturer's name, product name, and whether the EPD was internally or externally provided.

 - 3. Material Ingredient Reporting List:
 - a. Maintain a list of approved documentation provided throughout the project. Include manufacturer's name, product name, and whether the inventory was internally or externally provided.

1.7 QUALITY ASSURANCE

- A. Sustainability Coordinator: Engage an experienced individual to coordinate management of the sustainability requirements. Sustainability Coordinator may also serve as waste management coordinator. Sustainability Coordinator shall be responsible for awareness and understanding of the Sustainability Requirements; communication with the subcontractors, vendors and suppliers who will be contributing elements to the overall Sustainable Design of the Project; and management of product selection and documentation that will both achieve and show evidence for achieving the Sustainability Requirement initiatives set forth for this Project.
 - 1. Coordinate construction waste management in accordance with Division 01 Section "Construction Waste Management and Disposal".
 - 2. Coordinate and review product submittals for compliance with sustainability requirements.
 - 3. Manage construction indoor air quality.
 - 4. Coordinate with Owner's commissioning agent.

PART 2 - PRODUCTS

2.1 MATERIALS, GENERAL

- A. Provide products and procedures necessary to obtain Sustainability Requirements required in this Section, in Divisions 01-33, and in other Contract Documents.

2.2 LOW-EMITTING MATERIALS

- A. For field applications within the Building Interior, all adhesives, sealants and sealant primers, including those used for fire protection, plumbing, mechanical, electrical, fire alarm, security, telecommunication, and audio visual work, shall comply with the following VOC content limits when calculated according to 40 CFR 59, Subpart D (EPA Method 24):
 - 1. VOC Limits for adhesives, sealants and sealant primers (Copied from 2009 Edition “LEED Reference Guide for Green Building Design and Construction”, US Green Building Council, page 471).

Architectural Applications	VOC limit (g/L less water)	Specialty Application	VOC limit (g/L less water)
Indoor carpet adhesives	50	PVC welding	510
Carpet pad adhesives	50	CPVC welding	490
Wood flooring adhesives	100	ABS welding	325
Rubber floor adhesives	60	Plastic cement welding	250
Subfloor adhesives	50	Adhesives primer for plastic	550
Ceramic tile adhesives	65	Contact adhesive	80
VCT and asphalt adhesives	50	Special purpose contact adhesive	250
Drywall and panel adhesives	50	Structural wood member adhesive	140
Cove base adhesives	50	Sheet applied rubber lining operations	850
Multipurpose construction adhesives	70	Top and trim adhesive	250
Structural glazing adhesives	100		
Substrate Specific Applications	VOC limit (g/L less water)	Sealants	VOC Limit (g/L less water)
Metal to metal	30	Architectural	250
Plastic foams	50	Nonmembrane roof	300
Porous material (except wood)	50	Roadway	250
Wood	30	Single-ply roof membrane	450
Fiberglass	80	Other	420
Sealant Primers	VOC limit (g/L less water)		
Architectural, nonporous	250		
Architectural, porous	775		
Other	750		

2. VOC Limits for Aerosol Adhesives

Aerosol Adhesives	VOC limit
General purpose mist spray	65% VOCs by weight
General purpose web spray	55% VOCs by weight
Special purpose aerosol adhesives (all types)	70% VOCs by weight

3. For field applications that are used in the Building Interior. Primers, paints and coatings shall comply with the following VOC content limits when calculated according to 40 CFR 59, Subpart D (EPA Method 24):
 - a. Bond Breakers: VOC not more than 350 g/L.
 - b. Concrete curing compounds: VOC not more than 100 g/L.
 - c. Dry-Fog Coatings: VOC not more than 150 g/L.
 - d. Fire-proofing exterior coatings: VOC not more than 350 g/L.
 - e. Fire-retardant coatings, Clear: VOC not more than 650 g/L.
 - f. Fire-retardant coatings, Pigmented: VOC not more than 350 g/L.
 - g. Flat Paints and Coatings: VOC not more than 50 g/L.
 - h. Floor Coatings: VOC not more than 50 g/L.
 - i. Graphic arts (sign) coatings: VOC not more than 500 g/L.
 - j. Industrial Maintenance Primers, Zinc-Rich: VOC not more than 100 g/L.
 - k. Japans/faux finishing coatings: VOC not more than 350 g/L.
 - l. Magnesite cement coatings: VOC not more than 350 g/L.
 - m. Mastic coatings: VOC not more than 300 g/L.
 - n. Metallic Pigmented coatings: VOC not more than 500 g/L.
 - o. Multi-color coatings: VOC not more than 350 g/L.
 - p. Nonflat Paints and Coatings: VOC not more than 50 g/L.
 - q. Pretreatment Wash Primers: VOC not more than 420 g/L.
 - r. Primers, Sealers, and Undercoaters: VOC not more than 100 g/L.
 - s. Quick-dry enamels: VOC not more than 50 g/L.
 - t. Quick-dry primers, sealers, undercoaters: VOC not more than 100 g/L.
 - u. Recycled coatings: VOC not more than 250 g/L.
 - v. Roof coatings: VOC not more than 50 g/L.
 - w. Aluminum roof coatings: VOC not more than 100 g/L.
 - x. Roof primers, bituminous: VOC not more than 350 g/L.
 - y. Rust-preventive coatings: VOC not more than 100 g/L.
 - z. Specialty primers: VOC not more than 100 g/L.
 - aa. Swimming pool coatings, repair: VOC not more than 650 g/L.
 - bb. Swimming pool coatings, other: VOC not more than 340 g/L.
 - cc. Traffic coatings: VOC not more than 100 g/L.
 - dd. Waterproofing sealers: VOC not more than 100 g/L.
 - ee. Waterproofing concrete, masonry sealers: VOC not more than 100 g/L.
 - ff. Wood preservatives: VOC not more than 350 g/L.
 - gg. Other: VOC not more than 350 g/L.
 4. Low-solids coating: VOC not more than 27 parts per billion g/L.
 5. Clear wood finishes, floor coatings, stains, primers, and shellacs applied to Building Interior elements shall not exceed the following limits.
 - a. Clear Wood Finishes, Varnishes, Lacquers: VOC not more than 275 g/L.
 - b. Shellacs, Clear: VOC not more than 730 g/L.
 - c. Shellacs, Pigmented: VOC not more than 550 g/L.
 - d. Stains: VOC not more than 100 g/L.
 - e. Stains, Interior: VOC not more than 250 g/L.
- B. Flooring products shall not contain urea-formaldehyde resins. Adhesives used to apply flooring shall not contain added urea-formaldehyde resins.
- C. Composite wood and agrifiber products shall not contain urea-formaldehyde resin. Laminating adhesives used to fabricate on-site and shop-applied composite wood and agrifiber assemblies shall not contain added urea-formaldehyde resins.
- D. Target CREL VOCs and their maximum allowable concentrations (Copied from CDPH V1.2 Table 4-1)

No.	Compound Name	CAS No.	Allowable Conc. ^a (ug/m ³)
1	Acetaldehyde	75-07-0	70
2	Benzene	71-43-2	1.5 ^b
3	Carbon disulfide	75-15-0	400
4	Carbon tetrachloride	56-23-5	20
5	Chlorobenzene	108-90-7	500
6	Chloroform	67-66-3	150
7	Dichlorobenzene (1,4-)	106-46-7	400
8	Dichloroethylene (1,1)	75-35-4	35
9	Dimethylformamide (N,N-)	68-12-2	40
10	Dioxane (1,4-)	123-91-1	1,500
11	Epichlorohydrin	106-89-8	1.5
12	Ethylbenzene	100-41-4	1,000
13	Ethylene glycol	107-21-1	200
14	Ethylene glycol monoethyl ether	110-80-5	35
15	Ethylene glycol monoethyl ether acetate	111-15-9	150
16	Ethylene glycol monomethyl ether	109-86-4	30
17	Ethylene glycol monomethyl ether acetate	110-49-6	45
18	Formaldehyde	50-00-0	9 ^c
19	Hexane (n-)	110-54-3	3,500
20	Isophorone	78-59-1	1,000
21	Isopropanol	67-63-0	3,500
22	Methyl chloroform	71-55-6	500
23	Methylene chloride	75-09-2	200
24	Methyl t-butyl ether	1634-04-4	4,000
25	Naphthalene	91-20-3	4.5
26	Phenol	108-95-2	100

27	Propylene glycol monomethyl ether	107-98-2	3,500
28	Styrene	100-42-5	450
29	Tetrachloroethylene	127-18-4	17.5
30	Toluene	108-88-3	150
31	Trichloroethylene	79-01-6	300
32	Vinyl acetate	108-05-4	100
33-35	Xylenes, technical mixture (m-, o-, p-xylene combined)	108-38-3, 95-47-6, 106-42-3	350

a) Refer to http://www.oehha.ca.gov/air/chronic_rels/AllChrels.html. All maximum allowable concentrations are one-half the corresponding CREL adopted by Cal/EPA OEHHA with the exception of formaldehyde. For any future changes in the CREL list by OEHHA, values in Table 4.1 shall continue to apply until these changes are published in the Standard Method.

b) Benzene has a CREL of 3 µg/m³ (June 2014); guidance value established by this Standard Method at 30 3 th 3 µg/m before March 31, 2017 and at 1.5 µg/m starting from April 1st, 2017. See Addendum 2017-01 for details.

c) Formaldehyde has a CREL of 9 µg/m³ (December 2008); guidance value established by this Standard 3 th 3 Method at 16.5 µg/m before Dec 31, 2011 and at 9 µg/m starting from Jan 1st, 2012.

PART 3 - EXECUTION

3.1 CONSTRUCTION WASTE MANAGEMENT

- A. Not less than **75** percent of construction waste and existing materials are to be diverted from the landfill. See Division 01 "Construction Waste Management and Disposal" for additional requirements.

3.2 INDOOR-AIR-QUALITY MANAGEMENT

- A. Indoor-Air-Quality Management:

1. Comply with SMACNA's "SMACNA IAQ Guideline for Occupied Buildings under Construction, 2nd Edition 2007, ANSI/SMACNA 008-2008" as follows.
 - a. If Owner authorizes use of permanent heating, cooling, and ventilating systems during construction period as specified in Division 01 Section "Temporary Facilities and Controls," install filter media having a MERV 8 according to ASHRAE 52.2 at each return-air inlet for the air-handling system used during construction.
 - b. Replace all air filters immediately prior to occupancy.
 - c. Protect stored on-site and installed porous materials from exposure to moisture. Store porous materials in a clean area prior to installation. Porous materials include insulation, gypsum board, ceiling tiles, wood, composite wood products, carpet, etc.
 - d. Clean frequently during construction. For construction cleaning and final cleaning, use vacuum cleaners with high-efficiency particulate filters and use wetting agents to remove dust.
 - e. Exhaust air to outside or otherwise depressurize work area during installation of VOC-emitting materials.

- f. All ductwork shall have ends wrapped after fabrication. Ductwork shall remain wrapped during delivery and installation. All open ended ductwork must remain wrapped. All ductwork that is assembled on site must be wiped clean and the ends wrapped until the final connection is made.
 2. Distribute Construction IAQ Management Plan to subcontractors and vendors prior to construction. Provide collection bins, cleaning tools and materials to personnel to encourage compliance. Include IAQ Management as an agenda item in each progress meeting. Post a copy of the plan in an obvious location on the job site. Conduct periodic visual inspections for IAQ management.
 3. Exhaust fumes from idling vehicles and gasoline-fueled tools to the exterior of the building through the use of funnels or temporary piping during construction.
 4. Prior to starting up ventilation system, designate an area for all dust-producing work to occur. Install dust-proof partitions to separate dust-producing work area from conditioned space. Seal off returns in dust-producing work area. Comply with requirements in Division 01 Section “Temporary Facilities and Controls.”
 5. Recover, isolate and ventilate containers housing toxic materials.
- B. Air Flush or Environmental Testing:
1. Immediately after dust- and fume-producing Work is complete, commence thirty (30) day air flush or provide indoor environmental testing.

END OF SECTION 018113



LEED v4.1 BD+C: NEW CONSTRUCTION

Project Checklist - Construction Documents

TOC Project ID: PR1164

Project Name: USA Baseball NTC Improvements

EP - Exemplary Performance credit available

RP - Regional Priority credit available

credit	Y	?	N	Topic	Requirement Summary & Technique		Leader	Pts	EP RP Notes:		
					Integrative Process (IP)				EP	RP	
IPC1	0	0	1	INTEGRATIVE PROCESS	1 credit	Beginning in pre-design and continuing throughout the design phases, identify and use opportunities to achieve synergies across disciplines and building systems.	DKA	1		Not achieved.	
5 0 27 Location and Transportation (LT)											
LTC1			16	LEED FOR NEIGHBORHOOD DEVELOPMENT LOCATION	credit	Locate the project within the boundary of a development certified under LEED for Neighborhood Development. Projects attempting this credit are not eligible to earn points under other LT credits.	WR	16		Not in a LEED for Neighborhood Development.	
LTC2	1			SENSITIVE LAND PROTECTION	credit	Option 1: Locate building on previous site Option 2: Locate on land that isn't prime farmland, floodplains, habitat, water bodies or wetlands	WR	1		Project meets both options.	
LTC3	2			HIGH PRIORITY SITE	credit	Option 1: High Priority Site Path 1: Economically Disadvantaged Community Location OR Path 2: Brownfield Remediation AND/OR Option 2: Equitable Development Path 1: Equity & Community Benefits OR Path 2: Affordable Housing in Residential or Mixed-Use Projects	WR	2	EP	Option 2. Path 1: Equity and Community Benefits met since the Project establishes Town facilities used to serve the public and the facility will be used for public services when not in use as a practice facility for USA Baseball.	
LTC4			5	SURROUNDING DENSITY AND DIVERSE USES	credit	Option 1: surrounding density per Table 1. (2-3 pts) and/or Option 2: diverse uses (1-2 pts) Measure distance by walking route from project to use, <= 1/2 mile	DKA	5	RP	No - In a suburban neighborhood (no density). No diverse uses.	
LTC5			5	ACCESS TO QUALITY TRANSIT	credit	Any functional entry into project must be located within a 1/4-mile walking distance from an existing or planned bus, streetcar, or rideshare stop. Or within a 1/2-mile walking distance of an existing or planned bus rapid transit stop, light or heavy rail station, commuter rail station, or commuter ferry terminal. Exemplary performance: Double the highest service point threshold	DKA	5	EP	No - No transit stops within 1/2 mile.	

credit	Y	?	N	Topic	Requirement Summary & Technique	Leader	Pts	EP	RP	Notes:
LTC6			1 credit	BICYCLE FACILITIES	Function entry of project or bicycle storage is within 180 meters from a bicycle network that connects to at least one of the following within 3 miles of the project boundary: -at least 10 diverse uses - a school or employment center if project floor area is 50% or more residential - a bus rapid transit stop, passenger rail station, or ferry terminal Commercial or Institutional Projects: Provide short-term bicycle storage for at least 2.5% of peak visitors and 5% for long-term storage. Provide one shower and changing room for the first 100 building occupants and one additional shower for every 150 occupants thereafter.	WR /DKA	1			Batchelor Branch Greenway has plans on extending into Thomas Brooks Park which qualifies as a bicycle network. However, the closest shopping center that would connect is Stone Creek Village which is just outside the 4800 meter range of the project boundary. Since we are unable to connect to 10 diverse uses through a bicycle network within 4800 meters, we cannot earn this credit regardless of showers or racks. However, it should still be strongly recommended that bike racks be installed due to the emergence of the new greenway, connecting many neighborhoods.
LTC7	1		credit	REDUCED PARKING FOOTPRINT	Option 1 - no off street parking Option 2 - reduce parking Option 3 - Carshare Option 4 - Unbundling Parking	WR	1	EP	RP	Existing parking counts used for the existing USA Baseball uses are used to serve the new facilities, assuming that when office/practice facilities are in use, the demand from USA Baseball events will not occur simultaneously, or at least to the extent that ample parking would not be provided.
LTC8	1		credit	ELECTRIC VEHICLES	Option 1 - electric vehicle charging Option 2 - electric vehicle charging infrastructure	WR	1			50 EV-ready spots are specified on plans.

Sustainable Sites										
8	0	2	Y or N	Prereq	CONSTRUCTION ACTIVITY POLLUTION PREVENTION	WR	Req'd			
SSp1	Y				Create and implement an erosion and sedimentation control plan for all construction activities associated with the project.	WR	1			An E&S Plan will be designed and submitted to Town of Cary during Development Plan Review.
SSc1	1		credit		SITE ASSESSMENT	WR	1			These items are considered during survey and design (stormwater, grading, landscaping, water, sewer, and accessibility considerations).
SSc2	2		credit		SITE DEVELOPMENT - PROTECT OR RESTORE HABITAT	WR	2	EP		The site is a low-impact development at less than 10% impervious, so the first part is met, and the spirit of Option 1 is met, depending on criteria for "restoration". It has been noted on the development plan that the Highway Corridor Buffer along 540 should be supplemented to meet Cary buffer planting standards, which would constitute an on-site restoration. The pond is also improved to safely pass design storms 1-yr through 100-year events. Improvements in routing of rainfall events as frequent as the 5-year storm are seen with the project improvements, so downstream erosion of existing stream will be reduced, which preserves vegetation and encourages natural restoration.
SSc3	1		credit		OPEN SPACE	WR	1			Site meets this Training facility is considered outdoor space The site has a lot of existing woods coverage.

credit	Y	?	N	Topic	Requirement Summary & Technique	Leader	Pts	EP	RP	Notes:
SSc4	3		credit	RAINWATER MANAGEMENT	Retain on site the runoff from the developed site at minimum 80th percentile of regional or local rainfall events	WR	3		RP	The Town of Cary Stormwater Ordinance for Pre/Post Detention and Downstream Protection is followed as required, including safely passing the 100-year event for the drainage area to the pond.
SSc5		2	credit	HEAT ISLAND REDUCTION	Option 1: Nonroof and roof Option 2: Parking under cover Place a min. of 75% of parking spaces under cover by a 3-year aged SRI, a vegetated roof, covered by solar thermal collectors, photovoltaics, or wind turbines. Exemplary performance: achieve both Option 1 & Option 2, locate 100% of parking under cover	DKA	2		EP	This will not qualify as the use of metal roof on low-sloped roof does not meet required SRI values.
SSc6	1		credit	LIGHT POLLUTION REDUCTION	Meet uplight and light trespass requirements, using either: Option 1 - BUG method Option 2 - Calculation Method	ATL /DKA /WR	1			The Duke Energy photometric design meets Town of Cary lighting levels and specifies all light fixtures to be "full cutoff" to reduce light pollution.

11										
Water Efficiency										
6	2	3	Y or N	Y or N	Y or N	Y or N	Y or N	Y or N	Y or N	Y or N
WEp1	Y		Prereq	OUTDOOR WATER USE REDUCTION	Option 1: No irrigation required Option 2: Reduced irrigation	WR	Req'd			No irrigation system.
WEp2	Y		Prereq	INDOOR WATER USE REDUCTION	For all fixtures and fittings listed in Table 1, as applicable to project, reduce water consumption by 20% from the baseline.	ATL	Req'd			We will exceed 20% reduction.
WEp3	Y		Prereq	BUILDING-LEVEL WATER METERING	Install permanent water meters that measure the total potable water use for the building and associated site.	ATL	Req'd			Will use site domestic water meter for monitoring.
WEC1	2		credit	OUTDOOR WATER USE REDUCTION	Option 1: No irrigation required (2 pts) Option 2: Reduced irrigation (1-2 pts)	WR	2		RP	No irrigation system.
WEC2	3		credit	INDOOR WATER USE REDUCTION	Further reduce fixture and fitting water use from the calculated baseline in WE Prerequisite Indoor Water Use Reduction AND Install equipment within the project scope that meets the minimum requirements found in appropriate Tables	ATL	6		EP	Based on low-flow fixtures and and FTE count we will receive approximately 35% water reduction.
WEC3		2	credit	COOLING TOWER & Process Water Use	Option 1 - cooling tower water use Option 2 - no cooling tower Option 3 - process water	ATL	2			No cooling tower or process water used. Pending simulation test to determine if cooling tower would be applied to this building making it eligible for the 2 points.
WEC4	1		credit	WATER METERING	Install permanent water meters for two or more of the following water subsystems, as applicable to the project. Subsystems: Irrigation, Indoor plumbing fixtures and fittings, Domestic hot water, Boiler with aggregate projected annual water use of 100,000 gallons or more, or boiler of more than 500,000 BtuH. Reclaimed water, or other process water.	ATL	1			We get one point for installing irrigation and domestic water meters.

credit	Y	?	N	Topic	Requirement Summary & Technique		Leader	Pts	EP	RP	Notes:
					Energy and Atmosphere						
	6	9	18	Energy and Atmosphere				33			
EAp1	N	Y	or N	FUNDAMENTAL COMMISSIONING AND VERIFICATION	Prereq	Complete the following commissioning process activities for mechanical, electrical, plumbing, and renewable energy systems and assemblies, in accordance with ASHRAE Guideline 0-2005.	ATL	Req'd			
EAp2	Y	Y	or N	MINIMUM ENERGY PERFORMANCE	Prereq	Comply with ANSI/ASHRAE/IESNA Standard 90.1-2016	ATL	Req'd			Energy model is 14% better than 90.1-2013 without PV panel production. Total at 24% with PV panel production.
EAp3	Y	Y	or N	BUILDING-LEVEL ENERGY METERING	Prereq	Install new or use existing building-level energy meters, or submeters that can be aggregated to provide building-level data representing total buildings energy consumption.	ATL	Req'd			
EAp4	Y	Y	or N	FUNDAMENTAL REFRIGERANT MANAGEMENT	Prereq	Do not use chlorofluorocarbon (CFC)-based refrigerants in new heating, ventilation, air-conditioning, and refrigeration (HVAC&R) systems.	ATL	Req'd			All new HVAC systems will use HCFC. Based on calculation, the refrigerant impact is below the baseline threshold.
EAc1			6	ENHANCED COMMISSIONING	credit	Implement, or have in place a contract to implement, the following commissioning process activities in addition to those required under EA Prerequisite Fundamental Commissioning and Verification. Option 1: Path 1-Enhanced systems commissioning (3 pts) Path 2-Path 1 + develop monitoring-based procedures (4 pts) Option 2: Envelope commissioning (2 pts)	ATL	6			
EAc2	5	5	8	OPTIMIZE ENERGY PERFORMANCE	credit	Option 1 - energy performance compliance Option 2 - prescriptive compliance: ASHRAE Advanced Energy Design Guide Option 3 - systems optimization	ATL	18	EP	RP	Energy model is 14% better than 90.1-2013 without PV panel production. Total at 24% with PV panel production. Use V4.
EAc3		1		ADVANCED ENERGY METERING	credit	Install advanced energy metering for the following: all whole-building energy sources used by the building; and any individual energy end uses that represent 10% or more of the total annual consumption of the building.	ATL	1			Will need to add meters for loads that are 10% of total load.
EAc4		2		GRID HARMONIZATION	credit	Design building equipment for participation in demand response programs through load shedding or shifting Case 1 - demand response program available and participation Case 2 - demand response capable building Case 3 - load flexibility and management strategies	ATL	2			
EAc5		3		RENEWABLE ENERGY	credit	Use on-site renewable energy systems, procure renewable energy from offsite sources, or offset the greenhouse gas emissions from all or a portion of the building's annual energy use	ATL	5	EP	RP	This system is designed and indicated as an alternate. Annual energy production is 199.73 MWH per year. 10% offset of energy costs.

credit	Y	?	N	Topic	Requirement Summary & Technique	Leader	Pts	EP	RP	Notes:
EAc6	1			ENHANCED REFRIGERANT MANAGEMENT	Option 1: No refrigerants or low-impact refrigerants Option 2: Calculation of refrigerant impact	ATL	1			All new HVAC systems will use HCFC. Based on calculation, the refrigerant impact is below the baseline threshold.
2 3 8 Materials and Resources 13										
MRp1	Y	Y or N	Prereq	STORAGE AND COLLECTION OF RECYCLEABLES	Provide dedicated areas accessible to waste haulers and building occupants for the collection and storage of recyclable materials for the entire building.	DKA / WR	Req'd			Large, outdoor waste unit for recycling. Recycling bins throughout facility.
MRp2	Y	Y or N	Prereq	CONSTRUCTION AND DEMOLITION WASTE MANAGEMENT PLANNING	Develop and implement a construction and demolition waste management plan. Identify at least 5 construction waste streams for diversion from landfill.	DKA	Req'd			Construction Waste Management Specification to require a Waste Management Plan.
MRc1		5		BUILDING LIFE-CYCLE IMPACT REDUCTION	Demonstrate reduced environmental effects during initial project decision-making by reusing existing building resources or demonstrating a reduction in materials use through life-cycle assessment. Option 1: Historic building reuse Option 2: Renovation of abandoned or blighted building Option 3: Building and material reuse Option 4: Whole-building life-cycle assessment Exemplary performance: Option 3 – reuse 95% of the building; Option 4 – achieve any improvement over the required credits thresholds in all 6 impact measures	DKA	5	EP		
MRc2		1	1 credit	BUILDING PRODUCT DISCLOSURE AND OPTIMIZATION - ENVIRONMENTAL PRODUCT DECLARATIONS	Option 1: Environmental product declaration (EPD) at least 20 products AND/OR Option 2: Multi-attribute optimization; 50% of total value of permanently installed products Exemplary performance: Option 1 - at least 40 qualifying products from at least 5 manuf.; Option 2 - purchase 75% by cost of building products	DKA	2	EP		Contractor to provide at least 20 products with EPDs.
MRc3		1	1 credit	BUILDING PRODUCT DISCLOSURE AND OPTIMIZATION - SOURCING OF RAW MATERIALS	Use products sourced from at least three different manufacturers that meet at least one of the responsible sourcing and extraction criteria below for at least 20%, by cost, of the total value of permanently installed building products in the project (1 point). Use products sourced from at least five different manufacturers that meet at least one of the responsible sourcing and extraction criteria below for at least 40%, by cost, of the total value of permanently installed building products in the project (2 points).	DKA	2	EP		Contractor to provide responsibly sourced and extraction products for at least 20% of cost of total products.
MRc4		1	1 credit	BUILDING PRODUCT DISCLOSURE AND OPTIMIZATION - MATERIAL INGREDIENTS	Option 1: Material ingredient reporting Option 2: Material ingredient optimization Exemplary performance: Option 1 - at least 40 qualifying products from at least 5 manuf.; Option 2 - purchase 50% by cost of building products	DKA	2	EP		Contractor to provide at least 20 products with LEED acceptable material ingredient certificates.
MRc5		2	credit	CONSTRUCTION AND DEMOLITION WASTE MANAGEMENT	Recycle and/or salvage nonhazardous construction and demolition materials. Calculations can be by weight or volume but must be consistent throughout. Exemplary performance: achieve Option 1 and 2	DKA	2	EP		Contractor to recycle nonhazardous construction and demolition materials.

credit	Y	?	N	Topic	Requirement Summary & Technique		Leader	Pts	EP	RP	Notes:
					9	0					
	9	0	7	Indoor Environmental Quality				16			
EQp1	Y	Y or N		MINIMUM INDOOR AIR QUALITY PERFORMANCE	Prereq		ATL	Req'd			Outdoor air quantities meet or exceed ASHRAE Standards.
EQp2	Y	Y or N		ENVIRONMENTAL TOBACCO SMOKE CONTROL	Prereq		ATL / DKA	Req'd			Owner to enforce smoking policies.
EQc1	2			ENHANCED INDOOR AIR QUALITY MANAGEMENT PLAN	credit		ATL / DKA	2	EP		Will comply with Option 1, walk off mats, exhaust in Janitor Closet, and MERV 13 filters. And Option #2 for Carbon Dioxide monitoring.
EQc2	3			LOW-EMITTING MATERIALS	credit		DKA	3	EP		Contractor to provide products within the weather barrier to be low-emitting.
EQc3	1			CONSTRUCTION INDOOR AIR QUALITY MANAGEMENT PLAN	credit		ATL	1			Develop IAQ plan during construction to include filtration during construction and no smoking.
EQc4	2			INDOOR AIR QUALITY ASSESSMENT	credit		ATL	2			Perform air testing.
EQc5	1			THERMAL COMFORT	credit		ATL	1			Comply with Option 1. Thermal comfort is provided through spaces having temperature sensors that control VAV Terminal Units.
EQc6		2		INTERIOR LIGHTING	credit		ATL	2			Not achievable, carpet will be too dark to achieve this credit.
EQc7			3	DAYLIGHT	credit		ATL / DKA	3			Offices along Training Facility have no access to windows.

credit	Y	?	N	Topic	Requirement Summary & Technique	Leader	Pts	EP	RP	Notes:
EQc8			1	QUALITY VIEWS	Achieve a direct line of sight to the outdoors via vision glazing for 75% of all regularly occupied floor area. Exemplary performance: meet requirements for 90% of all req. occupied area	DKA	1	EP		Offices along Training Facility have no access to windows.
EQc9			1	ACOUSTIC PERFORMANCE	For all occupied spaces, meet the following applicable requirements for HVAC background, sound isolation, reverberation time, and sound reinforcement and masking.	DKA	1			

6										
1	0	1	Innovation							
INC1.1		1	credit	INNOVATION 1.1	Option 1: Innovation (1-4 pts) Pilot (1-2 pts) Exemplary Performance (1-2 pts) Max of 5 pts between all options	DKA	1			
INC1.2		1	credit	INNOVATION 1.2	See Above.	DKA	1			
INC1.3		1	credit	INNOVATION 1.3		DKA	1			
INC1.4		2	credit	PILOT CREDIT (S)	See Above.	DKA / ATL	2			See: https://www.usgbc.org/pilotcredits?version=%22v4.1%22&retain+System=%22New+Construct%22 for full list of available pilot credits. DKA recommends 2 of the following : Social Equity Within the Community (IPc89) Safety First: Cleaning and Disinfecting Your Space (INpc137) Safety First: Maintenance of HVAC Systems During Covid-19 (INpc156)
INC1.5		2	credit	EXEMPLARY PERFORMANCE	See Above.		2			Opportunities to achieve EP in MRC2, MRC3, MRC4, EOC1
INC2	1		credit	LEED ACCREDITED PROFESSIONAL	At least one principal participant of the project team must be a LEED Accredited Professional (AP).	WR / ATL / DKA	1			Kurt Pfeifer of WithersRavenel and Alexandre Penegre of Davis Kane Architects are both LEED APs.

4										
4	1	1	Regional Priority							
RPC1			1	credit	REGIONAL PRIORITY: Surrounding density and diverse uses	DKA	1			This is not achievable.
RPC2	1		credit	REGIONAL PRIORITY: Reduced parking footprint	Reduced parking footprint - LtC7 Threshold - 1 pts	WR	1			This will be achieved.
RPC3	1		credit	REGIONAL PRIORITY: Rainwater management	Rainwater management - SSc4 Threshold - 2 pt	ATL / WR / DKA	1			3 points will be earned in SSc4 so this will be achieved.

credit	Y	?	N	Topic	Requirement Summary & Technique	Leader	Pts	EP	RP	Notes:
RPC4	1			REGIONAL PRIORITY: Outdoor water use reduction credit	Outdoor water use reduction - WEc1 Threshold - 2 pts	WR	1			2 points will be earned in WEc1, so this will be achieved.
RPC5	1			REGIONAL PRIORITY: Optimize energy performance credit	Optimize energy performance - EAe2 Threshold - 9 pts	ATL	1			This will be achieved since we are at 10 points for EAe2.
RPC6	1			REGIONAL PRIORITY: Renewable energy production credit	Renewable energy production - EAe5 Threshold - 1 pt	ATL	1			Dependent on if solar PV bid alternate is accepted.

41	15	68	PROJECT TOTAL
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[Certified 40-49 points / Silver 50-59 points / Gold 60-79 points / Platinum 80+ points]