

C Construction credit
D Design credit
RP Regional priority credit

LEED Section		Sustainable Sites	Available Points	26			Points						
Ref	Title / Reference Standard	Submittals	Responsible Party	Yes	Maybe	No	Comments / Actions			By	Date	System Upgrade Implications	Capital Cost (Cost/point)
P1	Construction activity pollution prevention	- Signed letter template - Description of how local codes are equal or more stringent than EPA - Date stamped photos (3 x 3 inspections) showing measures OR GC inspections OR narrative describing plan)	Civil engineer Contractor	Prerequisite			Specification item by civil engineer						
1	Site selection	- Signed letter template - Narrative if there are any special or non-standard circumstances	Architect	1									
2	Development density and community connectivity	- Signed letter template - Provide site vicinity dwg - Provide site plan with site and building areas in sqft - Provide list of community services	Architect		5								
3	Brownfield redevelopment	- Signed letter template - Description of site contamination and remediation efforts	Civil engineer			1							
4.1	Alternative transportation - Public transportation	- Signed letter template - Provide site vicinity dwg showing bus stops and walking routes. Show radius lines - Provide listing of each transportation line nearby as well as distance from site	Architect	6			Can likely count on this credit given proximity to light rail and bus lines;						
4.2	Alternative transportation - Bicycle storage & changing rooms Secure bike racks for 5% of building users (peak period) and provide shower and changing for 0.5% of FTE occupants	- Signed letter template - Site plan showing racks / showers - FTE and transient occupant counts - Number of racks / showers provided	Architect	1			Need to confirm FTE in order to calculate stroage and shower requirements;						
4.3	Alternative transportation - Low-emitting & fuel efficient vehicles Preferred parking for 5% of parking capacity or provide 20% discount on parking	- Signed letter template - Site plan showing preferred parking and associated calculations - Or provide owner signature for parking reduction	Architect	3									

4.4	Alternative transportation - Parking capacity D Do not exceed minimum parking capacity required by zoning or provide parking for only 5% of FTE	- Signed letter template - Define local zoning parking requirements - Include site plan showing parking numbers - or show FTE calculation	Architect		2					
5.1	Site development - Protect or restore habitat C Restore 50% of site (excl bldg) or 20% of total site area (inc bldg) & use native or adapted vegetation	- Signed letter template - Site plan - Area calculations - List of vegetation used	Landscape consultant		1					
5.2	Site development - Maximize open space Exceed local zoning open space requirements by 25% or equal to 20% of site area where no open space requirements exist D RP	- Signed letter template - Multiple options for this credit	Landscape consultant		2					
6.1	Stormwater design - Quantity control Assuming existing is >50% impervious, 25% decrease in volume of runoff from 2 year, 24 hr design storm D	- Signed letter template - Calculations and results - Narrative describing stormwater management strategies implimented	Civil engineer		1					
6.2	Stormwater design - Quality control BMP able to caputure and treat 90% of av annual rainfall. Remove 80% of average annual total suspended solids D	- Signed letter template Provide list and function description of BMP's employed and TSS removed - Provide list and description of strucutal controls	Civil engineer	1						
7.1	Heat island effect - Non-roof C Assuming option 2: Place 50% of parking spaces under cover	- Signed letter template - Assuming option 2 - Describe roof reflectance (PV is ok) - List number of parking spaces under cover	Architect or Landscape consultant	1			Will have more than 50% of parking spaces under cover;			
7.2	Heat island effect - Roof D For low slop roofs, install finish with SRI equal or more than 78 for 75% of roof area	- Signed letter template - Total area of SRI compliant roof material - Provide list of installed materials and their SRI value	Architect	1						
8	Light pollution reduction - Reduce input power of non-emer fixtures w/ line of sight to outside by 50% between 11pm and 5am. For exterior, limit footcandles at site boundary D	- Signed letter template - Int and site lighting drawings - Complete density tables for exterior lighting - Complete site lumen calculation - Show that footcandle limits are met on a site plan at project boundary	Electrical engineer and lighting designer;		1		Depends on site lighting schemes and control systems for interior lighting;			
Section total				14	12	1				

LEED Section		Water efficiency		Available Points		10		Points						
Ref	Title	Submittals	Responsible Party	Yes	Maybe	No	Comments / Actions	By	Date	System Upgrade Implications	Capital Cost (Cost/point)			
P1 D	Water use reduction - 20%	- Signed letter template - Calculate water budget - Provide narrative of approach	Plumbing engineer	Prerequisite			Baseline fixtures; Toilets - 1.6 GPF Urinals - 1 GPF Lavs - 0.5 GPM or 0.25 Gp Cycle for metered Janitor sinks - 2.2 GPM							
1.2 D	Water efficient landscaping - Reduce by 50% (2) OR - No potable water use (4)	- Signed letter template - As above	Landscape consultant	2	2		Reductions due to; Plant species selected Irrigation efficiency Use of captured / recycled water							
2 D RP	Innovative wastewater technologies Reduce potable water use for sewage conveyance by 50% or treat wastewater onsite	- Signed letter template - Two options - Plumbing dwgs, FTE calc, baseline and proposed calculations - If treating wastewater, provide details - Narrative of strategies used	Plumbing engineer		3		Reductions due to; Efficient fixtures Alternative water sources (eg rainwater); Achieving this credit would also qualify for a Regional Priority Credit;							
3.1 D RP	Water use reduction - 30% reduction (2) - 35% reduction (3) - 40% reduction (4) (+1)	- Signed letter template - FTE calculation - Calculate water budget - Provide narrative of approach	Plumbing engineer	5			Achieving this credit would also quality for a Regional Priority Credit;							
Section total				7	5	0								

LEED Section		Energy & Atmosphere	Available Points	35			Points					
Ref	Title	Submittals	Responsible Party	Yes	Maybe	No	Comments / Actions	By	Date	System Upgrade Implications	Capital Cost (Cost/point)	
P1 C	Fundamental commissioning of building energy systems Appoint qualified Cx with documented experience for 2 previous projects	- Signed letter template - Document experience and describe Cx process - Upload summary of Cx report of provide evidence that it is in progress	Commissioning agent Design team Client	Prerequisite			Owner: produced Owners Project Requirements Design team: Produce basis of design Cx: review the above and develop Cx plan and put Cx requirements into specs and complete Cx report					
P2 D	Minimum energy performance Demonstrate compliance with ASHRAE 90.1 2007 or local codes (local codes will be more stringent)	- Signed letter template - Confirm ASHRAE (or equivalent local code) has been met: Title 24-2005; - Justification that local codes are more stringent - See EA C1 for additional requirements	Mechanical engineer	Prerequisite								
P3 D	Fundamental refrigerant management Zero CFCs in base building HVAC	- Signed letter template - List product names for split systems, chillers etc	Mechanical engineer	Prerequisite								

1 D	Optimize energy performance - 12% (1) - 14% (2) - 16% (3) - 18% (4) - 20% (5) - 22% (6) - 24% (7) - 26% (8) - 28% (9) - 30% (10) - 32% (11) - 34% (12) - 36% (13) - 38% (14) - 40% (15) - 42% (16) - 44% (17) - 46% (18) - 48% (19)	- Signed letter template - Template contained under EA P2 - Find Energy Star score for building and upload "Target Finder" screenshot - Assuming performance approach is being sought by project, complete the tables listing energy analysis software used and results of analysis - Include output from renewable energy system	Mechanical engineer	5	14	Strategies currently discussed by the project team include the following: 1. High-performance façade and shading strategies; 2. LED lighting; 3. Mixed-mode ventilation; 4. Daylighting through a combination of glazing and skylights; 5. Solar PV systems to address a minimum of 10% of annual energy costs (see EA Credit 2); 6. Use of Dynamic air filters on air handling units;				
2 D RP	On-site renewable energy - 1% (1) (+1) - 2% (2) - 5% (3) - 7% (4) - 9% (5) - 11% (6) - 13% (7)	- Signed letter template - Describe renewable energy systems - Provide output	Renewable energy system designer or Mechanical engineer or architect		8					
3 C	Enhanced commissioning Additional requirements over PR; Cx reviews prior to mid design. Review contractor submittals. Develop systems manual, O&M training. Review bldg 10 months	- Signed letter template - Upload systems manual - Upload contract covering post occupancy review	Commissioning agent Design team Client	2						
4 D	Enhanced refrigerant management Either do not use refrigerants or perform refrigerant budget calculation to check compliance	- Signed letter template - List equipment, manufacturer and refrigerant type and quantity - Perform refrigerant budget calculation	Mechanical engineer	2		Equipment containing less than 0.5 lbs of refrigerant is excluded				

5	Measurement & verification	- Signed letter template - Repeat end use energy from EA-1 - Upload M&V plan	Mechanical engineer Electrical engineer	3			M&V plan Metering				
D	Develop and impliment M&V plan using option D or option B from IPMVP - cover 1 year of post occupancy										
6	Green power	- Signed letter template - Provide type of REC - Upload contract - Reference EA-1 energy usage	Client		2		Suggest defering decision on this credit until just before design review submittal.				
C	2 year contract to purchase REC's that offset 35% of building energy use										
Section total				12	24	0					

LEED Section		Materials and Resources		Available Points		14		Points						
Ref	Title	Submittals	Responsible Party	Yes	Maybe	No	Comments / Actions	By	Date	System Upgrade Implications	Capital Cost (Cost/point)			
P1	Storage & collection of recyclables	- Signed letter template - Brief narrative describing estimated recycling waste and that recycling areas are adequate - Upload floorplan showing recycled areas	Architect	Prerequisite										
D	For the collection of paper, corrugated cardboard, glass, plastics and metals													
1.1	Building re-use - maintain existing walls, floors and roof - 55% (1) (+1) - 75% (2) - 95% (3)	- Signed letter template - Confirm configurate of renevation - Provide tabulation of existing and reused areas for each element - Provide narrative if required	Architect			3								
C														
1.2	Building re-use - Maintain 50% of interior non-structural elements	- Signed letter template - As above	Architect			1								
C														
2	Construction waste management - 50% recycled or salvaged - 75% recycled or salvaged Excludes land clearing / soil debris	- Signed letter template - Complete calculation tables - material type, quantity, name / location of receiving agent - Upload project waste management plan	Contractor Civil engineer	2			Need to ensure that existing structures on the site are recycled or salvaged; would be key to recycle asphalt or concrete for reuse on site as aggregate;							
C														
3	Materials re-use - Re-use 5% - Re-use 10%	- Signed letter template - Use default material cost or actual - Complete calculation tables - source / vendor, product cost, distance	Architect Contractor		2									
C														



LEED NC Version 2009 Tracking Matrix
Project Name Samsung, San Jose
Job Number

Revision	0	Accreditation	Certified 40	Silver 50
Date	Nov-12	Creation date	Nov-12	Gold 60 Platinum 80

4	Recycled content - 10% of content - 20% of content	- Signed letter template - Use default material cost or actual - Complete calculation tables - source / vendor, product cost, distance, cut sheets if seeking 20% credit	Architect Contractor		2					
5	Regional materials - 10% extracted, processed & manufactured - 20% extracted, processed & manufactured	- Signed letter template - Use default material cost or actual - Complete calculation tables - source / vendor, product cost, distance	Architect Contractor		2					
6	Rapidly renewable materials - 2.5%	- Signed letter template - Use default material cost or actual - Complete calculation tables - source / vendor, product cost, distance	Architect Contractor		1					
7	Certified wood	- Signed letter template - Use default material cost or actual - Complete calculation tables - source / vendor, product cost, distance, vendor invoice for certified wood	Architect Contractor	1						
Section total				3	7	4				

LEED Section Indoor Environmental Quality			Available Points	15	Points						
Ref	Title	Submittals	Responsible Party	Yes	Maybe	No	Comments / Actions	By	Date	System Upgrade Implications	Capital Cost (Cost/point)
P1	Minimum IAQ performance	- Signed letter template - Provide design narrative describing approach to ventilation - Confirm compliance with ASHRAE 62.1 - For natural vent, provide drawings showing openings	Mechanical engineer	Prerequisite							
P2	Environmental tobacco smoke (ETS) control	- Signed letter template - Confirm no smoking allowed inside building and within 25 ft of openings	Client	Prerequisite							
1	Outdoor air delivery monitoring Install permanent monitoring systems that alarm when airflow rates or CO2 levels vary by 10% or more from design	- Signed letter template - Upload controls drawing showing outdoor airflow measurement - Complete outdoor vent rate table - Upload floorplan showing natural vent areas	Mechanical engineer	1							

2	Increased ventilation D Increase breathing zone vent rates by at least 30% above ASHRAE 62, 2007. Natural vent: Carbon Trust good practice guide etc	- Signed letter template - Upload ASHRAE 62.1 2007 calculator - Provide narrative description of vent systems - Provide diagrams / calcs to show natural vent design complies with either CIBSE or ASHRAE	Mechanical engineer	1							
3.1	Construction IAQ management plan - During construction Develop IAQ management plan for construction and pre-occupancy per SMACNA guidance	- Signed letter template - Provide IAQ management plan - Describe moisture protection methods used to protect absorptive materials - If AHU's used during con., confirm MERV 8 at return grilles and also filter replacement	Contractor	1							
3.2	Construction IAQ management plan - Before occupancy Either flush out the building prior to or during occupancy (2 options) or conduct IAQ testing	- Signed letter template - Upload IAQ management plan highlighting IAQ management practices during construction - Describe flush out process or upload testing results	Contractor	1							
4.1	Low emitting materials - Adhesives & sealants C Comply with SCAQMD 1168 (adhesives & sealants) or Green Seal 36 for aerosols	- Signed letter template - Provide list of products used - manufacturer, VOC data, standard max VOC, cut sheets	Architect Contractor	1			Option to comply outright or develop a VOC budget if not all products comply				
4.2	Low emitting materials - Paints & coatings Architectural paints: GS-11 Anti-corrosive / rust: GS-03 Clear wood finishes, stains, primers: SCAQMD 1113	- Signed letter template - As above	Architect Contractor	1			Option to comply outright or develop a VOC budget if not all products comply				
4.3	Low emitting materials - Flooring systems Carpet: Carpet & Rug Institute Green Label Plus Adhesives: (per credit 4.1) Concrete sealer: SCAQMD 1113	- Signed letter template - Provide list of flooring / carpeting products indicating compliance with standard - Include cut sheets for 20% of the products listed - Repeat for adhesives and finishes	Architect Contractor	1							
4.4	Low emitting materials - Composite wood & agrifiber products C Products should contain no added Urea-Formaldehyde	- Signed letter template - Provide list of composite wood and agrifiber products used plus confirmation that these are UF free - Provide cut sheets for 20% of the products	Architect Contractor	1			Includes particleboard, fiberboard (MDF), plywood, wheatboard, strawboard, panel substrates and door cores. Excludes furniture				
5	Indoor chemical & pollutant source control Permanent entryway system, exhaust & doors for labs, housekeeping, copier areas MERV 13 filters replaced	- Signed letter template - Describe entryway systems - Upload dwgs showing entryway systems, room separations and exhausts	Architect Mechanical engineer		1						

6.1	Controllability of systems - Lighting Individual lighting control to 90% of occupants. Shared areas should enable group adjustment to meet needs and preferences	- Signed letter template - List each zone type and confirm lighting control method. List number occupants - Upload representative floorplans	Electrical engineer	1			Open plan areas: design background lighting to minimum average IESNA recommended light levels. Task lighting provides independent occupant control, so will need that for individual workstations throughout;				
6.2	Controllability of systems - Thermal comfort Provide individual comfort controls for 50% of occupants. Operable windows count for occupants within 20ft inside and 10ft side	- Signed letter template - List control zones with occupancy, method of control and type of control (eg temp, humidity) - Upload floorplans showing controls - Confirm if windows included	Mechanical engineer		1		Needs control for thermal comfort at individual workstations;				
7.1	Thermal comfort - Design Design HVAC and building envelope to meet requirements of ASHRAE 55 2004	- Signed letter template - List occupancy comfort assumptions - List weather data assumptions - Upload calculation results for naturally ventilated spaces	Mechanical engineer	1			OPR should include comfort requirements				
7.2	Thermal comfort - Verification Conduct a thermal comfort survey of occupants with 6 to 18 months Provide permanent monitoring system	- Signed letter template - Upload sample questionnaire and describe who will be responsible for implementing questionnaire and analyzing results - Confirm that permanent monitoring system is included	Mechanical engineer	1			Should include temperature and humidity feedback on zones				
8.1	Daylighting & views - Daylight 75% of spaces For regularly occupied spaces. Prescriptive or performance approaches	- Signed letter template - Upload floorplans showing daylit areas - Upload output from simulation OR - List zones with windows and skylights and define sizes and characteristics of fenestration	Architect Lighting designer		2		Simulation: confirm 25 fc min and 500 fc max in a clear sky condition on Sept 21st at 9am and 3pm Prescriptive: Achieve a value, calculated as the product of visible light transmittance and window to floor ratio at 0.15 and 0.18				
8.2	Daylighting & views - Views for 90% of spaces Direct line of sight to outdoor environment via vision glazing between 30 and 90 inches for 90% of occupants	- Signed letter template - Provide room list with sqft of space within each room that has direct line of sight to vision glazing - Upload dwg or photos showing line of sight - Upload sections showing line of sight	Architect		1		Direct line of sight at 42". Can be through internal glazing.				
Section total				11	5	0					

LEED Section		Innovation & design process		Available Points		6		Points			Comments / Actions	By	Date	System Upgrade Implications	Capital Cost (Cost/point)
Ref	Title	Submittals	Responsible Party	Yes	Maybe	No									
1.1 D	To be confirmed	- Signed letter template - Typically provide support information for these credits which could be a narrative, calculations, cut sheets, project dwgs etc	To be confirmed	1											
1.2 D/C	To be confirmed	- Signed letter template -	To be confirmed	1											
1.3 D/C	To be confirmed	- Signed letter template -	To be confirmed	1											
1.4 D/C	To be confirmed	- Signed letter template -	To be confirmed	1											
1.5 D/C	To be confirmed	- Signed letter template -	To be confirmed	1											
2 D	LEED accredited professional	- Signed letter template - Provide accreditation certificate	LEED administrator	1						Arup fulfills this requirement					
Section total				6	0	0									

LEED Section		Regional Priority Credits - Project Zip Code 92101		Available Points		4			Points			Comments / Actions	By	Date	System Upgrade Implications	Capital Cost (Cost/point)
Ref	Title	Submittals	Responsible Party	Yes	Maybe	No										
1 D	Regional priority - additional credit for each of the following: SS 5.2, WE 2, WE 3 (40%), EA 2 (1%), IEQ 8.1	Included above	Included above	Included above												
				Section total			0	0	0							
				Total			53	53	5							

