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Acronyms & Abbreviations

Acronyms & Abbreviations

A/C/E: architecture/engineering/construction

ACCA: Air Conditioning Contractors of America

ACEEE: American Council for an Energy Efficient Economy

ACH: air changes per hour

AE: Awareness and Education Section

A/E: architecture/engineering

AFUE: Annual Fuel Utilization Efficiency

AFV: Alternative Fueled Vehicle (hybrid-electric, electric, natural gas, bio-diesel, fuel cell)

AIA: American Institute of Architects

ALP ENERGY STAR: Advanced Lighting Package

ANSI: American National Standards Institute

ASHRAE: American Society of Heating, Refrigeration and Air-Conditioning Engineers, Inc.

ASME: American Society of Mechanical Engineers

ASTM: American Society for Testing and Materials

BIFMA: Business and Institutional Furniture Manufacturer's Association

BIPV: Building Integrated Photovoltaics (integrated with roof, spandrels, glazing, shading devices)

BIM: Building Information Modeling

BMP: Best Management Practice

BOD: Biological Oxygen Demand (that which is created by the release of nitrogen rich wastewater)

BOMA: Building Owners and Managers Association

BRI: Building Related Illness

CAE: Combined Annual Efficiency

CARB: California Air Resource Board

CARE: Carpet America Recovery Effort

CBESC: Commercial Building Energy Consumption Survey (DOE)

C&D: Construction & Demolition

CCD: Certification Criteria Document

CDL: Construction, Demolition and Land Clearing

CDVR: Corrected Design Ventilation Rate (design ventilation rate divided by the air change effectiveness)

CERCLA: Comprehensive Environmental Response Compensation and Liability Act (superfund)

Acronyms & Abbreviations

- CFA:** Conditioned Floor Area
- CFC:** Chlorofluorocarbon (ozone depleting HVAC refrigerants)
- CFL:** Compact Fluorescent Light
- CFM:** Cubic Feet per Minute
- CFR:** U.S. Code of Federal Regulations
- CGP:** Construction General Permit
- CIBSE:** Chartered Institution of Building Services Engineers
- CIR:** USGBC Credit Interpretation Ruling
- CITES:** Convention on International Trade in Endangered Species of Wild Fauna and Flora
- CIWMB:** California Integrated Waste Management Board
- CO:** Carbon Monoxide
- CO₂:** Carbon Dioxide
- COC:** Chain of Custody
- COP:** Coefficient of Performance
- CRI:** Carpet & Rug Institute
- CRS:** Center for Resource Solutions
- CSI:** Construction Specifications Institute
- CWA:** Clean Water Act (formerly referred to as the Federal Water Pollution Control Act or Federal Water Pollution Control Act Amendments of 1972)
- CWMP:** Construction Waste Management Plan
- Cx:** Commissioning
- CxA:** Commissioning Authority
- CZ:** Climate zone
- dba:** decibels
- DHW:** Domestic Hot Water
- DOE:** U.S. Department of Energy
- DU:** Distribution Uniformity
- EA:** LEED Energy and Atmosphere (credit category)
- ECB:** Energy Cost Budget (ASHRAE 90.1 compliance path)
- ECM:** Energy Conservation Measure (design strategies intended to reduce energy use)
- EEM:** Energy Efficient Measure (interchangeable with ECM, term used in energy modeling tools)
- EER:** Energy Efficiency Rating
- EERE:** U.S. Office of Energy Efficiency and Renewable Energy

Acronyms & Abbreviations

- EF:** Energy Factor
- EIA:** Energy Information Administration
- EFIS:** Exterior Insulation and Finish System
- EPA:** U.S. Environmental Protection Agency
- EPAct:** U.S. Energy Policy Act of 1992 or 2003
- EPDM:** Ethylene Propylene Diene Monomer
- EPP:** Environmentally Preferable Purchasing
- EPS:** Expanded Polystyrene
- ESA:** Environmental Site Assessment
- ESC:** Erosion and Sedimentation Control
- ET:** Evapotranspiration
- ETS:** Environmental Tobacco Smoke (includes that which is spread through ventilation systems)
- FAR:** Floor Area Ratio
- FTE:** Full Time Equivalent
- FEMA:** U.S. Federal Emergency Management Agency
- FSC:** Forest Stewardship Council
- GBCI:** Green Building Certification Institute
- GF:** Glazing Factor
- GHG:** Greenhouse Gas
- GPF:** Gallons Per Flush
- GPM :** Gallons Per Minute
- GWP:** Global Warming Potential (rating of a gaseous substance's contribution to greenhouse effects)
- HCFC:** Hydrochloroflourocarbon (alternative refrigerant that has reduced ozone depleting effects)
- HEPA:** High Efficiency Particulate Air (filter)
- HERS:** Home Energy Rating System
- HFC:** Hydroflourocarbon (alternative refrigerant with no ozone depleting effects but some trade-off)
- HET:** High Efficiency Toilet
- HOA:** Homeowner's Association
- HSPF:** Heating Season Performance Factor
- HVAC:** Heating, Ventilation and Air Conditioning
- HVAC&R:** Heating, Ventilation, Air Conditioning & Refrigeration

Acronyms & Abbreviations

- IAP:** ENERGY STAR with Indoor airPLUS
- IAPMO:** International Association of Plumbing and Mechanical Officials
- IAQ:** Indoor Air Quality (with respect to human occupancy of a building)
- IBC:** International Building Code
- I-BEAM:** Indoor Air Quality Building Education and Assessment Model (EPA sponsored software)
- ICC:** International Code Council
- ICF:** Insulated Concrete Form
- ID:** LEED Innovation & Design category
- IDP:** Integrated Design Process
- IDR:** Innovative Design Report
- IE:** Irrigation Efficiency
- IEBC:** International Existing Building Code
- IECC:** International Energy Conservation Code
- EQ:** LEED Indoor Environmental Quality category
- IESNA:** Illuminating Engineering Society of North America
- IFC:** International Fire Code
- IFGC:** International Fuel Gas Code
- IMC:** International Mechanical Code
- IPC:** International Plumbing Code
- IPD:** Integrated Project Delivery
- IPLV:** Integrated Part Load Value (chiller efficiency including part load operation for a given cycle)
- IPM:** Integrated Pest Management
- IPMC:** International Property Maintenance Code
- IPMVP:** International Performance Measurement & Verification Protocol, Inc.
- IPSC:** International Private Sewage Code
- IQ:** Irrigation Quality
- IRC:** International Residence Code
- ISO:** International Organization for Standardization
- IWUC:** International Wildland Urban Code
- IZC:** International Zoning Code
- KW:** Kilowatt
- KWh:** Kilowatt hour
- LCA:** Life cycle Assessment (a full assessment of a material's "cradle-to-grave" environmental impacts)

Acronyms & Abbreviations

- LCC:** Life cycle Cost
- LCGWP:** Life cycle Direct Global Warming Potential
- LCM:** Life cycle Management
- LED:** Light-Emitting Diode
- LEED:** Leadership in Energy and Environmental Design®
- LEED AP:** LEED Accredited Professional
- LID:** Low Impact Development
- LL:** LEED Location and Linkages section (Homes)
- LPD:** Lighting Power Density
- LZ:** Lighting Zone
- MDF:** Medium Density Fiberboard
- MEF:** Modified Energy Factor
- MERV:** Minimum Efficiency Reporting Value (a measure of the effectiveness of air filtration media)
- MPR:** Minimum Program Requirement
- MR:** LEED Materials & Resources category
- MSDS:** Material Safety Data Sheet (provides essential information on composition and hazards)
- M&V:** Measurement & Verification
- NBI:** New Building Institute
- NEMA:** National Electrical Manufacturers Association
- NFRC:** National Fenestration Rating Council
- NIBS:** National Institute of Building Sciences
- NIOSH:** National Institute for Occupational Safety and Health
- NIST:** National Institute of Standards and Technology
- NPDES:** National Pollutant Discharge Elimination System
- NPS:** Non-point Source
- OA:** Outdoor Air
- ODP:** Ozone depletion potential (rating of a gaseous substance's ability to destroy stratospheric ozone)
- O&M:** Operation and Maintenance
- OPR:** Owner's Project Requirements
- OSB:** Oriented Strand Board
- OSHA:** Occupational Safety and Health Association
- OSWER:** U.S. EPA Office of Solid Waste & Emergency Response

Acronyms & Abbreviations

- PCB:** Polychlorinated Biphenyl
- PRM:** Performance Rating Method
- PUHCA:** Public Utilities Holding Company Act
- PV:** Photovoltaic
- PVC:** Polyvinyl Chloride
- PWF:** Permanent Wood Foundation
- REC:** Renewable Energy Certificate
- RESNET:** Residential Energy Services Network
- RFP:** Request for Proposal
- RP:** LEED Regional Priority category
- SCAQMD:** South Coast Air Quality Management District
- SCS:** Scientific Certification Systems
- SEER:** Seasonal Energy Efficiency Rating
- SHGC:** Solar Heat Gain Coefficient (the fraction of solar radiation admitted through a particular glazing)
- SIP:** Structural Insulated Panels
- SLL:** LEED Smart Location and Linkage category
- SMACNA:** Sheet Metal and Air Conditioning National Contractors Association
- SOP:** Standard Operating Procedure
- SOW:** Statement of Work
- SRI:** Solar Reflectance Index
- SS:** LEED Sustainable Sites category
- SWPPP:** Storm Water Pollution Prevention Plan
- TAG:** Technical Advisory Group
- TARP:** Technology Acceptance Reciprocity Partnership
- TASC:** Technical Advisory Subcommittee
- TCE:** Trichloroethylene
- TP:** Total Phosphorous (phosphates, polyphosphates and orthophosphates in stormwater)
- TPO:** Thermoplastic Polyolefin
- TRC:** Tradable Renewable Certificate
- TSS:** Total Suspended Solids (particles too small or light to be removed from a liquid by gravity settling)
- TVOC:** Total Volatile Organic Compounds
- TWA:** Total Water Applied

Acronyms & Abbreviations

UL: Underwriter's Laboratory

UBC: Uniform Building Code: The International Conference of Building Officials model building code

UPC: Uniform Plumbing Code

USDA: U.S. Department of Agriculture

USGBC: U.S. Green Building Council

VAV: Variable Air Volume (ventilation system configuration differentiated from Constant Air Volume)

VFD: Variable Frequency Drive

VOC: Volatile Organic Compound (hazardous substances that off gas from certain chemicals)

VLT: Visible Light Transmittance

WE: LEED Water Efficiency category

WF: Water Factor

WFR: Window-to-Floor Area Ratio

WWR: Window-to-Wall Area Ratio

ZEV: Zero Emission Vehicles (defined by the California Air Resources Board (CARB))

Glossary of Terms

Glossary of Terms

Global Language:

- **local equivalent:** an alternative to a LEED referenced standard that is specific to a project's locality; this standard must be widely used and accepted by industry experts and when applied, must meet the credit's intent leading to similar or better outcomes
- **USGBC-approved local equivalent:** a local standard deemed equivalent to the listed standard by the U.S. Green Building Council through its Process for Establishing Non-U.S. Equivalencies in the LEED Rating System

Integrative Process (IP) Category

basis of design (BOD): the information necessary to accomplish the owner's project requirements, including system descriptions, indoor environmental quality criteria, design assumptions, and references to applicable codes, standards, regulations, and guidelines

charrette: an intensive, multiparty workshop that brings people from different disciplines and backgrounds together to explore, generate, and collaboratively produce design options

closed system: a sustainable, circular closed loop

commissioning (Cx): the process of verifying and documenting that a building and all of its systems and assemblies are planned, designed, installed, tested, operated, and maintained to meet the owner's project requirements

commissioning authority (CxA): the individual designated to organize, lead, and review the completion of commissioning process activities; the CxA facilitates communication among the owner, designer, and contractor to ensure that complex systems are installed and function in accordance with the owner's project requirements

cradle-to-cradle: refers to the life cycle of products that can be used, recycled, and used again without losing any material quality

cradle-to-gate assessment: analysis of a product's partial life cycle, from resource extraction (cradle) to the factory gate (before it is transported for distribution and sale); it omits the use and the disposal phases of the product

cradle-to-grave: disposal after normal end of life cycle without reuse or recycling

externality: a negative externality is a spillover of an economic transaction that negatively impacts a party that is not directly involved in the transaction. The first party bears no costs for their impact on society while the second party receives no benefits from being impacted. This occurs when marginal social cost is greater than marginal private cost ($MSC > MPC$).

feedback loop: information received by a system that allows assessments and adjustments to be made

integrated process: a process of bringing together all team members and stakeholders early in the process to work comparatively as an integrated unit

Glossary of Terms

integrated project delivery: an approach that involves people, systems, and business structures (contractual and legal agreements) and practices; the process harnesses the talents and insights of all participants to improve results, increase value to the owner, reduce waste, and maximize efficiency through all phases of design, fabrication, and construction

iterative process: a process for arriving at a decision or a desired result by repeating rounds of analysis or a cycle of operations; the objective is to bring the desired decision or result closer to discovery with each repetition (iteration); the iterative process can be used where the decision is not easily revocable or where the consequences of revocation could be costly

leverage point: a system point where small interventions can result in larger changes

life cycle approach: the review of a project throughout its entire life

life cycle assessment (LCA): a process of evaluating the effects that a product has on the environment over the entire period of its life (cradle-to-grave) thereby increasing resource-use efficiency and decreasing liabilities

life cycle cost analysis (LCC): the comparison of different materials to examine anticipated useful life and the cost of using a specific material or building component; calculates expected future operating, maintenance and replacement costs of designs and features to assist owners in developing a realistic design and budget estimate

life cycle inventory: a database that defines the environmental effects (inputs and outputs) for each step in a material's or assembly's life cycle; the database is specific to countries and regions within countries

negative feedback loop: negative feedback occurs when the output of a system acts to oppose changes to the input of the system, with the result that the changes are attenuated; if the overall feedback of the system is negative, then the system will tend to be stable

ongoing feedback: the continual solicitation of results, opinions, evaluations, verifications, etc to understand the effectiveness of design choices and enable the team to ensure that the project is performing as intended by design; examples include: a simple follow-through, gathering performance data, post-occupancy evaluations, and measurement and verification studies
open system: a system which continuously interacts with its environment or surroundings

owner's project requirements (OPR): a written document that details the ideas, concepts, and criteria determined by the owner to be important to the success of the project

passive design: using natural resources such as the sun and wind to provide light, heat and ventilation

positive feedback loop: a process in which the effects of a small disturbance on a system include an increase in the magnitude of the perturbation; that is, A produces more of B which in turn produces more of A

simple box energy modeling analysis: (also known as "building-massing model energy analysis") a simple base-case energy analysis that informs the team about the building's likely distribution of energy consumption and is used to evaluate potential project energy strategies; a simple box analysis uses a basic, schematic building form

Glossary of Terms

stakeholder: a person who has an intended, vested interest in a project, or an unintended consequence from a project

stakeholder meeting: a meeting between people who have a vested interest

synergy: the interaction of multiple elements in a system to produce an effect different from or greater than the sum of their individual effects

system: an assembly of components or parts that work together to support an intended purpose

systems theory: emphasizes the way in which organized systems (human and non-human) respond in an adapted way to cope with significant changes in their external environments so as to maintain their basic structures intact

systemic risk: the risk of collapse of an entire financial system or entire market, as opposed to risk associated with any one individual entity, group or component of a system, that can be contained therein without harming the entire system

systems thinking: understanding how individual systems affect other systems as a whole

Location and Transportation (LT) Category

abandoned property: property left behind intentionally and permanently when it appears that the former owner does not intend to come back, pick it up, or use it; one may have abandoned the property of contract rights by not doing what is required by the contract; however, an easement and other land rights are not abandoned property just because of nonuse; abandoned land is defined as land not being used at the present time but that may have utilities and infrastructure in place

alternative fuel vehicle: a vehicle that runs on a fuel other than traditional petroleum fuels (petrol or diesel); also refers to any technology of powering an engine that does not involve solely petroleum (e.g. electric car, hybrid electric vehicles, solar powered)

attendance boundary: the limit used by school districts to determine what school students attend based on where they live

bicycle network: a continuous network consisting of any combination of the following 1) off street bicycle paths or trails at least 8 feet (2.5 meters) wide for a two-way path and at least 5 feet (1.5 meters) wide for a one-way path 2) physically designated on-street bicycle lanes at least 5 feet (1.5 meters) wide 3) streets designed for a target speed of 25 mph (40 kmh)

bicycling distance: the distance that a bicyclist must travel between origins and destinations, the entirety of which must be on a bicycle network

brownfield sites: real property or the expansion, redevelopment, or reuse of which may be complicated by the presence or possible presence of a hazardous substance, pollutant, or contaminate

buildable land: the portion of the site where construction can occur, including land voluntarily set aside and not constructed on; when used in density calculations, buildable land excludes public rights-of-way and land excluded from development by codified law

Glossary of Terms

bus rapid transit: an enhanced bus system that operates on exclusive bus lanes or other transit rights-of-way; the system is designed to combine the flexibility of buses with the efficiency of rail

campus or private bus: privately owned and operated bus or shuttle service providing non-public transportation; in LEED, a campus or private bus line operating within 1/4 mile of the project site can contribute to earning points

carpool: carpooling (also known as car-sharing or ride-sharing), is the shared use of a car by the driver and one or more passengers, usually for commuting

density: a measure of the total building floor area or dwelling units on a parcel of land relative to the buildable land of that parcel. Units for measuring density may differ according to credit requirements; does not include structured parking

development footprint: the total land area of a project site covered by buildings, streets, parking areas, and other typically impermeable surfaces constructed as part of the project

disturbed lot area: all portions of the project site that are affected by construction activities

diverse use: a distinct, officially recognized business, nonprofit, civic, religious, or governmental organization, or dwelling units (residential use) or offices (commercial office use); it has a stationary postal address and is publicly available; it does not include automated facilities such as ATMs, vending machines, and touchscreens

ecosystem: a biological community and its physical environment; a biological environment consisting of all the organisms living in a particular area, as well as all the nonliving, physical components of the environment with which the organisms interact, such as air, soil, water, and sunlight; it is all the organisms in a given area, along with the nonliving factors with which they interact

edge development: construction that extends an existing community beyond its borders but remains a part of, and connected to, the community; in LEED Homes, at least 25% of an edge development's perimeter must border land that has been previously developed

endangered species: species threatened with extinction

eutrophication: excessive nutrients in a lake or other body of water, usually caused by runoff of nutrients (e.g. animal waste, fertilizers, sewage) from the land, which causes a dense growth of plant life; the decomposition of the plants depletes the supply of oxygen, leading to the death of animal life; increase in chemical nutrients, such as nitrogen found in fertilizers

floodplain: a floodplain, or flood plain, is flat or nearly flat land generally adjacent to a stream or river that experiences occasional or periodic flooding; land that has a likelihood of being flooded within a given storm cycle, such as a 100 year storm

floor-area ratio (FAR): the density of nonresidential land use, exclusive of parking, measured as the total nonresidential building floor area divided by the total buildable land area available for nonresidential structures; for example, on a site with 10,000 square feet of buildable land area, an FAR of 1.0 would be 10,000 square feet of building floor area; on the same site, an FAR of 1.5 would be 15,000 square feet of built floor area; an FAR of 2.0 would be 20,000 built square feet and an FAR of 0.5 would be 5,000 built square feet

Glossary of Terms

fuel efficient vehicles: vehicles earning a score of 40 or more on the American Council for an Energy Efficient Economy (ACEEE) annual rating guide

full time equivalent building occupants (FTE): a measure of the total number of hours all building occupants spend in the building during the peak 8 hour occupancy period divided by 8 hours

functional entry: a building opening designed to be used by pedestrians and open during regular business hours; this does not include any door exclusively designated as an emergency exit, or a garage door not designed as a pedestrian entrance

Geographical information systems (GIS): a computer system designed to capture, store, manipulate, analyze, manage, and present all types of geographical data (e.g. infrastructure, soils, shade, wind patterns, species distribution, land uses, demographics, roads and transit routes, traffic patterns, walkways and barriers, material flows, and solid waste pathways)

greenfields: sites not previously developed, graded or polluted that could support open space, habitat or agriculture

greenhouse gases (GHG): in the Earth's atmosphere due to human activity such as fossil fuel burning, increase the risk of global climate change, and include water vapor, carbon dioxide, methane, nitrous oxide, halogenated fluorocarbons, ozone, perfluorinated carbons, and hydro fluorocarbons

green vehicles: vehicles achieving a minimum green score of 45 on the American Council for an Energy Efficient Economy (ACEEE) annual vehicle rating guide (or a local equivalent for projects outside the U.S.)

greenfield site: area that is not previously developed, graded or disturbed, and could support open space, habitat, or natural hydrology

greyfield site: sites that have been previously developed but are not contaminated

hardscape: refers to non-vegetated elements of the project landscape plan; (e.g. roads, patios, decks, concrete, gravel, brick, tile and other hard surfaces outside the building shell)

historic district: a group of buildings, structures, objects, and sites that have been designated or determined to be eligible as historically and architecturally significant, and categorized as either contributing or noncontributing to the historic nature of the district

hospitality: the business of providing temporary residence to customers, such as a hotel

hospitality industry: consists of companies within the food services, accommodations, recreation, and entertainment sectors

hybrid vehicles: a vehicle that uses two or more distinct power sources to move the vehicle; the term most commonly refers to hybrid electric vehicles (HEVs), which combine an internal combustion engine and one or more electric motors

infill site: a site where at least 75% of the land area, exclusive of rights-of-way, within ½ mile (800 meters) of the project boundary is previously developed; a street or other right-of-way does not constitute previously developed land; it is the status of property on the other side of right-of-way or the street that matters

Glossary of Terms

light rail: transit service using two- or three-car trains in a right-of-way that is often separated from other traffic modes; spacing between stations tends to be ½ mile or more, and maximum operating speeds are typically 40–55 mph (65–90 kmh). Light-rail corridors typically extend 10 or more miles (16 kilometers)

local zoning requirements: laws issued by local governments to regulate the size, type, structure, and use of land or building in designated areas to promote orderly development of private lands and prevent land use issues

long-term bicycle storage: bicycle parking that is easily accessible to residents and employees and covered to protect bicycles from rain and snow

mass transit: public transport (a.k.a. public transportation, public transit) comprises passenger transportation services which are available for use by the general public, as opposed to modes for private use such as automobiles or vehicles for hire; designed to transport large groups of people in a single vehicle

master plan boundary: the limits of a site master plan. The master plan boundary includes the project area and may include all associated buildings and sites outside of the LEED project boundary; the master plan boundary considers future sustainable use, expansion, and contraction

master site: a holding place for all campus credits; master site also applies to a group of buildings registering to achieve certification together as one project

mixed-use development: a development in one or several buildings that combines several revenue producing uses that are integrated into a comprehensive plan—such as a project with a elements of housing, retail, and office space

multitenant complex: a site that was master-planned for the development of stores, restaurants and other businesses; retailers may share some services and common areas

Natural Resources Conservation Service (NRCS) soils delineation: a U.S.-based soil survey that shows the boundaries of different soil types and special soil features on the site

open space area: LEED defines open space as the property area minus the development footprint

park: a publicly accessible area that is permanently maintained in a seminatural condition for human recreation and relaxation; it has soil, grass, water, flora, and/or recreation improvements

parking footprint: site areas dedicated to parking areas or parking structures

pedestrian oriented design: features incorporated into urban development that encourage walking; (e.g. wide shaded sidewalks and street level building access); promoting walking reduces the environmental effects related to transportation

predevelopment: the conditions that existed prior to the initiation of the project, but not necessarily before any development or disturbance took place; predevelopment conditions describe conditions on the date the owner acquired rights to a majority of the buildable land on the project site through purchase or an option to purchase

Glossary of Terms

preferred parking: the parking spots closest to the main entrance of a building (exclusive of spaces designated for handicapped persons). For employee parking, it refers to the spots that are closest to the entrance used by employees

previously developed: altered by paving, construction, and/or land use that would typically have required regulatory permitting to have been initiated (alterations may exist now or in the past). Land that is not previously developed and landscapes altered by current or historical clearing or filling, agricultural or forestry use, or preserved natural area use are considered undeveloped land; the date of previous development permit issuance constitutes the date of previous development, but permit issuance in itself does not constitute previous development

previously developed site: a site that, prior to the project, consisted of at least 75% previously developed land

prime farmland: land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops and that is available for these uses, as determined by the U.S. Department of Agriculture's Natural Resources Conservation Service (a U.S.-based methodology that sets criteria for highly productive soil); for a complete description of what qualifies as prime farmland, see U.S. Code of Federal Regulations, Title 7, Volume 6, Parts 400 to 699, Section 657.5

project: the land, water, and construction that constitutes the project application; a project applicant does not have to own or control all land or water within a project boundary, but all the area within the project boundary must comply with prerequisites and attempted credits; LEED Online describes "Project" as: A building that achieves one certification or a group of buildings applying to receive certification together as one project.

public transportation (a.k.a. public transit): bus, rail, light rail and other services designed to move large numbers of people on a regular basis and route

public or public use: applies to all buildings, structures, or uses that are not defined as private or private use

residential: a unit or series of units that each includes a cooking area (comprised of sinks, cooking appliances, preparation spaces) a bathroom, and a sleeping area

residential area: land zoned primarily for single or multi-family housing at a density of 10 units per acre, or greater

rideshare: a transit service in which individuals travel together in a passenger car or small van that seats at least four people; it can include human-powered conveyances, which must accommodate at least two people; it must include an enclosed passenger seating area, fixed route service, fixed fare structure, regular operation, and the ability to pick up multiple riders

school authority: the authority responsible for decision making about school operations, districts, personnel, financing, and future development; examples include school boards, local governments, and religious institutions

site disturbance: the areas of the site that have been disturbed due to the project's scope and requirement

site energy: the amount of heat and electricity consumed by a building as reflected in your utility bills

Glossary of Terms

site master plan: an overall design or development concept for the project and associated (or potentially associated) buildings and sites; the plan considers future sustainable use, expansion, and contraction; the site master plan is typically illustrated, with building plans (if applicable), site drawings of planned phased development, and narrative descriptions

smart growth: an urban planning and transportation theory that concentrates growth in the center of a city to avoid urban sprawl; and advocates compact, transit-oriented, walkable, bicycle-friendly land use, including neighborhood schools, complete streets, and mixed-use development with a range of housing choices

source energy: represents the total amount of raw fuel that is required to operate the building. It incorporates all transmission, delivery, and production losses

streetcar: a transit service with small, individual rail cars; spacing between stations is uniformly short and ranges from every block to ¼ mile, and operating speeds are primarily 10–30 mph (15–50 kmh); streetcar routes typically extend 2–5 miles (3–8 kilometers)

street grid density: a measurement of circulation permeability and multi-modal travel feasibility; it is expressed in centerlines miles per square mile, often within a 1-mile radius around a project boundary

transportation demand management: transportation demand management or travel demand management (both TDM) is the application of strategies and policies to reduce travel demand (specifically that of single-occupancy private vehicles), or to redistribute this demand in space or in time

undercover parking: vehicle storage that is underground, under deck, under roof, or under a building

urban growth boundary: a boundary which identifies urban and urbanizable lands needed during a specified planning period to be planned and serviced to support urban development densities, and which separates these lands from rural lands

vehicle miles traveled (VMT) or vehicle kilometers traveled (VKT): the number of miles or kilometers driven by motorists in a specified time period, such as a day or a year, in absolute or per capita terms

walking distance: the distance that a pedestrian must travel between origins and destinations without obstruction, in a safe and comfortable environment on a continuous network of sidewalks, all weather-surface footpaths, crosswalks, or equivalent pedestrian facilities; the walking distance must be drawn from an entrance that is accessible to all building users

water body: the surface water of a stream (first-order and higher, including intermittent streams), arroyo, river, canal, lake, estuary, bay, or ocean; it does not include irrigation ditches

wetland: an area that is inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances does support, a prevalence of vegetation typically adapted for life in saturated soil conditions; wetlands generally include swamps, marshes, bogs, and similar areas, but exclude irrigation ditches unless delineated as part of an adjacent wetland

zero lot line project: a plot whose building footprint typically aligns or nearly aligns with the site limits

Glossary of Terms

Sustainable Sites (SS) Category

average LED intensity (ALI): the illumination output for light-emitting diode lamps, as specified in the International Commission on Illumination Standard 127–2007

BUG rating: a luminaire classification system that classifies luminaires in terms of backlight (B), uplight (U), and glare (G) (taken from IES/IDA Model Lighting Ordinance); BUG ratings supersede the former cutoff ratings

civil twilight: the point in time in the morning (dawn) or evening (dusk) when the center of the sun is geometrically 6 degrees below the horizon; under good weather conditions, civil twilight is the best time to distinguish terrestrial objects clearly; before civil twilight in the morning and after civil twilight in the evening, artificial illumination normally is required to carry on ordinary outdoor activities

green infrastructure: a soil- and vegetation-based approach to wet weather management that is cost-effective, sustainable, and environmentally friendly; green infrastructure management approaches and technologies infiltrate, evapotranspire, capture and reuse stormwater to maintain or restore natural hydrologies

hardscape: the inanimate elements of the building landscaping. It includes pavement, roadways, stonewalls, wood and synthetic decking, concrete paths and sidewalks, and concrete, brick, and tile patios

heat island effect: the tendency of urban and suburban areas to be warmer than adjacent rural areas; such built environments are 2 to 10°F warmer; a function of less vegetation, reduced airflow, and large areas of roofs, asphalt, concrete, and paved surfaces that absorb the sun's heat

illuminance: a measurement of light striking a surface; it is expressed in footcandles in the U.S. (based on square feet) and in lux in most other countries (based on square meters)

impervious surface: an area of ground that development and building have modified in such a way that precipitation cannot infiltrate downward through the soil; examples of impervious surfaces include roofs, paved roads and parking areas, sidewalks, and soils that have been compacted either by design or by use

imperviousness: resistance of a material to penetration by a liquid such as water

infiltration (hydrology): the process by which water on the ground surface absorbs downward into the soil

infiltration degree days (IDD): quantifies the climatic conditions that influence infiltration; the summation of the heating degree days and the cooling degree days

infiltration basins: water impoundment facilities constructed over highly permeable soils to achieve diverse stormwater management objectives

infiltration trenches: constructed to temporarily store runoff from small drainage areas where a large open basin would be impractical

Glossary of Terms

intensive vegetated roof: a roof that, compared with an extensive vegetated roof, has greater soil volume, supports a wider variety of plants (including shrubs and trees), and allows a wider variety of uses (including human access); the depth of the growing medium is an important factor in determining habitat value; the native or adapted plants selected for the roof should support the site's endemic wildlife populations

light pollution: waste light from building sites that produces glare, is directed upward to the sky, or is directed off the site; waste light does not increase nighttime safety, utility, or security and needlessly consumes energy

light trespass: obtrusive illumination that is unwanted because of quantitative, directional, or spectral attributes; light trespass can cause annoyance, discomfort, distraction, or loss of visibility

low-impact development (LID): an approach to managing rainwater runoff that emphasizes on-site natural features to protect water quality, by replicating the natural land cover hydrologic regime of watersheds, and addressing runoff close to its source; examples include better site design principles (e.g. minimizing land disturbance, preserving vegetation, minimizing impervious cover), and design practices (e.g. rain gardens, vegetated swales and buffers, permeable pavement, rainwater harvesting, soil amendments); these are engineered practices that may require specialized design assistance

manage (rainwater) on site: to capture and retain a specified volume of rainfall to mimic natural hydrologic function; examples of rainwater management include strategies that involve evapotranspiration, infiltration, and capture and reuse

master plan boundary: the limits of a site master plan; the master plan boundary includes the project area and may include all associated buildings and sites outside of the LEED project boundary; the master plan boundary considers future sustainable use, expansion, and contraction.

Natural Resources Conservation Service (NRCS) soils delineation: a U.S.-based soil survey that shows the boundaries of different soil types and special soil features on the site

natural site hydrology: the natural land cover function of water occurrence, distribution, movement, and balance

open-grid pavement system: pavements that consist of loose substrates supported by a grid of a more structurally sound grid or webbing; pervious concrete and porous asphalt are not considered open grid as they are considered bounded materials; unbounded, loose substrates do not transfer and store heat like bound and compacted materials do

permeable pavement: a paved surface that allows water runoff to infiltrate into the ground

integrated pest management: a method of pest management that protects human health and the surrounding environment, and improves economic returns through the most effective, least-risk option

place of respite: an area that connects healthcare patients, visitors, and staff to health benefits of the natural environment

Glossary of Terms

rainwater harvesting: the capture, diversion, and storage of rain for future beneficial use; typically, a rain barrel or cistern stores the water; other components include the catchment surface and conveyance system; harvested rainwater can be used for irrigation or nonpotable purposes

reference soil: a soil native to the project site, as described in Natural Resources Conservation Service soil surveys (or a local equivalent survey outside the United States), or undisturbed native soils within the project's region that have native vegetation, topography, and soil textures similar to the project site; for project sites with no existing soil, reference soils are defined as undisturbed native soils within the project's region that support appropriate native plant species similar to those intended for the new project

sedimentation: sediment is naturally occurring materials that are broken down by processes of weathering and erosion and is subsequently transported by the action of fluids such as wind, water, or ice, and/or by the force of gravity acting on the particle itself; generally decreases the quality of the water and can age streams, rivers and lakes

site assessment: an evaluation of an area's above ground and subsurface characteristics, including its structures, geology, and hydrology; site assessments typically help determine whether contamination has occurred and the extent and concentration of any release of pollutants; remediation decisions rely on information generated during site assessments

site master plan: an overall design or development concept for the project and associated (or potentially associated) buildings and sites; the plan considers future sustainable use, expansion, and contraction; the site master plan is typically illustrated, with building plans (if applicable), site drawings of planned phased development, and narrative descriptions.

softscape: the elements of a landscape that consist of live, horticultural elements

solar reflectance (SR): the fraction of solar energy reflected by a surface on a scale of 0 to 1; black paint has a solar reflectance of 0; white paint (titanium dioxide) has a solar reflectance of 1.

solar reflectance index (SRI): a measure of the constructed surface's ability to stay cool in the sun by reflecting solar radiation and emitting thermal radiation; it is defined such that a standard black surface (initial solar reflectance 0.05, initial thermal emittance 0.90) has an initial SRI of 0, and a standard white surface (initial solar reflectance 0.80, initial thermal emittance 0.90) has an initial SRI of 100.

Technical Release (TR) 55: an approach to hydrology in which watersheds are modeled to calculate storm runoff volume, peak rate of discharge, hydrographs, and storage volumes, developed by the former USDA Soil Conservation Service

three-year aged SR: or SRI value a solar reflectance or solar reflectance index rating that is measured after three years of weather exposure

Glossary of Terms

Water Efficiency (WE) Category

adapted plant: vegetation that is not native to a particular region but that has characteristics that allow it to live in the area; adapted plants do not pose the same problems as invasive species

alternative water source: nonpotable water from other than public utilities, on-site surface sources, and subsurface natural freshwater sources; examples include graywater, on-site reclaimed water, collected rainwater, captured condensate, and rejected water from reverse osmosis systems (lgCC)

baseline case versus design case: amount of design case water saved over the baseline case amount; the baseline case is based on the Energy Policy Act of 1992 (EPA 1992) for flush and flow rates

baseline irrigation water use: the quantity of conventional irrigation system water used

baseline water consumption: a calculated projection of building water use assuming code-compliant fixtures and fittings with no additional savings compared with the design case or actual water meter data

blackwater: wastewater containing urine or fecal matter that should be discharged to the sanitary drainage system of the building or premises in accordance with the International Plumbing Code; wastewater from kitchen sinks (sometimes differentiated by the use of a garbage disposal), showers, or bathtubs is considered blackwater under some state or local codes

conventional irrigation: a region's most common system for providing water to plants by non-natural means; a conventional irrigation system commonly uses pressure to deliver water and distributes it through sprinkler heads above the ground

cooling tower blowdown: the water discharged from a cooling tower typically because increased salinity or alkalinity has caused scaling; cooling tower blowdown may be too saline for use in landscape irrigation

blowdown: the removal of makeup water from a cooling tower or evaporative condenser recirculation system to reduce concentrations of dissolved solids

chemical runoff: water that takes chemicals from the project, including landscaping and the surrounding hardscape, to local waterways

chiller: as they relate to refrigeration systems, a device used to remove heat from a liquid

compensating shower valves: maintains constant water temperatures when the hot or cold water pressure changes

cooling tower: equipment using water to absorb heat from other sources, such as air conditioning systems; typically used on large buildings or building complexes

cooling tower blowdown: the water discharged from a cooling tower typically because increased salinity or alkalinity has caused scaling; cooling tower blowdown may be too saline for use in landscape irrigation

designed landscape: the design of softscape and hardscape features on a site, excluding areas under roof, driveways and preserved natural areas; softscapes (e.g. grasses, flowers, shrubs) and hardscapes (e.g. patios, decks, fountains)

Glossary of Terms

drip irrigation: uses low pressure to deliver water through a series of tubes directly to plant root systems; uses less water than standard means and supplies water only to selected plants, not weeds or hardscape surfaces

dry urinals: also known as nonwater urinals; a water flush is replaced with a trap full of buoyant liquid that blocks sewer gas and odors from escaping

dry wells: underground structures that dispose of unwanted water, most commonly stormwater runoff, by dissipating it into the ground where it merges with the local groundwater

dual flush toilet: a toilet that provides two flush levels; one for solid waste and a reduced volume flush for liquid and paper waste only

evapotranspiration: the combination of evaporation and plant transpiration into the atmosphere; evaporation occurs when liquid water from soil, plant surfaces, or water bodies becomes vapor; transpiration is the movement of water through a plant and the subsequent loss of water vapor

evapotranspiration rate (ET): amount of water lost from a vegetated surface in units of water depth per unit of time

extensive vegetated roof: a roof that is covered with plants and typically not designed for general access; usually an extensive system is a rugged green roof that requires little maintenance once established; the planting medium in extensive vegetated roofs ranges from 1 to 6 inches in depth

foundation drain: the water discharged from a subsurface drainage system; if a building foundation is below the water table, a sump pump may be required; discharge from the sump may be stored and used for irrigation

gallons per flush (gpf)/liters per flush (lpf): measurement of water used by *flush* fixtures (water closets and urinals)

gallons per minute (gpm)/liters per minute (lpm): measurement of water used by *flow* fixtures (faucets, shower heads, aerators, sprinkler heads)

graywater: “untreated household waste water which has not come into contact with toilet waste; graywater includes used water from bathtubs, showers, bathroom wash basins, and water from clothes-washers and laundry tubs; it must not include waste water from kitchen sinks or dishwashers” (Uniform Plumbing Code, Appendix G, Gray Water Systems for Single-Family Dwellings); “waste water discharged from lavatories, bathtubs, showers, clothes washers and laundry sinks” (International Plumbing Code, Appendix C, Gray Water Recycling Systems); some states and local authorities allow kitchen sink wastewater to be included in graywater; other differences can likely be found in state and local codes; project teams should comply with the graywater definition established by the authority having jurisdiction in the project area

hardscape: the inanimate elements of the building landscaping. It includes pavement, roadways, stonewalls, wood and synthetic decking, concrete paths and sidewalks, and concrete, brick, and tile patios

harvested rainwater: precipitation captured and used for indoor and irrigation needs

Glossary of Terms

hydrozone: a group of plantings with similar water needs

impervious surfaces: primarily artificial surfaces (e.g.; roads, sidewalks, driveways, parking lots) that are covered by impenetrable materials such as asphalt, concrete, brick, stone and rooftops; soils compacted by urban development are also highly impervious; generally, having a perviousness of less than 50% will promote runoff of water instead of infiltration into the subsurface

imperviousness: resistance of a material to penetration by a liquid such as water

industrial process water: any water discharged from a factory setting; before this water can be used for irrigation, its quality needs to be checked; saline or corrosive water should not be used for irrigation

intensive vegetated roof: a roof that, compared with an extensive vegetated roof, has greater soil volume, supports a wider variety of plants (including shrubs and trees), and allows a wider variety of uses (including human access); the depth of the growing medium is an important factor in determining habitat value; the native or adapted plants selected for the roof should support the site's endemic wildlife populations

invasive plants: non-native plants which tend to spread aggressively; non-indigenous plants that adversely affect the habitats they invade economically, environmentally or ecologically

irrigated land: refers to the land area that is artificially supplied with water

irrigation efficiency: percentage of water used by irrigation equipment that is effective for irrigation that does not evaporate, blow away or fall on hardscape surfaces

landscape area: total site area used for landscaping purposes excluding the building footprint, hardscape areas, water bodies, parking, etc.

landscape coefficient (K_L): coefficient used to calculate the evapotranspiration rate considering the species factor, density factor and microclimate factor of the area

landscape water requirement (LWR): the amount of water that the site landscape area(s) requires for the site's peak watering month

least-risk pesticide: a registered pesticide in the Tier III (lowest toxicity) category, using the San Francisco Hazard Ranking system, or a pesticide that meets the requirements in the San Francisco Pesticide Hazard Screening Protocol and is sold as a self-contained bait or as a crack-and-crevice treatment used in areas inaccessible to building occupants; rodenticides are never considered least-risk pesticides

least toxic chemical pesticide: pesticide products that meet the least toxic Tier 3 hazard criteria under the City and County of San Francisco's hazard screening protocol; also applies to any pesticide product, not including rodent bait, applied in an accessible, self-contained, enclosed bait station, or applied in a non-visible or non-accessible gel

low-flow fixtures: faucets and other water use systems that use less water than conventional systems but deliver the same or greater benefit to the user

makeup water: water that is fed into a cooling tower system or evaporative condenser to replace water lost through evaporation, drift, bleed-off, or other causes

Glossary of Terms

manage (rainwater) on site: to capture and retain a specified volume of rainfall to mimic natural hydrologic function; examples of rainwater management include strategies that involve evapotranspiration, infiltration, and capture and reuse

microclimate factor (k_{mc}): coefficient used for calculating the landscape coefficient by adjusting the Evapotranspiration Rate to reflect the climate of the area

microirrigation: the frequent application of small quantities of water as drops, tiny streams, or miniature spray through emitters or applicators placed along a water delivery line; microirrigation encompasses a number of methods or concepts such as bubbler, drip, trickle, mist or spray

native vegetation: an indigenous species that occurs in a particular region, ecosystem, and habitat without direct or indirect human actions; native species have evolved to the geography, hydrology, and climate of that region; they also occur in communities; that is, they have evolved together with other species; as a result, these communities provide habitat for a variety of other native wildlife species; also known as native plants

natural areas: softscape areas that are constructed with native or adapted vegetation or other ecologically appropriate features

Natural Resources Conservation Service (NRCS) soils delineation: a U.S.-based soil survey that shows the boundaries of different soil types and special soil features on the site

natural site hydrology: the natural land cover function of water occurrence, distribution, movement, and balance

nonpotable water (a.k.a. gray water): water unfit for human consumption that has not come into contact with human waste, but is adequate for other uses such as irrigation

nonwater toilet systems: dry plumbing fixtures and fittings that contain and treat human waste via microbiological processes

nonwater urinal: a plumbing fixture having a water flush with a trap that contains a layer of buoyant liquid that floats above the urine, blocking sewer gas and odors

on-site wastewater treatment: the transport, storage, treatment, and disposal of wastewater generated on the project site

open-grid pavement system: pavements that consist of loose substrates supported by a grid of a more structurally sound grid or webbing; pervious concrete and porous asphalt are not considered open grid as they are considered bounded materials; unbounded, loose substrates do not transfer and store heat like bound and compacted materials do

peak watering month: the month with the greatest deficit between evapotranspiration and rainfall; this is the month when the plants in the site's region potentially require the most supplemental water typically a mid-summer month

permeable pavement: a paved surface that allows water runoff to infiltrate into the ground

perviousness: percentage of a paved area that is open and allows water to soak into the ground

porous pavements and permeable surfaces: pavements or surfaces that allow air and water to permeate through the material, therefore filtering pollutants as they pass into the ground

Glossary of Terms

potable water: water that meets or exceeds EPA drinking water quality standards (or a local equivalent outside the U.S.) and is approved for human consumption by the state or local authorities having jurisdiction; it may be supplied from wells or municipal water systems

private meter: a device that measures water flow and is installed downstream from the public water supply meter or as part of an on-site water system maintained by the building management team

process water: water that is used for industrial processes and building systems, such as cooling towers, boilers, and chillers; it can also refer to water used in operational processes, such as dishwashing, clothes washing, and ice making

public water supply (PWS): a system for the provision to the public of water for human consumption through pipes or other constructed conveyances; to be considered public, such system must have at least 15 service connections or regularly serve at least 25 individuals

rain garden: a depressed area of the ground planted with vegetation, allowing runoff from impervious surfaces such as parking lots and roofs the opportunity to be collected and infiltrated into the groundwater supply or returned to the atmosphere through evaporation and evapotranspiration; considered a stormwater management strategy

rainwater harvesting: the on-site capture, storage and use of rainwater; harvested rainwater may be stored in cisterns, tanks or rain barrels for non-potable domestic use, irrigation, or water features where a high level of water purity is not required

reclaimed water: sometimes called recycled water, is former wastewater (sewage) that has been treated to remove solids and certain impurities, and then allowed to recharge the aquifer rather than being discharged to surface water; wastewater that has been treated and purified for reuse

reference evapotranspiration rate: the amount of water lost from a specific vegetated surface with no moisture limitation; turf grass with height of 120 mm is the reference vegetation

reference soil: a soil native to the project site, as described in Natural Resources Conservation Service soil surveys (or a local equivalent survey outside the United States), or undisturbed native soils within the project's region that have native vegetation, topography, and soil textures similar to the project site; for project sites with no existing soil, reference soils are defined as undisturbed native soils within the project's region that support appropriate native plant species similar to those intended for the new project

retention ponds: human-made ponds where stormwater is directed and retained until it can be absorbed into the water table or slowly released without flooding downstream property owners; the current trend is to prefer absorption into the natural water table, so many local governments impose retention pond requirements as a condition of development, even if storm sewer facilities are available

softscape: the elements of a landscape that consist of live, horticultural elements

tertiary treatment: treatment of wastewater to a level beyond secondary treatment but below potable

Glossary of Terms

topsoil: the upper layer of soil that has the highest concentration of organic matter and microorganisms and where most of the Earth's biological soil activity occurs

tree and plant preservation plan: formal assessment of the site and the subsequent development of a landscape plan whose intent is to preserve existing trees and plants

turf grass: a groundcover, typically a monoculture, that requires watering and mowing, and often fertilizers

vegetation containing artifices: planters, gardens or other constructions that hosts flora

vegetated roofs (green roofs): the roof of a building that is partially or completely covered with vegetation and a growing medium, planted over a waterproofing membrane; it may also include additional layers such as a root barrier and drainage and irrigation systems

wastewater: any water that has been used by some human domestic or industrial activity and, because of that, now contains waste products; the spent or used water from residential, business or industrial sources

water body: the surface water of a stream (first-order and higher, including intermittent streams), arroyo, river, canal, lake, estuary, bay, or ocean. It does not include irrigation ditches

water budget: a project-specific method of calculating the amount of water required by the building and associated grounds; the budget takes into account indoor, outdoor, process, and makeup water demands and any on site supply including estimated rainfall; water budgets must be associated with a specified amount of time, such as a week, month, or year and a quantity of water such as kGal, or liters

water meters: devices that measure water volume usage

waterless urinal: a urinal that uses a trap insert filled with a sealant liquid instead of water

wetland: an area that is inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions; wetlands generally include swamps, marshes, bogs, and similar areas, but exclude irrigation ditches unless delineated as part of an adjacent wetland

wetland vegetation: vegetation that is adapted to hydric soils and hydrologic conditions normally found in wetlands; plants that require saturated soils to survive or can tolerate prolonged wet soil conditions

xeriscaping: a landscaping method that uses drought-adaptable and low-water plants as well as soil amendments, such as compost, mulch, and rocks to reduce evaporation and make irrigation unnecessary

Glossary of Terms

Energy and Atmosphere (EA) Category

baseline building performance: the annual energy cost for a building design, used as a baseline for comparison with above-standard design

biomass: a renewable energy source, is biological material derived from living, or recently living organisms, such as wood, waste, and alcohol fuels; commonly plant matter grown to generate electricity or produce heat; for the purposes of LEED, this excludes leather and other animal hides

British thermal unit (Btu): amount of heat required to raise the temperature of one pound of liquid water from 60° F to 61° F

Building Automation Systems (BAS): systems that use computer controls to monitor and control building subsystems for maximum operating efficiency and reporting

building engineer: engineering professional experienced in the operation and maintenance of the building's plumbing, mechanical and electrical systems

building envelope: the interface between the interior of the building and the outdoor environment, including the walls, roof, and foundation – serves as a thermal barrier and plays an important role in determining the amount of energy necessary to maintain a comfortable indoor environment relative to the outside environment

building exterior: a structure's primary and secondary weatherproofing system, including waterproofing membranes and air- and water-resistive barrier materials, and all building elements outside that system

Building Information Modeling (BIM): is the process of generating and managing building data during its life cycle, typically using three-dimensional, real-time, dynamic building modeling software to increase productivity in building design and construction

Building Integrated Photovoltaics (BIPV): refer to solar cells that convert sunlight directly into electricity, which are integral in materials that replace conventional building materials in parts of the building envelope such as the roof, skylights, or facades

building interior: everything inside a structure's weatherproofing membrane

cap and trade system: regulatory or management system that sets a target level for emissions or natural resource use and, after distributing shares in that quota, lets trading in those permits determine their price

carbon footprint: is the total set of GHG (greenhouse gas) emissions caused directly and indirectly by an individual, organization, event or product

carbon neutral: refers to a company, person, or action either not producing any carbon emissions or, if it does, having been offset elsewhere

carbon offset: a unit of carbon dioxide equivalent that is reduced, avoided, or sequestered to compensate for emissions occurring elsewhere

Glossary of Terms

chlorofluorocarbons (CFCs): chemical compounds (halocarbons) made up of carbon, fluorine, and chlorine; CFCs have been used as propellants in spray cans, coolants in refrigerators and air conditioners, and in foam, plastics, and cleaning solvents; they are very stable in the troposphere, but are broken down by strong ultraviolet light in the stratosphere and release chlorine atoms that then deplete the ozone layer

chlorofluorocarbon (CFC)-based refrigerant: a fluid, containing hydrocarbons, that absorbs heat from a reservoir at low temperatures and rejects heat at higher temperatures; when emitted into the atmosphere, CFCs cause depletion of the stratospheric ozone layer

climate change: significant change to a given climate over 10 years or more

climate zone: in the U.S., one of eight regions defined by the International Energy Conservation Code (IECC) that characterizes the temperature of an area of the country; climate zone 1 is the hottest and climate zone 8 is the coldest; LEED Homes awards credit to projects that use strategies appropriate to the project's climate zone

combined heat and power (CHP) or cogeneration: the use of a heat engine or a power station to simultaneously generate both electricity and useful heat from one fuel source; it is one of the most common forms of energy recycling

commissioning (Cx): the systematic process of verifying that all building systems perform interactively according to design intent, that they meet the operational needs of the owners and occupants, and that staff responsible for operation and maintenance are sufficiently trained; the goal of this service is to improve system performance, operation and maintenance, energy efficiency, occupant comfort, and indoor environmental quality

commissioning authority (CxA): the person designated to organize, lead and review the completion of commissioning process activities; ensures that systems are installed and function in accordance with the owner's project requirements (OPR)

commissioning plan: a document that describes the organization, schedule, distribution of resources and documentation requirements of the commissioning process

commissioning process: a systematic quality-focused effort to ensure that building systems are designed, specified, procured, installed, and functioning in accordance with the owner's intent; the process uses planning, documentation, and verification of testing to review and oversee the activities of both designer and constructor

commissioning team: project team members responsible for working together to conduct the commissioning process

district energy system (DES): a central energy conversion plant and transmission and distribution system that provides thermal energy to a group of buildings (e.g. a central cooling plant on a university campus); it does not include central energy systems that provide only electricity

district heating and cooling (DHC): connects multiple energy consumers to cost-effective, environmentally optimal heat sources through a piping network; sources of the heat could include combined heat and power plants, biomass or biomass/coal co-firing, capturing geothermal heat and natural sources of heating and cooling, or recuperating industrial waste heat

Glossary of Terms

economizer: mechanical devices intended to reduce energy consumption, or to perform another useful function like preheating a fluid; devices such as HVAC enthalpy controls used to make building systems more energy efficient

energy service provider: a designation that allows an outside entity, such as USGBC, to access water and energy usage information that a building management team maintains with ENERGY STAR Portfolio Manager or a similar tool

energy simulation model (or energy model): a computer representation that permits users to estimate the energy use of the building; allows various systems to be compared for performance to a baseline

ENERGY STAR: a joint project of US EPA and US DOE that promotes energy efficiency through a product certification; devices, such as appliances, lighting, and water heaters, carrying the ENERGY STAR logo

ENERGY STAR Portfolio Manager: an online management tool that tracks water and energy consumption

ENERGY STAR rating: one of the main goals of the ENERGY STAR program is to develop performance based specifications that determine the most efficient products in a particular category; products that meet these specifications earn the ENERGY STAR label; a building's energy performance compared to those with similar characteristics; a 50 score represents average building performance

enhanced commissioning: a set of best practices extending responsibility beyond fundamental commissioning such that the process requires the commissioning authority to be on the job earlier and stay later; includes designating a commissioning authority prior to the construction documents phase, conducting commissioning design reviews, reviewing contractor submittals, developing a systems manual, verifying operator training and performing a post occupancy operations review

fundamental commissioning: set of essential best practices used to ensure that building performance requirements have been identified early in the project's development and to verify that the designed systems have been installed in compliance with those requirements; included responsibilities are the process of designating a commissioning authority, documenting the owner's project requirements and basis of design (BOD), incorporating commissioning requirements into the construction documents, establishing a commissioning plan, verifying installation and performance of specified building systems and completing a summary commissioning report

geothermal energy: the heat of the earth; where this heat occurs close to the earth's surface, and is able to maintain a temperature in the surrounding rock or water at or above 150 degrees C, it may be tapped to drive steam turbines

geothermal heating systems: systems that use pipes for transferring heat from subsurface steam or hot water for heating, cooling and hot water; functions by extracting heat during winter months and returning heat during summer months

Glossary of Terms

green power (a.k.a. renewable energy): electricity generated from renewable energy sources (e.g.; solar, wind, biomass, geothermal; hydroelectric); ways to capture energy from the sun include photovoltaic, solar thermal, and bioenergy systems based on wood waste, agricultural crops or residue, animal and other organic waste, or landfill gas

green-e: a program established by the Center for Resource Solutions to promote green electricity products made with certified renewable energy, including but not limited to wind energy, solar power, low impact hydropower and biomass

greenhouse effect: warming that results when solar radiation is trapped by the atmosphere; caused by atmospheric gases (e.g.; water vapor, carbon dioxide, nitrous oxide, methane) that allow sunshine to pass through but absorb heat that is radiated back from the warmed surface of the earth

greenhouse gases (GHG): in the Earth's atmosphere due to human activity such as fossil fuel burning, increase the risk of global climate change, and include water vapor, carbon dioxide, methane, nitrous oxide, halogenated fluorocarbons, ozone, perfluorinated carbons, and hydro fluorocarbons

halons: ozone damaging chemicals used in fire fighting systems and extinguishers

HVAC systems: heating, ventilation, and air conditioning systems equipment, distribution systems and terminals that provide the processes of heating, ventilating and air conditioning inside a building

HVAC&R systems: heating, ventilation, air conditioning and refrigeration systems equipment, distribution systems and terminals that provide the processes of heating, ventilating, air conditioning and refrigeration inside a building

hydrochlorofluorocarbons (HCFCs): cooling chemicals used in building equipment; they damage the ozone layer, but not to the extent of CFCs

hydrofluorocarbons (HFCs): cooling chemicals that do not damage the ozone layer but may contribute to global warming potential

hydropower (hydro energy): power that is derived from the force or energy of moving water, which may be harnessed for useful purposes

Montreal Protocol on Substances That Deplete the Ozone Layer (a protocol to the Vienna Convention for the Protection of the Ozone Layer): an international treaty designed to protect the ozone layer by phasing out the production of numerous substances believed to be responsible for ozone depletion; the treaty was opened for signature on September 16, 1987, and entered into force on January 1, 1989

natural refrigerant: a compound that is not manmade and is used for cooling; such substances generally have much lower potential for atmospheric damage than manufactured chemical refrigerants; examples include water, carbon dioxide, and ammonia

net metering: an electricity policy for consumers who own renewable energy facilities (e.g. wind, solar power, home fuel cells); metering allows excess electricity be sent to the regional power grid

Glossary of Terms

net zero energy: using no more energy from grid sources than what can be produced on-site

(net) Zero Energy Building (ZEB): is designed for zero net energy consumption and zero carbon emissions annually

off-site renewable energy: energy generated from renewable sources located off-site; purchased through agreements with the entity generating the renewable energy

ongoing commissioning: this process incorporates monitoring and analysis of building performance data provided by permanently installed metering equipment to verify building performance, the satisfaction of the facilities management and staff, and the extent of actual savings; ongoing commissioning involves regularly scheduled sessions with the building occupants along with operation and maintenance personnel; ongoing commissioning is continual retro-commissioning focusing on the persistence of completed improvements

on-site renewable energy: energy generated from renewable sources located on-site

operations and maintenance (O&M) plan: a plan that specifies major system operating parameters and limits, maintenance procedures and schedules, and documentation methods necessary to demonstrate proper operation and maintenance of an approved emissions control device or system

ozone: a chemically unstable and highly reactive gas (each molecule of which consists of three atoms of oxygen in contrast with the usual two) found mainly at ground level in cities and in the stratosphere; at ground level, ozone can be a lung irritant; in the stratospheric ozone layer, the gas plays an important role in protecting the Earth's surface from high levels of biologically damaging ultraviolet (UV) radiation, which is known to be a significant risk factor for skin cancers, eye cataracts, and the suppression of mammalian immune systems

ozone layer: region of the stratosphere (lying approximately 15-40 km above the Earth's surface) that contains the bulk of the world's atmospheric ozone

passive solar: technologies use sunlight for useful energy without use of active mechanical systems, converting sunlight into usable heat, cause air-movement for ventilating, or future use

peak demand: the maximum electricity load at a specific point in time or over a period of time

percentage improvement: establishes the energy savings (cost) for the proposed building performance compared to the baseline building performance

performance monitoring: tracking energy, water or other system usage and efficiency

performance relative to benchmark: a comparison between the actual performance and a known standard or benchmark, such as the ENERGY STAR Portfolio Manager

performance relative to code: a comparison between the actual performance and a code

permanent peak load shifting: the transfer of energy consumption to off-peak hours, when demand for power is lower and energy is therefore less expensive

photovoltaic cell: device incorporating a semiconductor that generates electricity when exposed to (sun) light; the technology may be further sub-divided into crystalline, multi-crystalline, thin-film and concentrator variants

Glossary of Terms

photovoltaic energy (PV) or solar: energy from the sun converted by photovoltaic cells into electricity

plug load (a.k.a. receptacle load): the electrical current drawn by all equipment that is connected to the electrical system via a wall outlet

process energy: power resources consumed in support of a manufacturing, industrial, or commercial process other than conditioning spaces and maintaining comfort and amenities for building occupants of a building; it may include refrigeration equipment, cooking and food preparation, clothes washing, and other major support appliances

process load (a.k.a. unregulated load): the load on a building resulting from the consumption or release of process energy

refrigerants: the working fluids of refrigeration cycles that absorb heat from a reservoir at low temperatures and reject heat at higher temperatures; traditionally, fluorocarbons, especially chlorofluorocarbons, were used as refrigerants, but they are being phased out because of their ozone depletion effects

regulated load: any building end use that has either a mandatory or a prescriptive requirement in ANSI/ASHRAE/IES Standard 90.1–2010

renewable energy: energy sources that are not depleted by use; examples include energy from the sun, wind, and small (low-impact) hydropower, plus geothermal energy and wave and tidal systems

Renewable Energy Certificates (RECs): also known as Green tags, Renewable Energy Credits, Renewable Electricity Certificates, or Tradable Renewable Certificates (TRCs), are tradable, non-tangible energy commodities in the U.S. that represent proof that 1 megawatt-hour (MWh) of electricity was generated from an eligible renewable energy resource (renewable electricity)

renewable resource: any natural resource (e.g. wood, solar energy) that can be replenished naturally with the passage of time; solar radiation, tides, winds and hydroelectricity are perpetual resources that are in no danger of a lack of long-term availability

retrocommissioning: the commissioning process extended to existing buildings

revenue-grade meter: a measurement tool designed to meet strict accuracy standards required by code or law; utility meters are often called revenue grade because their measurement directly results in a charge to the customer

Scope 1 emissions: direct greenhouse gas emissions from sources owned or controlled by the entity, such as emissions from fossil fuels burned on site

Scope 2 emissions: indirect greenhouse gas emissions associated with the generation of purchased electricity, heating/cooling, or steam off site, through a utility provider for the entity's consumption

simple box energy modeling analysis: also known as "building-massing model energy analysis"; a simple base-case energy analysis that informs the team about the building's likely distribution of energy consumption and is used to evaluate potential project energy strategies; a simple box analysis uses a basic, schematic building form

Glossary of Terms

solar collector: device which uses the sun's energy to perform some kind of mechanical advantage which would normally be supplied by a non-renewable energy source

solar garden/community renewable energy system: shared solar array or other renewable energy system with grid-connected subscribers who receive credit for the use of renewables using virtual net metering

solar thermal systems: systems that collect or absorb sunlight via solar collectors to heat water; typically circulated to the building's hot water tank

source energy: all the energy used in delivering energy to a site, including power generation and transmission and distribution losses, to perform specific functions, such as space conditioning, lighting or water heating

submetering: utility submetering is the implementation of a system that allows a landlord, property management firm, condominium association, homeowners association, or other multi-tenant property to bill tenants for individual measured utility usage

waste-to-energy: the conversion of non-recyclable waste materials into usable heat, electricity, or fuel through a variety of processes, including combustion, gasification, pyrolysis, anaerobic digestion, and landfill gas (LFG) recovery

wave and tidal energy systems: energy captured by wave and tidal action that is turned into electricity and primarily used for desalination, water pumping and electricity generation; wave energy technology uses the movement of ocean surface waves to generate electricity, tidal power; is based on extracting energy from tidal movements and the water currents that accompany the rise and fall of the tide

wind energy: the conversion of wind energy into a useful form of energy, such as using wind turbines to make electricity, wind mills for mechanical power, wind pumps for pumping water or drainage, or sails to propel ships

Materials and Resources (MR) Category

adhesives: any chemical substance that is applied for the purpose of bonding two surfaces together other than by mechanical means

aerosol adhesive: an adhesive packaged as an aerosol product in which the spray mechanism is permanently housed in a non-refillable can designed for hand-held application without the need for ancillary hoses or spray equipment

agrifibre: agricultural fibers such as wheat, straw, cereal straw, sugarcane bagasse, sunflower husk, walnut shells, coconut husks

agrifibre board: a composite panel product derived from recovered agricultural waste fiber and mixed together with a resin; to meet credit requirements, the products must be inside the building's weatherproofing system, composite components used in assemblies must be included and the product must be part of the base building system

Glossary of Terms

alternative daily cover (ADC): material other than earthen material placed on the surface of the active face of a municipal solid waste landfill at the end of each operating day to control vectors, fires, odors, blowing litter, and scavenging; generally these materials must be processed so they do not allow gaps in the exposed landfill face

anticorrosive paint: a paint formulated with a corrosive-resistant pigment (e.g. lead chromate, zinc chromate, red lead) and a chemical and moisture resistant binder; used to protect iron and steel surfaces

architectural porous sealant primer: any material intended for application to a substrate, prior to the application of a sealant, to enhance the bonding surface substances or coatings on porous materials

assembly: a product formulated from multiple materials (e.g. concrete) or a product made up of subcomponents (e.g. a workstation)

assembly recycled content: includes the percentages of post-consumer and pre-consumer content; the percentage is calculated by dividing the weight of the recycled content by the overall weight of the assembly

bio-based material: commercial or industrial products (other than food or feed) that are composed in whole, or in significant part, of biological products, renewable agricultural materials (including plant, animal, and marine materials), or forestry materials; for the purposes of LEED, this excludes leather and other animal hides

building reuse: the reuse of structural and non-structural parts of an existing building

certified wood: wood that has been issued a certificate from an independent organization with developed standards of good forest management, verifying harvesting from responsibly managed forests

chain-of-custody (CoC): the path taken by raw materials, processed materials, and products from the forest to the consumer, including all successive stages of processing, transformation, manufacturing and distribution; a chain-of-custody certificate number on invoices for non-labeled products indicates that the certifiers guidelines for product accounting have been followed; a chain-of-custody certification is not required by distributors of a product that is individually labeled with the Forest Stewardship Council logo and manufacturers chain-of-custody number; Chain of Custody (CoC) certification requirements are determined by Forest Stewardship Council Chain of Custody Standard 40-004 v2-1

chain of custody certification: method of verifying the possession, location, movements and of materials and products from their creation or collection through any point; verifies proper accounting of material flows and proper use of the FSC name and logo

clean waste: nonhazardous materials left over from construction and demolition; clean waste excludes lead and asbestos

clear wood coatings: clear and semi-transparent coatings, including lacquers and varnishes applied to wood substrates to provide a transparent or translucent solid film

Glossary of Terms

coating: a covering that is applied to the surface of an object, usually referred to as the substrate; in many cases coatings are applied to improve surface properties of the substrate (e.g. appearance, adhesion, wetability, corrosion resistance, wear resistance, scratch resistance)

commingled waste: building waste streams that are combined on the project site and hauled away for sorting into recyclable streams; also known as single-stream recycling

commingling recycling: places materials to be recycled (e.g. paper, cardboard, plastic, metal) into one container that will be sorted for recycling at a sorting facility

composite wood: also known as engineered wood, man-made wood includes a range of derivative wood products which are manufactured by binding together the strands, particles, fibers, or veneers of wood, together with adhesives, to form composite materials (e.g. particle board, medium density fibreboard (MDF), plywood, oriented strand board (OSB), wheatboard, strawboard, panel substrates, door cores)

construction and demolition debris (C&D): waste and recyclable materials from construction, demolition, deconstruction or renovation of existing buildings; excludes land clearing debris

construction, demolition and land clearing debris (CDL): everything included in construction and demolition debris plus soil, vegetation and rock from land clearing

construction waste management plan: a plan that diverts construction debris from landfills or incinerators through recycling, salvaging and reusing

corrugated cardboard: any fluted sheet between one or more inner and outer linings

cradle-to-cradle: refers to the life cycle of products that can be used, recycled, and used again without losing any material quality

cradle-to-gate assessment: analysis of a product's partial life cycle, from resource extraction (cradle) to the factory gate (before it is transported for distribution and sale); it omits the use and the disposal phases of the product

cradle-to-grave: disposal after normal end of life cycle without reuse or recycling

dedicated storage: a designated area in a building space or a central facility that is sized and allocated for a specific task, such as the collection of recyclable waste; signage often indicates the type of recyclable waste stored there; some waste streams, such as mercury-based light bulbs, sensitive paper documents, biomedical waste, or batteries, may require particular handling or disposal methods

demountable partition: a temporary interior wall that can be easily reconfigured; in a health care facility, acoustical concerns and embedded equipment, as in a surgery suite, may prevent demountable partitions from being used

departmental gross area (DGA): the floor area of a diagnostic and treatment of clinical department, calculated from the centerline of the walls separating the department from adjacent spaces; walls and circulations space within the department are included in the calculation. This calculation excludes inpatient unit

diverted waste: synonymous with waste diversion

Glossary of Terms

durable goods: products with a useful life of approximately two or more years and that are replaced infrequently; examples include furniture, office equipment, appliances, external power adapters, televisions, and audiovisual equipment

durable goods waste stream: the flow of long-lasting products from the project building after they are fully depreciated and have reached the end of their useful life for normal business operations; it includes leased durable goods returned to their owner but does not include durable goods that remain functional and are moved to another floor or building

electronic waste: discarded office equipment (computers, monitors, copiers, printers, scanners, fax machines), appliances (refrigerators, dishwashers, water coolers), external power adapters, and televisions and other audiovisual equipment

elemental mercury: mercury in its purest form (rather than a mercury-containing compound), the vapor of which is commonly used in fluorescent and other bulb types

embodied energy: energy used during the entire life cycle of a product; amount of energy required to extract, process, transport, and install a given building element

environmental product declaration (EPD): a statement that the item meets the environmental requirements of ISO 14021–1999, ISO 14025–2006 and EN 15804, or ISO 21930–2007

eutrophication: the ecosystem response to the addition of artificial or natural substances, such as nitrates and phosphates, through fertilizers or sewage, to an aquatic system

extended producer responsibility: measures undertaken by the maker of a product to accept its own and sometimes other manufacturers' products as postconsumer waste at the end of the products' useful life; producers recover and recycle the materials for use in new products of the same type; to count toward credit compliance, a program must be widely available; for carpet, extended producer responsibility must be consistent with NSF/ANSI 140–2007; also known as closed-loop program or product take-back

Fairtrade: Fairtrade certification (Fairtrade, known as Fair Trade Certified in the United States and Canada) is a product certification system designed to allow people to identify products that meet agreed environmental, labour and developmental standards

floor coatings: an opaque coating that is labeled and formulated for application to flooring, including, but not limited to, decks, porches, steps, and other horizontal surfaces which may be subjected to foot traffic

Forest Stewardship Council (FSC): an independent, non-governmental, not-for-profit organization established to promote the responsible management of the world's forests

furniture and furnishings: the stand-alone furniture items purchased for the project, including individual and group seating; open-plan and private-office workstations; desks and tables; storage units, credenzas, bookshelves, filing cabinets, and other case goods; wall-mounted visual-display products (e.g. marker boards and tack boards, excluding electronic displays); and miscellaneous items, such as easels, mobile carts, freestanding screens, installed fabrics, and movable partitions; hospitality furniture is included as applicable to the project; office accessories, such as desktop blotters, trays, tape dispensers, waste baskets, and all electrical items, such as lighting and small appliances, are excluded

Glossary of Terms

gut rehab: a building that a) is stripped to the studs on at least one side of the entire insulated envelope for insulation installation and inspection, and b) is receiving replacements for most systems and components (HVAC, windows, etc)

hazardous material: any item or agent (biological, chemical, physical) that has the potential to cause harm to humans, animals, or the environment, either by itself or through interaction with other factors

homogeneous material: an item that consists of only one material throughout or a combination of multiple materials that cannot be mechanically disjointed, excluding surface coatings

indoor adhesive, sealant or primer: adhesive or sealant products that are applied on-site and within the building's weatherproofing system

indoor carpet systems: carpet, carpet adhesive or carpet cushion products installed on-site and within the building's weatherproofing system Indoor air quality (IAQ) is a term referring to the air quality within and around buildings and structures, especially as it relates to the health and comfort of building occupants

indoor paints or coating products: paints and coatings applied on-site and within a building's weatherproofing system

indoor composite wood or agrifibre: composite wood and agrifibre products installed on-site and within the building's weatherproofing system

interior fit-out: the installation or application of interior finishes, floor and ceiling systems, non-bearing partitions, furniture, interior doors and windows, and other components that make a space fully usable for the purpose it is intended

interior floor finish: all the layers applied over a finished subfloor or stairs, including stair treads and risers, ramps, and other walking surfaces; interior finish excludes building structural members, such as beams, trusses, studs, or subfloors, or similar items; interior finish also excludes nonfull spread wet coatings or adhesives

interior nonstructural components reuse: the area of a building's retained nonstructural components divided by the larger area of the prior existing condition or the area of the completed design

interior wall and ceiling finish: all the layers comprising the exposed interior surfaces of buildings, including fixed walls, fixed partitions, columns, exposed ceilings, and interior wainscoting, paneling, interior trim or other finish applied mechanically or for decoration, acoustical correction, surface fire resistance, or similar purposes

ISO 14021: defines recycled content as "the proportion, by mass, of recycled material in a product or packaging; only pre-consumer and post-consumer materials shall be considered as recycled content, consistent with the following usage of the terms: pre-consumer material and post-consumer material

land-clearing debris and soil: materials that are natural (e.g. rock, soil, stone, vegetation); materials that are man-made (e.g. concrete, brick, cement) are considered construction waste

landfills: disposal sites where waste is buried

Glossary of Terms

lamine adhesive: adhesives used in wood or agrifibre products

life cycle approach: the review of a project throughout it's entire life

life cycle assessment (LCA): a process of evaluating the effects that a product has on the environment over the entire period of its life (cradle-to-grave) thereby increasing resource-use efficiency and decreasing liabilities

life cycle cost analysis (LCC): the comparison of different materials to examine anticipated useful life and the cost of using a specific material or building component; calculates expected future operating, maintenance and replacement costs of designs and features to assist owners in developing a realistic design and budget estimate

manufacturing: final assembly of components into the building product that is furnished and installed by the trade workers

Marine Stewardship Council Blue Eco-Label: applies to products meeting certain principles and criteria for sustainable fishing

Material Data Safety Sheets (MSDS): a form with data regarding the properties of a particular substance; an important component of product stewardship and workplace safety, it is intended to provide workers and emergency personnel with procedures for handling or working with that substance in a safe manner, and includes information such as physical data (e.g. melting point, boiling point, flash point, etc.), toxicity, health effects, first aid, reactivity, storage, disposal, protective equipment, and spill-handling procedures

materials reuse: materials returned to active use after the normal end of life cycle; cradle-to-cradle as opposed to cradle-to-grave

mixed paper: white and colored paper, envelopes, forms, file folders, tablets, flyers, cereal boxes, wrapping paper, catalogs, magazines, phone books, and photos

modular and movable casework: shelving and cabinetry designed to be easily installed, moved, or reconfigured; in a retail setting, items that are movable but semipermanently attached using mechanical fastening systems for operational use are considered furniture and not base building elements (e.g. a table or display bolted to the floor, or shelving attached to a wall)

movable furniture and partitions: items that can be moved by the users without the need of tools or assistance from special trades and facilities management

nonflat coating: a coating that registers a gloss of 15 or greater on an 85-degree meter and five or greater on a 60-degree meter

nonpoint pollution source: water pollution caused when stormwater washes away pollutants

nonporous sealant: substance used as a sealant on nonporous materials

ongoing consumable: a product that has a low cost per unit and is regularly used and replaced in the course of business; examples include paper, toner cartridges, binders, batteries, and desk accessories; so known as ongoing purchases

on-site salvaged materials: materials that are salvaged and reused at the same project site

organic waste: biodegradable waste typically originating from plant or animal sources, which may be degraded by other living organisms

Glossary of Terms

postconsumer recycled content: waste generated by households or commercial, industrial and institutional facilities in their role as end users of a product that can no longer be used for its intended purpose

preconsumer recycled content: matter diverted from the waste stream during the manufacturing process, determined as the percentage of material, by weight; examples include planer shavings, sawdust, bagasse, walnut shells, culls, trimmed materials, overissue publications, and obsolete inventories; the designation excludes rework, regrind, or scrap materials capable of being reclaimed within the same process that generated them (ISO 14021). Formerly known as postindustrial content

primer: a preparatory coating put on materials before painting; priming ensures better adhesion of paint to the surface, increases paint durability, and provides additional protection for the material being painted

product (permanently installed building product): an item that arrives on the project site either as a finished element ready for installation or as a component to another item assembled on-site; the product unit is defined by the functional requirement for use in the project; this includes the physical components and services needed to serve the intended function of the permanently installed building product; in addition, similar product within a specification, each contributes as a separate product

Protected Harvest certification standards: crop and region specific standards that address production, toxicity and chain-of-custody

Rainforest Alliance certification: the Rainforest Alliance is a non-governmental organization with the published aims of working to conserve biodiversity and ensure sustainable livelihoods by transforming land-use practices, business practices and consumer behavior; the Rainforest Alliance's sustainable forestry division works to reconcile the growing demand for trees and other forest flora with a shrinking supply by encouraging better on the ground practices

rapidly renewable materials: resources that can be rapidly replenished (within a ten year cycle) as they are used; (e.g. certain woods, grasses and cork)

raw material: the basic substance from which products are made, such as concrete, glass, gypsum, masonry, metals, recycled materials (e.g. plastics and metals), oil (petroleum polylactic acid), stone, agrifiber, bamboo, and wood

recovered fiber: postconsumer and waste fiber from the manufacturing process; paper products that are collected for re-use in recycled products

recycled content: defined in accordance with the International Organization of Standards document ISO 14021 – Environmental labels and declarations – Self-declared environmental claims (Type II environmental labeling)

recycling: involves processing used materials (waste) into new products to prevent waste of potentially useful materials, reduce the consumption of fresh raw materials, reduce energy usage, reduce air pollution (from incineration) and water pollution (from landfilling) by reducing the need for “conventional” waste disposal, and lower greenhouse gas emissions as compared to virgin production; recycling is a key component of modern waste reduction and is the third component of the “Reduce, Reuse, Recycle” waste hierarchy

Glossary of Terms

regenerative design: sometimes referred to as cradle-to-cradle, a process-oriented systems theory based approach to design; the term “regenerative” describes processes that restore, renew or revitalize their own sources of energy and materials, creating sustainable systems that integrate the needs of society with the integrity of nature

regional materials: percentage (total material costs of the building) of a building’s materials that have been extracted, processed and manufactured within a 100 mile radius of the project site

regionally harvested or extracted materials: materials taken from within a 100 mile radius of the project site

regionally manufactured products: materials assembled as finished products within a 100 mile radius of the project site

refurbished material: an item that has completed its life cycle and is prepared for reuse without substantial alteration of its form; refurbishing involves renovating, repairing, restoring, or generally improving the appearance, performance, quality, functionality, or value of a product

remanufactured product: an item that has been repaired or adjusted and returned to service; a remanufactured product can be expected to perform as if it were new

replacement value: refers to the amount that an entity would have to pay to replace an asset at the present time

retained components: the amount of finished ceilings, finished floors and full height walls, interior doors and built in case goods that preexisted and will be retained in the completed design

reuse: the reemployment of materials in the same or a related capacity as their original application, thus extending the lifetime of materials that would otherwise be discarded; reuse includes the recovery and reemployment of materials recovered from existing building or construction sites; also known as salvage

salvaged material: a construction component recovered from existing buildings or construction sites and reused; common salvaged materials include structural beams and posts, flooring, doors, cabinetry, brick, and decorative items

sealant: used on wood, fabric, paper, corrugated paperboard, plastic foam and other materials with tiny openings, often microscopic, that may absorb or discharge gas or fluid

sealant primer: material applied to a substrate to enhance the bonding surface prior to the application of a sealant

sealers: coatings applied to either block materials from penetrating into or leaching out of a substrate, to prevent subsequent coatings from being absorbed by the substrate, or to prevent harm to subsequent coatings by materials in the substrate

seating: chairs or other seating types used with systems furniture

shellac: a clear or opaque coating formulated solely with the resinous secretions of the lac beetle (*Lacifer lacca*), thinned with alcohol and formulated to dry by evaporation without a chemical reaction

service life: the assumed length of time that a building, product, or assembly will be operational for the purposes of a life cycle assessment

Glossary of Terms

solid waste management policy: a policy that develops a diversion rate and disposal/reuse/recycle program by using the three principles of sustainability: economic vitality, ecological integrity, and improved quality of life to guide solid waste management decisions

source reduction: a decrease in the amount of unnecessary material brought into a building in order to produce less waste; for example, purchasing products with less packaging is a source reduction strategy

stain: a clear semi-transparent or opaque coating labeled and formulated to change the color of a surface but not conceal the grain pattern or texture

structure: elements carrying either vertical or horizontal loads (e.g. walls, roofs, and floors) that are considered structurally sound and nonhazardous

sustainable forestry: sustainable forest management (SFM) is the management of forests according to the principles of sustainable development

sustainable purchasing policies: the purchase of environmentally preferable products

sustained yield forestry: management of a forest to produce in perpetuity a high level annual or regular periodic output through a balance between increment and cutting

system: an assembly of components or parts that work together to support an intended purpose

systems furniture: panel based workstations

tack-back program: a type of extended producer responsibility, defined as: 'Measures undertaken by the maker of a product to accept its own and sometimes other manufacturers' products as postconsumer waste at the end of the products' useful life; producers recover and recycle the materials for use in new products of the same type; to count toward credit compliance, a program must be widely available; for carpet, extended producer responsibility must be consistent with NSF/ANSI 140–2007; also known as closed-loop program or product take-back

tipping fees: price charged to deliver municipal solid waste to a landfill, waste-to-energy facility, or recycling facility

universal waste: hazardous items that are easily purchased and commonly used; examples include batteries, pesticides, mercury-containing equipment, and light bulbs

urea formaldehyde: a combination of urea and formaldehyde used in some glues and adhesives, particularly in composite wood products; at room temperature urea formaldehyde emits formaldehyde, a toxic and possibly carcinogenic gas

waste diversion: a management activity that disposes of waste through methods other than incineration or landfilling; examples include reuse and recycling

waste-to-energy: the conversion of non-recyclable waste materials into usable heat, electricity, or fuel through a variety of processes, including combustion, gasification, pyrolysis, anaero-

Glossary of Terms

bic digestion, and landfill gas (LFG) recovery

wood: plant-based materials that are eligible for certification under the Forest Stewardship Council; examples include bamboo and palm (monocots) as well as hardwoods (angiosperms) and softwoods (gymnosperms)

wood preservative: a coating labeled and formulated to protect exposed wood from decay or insect attack

Indoor Environmental Quality (EQ) Category

ambient temperature: temperature of the surrounding air

ASE1000,250: reports the percentage of sensors in the analysis area, using a maximum 2-foot spacing between points, that are found to be exposed to more than 1000 lux of direct sunlight for more than 250 hours per year, before any operable blinds or shades are deployed to block sunlight, considering the same 10 hour/day analysis period as sDA and using comparable simulation methods

bake out: process of removing VOCs from a building by elevating the temperature in order to accelerate off-gassing

balancing damper: an adjustable plate that adjusts the air flow in HVAC ducts

carbon dioxide (CO₂): a heavy odorless colorless gas formed during respiration and by the decomposition of organic substances; absorbed from the air by plants in photosynthesis

carbon dioxide levels (CO₂): CO₂ levels that indicate indoor ventilation effectiveness; compared to outdoor CO₂ levels, concentrations above 530 ppm indicate inadequate ventilation, while concentrations above 800 ppm indicate poor air quality

classroom or core learning space: a space that is regularly occupied and used for educational activities. In such space, the primary functions are teaching and learning, and good speech communication is critical to students' academic achievement

clear glazing: glass that is transparent and allows a view through the fenestration; diffused glazing allows only daylighting

color rendering index: a measurement from 0 to 100 that indicates how accurately an artificial light source, as compared with an incandescent light, displays hues; the higher the index number, the more accurately the light is rendering colors; incandescent lighting has a color rendering index above 95; standard high-pressure sodium lighting (such as orange-hued roadway lights) measures approximately 25; many fluorescent sources using rare earth phosphors have a color rendering index of 80 and above

construction IAQ management plan: plan to minimize air contamination caused by building construction; includes procedures to remove contaminants before occupancy

contaminant: unwanted airborne element that may reduce indoor air quality

controllability of systems: providing occupants direct control over temperature, airflow and lighting in their spaces

Glossary of Terms

controls: operating mechanisms that enable an occupant to turn devices on or off or adjust intensity levels

daylight factor: % of daylight entering a room compared with that provided by an unobstructed, uniformly overcast sky; variables include floor area, window area, window design, visible transmittance and window height

daylight glazing: windows that are designed to provide interior illumination deeper into the space

daylighting: use of controlled sunlight for daytime lighting needs; daylighting strategies used to reduce or eliminate artificial lighting include solar orientation of windows as well as the use of skylights, clerestory windows, solar tubes, reflective surfaces, and interior glazing to allow light to move through a structure

daylighting zone: total floor area that meets the performance requirements for daylighting

daylight responsive lighting controls: photosensors used to control the amount of artificial light; used with other switching and dimming devices; adjusts according to quantity and quality of natural light

design light output: considered to be 40% of the useful life output of a lamp

direct line of sight to perimeter vision glazing: method used to determine the calculated area of regularly occupied areas with direct line of sight to perimeter vision glazing

displacement ventilation: a method of space conditioning where conditioned air is supplied at or near the floor; since the air is supplied at very low velocities, a cool layer of air collects in the occupied zone resulting in comfortable conditions for the occupants

direct sunlight: an interior horizontal measurement of 1,000 lux or more of direct beam sunlight that accounts for window transmittance and angular effects, and excludes the effect of any operable blinds, with no contribution from reflected light (e.g. a zero bounce analysis) and no contribution from the diffuse sky component

emergency lighting: a luminaire that operates only during emergency conditions and is always off during normal building operation

Environmental Tobacco Smoke (ETS): (a.k.a. secondhand smoke) includes all forms of tobacco smoke exhaled or released into the air

exfiltration: air leakage from a building's interior to the environment; air leakage through cracks in walls, floors and ceiling

exhaust air: the removal of air from a building through the design and use of mechanical or natural ventilation systems

footcandle: measure of light falling on a given surface; quantity of light falling on 1 square foot area from a 1 candela light source at a distance of 1 foot; equals 1 lumen per square foot

flush out: operation of mechanical systems for two weeks, using 100% outside air, at the end of construction and prior to occupancy to ensure safe indoor air quality

glare: harsh bright source of light that creates visual discomfort or loss of visibility

Glossary of Terms

glazing factor: ratio of interior light at a specific point on a specific plane under known overcast skies; the variables used by LEED are the floor area, window areas, window geometry, visible transmittance and window height

green cleaning: the use of cleaning products and practices that have lower environmental impacts and more positive indoor air quality impacts than conventional products and practices

illuminance: the incident luminous flux density on a differential element of surface located at a point and oriented in a particular direction, expressed in lumens per unit area; since the area involved is differential, it is customary to refer to this as illuminance at a point; the unit name depends on the unit of measurement for area: footcandles if square feet are used for area, and lux if square meters are used; in lay terms, illuminance is a measurement of light striking a surface; it is expressed in footcandles in the U.S. (based on square feet) and in lux in most other countries (based on square meters).

individual occupant space: an area where an occupant performs distinct tasks. Individual occupant spaces may be within multi-occupant spaces and should be treated separately where possible

indoor air quality (IAQ): a term referring to the air quality within buildings and structures, especially as it relates to the health and comfort of building occupants; IAQ is considered acceptable when there are no known contaminants at harmful concentrations and when the majority (80%) of the occupants do not express dissatisfaction

indoor Air Quality Building Education and Assessment Model (I-BEAM): is a guidance tool designed for use by building professionals and others interested in indoor air quality in commercial buildings

indoor air quality management plan: a management plan that protects the quality of indoor air and products, typically during construction and before occupancy

indoor environmental quality (EQ): takes into consideration all impacts of the indoor environment on human health and performance, including indoor air quality, daylighting and views, and visual and thermal comfort

infiltration (HVAC): infiltration is sometimes called air leakage; the unintentional or accidental introduction of outside air into a building, typically through cracks in the building envelope or through use of doors for passage; also applies to air leakage into conditioned spaces through cracks in floors, ceilings and walls from unconditioned spaces or the outdoors

infiltration degree days (IDD): quantifies the climatic conditions that influence infiltration; the summation of the heating degree days and the cooling degree days

lamp: a device emitting light in a fixture, excluding lamp housing and ballasts; light-emitting diodes packaged as traditional lamps also meet this definition

lamp life: the useful span of operation of a source of artificial light, such as bulbs; lamp life for fluorescent lights is determined by testing three hours on for every 20 minutes off; for high-density discharge lamps, the test is based on 11 hours on for every 20 minutes off; lamp life depends on whether the start ballast is program or instant; this information is published in manufacturers' information; also known as rated average life

Glossary of Terms

mean lumen output a measurement: of a source's emitted light derived from industry standards, taken with an instant-start ballast that has a ballast factor of 1.0 as measured at 40% of lamp life (except for T-5 lamps, which use a program-start ballast)

minimum efficiency reporting value (MERV): mechanical system air filter efficiency rating ranging from 1 to 16

mixed (active and passive) mode ventilation: a hybrid approach to space conditioning that uses a combination of natural ventilation from operable windows (either manually or automatically controlled), and mechanical systems that include air distribution equipment and refrigeration equipment for cooling

mounting height: the distance between ground level (or the workplane) and the bottom of the luminaire (light fixture); the height at which a luminaire is installed

material safety data sheet (MSDS): an important component of product stewardship and occupational safety and health; it is intended to provide workers and emergency personnel with procedures for handling or working with that substance in a safe manner, and includes information such as physical data, toxicity, health effects, first aid, reactivity, storage, disposal, protective equipment, and spill-handling procedures; MSDS formats can vary from source to source within a country depending on national requirements

NAED code: a unique five- or six-digit number used to identify specific lamps, used by the National Association of Electrical Distributors

net usable program area: the sum of all interior areas in the project available to house the project's program. It does not include areas for building equipment, vertical circulation, or structural components

natural (passive) ventilation: air which enters a building controlled, through open windows or other openings, due to wind pressure or temperature differences between the outdoor and indoor air

non-inpatient area: a public space, diagnostic or treatment area, ambulatory unit, or any other space in a health care facility that is not for individuals who have been admitted for care

non-regularly occupied space: an area that people pass through or an area used for focused activities an average of less than one hour per person per day; the one-hour timeframe is continuous and should be based on the time a typical occupant uses the space; for spaces that are not used daily, the one-hour time frame should be based on the time a typical occupant spends in the space when it is in use

occupant control: a system or switch that a person in the space can directly access and use. Examples include a task light, an open switch, and blinds; a temperature sensor, photo sensor, or centrally controlled system is not occupant controlled

occupiable space: an enclosed space intended for human activities, excluding those spaces that are intended primarily for other purposes, such as storage rooms and equipment rooms, and that are occupied only occasionally and for short periods of time (ASHRAE 62.1–2010)

Glossary of Terms

occupied space: enclosed space intended for human activities, excluding those spaces that are intended primarily for other purposes, such as storage rooms and equipment rooms, and that are only occupied occasionally and for short periods of time; occupied spaces are further classified as regularly occupied or nonregularly occupied spaces based on the duration of the occupancy, individual or multi-occupant based on the quantity of occupants, and densely or nondensely occupied spaces based on the concentration of occupants in the space

off-gassing: the process by which volatile chemicals evaporate and release chemicals into the air; materials such as paints, stains, varnishes, carpet, insulation, flooring, kitchen cabinets and countertops, plywood, particleboard, and paint strippers can produce significant off-gassing in buildings

particulates: alternatively referred to as particulate matter (PM) or fine particles, are tiny subdivisions of solid or liquid matter suspended in a gas or liquid

pollutant: pollution is the introduction of contaminants into an environment that causes instability, disorder, harm or discomfort to the ecosystem (e.g. physical systems or living organisms); pollution can take the form of chemical substances or energy, such as noise, heat, or light; common pollutants include carbon dioxide (CO₂), sulfur dioxide (SO₂), nitrogen oxide (NO_x), mercury (Hg), small particulates (PM_{2.5}) and large particulates (PM₁₀)

regularly occupied space: an area where one or more individuals normally spend time (more than one hour per person per day on average) seated or standing as they work, study, or perform other focused activities inside a building; the one-hour time frame is continuous and should be based on the time a typical occupant uses the space; for spaces that are not used daily, the one-hour time frame should be based on the time a typical occupant spends in the space when it is in use

Reverberation: in terms of acoustics, is the interpretation of the persistence of sound after a sound is produced; a reverberation, or reverb, is created when a sound or signal is reflected causing a large number of reflections to build up and then decay as the sound is absorbed by the surfaces of objects in the space – which could include furniture and people, and air; this is most noticeable when the sound source stops but the reflections continue, decreasing in amplitude, until they reach zero amplitude; reverberation is frequency dependent

sDA300/50%: the percentage of analysis points across the analysis area that meet or exceed this 300 lux value for at least 50% of the analysis period

shared multi-occupant space: a place of congregation, or where occupants pursue overlapping or collaborative tasks

sick building syndrome (SBS): a combination of ailments (a syndrome) associated with an individual's place of work (office building) or residence

sound-level coverage: a set of uniformity criteria that ensure consistent intelligibility and directionality of audible frequencies for all occupants within a space

source reduction: a decrease in the amount of unnecessary material brought into a building in order to produce less waste; for example, purchasing products with less packaging is a source reduction strategy

Glossary of Terms

spatial daylight autonomy (sDA): a metric describing annual sufficiency of ambient daylight levels in interior environments; it is defined as the percentage of an analysis area (the area where calculations are performed, typically across an entire space) that meets a minimum daylight illuminance level for a specified fraction of the operating hours per year; the illuminance level and time fraction are included as subscripts, as in sDA_{300,50%}; the sDA value is expressed as a percentage of area

speech privacy: a condition in which speech is unintelligible to casual listeners (ANSI T1.523–2001)

speech spectra: the distribution of acoustic energy as a function of frequency for human speech

thermal bridge: the part of a building envelope where heat is transferred at a much higher rate than the surrounding area; exterior doors and windows are two common examples of thermal bridging areas; adding insulating spacers is one way to remedy the problem and minimize rapid heat loss or heat gain

thermal comfort: human thermal comfort is defined by ASHRAE as the state of mind that expresses satisfaction with the surrounding environment (ASHRAE Standard 55); maintaining thermal comfort for occupants of buildings or other enclosures is one of the important goals of HVAC design engineers

thermal emittance: the ratio of the radiant heat flux emitted by a specimen to that emitted by a blackbody radiator at the same temperature

thermal envelope: in contrast to the building envelope; it sets the boundaries for the insulation and airtightness line between the inside and outside of a building; components of a building that ensure maximum retention and minimal loss of heat

unoccupied space: an area designed for equipment, machinery, or storage rather than for human activities; an equipment area is considered unoccupied only if retrieval of equipment is occasional

vertical illuminance: illuminance levels calculated at a point on a vertical surface, or that occur on a vertical plane; this lighting that affects spatial limits and proportions

vision glazing: the glass portion of an exterior window that permits views to the exterior or interior; vision glazing must allow a clear image of the exterior and must not be obstructed by frits, fibers, patterned glazing, or added tints that distort color balance

volatile organic compounds (VOC): a carbon compound that vaporizes (becomes a gas) at normal room temperatures; VOCs contribute to air pollution directly and through atmospheric photochemical reactions (excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides and carbonates, and ammonium carbonate) to produce secondary air pollutants, principally ozone and peroxyacetyl nitrate

walk off mats: mats placed inside the building entrances to address pollution point source control by capturing dirt, water and other materials tracked inside by people and equipment