

Version 2

How to Interpret this Report

The Leadership in Energy and Environmental Design (LEED) Rating System was designed by the US Green Building Council to encourage and facilitate the development of more sustainable buildings. The Washington-Lee High School project was evaluated according to this system and the Final Rating is totaled below.

Environmental The report is organized into five environmental categories as defined by Categories LEED including: Sustainable Sites, Water Efficiency, Energy and Atmosphere, Materials and Resources and Indoor Environmental Quality. The category of Innovation and Design Process is also included.

LEED Prerequisites must be achieved. Non-compliant prerequisites must be Prerequisites resolved before a certification can be awarded.

LEED Credits The environmental categories are subdivided into the established LEED credits, which are based on desired performance goals within each category. An assessment of whether the credit is earned, pending, or rejected is made and a narrative describes the basis for the assessment.

Achieved The applicant has provided the mandatory documentation which supports the achievement of the credit requirements, achieving the associated points. Currently the project has scored the adjacent points in this category.

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Denied The applicant has applied for a point in a particular credit, but has misinterpreted the credit intent or cannot substantiate meeting the requirements. Currently the project has the adjacent points in this category.

Rating Final Rating is Gold

Official LEED v2 Scores: Certified: 26-32 Silver Rating: 33-38 Gold Rating: 39-51 Platinum Rating: 52 +

A - Achieved D - Denied

D 10

Sustainable Sites

Possible Points 14

Erosion & Sedimentation Control

Prerequisite 1-Version 2.1

Preliminary Review: The LEED Submittal Template has been provided stating that the project has followed an erosion and sedimentation control plan that complies with the local erosion and sedimentation control standards. The project team has provided information demonstrating that standards are more stringent than the referenced EPA standard. The project team has provided a list of the measures implemented on-site including silt fencing, temporary construction entrance, storm drain protection, culvert inlet protection, temporary seeding, and sod, however, drawings, specifications, nor an ESC plan have been provided.

TECHNICAL ADVICE:

Please provide drawings, specifications, and/or an ESC plan outlining the use of the measures implemented on-site.

Final Review The project team provided site plans and an erosion and sedimentation control narrative. The site plan highlighted temporary construction entrances with wash racks, silt and super silt fencing, storm drain inlet protection, and culvert inlet protection.

Credit 1-Version 2.1 Site Selection

Preliminary Review: The LEED Submittal Template has been provided stating that the project site does not meet any of the prohibited criteria or has provided a narrative describing how the project meets the intent of this credit despite one or more conflicts with the credit requirements.

Urban Redevelopment

Credit 2-Version 2.1

Preliminary Review: The project team is pursuing an alternative compliance path by submitting under LEED-NC v2.2 Option 2 Community Connectivity. The LEED Submittal Template has been provided stating that the project site is located within 11 community services and 1 residential district, with a minimum density of 10 units per acre. Additionally, a listing of the neighborhood services has been provided on the Template. The required site map showing the 0.5 mile radius and the locations of the community services has also been provided. However, the residential location has not been highlighted. In addition, the list of services is generic and does not give the actual name of the service.

TECHNICAL ADVICE:

- 1. On the site plan please highlight the residential zone with an average density of 10 dwelling units per acre.
- 2. Please provide the actual names of each of the basic services listed in the submittal documentation.

Final Review The project team provided a site plan and a narrative highlighting 11 labeled community services and several high rise residential buildings exceeding 10 units per acre demonstrating credit compliance.

Α	- Achieve	(
D	- Denied	

Brownfield Redevelopment 1

Credit 3-Version 2.1

Preliminary Review: The project team is pursuing this credit using an alternative compliance path outlined in CIR Ruling 6/8/2005. The LEED Submittal Template has been provided stating that the project has been developed on a site that has asbestos contamination. The project team submitted an asbestos abatement report describing the location of Thermal System Insulation in the west parking lot of the school that was discovered during excavation. However, the extent of the asbestos contamination was not documented.

TECHNICAL ADVICE:

Please provide a detailed narrative explaining the extent of the asbestos contamination.

Final Review The project team provided a revised narrative stating that the asbestos abatement area included 50,000 square feet of parking area on the Washington Lee High School site. Upon removing the slabs the project team uncovered abandoned steam tunnels from the original wing of the school built in the 1920s. The tunnels contained ACM insulation that had contaminated the soil base of the old tunnels. The entire area was abated in June 2006 meeting credit requirements.

Alternative Transportation, Public Transportation Access

Credit 4.1-Version 2.1

Preliminary Review: The LEED Submittal Template has been provided stating that the project is served by a rail line within 0.5 miles of the project site. A scaled drawing showing the location of the rail stops has been provided.

Alternative Transportation, Bicycle Storage & Changing Rooms

Credit 4.2-Version 2.1

Preliminary Review: The LEED Submittal Template has been provided stating that the project has provided bicycle storage for 5% of the building occupants and shower facilities for 0.7% of building occupants.

Alternative Transportation, Alternative Fuel Refueling Stations

Credit 4.3-Version 2.1

Preliminary Review: The project team is pursuing this credit through an alternative compliance path outlined in CIR Ruling 3/30/2005 and 8/23/2005. The project is supplying a bus fleet that uses a minimum blend concentration of B20 Biodiesel which serves 46% of the overall project capacity. The project team has supplied the CIR rulings and a narrative describing the school's bus services.

Alternative Transportation, Parking Capacity

Credit 4.4-Version 2.1

Preliminary Review: The project team is pursuing this credit through an alternative compliance path outlined in CIR Ruling dated 9/14/2006. The project team has provided no new parking and therefore meets the intent of this credit. The project team provided a pre-existing and post-construction site plan, the CIR Ruling, and a narrative.

Not Attempting

Reduced Site Disturbance, Protect or Restore Open Space

Credit 5.1-Version 2.1

Preliminary Review: No Comments.

Reduced Site Disturbance, Development Footprint

Credit 5.2-Version 2.1

Preliminary Review: The LEED Submittal Template has been provided stating that the project has been developed in an area with no minimum code requirements for open space, and that dedicated open space, greater than or equal in size to the building footprint, has been provided adjacent to the building. A letter from the building owner stating that the open space will be conserved for the life of the building, as well as a site plan and calculations illustrating the development footprint, have been provided.

A - Achieved 11/3/2009 D - Denied A D Credit 6.1-Version 2.1 Stormwater Management, Rate and Quantity Not Attempting Preliminary Review: No Comments. Credit 6.2-Version 2.1 Stormwater Management, Treatment Not Attempting Preliminary Review: No Comments. Credit 7.1-Version 2.1 Landscape & Exterior Design to Reduce Heat Islands, Non-Roof Surfaces Preliminary Review: The LEED Submittal Template has been provided stating that 42% of the non-roof impervious surfaces on-site are paved with reflective materials. A site plan showing the extent of the paved or shaded areas has been provided. However, the site plan does not clearly highlight the reflective materials and the numbers are not legible. TECHNICAL ADVICE: Please provide a revised site plan the clearly differentiates between different surface types. In addition, please provide a legible site plan. Final Review The project team has provided a revised site plan that is legible and clearly displays all areas constructed with white concrete. The site plan states 42.9% of the site's non-roof impervious surface has been developed with light colored materials. Credit 7.2-Version 2.1 Landscape & Exterior Design to Reduce Heat Islands, Roof Surfaces Preliminary Review: The LEED Submittal Template has been provided stating that 100% of the total roof area consists of either roofing material (154,141sq.ft.) with emissivity of at least 0.9 or vegetated roof (6,784sq.ft.). Credit 8-Version 2.1 **Light Pollution Reduction**

Not Attempting

Preliminary Review: No Comments.

A - Achieved D - Denied	L	EED [™] Certification 11/3/2009
A D		
4	Water Efficiency	Possible Points 5
1	Water Efficient Landscaping, Reduce by 50% Preliminary Review: The LEED Submittal Template has been provided stating the irrigation system has been installed. However, a narrative was not provided destraitive/drought-tolerant planting installed on the site and it does not mention how during the initial plant establishment period. TECHNICAL ADVICE: 1. Please provide a narrative describing the native/drought-tolerant plantings is addition, please specifically address the sports fields and how the grasses will be the use of an irrigation purpose.	scribing the w water will be provided installed on the site. In
	the use of an irrigation system. 2. Please provide a narrative explaining the watering strategy for landscaping the length of time that plantings will be hand watered, since an irrigation system project.	establishment, including will not be used for this
Final Review	The project team provided several narratives stating that the project will use nur reduction strategies to reduce water on site. For establishment, watering will be planted and will continue for a period of 60 days from the date of acceptance by team clarified that they used the Arlington County Plant list for selection of plant demonstrating compliance with credit requirements.	gin once plants are the owner. The project
1	Water Efficient Landscaping, No Potable Use or No Irrigation Preliminary Review: See comments in WEc1.1.	Credit 1.2-Version 2.1
Final Review	See comments in WEc1.1 Innovative Wastewater Technologies Preliminary Review: No Comments.	Credit 2-Version 2.1
1	Water Use Reduction, 20% Reduction Preliminary Review: The LEED Submittal Template and water use calculations I stating that the project has reduced potable water use by 46% from a calculated through the installation of low flow urinals, waterless urinals, low-flow lavatories,	d baseline design
1	Water Use Reduction, 30% Reduction Preliminary Review: See comments in WEc3.1	Credit 3.2-Version 2.1

Α	-	Achievea
D	-	Denied

Α	D	
5	Energy & Atmosphere	Possible Points 17
0	Fundamental Building Systems Commissioning Preliminary Review: The LEED Submittal Template has been provided stating the commissioning requirements have been completed or is under contract.	Prerequisite 1-Version 2.1 nat the fundamental
0	Minimum Energy Performance Preliminary Review: The LEED Submittal Template has been provided stating the with the minimum energy performance requirements of ASHRAE 90.1-1999.	Prerequisite 2-Version 2.1 nat the project complies
0	CFC Reduction in HVAC&R Equipment Preliminary Review: The LEED Submittal Template has been provided stating the	Prerequisite 3-Version 2.1
	HVAC&R systems use no CFC-based refrigerants.	iat base building
2	Optimize Energy Performance, 20% New /10% Existing	Credit 1.1-Version 2.1
	Preliminary Review: The LEED Submittal Template and supporting documentati stating that the project performs 27% better than ASHRAE 90.1-1999 requirementation. A quantitative summary table that includes detailed data on both design assumptions as well as summary printouts of energy simulation software has be efficiency measures incorporated into the building design include hot water for sheating, and domestic hot water provided by combustion condensing boilers, air powered boxes, demand control ventilation, heat recover enthalpy wheels, and of	ents using the ECB n and budget een provided. Energy pace heating, pool economizers, fan-
1	Optimize Energy Performance, 30% New /20% Existing Preliminary Review: Please see comments in EAc1.1.	Credit 1.2-Version 2.1
Not Attempti	Optimize Energy Performance, 40% New /30% Existing Preliminary Review: No Comments.	Credit 1.3-Version 2.1
Not Attempti	Optimize Energy Performance, 50% New /40% Existing Preliminary Review: No Comments.	Credit 1.4-Version 2.1
Not Attempti	Optimize Energy Performance, 60% New /50% Existing Preliminary Review: No Comments.	Credit 1.5-Version 2.1
Not Attempti	Renewable Energy, 5% Contribution Preliminary Review: No Comments.	Credit 2.1-Version 2.1
Not Attempti	Renewable Energy, 10% Contribution Preliminary Review: No Comments.	Credit 2.2-Version 2.1
Not Attempti	Renewable Energy, 20% Contribution Preliminary Review: No Comments.	Credit 2.3-Version 2.1

A - Achieved D - Denied		LLLD	11/3/2009
A D	Additional Commissioning Preliminary Review: The LEED Submittal Template has been provided stating additional commissioning elements have been completed or is under contract However, no additional documentation has been provided by the team.		
	TECHNICAL ADVICE: Provide documentation indicating that DD and CD reviews (with substantive or Provide an executive summary or excerpts from the re-commissioning manual resolution of outstanding commissioning issues		
Final Review	The project team provided the Re-Commissioning facilities manual, the DD re plan review comments demonstrating credit compliance.	view com	nments, and 65%
1	Ozone Protection Preliminary Review: The LEED Submittal Template has been provided stating HVAC&R systems use no HCFC-based refrigerants or Halons.	that bas	Credit 4-Version 2.1 e building
Not Attempting	Measurement & Verification Preliminary Review: No Comments.		Credit 5-Version 2.1
Not Attempting	Green Power Preliminary Review: No Comments.		Credit 6-Version 2.1

A - Achieved D - Denied

A D			
6	Materials & Resources	Possible Points 13	
		Donne suiette d'Manaiere 0 d	
0	Storage & Collection of Recyclables	Prerequisite 1-Version 2.1	
	Preliminary Review: The LEED Submittal Template has been provided stating the provided appropriately sized dedicated areas for the collection and storage of reincluding cardboard, paper, plastic, glass, and metals. Plans have been provided location of recycling collection areas within the project.	cycling materials,	
Not Attempting	Building Reuse, Maintain 75% of Existing Shell	Credit 1.1-Version 2.1	
	Preliminary Review: No Comments.		
Not Attempting		Credit 1.2-Version 2.1	
	Preliminary Review: No Comments.		
Not Attempting	Building Reuse, Maintain 100% Shell and 50% Non-Shell	Credit 1.3-Version 2.1	
Not Attempting	Preliminary Review: No Comments.		
1	Construction Waste Management, Divert 50%	Credit 2.1-Version 2.1	
	Preliminary Review: The LEED Submittal Template has been provided stating that the project has diverted 9057.6 tons (92.48%) of on-site generated construction waste from landfill. Calculations have been provided to document the waste types and receiving agencies for recycled materials.		
1	Construction Waste Management, Divert 75%	Credit 2.2-Version 2.1	
	Preliminary Review: Please see comments in MRc2.1		
Not Attempting		Credit 3.1-Version 2.1	
	Preliminary Review: No Comments.		
Not Attempting	Resource Reuse, Specify 10%	Credit 3.2-Version 2.1	
	Preliminary Review: No Comments.		
1	Recycled Content, Specify 5%	Credit 4.1-Version 2.1	
	Preliminary Review: The LEED Submittal Template and calculations have been 14.37% of the total building materials content, by value, have been manufacture materials.		
1	Recycled Content, Specify 10%	Credit 4.2-Version 2.1	
	Preliminary Review: Please see comments in MRc4.1.		
1	Local/Regional Materials, 20% Manufactured Regionally	Credit 5.1-Version 2.1	
	Preliminary Review: The LEED Submittal Template and calculation have been p 41% of the total building materials value was manufactured regionally.	rovided stating that	

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A - Achieved D - Denied

A D

Local/Regional Materials, 50% Extracted Regionally

Credit 5.2-Version 2.1

Preliminary Review: The LEED Submittal Template and calculation have been provided stating that 27.84% of the total building materials value (68% of the locally manufactured materials) was manufactured using raw materials that were harvested, extracted, or recovered within 500 miles of the project site. For future reference, when claiming recycled content as harvested material a project team can only claim the relative portion of recycled content. It is questionable as to whether the steel decking listed in the Submittal Template was 100% regionally extracted if only 10% was recycled material. If 90% of the steel is extracted farther than 500 miles from the project site, it cannot be included in this calculation. Despite this inconsistency, the project team meets credit requirements with or without the steel decking and therefore the credit has been awarded.

Not Attempting

Rapidly Renewable Materials

Credit 6-Version 2.1

Preliminary Review: No Comments.

Not Attempting

Certified Wood

Credit 7-Version 2.1

Preliminary Review: No Comments.

A - Achieved 11/3/2009 D - Denied D Δ Indoor Environmental Quality 9 **Possible Points 15** Minimum IAQ Performance Prerequisite 1-Version 2.1 0 Preliminary Review: The LEED Submittal Template has been provided stating that the project complies with the minimum IAQ performance requirements of ASHRAE 62-1999 and all approved Addenda. A supplemental narrative has been provided to document the project's compliance with the Ventilation Rate Procedure methods. However, the supplemental documentation is not completely legible. However, occupancies and outside air calculations have not been provided for all spaces, and the mechanical plans provided were not legible. TECHNICAL ADVICE: Please provide a legible copy of the attached supplemental documentation and include occupancies and outside air calculations that demonstrate credit compliance. Final Review The project team provided calculations displaying space supply OA greater than ASHRAE Standard 62-1999 required OA for all spaces. Environmental Tobacco Smoke (ETS) Control Prerequisite 2-Version 2.1 Preliminary Review: The LEED Submittal Template has been provided stating that smoking is prohibited inside buildings within the project and that designated smoking areas have been located at least 25 feet from building openings and air intakes. Credit 1-Version 2.1 Carbon Dioxide (CO2) Monitoring 1 Preliminary Review: The LEED Submittal Template has been provided stating that the project has installed a CO2 monitoring system that provides feedback on space ventilation performance in a form that affords operational adjustments and carbon dioxide differentials that conform to ASHRAE 62-2001, Appendix C. Additionally, a narrative has been provided that describes the installed sensors, operational parameters, and design conditions including carbon dioxide differentials and how they are measured and maintained. Credit 2-Version 2.1 **Increase Ventilation Effectiveness** Not Attempting Preliminary Review: No Comments. Credit 3.1-Version 2.1 Construction IAQ Management Plan, During Construction Preliminary Review: The LEED Submittal Template has been provided stating that the project developed and implemented a construction IAQ management plan that followed the referenced SMACNA Guidelines. The plan indicates that the air handling equipment was used during construction and that MERV 8 filters were installed in the air handling unit and at all return air grilles. Filtration media was replaced with new MERV 13 filters (in the air handling units) prior to occupancy. Photographs, taken on a minimum of 3 different occasions where submitted. However, a narrative describing the implemented IAQ measures was not provided. **TECHNICAL ADVICE:**

SMACNA guidelines.

Final Review The project team provided a narrative discussing the 5 measures implemented on site to meet the SMACNA IAQ guidelines. The project team discussed HVAC protection, source control, pathway interruption, housekeeping, and scheduling.

Please provide a brief narrative describing the project team's approach for meeting each of the

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A - Achieved D - Denied		LEED ™Certification 11/3/2009
A D		0 110014 1 04
1	Construction IAQ Management Plan, Before Occupancy Preliminary Review: The LEED Submittal Template has been provided stating conducted IAQ testing prior to occupancy. The submitted narrative and test s IAQ testing was conducted in accordance with protocols approved under a CI (dated 10/8/2002). A summary of the test results confirm that the project teste contaminants (at a minimum): Carbon Dioxide, Formaldehyde, Particulates, T narrative further states that the measured contaminant levels did not exceed t referenced CIR ruling.	ummary confirms that the R Ruling for EQc3.2 ed for the following VOC, and 4-PCH. The
1	Low-Emitting Materials, Adhesives & Sealants	Credit 4.1-Version 2.1
	Preliminary Review: The LEED Submittal Template has been provided stating sealant products comply with the VOC limits of the referenced standards for the all interior adhesive and sealant products has been provided along with VOC confirming that they comply with the referenced VOC limits. For future reference submitted under EQc4.2.	nis credit. A summary of data for each product
1	Low-Emitting Materials, Paints	Credit 4.2-Version 2.1
	Preliminary Review: The LEED Submittal Template has been provided stating and coatings comply with the VOC and chemical component limits of Green S requirements. The project is utilizing the VOC budget alternative compliance requirements of this credit. The project team has provided a summary list of a budget. The VOC budget calculation indicates that the project's total installed 139,178 grams with an allowable limit of 369,700 grams	eal's Standard GS-11 path to meet the Il indoor paints and a VOC
1	Low-Emitting Materials, Carpet	Credit 4.3-Version 2.1
	Preliminary Review: The LEED Submittal Template has been provided stating systems comply with the VOC limits of the Carpet and Rug Institute's Green L Program. The submittal lists Collins & Aikman carpet system as the installed program.	abel Air Quality Testing
Not Attempting	Low-Emitting Materials, Composite Wood	Credit 4.4-Version 2.1
	Preliminary Review: No Comments.	
1	Indoor Chemical and Pollutant Source Control	Credit 5-Version 2.1
	Preliminary Review: The LEED Submittal Template has been provided stating installed the required entryway systems, physically separated chemical use ar deck-to-deck partitions, installed independent exhaust ventilation at 0.50 cfm/s negative pressure differential of 7 PA, and in spaces where water and chemic occurs, has established drains environmentally appropriate for disposal of liquid.	reas and copy rooms with square foot, maintained al concentrate mixing
Not Attempting	Controllability of Systems, Perimeter Preliminary Review: No Comments.	Credit 6.1-Version 2.1

Not Attempting

Controllability of Systems, Non-perimeter

Preliminary Review: No Comments.

Credit 6.2-Version 2.1

A - Achieved D - Denied

Α \Box 1

Thermal Comfort, Compliance with ASHRAE 55-1992

Credit 7.1-Version 2.1

Preliminary Review: The LEED Submittal Template has been provided stating that the project has been designed to maintain indoor comfort within the ranges established by ASHRAE Standard 55-1992, Addenda 1995. A table listing the control ranges and installed control methods has also been provided. However, the ranges for temperature and/or humidity indicated in the supporting table appear to fall outside of the established ASHRAE ranges for the media center. There is no documentation provided to explain this discrepancy.

TECHNICAL ADVICE:

Please provide a detailed narrative describing the thermal comfort design criteria for the media room and any special conditions or circumstances that require zones to exceed the referenced ASHRAE ranges; or provide a new template with revised temperature ranges. Please include the individual thermal control zones, the temperature and humidity control ranges for all seasonal conditions, and an indication of the method of control for each zone.

Final Review The project team provided a revised LEED Submittal Template stating that all rooms except the Natatorium meet the ASHRAE Standard 55-1992, Addenda 1995. The natatorium was designed to ASHRAE 2003 Handbook of HVAC Applications, Chapter 4, "Natatoriums."

Thermal Comfort, Permanent Monitoring System

Credit 7.2-Version 2.1

Preliminary Review: The LEED Submittal Template has been provided stating that the project has installed a permanent temperature and humidity monitoring system that will provide control of the building zones within the thermal comfort ranges defined in ASHRAE 55-1992, Addenda 1995. These controls have been commissioned under the scope for EAp1, Fundamental Systems Commissioning.

Not Attempting

Daylight and Views, Daylight 75% of Spaces

Credit 8.1-Version 2.1

Preliminary Review: No Comments.

Not Attempting

Daylight and Views, Views for 90% of Spaces

Credit 8.2-Version 2.1

Preliminary Review: No Comments.

A - Achieved

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D - Denied		11/3/2009
A D		
5	Innovation & Design Process	Possible Points 5
1	Innovation in Design	Credit 1.1-Version 2.1
	Preliminary Review: The LEED Submittal Template has been provided stating that exemplary performance for MRc4 as specified in the LEED Reference Guide. The Template and calculation have been provided stating that 41% of the total building manufactured regionally. Please see MRc4 for additional information.	LEED Submittal
1	Innovation in Design	Credit 1.2-Version 2.1
	Preliminary Review: The LEED Submittal Template has been provided stating an development and implementation of a green housekeeping program. The proposit documentation (policy statement, list of cleaning chemicals, worker training abstract requirements set forth in posted CIR rulings for achievement of an ID point for a G program.	al and supporting act) meet the
1	Innovation in Design	Credit 1.3-Version 2.1
	Preliminary Review: The LEED Submittal Template has been provided stating tha program has been developed to present the project's sustainable design practices visitors to the facility. A minimum of two distinct components must be documented Ruling dated 9/24/2001. However, it is unclear which of the two components the pachieve credit requirements. It appears that a slide show was submitted but there describe how it will be used.	s to occupants and d as outlined in CIR project is pursuing to
	TECHNICAL ADVICE: Please provide a detailed narrative describing the components (signage, guideline implemented educational program. Additionally, please provide examples of the in (i.e. photos/drawings of installed signage, published case study, website screen signage).	ndividual elements
Final Review	The project team provided a narrative and revised slide deck demonstrating a gre- that is compliant with credit requirements. Washington Lee High School will have a program along with a slideshow that will play on several monitors located through	an educational tour
1	Innovation in Design	Credit 1.4-Version 2.1
	Preliminary Review: The LEED Submittal Template has been provided stating that exemplary performance for WEc3 as specified in the LEED Reference Guide or purulings.	
1	LEED™ Accredited Professional	Credit 2-Version 2.1
	Preliminary Review: The LEED Submittal Template has been provided stating tha been a participant on the project development team. A copy of the LEED AP awar Strong has been included as required.	