

**CITY OF HUNTINGTON BEACH**  
**Inter Office Communication**  
**Planning Department**

**TO:** Planning Commission

**FROM:** Scott Hess, AICP, Director of Planning 

**DATE:** December 11, 2007

**SUBJECT: HUNTINGTON BEACH SENIOR CENTER – LEED COST ESTIMATES**

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Per your request, in response to comments at the November 27<sup>th</sup> study session, Planning staff has commissioned a LEED Accredited Professional to prepare cost estimates for two levels of LEED certification for the senior center based on the conceptual project plans. Attached, for your information, is an introductory letter and two scorecards, prepared by LPA, that provide construction and design cost estimates for LEED certification for the proposed senior center project.

cc: Mary Beth Broeren, Principal Planner  
Herb Fauland, Principal Planner  
Jennifer Villasenor, Associate Planner

Attachments: Cover Letter from LPA  
LEED Certified Scorecard, prepared by LPA  
LEED Gold Certified Scorecard, prepared by LPA

LATE COMMUNICATION #B-1b



Architecture  
Planning  
Interior Design  
Landscape Architecture  
Graphics



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December 11, 2007

Jennifer Villasenor  
**CITY OF HUNTINGTON BEACH**  
2000 Main Street  
Huntington Beach, CA 92648

Re: Huntington Beach Senior Center  
LPA Project No.

Dear Ms. Villasenor:

There are a number of ways that sustainability can be measured. One of the most common ways to measure a buildings sustainable quotient is through a rating system developed by the United States Green Building Council (USGBC). This rating system is called LEED (Leadership in Energy and Environmental Design). This rating system qualifies projects into 4 categories for their level of sustainability from Certified, to Silver, to Gold, and finally Platinum. Cities across the country are taking efforts to apply sustainable design practices to their future development of projects.

LPA has applied the USGBC's LEED rating system to the site plan and elevations of the Huntington Beach Senior Center located on Goldenwest Street and Talbert Avenue with the goal of studying what it would take to have the building achieve a LEED Certified Rating and what it would take to have the building achieve a LEED Gold Rating.

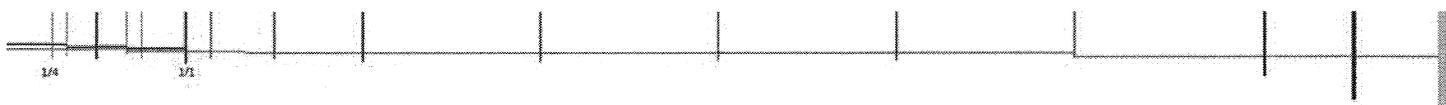
LPA is a leader in Sustainable Design. We have completed six LEED rated buildings and currently have another twenty-one LEED projects in construction documents and under construction. We look forward to working with you on the Senior Center.

Sincerely,

LPA, Inc.  
Orange County Office

Jim Wirick, AIA LEED AP

Jeremy Hart, Architect LEED AP



Architecture  
Planning  
Interior Design  
Landscape Architecture  
Graphics



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## MEMORANDUM

Date: December 10, 2007

To: Jennifer Villaseñor, CoHB  
Jim Wirick, LPA, Inc.

From: Jeremy Hart

Project Name: Huntington Beach Senior Center

Project No.:

Regarding: Executive Summary of LEED Scorecards

### ***LEED Certified Score Card: 28 points of 26 required – 6 potential points tracked***

In all cases, the credits selected are the credits that are easiest to achieve and fit most appropriately with the project site and the building type and design. Total cost for the 28 points is estimated to be approximately \$330,100 for design and construction/implementation of these points. At a project cost of approximately \$15,000,000 this represents approximately 2.2% of the budget. Each point selected for a LEED Certified has been detailed in the attached appendix.

### ***LEED Gold Score Card: 42 points of 39 required – 7 potential points tracked***

In addition to the 28 points selected to achieve a LEED Certified project, an additional 14 points have been selected. The points selected to pursue a LEED Gold rating were chosen in part for the appropriateness for the project and site. Points selected here also complement each other. For example using on site renewable energy increased the buildings energy efficiency. Total cost for these additional 14 points is estimated to be approximately \$404,500 for design and construction/implementation of these points. At a project cost of approximately \$15,000,000 this represents approximately 2.69% of the budget. Total cost to implement all 42 points is approximately \$734,600 or approximately 4.9% of the project cost. The 14 additional points are also detailed in the attached appendix.

**APPENDIX*****LEED Certified Score Card: 28 points of 26 required – 6 potential points tracked*****Sustainable Sites**

- PREREQ1 – This pre-requisite is covered by the storm water management plan required by the State of California
- Credit 4.1 – Requires the project be located within ¼ mile of one or more stops for two or more public bus lines usable by building occupants. No cost to project.
- Credit 4.2 – Requires providing bike racks for 5% of building users and showers and changing facilities for 0.5% of Full-Time Equivalent occupants. Assumes 300 building occupants and will require 15 bike racks and two shower and changing rooms. Added cost to project is estimated to be \$6,600.
- Credit 4.3 – Provide preferred parking for low-emitting and fuel-efficient vehicles for 5% of the total vehicle parking capacity of the site. Added cost to the project is estimated to be \$500 for signs.
- Credit 4.4 – Size parking capacity to not exceed minimum local zoning requirements, and provide preferred parking for carpools or vanpools for 5% of the total provided parking spaces. Added cost to the project is estimated to be \$500 for signs.
- Credit 6.1 – Implement a stormwater management plan to keep post-development stormwater discharge equal to or less than the predevelopment stormwater discharge rate. A retention basin may be required. It could easily be incorporated into the lawn area on the site plan. Added cost to the project is estimated to be \$39,500 for development of a retention basin.
- Credit 6.2 – Must treat 90% of peak stormwater runoff. This can be achieved through bio-swales. Some bio-swales appear to be shown on the drawings in the parking lot areas. Additional bio-swales may need to be added to help treat stormwater runoff. Added cost to the project is estimated to be \$17,500.
- Credit 7.1 – Credit is achievable through use of light colored concrete or shade trees to shade asphalt paving. Estimated added cost to the project is \$17,500 for larger shade trees to be used in the parking lot.
- Credit 7.2 – Must use roofing materials that are light in color. Estimate added cost to the project to be \$15,000 to change flat roof areas to a 'cool' or white roof and to specify a high solar reflectance color for the standing seam metal roof.

**Water Efficiency**

- Credit 3.1 – Credit's intent is to maximize water efficiency to reduce burden on municipal water supply and wastewater systems. This credit is achievable through the use of low flow fixtures. Added cost to the project is estimated to be \$1,000.
- Credit 3.2 – Credit's intent is to further maximize water efficiency to reduce burden on municipal water supply and wastewater systems. This credit is achievable through the use of dual flush valves, low flow faucets, occupancy sensors, and pint flush fixtures. Added cost to the project is estimated to be \$1,000.

**Energy and Atmosphere**

- PREREQ1 – Fundamental Commissioning of Building Energy Systems. This requires independent verification of the building's energy related systems to verify they are installed, calibrated and performs according to the project requirements. Added cost to the project is estimated to be \$75,000.
- PREREQ2 – This credit requires that the project achieves a minimum level of energy efficiency. This pre-requisite is achieved through compliance with Title 24.

- PREREQ3 – Zero use of CFC based refrigerants in HVAC&R systems to reduce ozone depletion
- Credit 1 – 2 points of 10 achieved through compliance with Title 24. The credit standard is based upon a compliance with and ASHRAE Standard. Title 24 requires more efficient buildings than the ASHRAE Standard. No added cost to the project.
- Credit 3 – Enhanced Commissioning requires additional commissioning beyond the commissioning requirements of PREREQ1. Added cost to the project is estimated to be \$25,000 or a 20%-30% addition to the Fundamental Building Commissioning.

### **Materials and Resources**

- PREREQ1 – Must provide dedicate areas for the collection and storage of recycled materials
- Credit 2.1 – Credit requires the contractor to divert 50% of construction waste from landfills and incinerators and return construction and demolition debris back to the manufacturing process through recycling. Added cost to the project is estimated to be an additional \$15,000.
- Credit 5.1 – Credit requires a minimum of 10% of materials by cost be extracted, harvested, or recovered as well as manufactured within 500 miles of project site. This credit is achievable with a large amount of concrete site work from local plants and landscape materials from local nurseries. There should be no additional cost to the project.

### **Indoor Environmental Quality**

- PREREQ1 – Credit must meet the minimum requirements from ASHRAE Standard for indoor air quality in buildings. There should be no added cost to the project. This pre-requisite is achieved through compliance with Title 24.
- PREREQ2 – Prohibit smoking in the building and locate any exterior designated smoking areas at least 25 feet away from building entries, outdoor air intakes, and operable windows. No added cost to the project.
- Credit 3.1 – Implement a Construction Indoor Air Quality Management Plan to comply with SMACNA guidelines for Occupied Buildings under Construction, protect stored or installed absorptive materials from moisture damage, and provide filtration for permanently installed air handlers during construction. Added cost to the project is estimated to be \$2,500.
- Credit 3.2 – Before occupancy perform a building flush-out. After construction ends and prior to occupancy supply a total air volume of 14,000 cu.ft. of outdoor air per sq.ft. of floor area while maintaining internal temperature of at least 60F and a relative humidity of at least 60%. Added cost to the project is estimated to be \$2,500. This can also impact schedule to allow for time to perform the building flush-out.
- Credit 4.1 – All adhesives and sealants used on the interior of the building shall comply with the requirements of the South Coast Air Quality Management District for VOC limits. Added cost to the project is estimated to be \$1,000.
- Credit 4.2 – Paints and coatings on the interior of the building shall not exceed the VOC content limits established by the Green Seal Standard for paints. Added cost to the project is estimated to be \$1,000.
- Credit 4.3 – All carpet installed in the building interior shall meet the product requirements for the Carpet and Rug Institute's Green Label Plus program to limit VOC content in carpet adhesives. Added cost to the project is estimated to be \$1,000.

- Credit 4.4 – Must pay close attention to particle board, plywood, door cores, etc. Composite wood and agrifiber products shall contain no added urea-formaldehyde resins. Added cost to the project is estimated to be \$1,000.
- Credit 7.1 – Credit requires mechanical ventilation system to be designed to meet ASHRAE Standard for Thermal Comfort for Human Occupancy. No additional cost to implement this credit.
- Credit 7.2 – Credit requires an assessment of the building's thermal comfort over time. This can be done through a post-occupancy survey within a period of six to eighteen months after occupancy. There is no direct cost added to the project.
- Credit 8.1 – Must provide building occupants a connection between the indoor spaces and the outdoors through daylight and views from regularly occupied spaces. Based upon the layout shown on the plan, this credit should be achievable at no added cost to the project.

#### **Innovation and Design Process**

- Credit 1.1 – Sustainable education program. Through the use of signage and graphics, a point can be achieved by educating the general public about green strategies and practices implemented into the project. Added cost to the project is estimated to be 16,000 for educational signs.
- Credit 1.2 – Implement green housekeeping strategies. By developing a plan to use green housekeeping products in the maintenance and cleaning of the facility after occupancy, a credit can be achieved. There should be no added direct cost to the project.
- Credit 1.3 – A continuation of Water Efficiency Credits 3.1 and 3.2, by using 40% less water an innovation point can be achieved. This includes using pint flush fixtures, waterless urinals, low flow faucets, and occupancy sensors. Added cost for this credit is built into Credits 3.1 and 3.2.
- Credit 2 – One point is achieved for having a LEED Accredited Professional on the project team. Built into this credit is the fee for the LEED AP to manage and document the LEED process with the USGBC. Estimated added cost to manage and document is \$80,000.

***LEED Gold Score Card: 42 points of 39 required – 7 potential points tracked***

#### **Sustainable Sites**

- Credit 8 – Credit requires interior lighting does not exit through the windows and exterior lighting only be supplied for safety and comfort. Due to the site's adjacency to the park there will be a significant light level reduction. There should be no added cost to the project to design the lighting system to meet the specified standards by this credit.

#### **Energy and Atmosphere**

- Credit 1 – 4 additional points for a total of 6 of the 10 possible are achieved through the addition of the On-Site Renewable Energy in Credit 2. The added cost for these points can be found in Energy and Atmosphere Credit 2
- Credit 2 – This seeks to reduce dependence on fossil fuels by encouraging the development of On-Site Renewable Energy. By adding Photovoltaic Panels on the roof of the building 3 points for on site renewable energy are achieved. The total cost of the points is estimated to be \$355,000. These points form a synergy with the points in Credit 1 of this category.
- Credit 5 – Measurement and Verification. This credit requires the installation of metering equipment to measure energy usage to provide an ongoing accountability

of the building's energy consumption. The estimated cost for the metering equipment is \$17,500.

#### **Materials and Resources**

- Credit 2.2 – The credit is a continuation of Credit 2.1. It requires an increase of construction waste diverted from landfills from 50% to 75%. To achieve this credit strong participation from the general contractor will be required. Added cost to the project is estimated to be \$10,000.

#### **Indoor Environmental Quality**

- Credit 1 – This credit requires the installation of permanent monitoring systems for the ventilation system's performance to ensure that the minimum ventilation requirements are being met. The estimated cost for this credit is \$11,000.
- Credit 2 – This credit requires an increase in the outdoor air in the ventilation system to improve occupant comfort. There should be no cost impact to implement this credit into the design.
- Credit 5 – The purpose of this credit is to minimize and control pollutants in occupied spaces. To achieve these credit permanent walk-off mats will be installed at exterior doors and exhaust systems will be used in rooms with hazardous gasses and chemicals to create a negative pressure in these rooms. Examples of the rooms would be a janitor closet or a copy room. Added cost to the project is estimated to be \$10,000.

#### **Innovation and Design Process**

- Credit 1.4 – Credit 1.4 tracks a yet to be identified innovation credit. An allowance of \$1,000 has been given to use toward the design of this innovation credit. This credit will likely come from an exemplary performance in a credit already taken advantage of.

# Huntington Beach Senior Center



Project Type: Greenfield Site with New Building  
 Project Location: California  
 Building Type: Institutional  
 Building Structure: Other  
 Geographic Location: California  
 Climate Zone: Sage Brush  
 Author:  
 Company: LPA, Inc.

Structure Demolition: 0 Sq Ft  
 Paving Demolition: 0 Sq Ft  
 Underground Parking: 0 %  
 Building Gross Area: 45,000 Sq Ft  
 Number of Stories High: 1  
 Number of Occupants: 0  
 Total Site Area: 5.0000 Acres

## SUSTAINABLE SITES 14-POINTS POSSIBLE

	Points Taken	Potential Points	Maximum Points	Design Costs	Construction Costs	Total Costs	Difficulty
<b>TOTALS</b>	8	0	14	\$ 11,100	\$ 97,000	\$ 108,100	
<b>PREREQ 1: Construction Activity Pollution Prevention</b>				Assumes that the engineering fees are already included in the civil engineers fee.			
	+		0	\$	\$	\$ 0	
<b>CREDIT 1: Site Selection</b>							
			1	\$	\$	\$ 0	
<b>CREDIT 2: Development Density &amp; Community Connectivity</b>							
			1	\$	\$	\$ 0	
<b>CREDIT 3: Brownfield Development</b>							
			1	\$	\$	\$ 0	
<b>CREDIT 4.1: Alternative Transportation: Public Transportation Access</b>				Proximity to 2 bus lines. No additional costs.			
	1		1	\$	\$	\$ 0	
<b>CREDIT 4.2: Alternative Transportation: Bicycle Storage &amp; Changing Rooms</b>				Assumes 300 occupants maximum and will require 15 bike racks and 2 showers.			
	1		1	\$ 600	\$ 6,000	\$ 6,600	

# Huntington Beach Senior Center

LPA LEADERSHIP IN DESIGN

<b>CREDIT 4.3: Alternative Transportation: Low Emitting &amp; Fuel Efficient Vehicles</b>	1	1	Provide preferred parking for low-emitting vehicles and fuel efficient vehicles equivalent to 5% of total parking capacity of the site. Add Signage	\$	\$ 500	\$ 500
<b>CREDIT 4.4: Alternative Transportation: Parking Capacity</b>	1	1	Provide preferred parking for carpools and vanpools for for 5% of total site parking capacity. Add Signage	\$	\$ 500	\$ 500
<b>CREDIT 5.1: Site Development: Protect or Restore Habitat</b>		1	Will require site re-configuration and clear definition to define limit of work to be disturbed. Site may have too much grading to be feasible.	\$	\$	\$ 0
<b>CREDIT 5.2: Site Development: Maximize Open Space</b>		1	Like Credit 5.2 will require a clear definition of what the total site area is.	\$	\$	\$ 0
<b>CREDIT 6.1: Stormwater Design: Quantity Control</b>	1	1	Limit post development storm discharge to equal to or less than pre-developmetn rates. Could require a retention basins	\$ 4,500	\$ 35,000	\$ 39,500
<b>CREDIT 6.2: Stormwater Design: Quality Control</b>	1	1	Treatment of 90% of peak stormwater runoff through systems such as bioswales. Some Bioswales show on existing drawings.	\$ 3,500	\$ 25,000	\$ 28,500
<b>CREDIT 7.1: Heat Island Effect: Non-Roof</b>	1	1	Will require light colored paving and shade trees. Assumes addition of shade trees in parking lot. Not a significant add to the landscape architect scope of work.	\$ 2,500	\$ 15,000	\$ 17,500
<b>CREDIT 7.2: Heat Island Effect: Roof</b>	1	1	High solar reflectance on Standing Seam Metal Roof. Cool roof on flat roof areas. No cost to change color of Standing Seam Roof, additional cost to change built-up roof to cool roof.	\$	\$ 15,000	\$ 15,000
<b>CREDIT 8: Light Pollution Reduction</b>		1	This credit will require a significant light level reduction because of adjacent park. There could be a conflict if the city has a security/lighting ordinance.	\$	\$	\$ 0

**WATER EFFICIENCY 5-POINTS POSSIBLE**

	Points Taken	Potential Points	Maximum Points	Design Costs	Construction Costs	Total Costs	Difficulty
<b>TOTALS</b>	2	1	5	\$ 0	\$ 2,000	\$ 2,000	

<b>CREDIT 1.1: Water Efficient Landscaping, Reduce by 50%</b>				Since reclaimed water is not available, this could prohibit the lawn area to allow for a 50% reduction in landscaping watering. Change will not effect cost.			
		1	1	\$	\$	\$ 0	

<b>CREDIT 1.2: Water Efficient Landscaping: No Potable Water Use or No Irrigation</b>				Will require reclaimed water on site.			
			1	\$	\$	\$ 0	

<b>CREDIT 2: Innovative Wastewater Technologies</b>				Will require significant measures such as reclaimed water on site, composting toilets.			
			1	\$	\$	\$ 0	

<b>CREDIT 3.1: Water Use Reduction: 20% Reduction</b>				Cost associated with changing existing fixtures low flow fixtures			
	1		1	\$	\$ 1,000	\$ 1,000	

<b>CREDIT 3.2: Water Use Reduction: 30% Reduction</b>				Pint Flush Fixtures, Dual Flush Valves, Low Flow Faucets, & Occupancy Sensors on Faucets.			
	1		1	\$	\$ 1,000	\$ 1,000	

**ENERGY AND ATMOSPHERE 17-POINTS POSSIBLE**

	Points Taken	Potential Points	Maximum Points	Design Costs	Construction Costs	Total Costs	Difficulty
<b>TOTALS</b>	3	1	17	\$ 100,000	\$ 0	\$ 100,000	

<b>PREREQ 1: Fundamental Commissioning of the Building Energy Systems</b>				Requires independant verification that the building's energy related systems are installed, calibrated and perform according to the owner's project requirements, basis of design, and constrution documents.			
	+		0	\$ 75,000	\$	\$ 75,000	

# Huntington Beach Senior Center



<b>PREREQ 2: Minimum Energy Performance</b>				Requires establishment of the minimum level of energy efficiency for the proposed building and systems. Pre-requisite is achieved with Title 24 compliance.	
	+		0	\$	\$ 0
<b>PREREQ 3: Fundamental Refrigerant Management</b>				Zero use of CFC based refrigerants in HVAC&R systems to reduce ozone depletion.	
	+		0	\$	\$ 0
<b>CREDIT 1: Optimize Energy Performance</b>				2 points achieved through compliance with Title 24.	
	2		10	\$	\$ 0
<b>CREDIT 2: On-Site Renewable Energy</b>				Assumes addition of Photovoltaic Panels for onsite energy generation.	
			3	\$	\$ 0
<b>CREDIT 3: Enhanced Commissioning</b>				20% - 30% cost increase over PreReq. 3 Fundamental Commissioning of the Building Energy Systems.	
	1		1	\$ 25,000	\$ 25,000
<b>CREDIT 4: Enhanced Refrigerant Management</b>				Point will hinge upon what type of Air Handling System is specified. Point is easier with a Large Air Handler. May not apply to existing design.	
			1	\$	\$ 0
<b>CREDIT 5: Measurement &amp; Verification</b>				Install necessary metering equipment to measure energy usage to provide for the ongoing accountability of building energy consumption over time.	
			1	\$	\$ 0
<b>CREDIT 6: Green Power</b>				Can be a cost effective point to take advantage of if necessary. Cost associated with this credit will require a long term operation cost commitment.	
			1	\$	\$ 0

## MATERIALS AND RESOURCES 13-POINTS POSSIBLE

	Points Taken	Potential Points	Maximum Points	Design Costs	Construction Costs	Total Costs	Difficulty
<b>TOTALS</b>	2	3	13	\$ 0	\$ 15,000	\$ 15,000	

# Huntington Beach Senior Center



<b>PREREQ 1: Storage &amp; Collection of Recyclables</b>				Provide dedicated areas for the collection and storage of recycled materials.				
	+		0		\$	\$	\$	0
<b>CREDIT 1.1: Building Reuse: Maintain 75% of Existing Walls, Floors &amp; Roof</b>								
			1		\$	\$	\$	0
<b>CREDIT 1.2: Building Reuse - Maintain 95% of Existing Walls, Floors &amp; Roof</b>								
			1		\$	\$	\$	0
<b>CREDIT 1.3: Building Reuse: Maintain 50% of Interior Non-Structural Elements</b>								
			1		\$	\$	\$	0
<b>CREDIT 2.1: Construction Waste Management: Divert 50% From Disposal</b>								
	1		1		\$	\$ 15,000	\$	15,000
<b>CREDIT 2.2: Construction Waste Management: Divert 75% From Disposal</b>								
			1		\$	\$	\$	0
<b>CREDIT 3.1: Materials Reuse: 5%</b>								
			1		\$	\$	\$	0
<b>CREDIT 3.2: Materials Reuse: 10%</b>								
			1		\$	\$	\$	0
<b>CREDIT 4.1: Recycled Content: 10% (post-consumer + ½ pre-consumer)</b>								
		1	1	Achievable with a Steel Frame Building. Track quantities of Fly Ash in the Concrete. If the building is wood framed, this point may be more difficult to achieve.	\$	\$	\$	0
<b>CREDIT 4.2: Recycled Content: 20% (post-consumer + ½ pre-consumer)</b>								
		1	1		\$	\$	\$	0

# Huntington Beach Senior Center



<b>CREDIT 5.1: Regional Materials: 10% Extracted, Processed &amp; Manufactured Regionally</b>				Achievable with a large amount of Site Work through locally supplied concrete and landscape materials.	
	1		1	\$	\$ 0

<b>CREDIT 5.2: Regional Materials: 20% Extracted, Processed &amp; Manufactured Regionally</b>					
			1	\$	\$ 0

<b>CREDIT 6: Rapidly Renewable Materials</b>					
			1	\$	\$ 0

<b>CREDIT 7: Certified Wood</b>				This could be a difficult point to achieve in a wood framed building.	
			1	\$	\$ 0

## INDOOR ENVIRONMENTAL QUALITY 15-POINTS POSSIBLE

	Points Taken	Potential Points	Maximum Points	Design Costs	Construction Costs	Total Costs	Difficulty
<b>TOTALS</b>	9	1	15	\$ 0	\$ 9,000	\$ 9,000	

<b>PREREQ 1: Minimum IAQ Performance</b>				Establish a minimum indoor air quality performance to enhance the indoor air quality in the buildings.	
	+		0	\$	\$ 0

<b>PREREQ 2: Environmental Tobacco Smoke (ETS) Control</b>				Prohibit smoking in the building and locate any exterior designated smoking areas at least 25 feet away from building entries, outdoor air intakes and operable windows.	
	+		0	\$	\$ 0

<b>CREDIT 1: Outdoor Air Delivery Monitoring</b>					
			1	\$	\$ 0

<b>CREDIT 2: Increased Ventilation</b>					
			1	\$	\$ 0

# Huntington Beach Senior Center



<b>CREDIT 3.1: Construction IAQ Management Plan: During Construction</b>	1	1	Develop and implement an Indoor Air Quality Management Plan for construction and pre-occupancy phases.	\$	\$ 2,500	\$ 2,500
<b>CREDIT 3.2: Construction IAQ Management Plan: Before Occupancy</b>	1	1	Point can impact project schedule and budget due to testing and building flush-out.	\$	\$ 2,500	\$ 2,500
<b>CREDIT 4.1: Low-Emitting Materials: Adhesives &amp; Sealants</b>	1	1	All adhesives and sealants used on the interior of the building shall comply with the requirements of the South Coast Air Quality Management District for VOC limits.	\$	\$ 1,000	\$ 1,000
<b>CREDIT 4.2: Low-Emitting Materials: Paints &amp; Coatings</b>	1	1	Paints and coatings used on the interior of the building shall not exceed the VOC content limits established by the Green Seal Standard for paints.	\$	\$ 1,000	\$ 1,000
<b>CREDIT 4.3: Low-Emitting Materials: Carpet Systems</b>	1	1	All carpet installed in the building interior shall meet the product requirements for the Carpet and Rug Institute's Green Label Plus program to limit VOC content in carpet adhesives.	\$	\$ 1,000	\$ 1,000
<b>CREDIT 4.4: Low-Emitting Materials: Composite Wood &amp; Agrifiber Products</b>	1	1	Must pay close attention to particle board, plywood, door cores, etc. Composite wood and agrifiber products shall contain no added urea-formaldehyde resins.	\$	\$ 1,000	\$ 1,000
<b>CREDIT 5: Indoor Chemical &amp; Pollutant Source Control</b>	1	1	Minimize and control pollutants in occupied spaces through the use of permanent entryway systems designed to capture dirt and particulates from entering the building, exhaust rooms with hazardous gasses and chemicals to create negative pressure in those rooms, and provide MERV 13 filtration filters or better for mechanical ventilation system.	\$	\$	\$ 0
<b>CREDIT 6.1: Controllability of Systems: Lighting</b>		1		\$	\$	\$ 0
<b>CREDIT 6.2: Controllability of Systems: Thermal Comfort</b>		1		\$	\$	\$ 0

# Huntington Beach Senior Center



<b>CREDIT 7.1: Thermal Comfort: Design</b>	1	1	Design mechanical ventilation system to meet the ASHRAE Standard for Thermal Comfort Conditions for Human Occupancy.				
				\$	\$	\$	0
<b>CREDIT 7.2: Thermal Comfort: Verification</b>	1	1	Requires a post occupancy survey of installed systems.				
				\$	\$	\$	0
<b>CREDIT 8.1: Daylight &amp; Views: Daylight 75% of Spaces</b>	1	1	Appears attainable based upon the existing layout of the building.				
				\$	\$	\$	0
<b>CREDIT 8.2: Daylight &amp; Views: Views for 90% of Spaces</b>							
		1		\$	\$	\$	0

## INNOVATION AND DESIGN PROCESS 5-POINTS POSSIBLE

	Points Taken	Potential Points	Maximum Points	Design Costs	Construction Costs	Total Costs	Difficulty
<b>TOTALS</b>	4	0	5	\$ 81,000	\$ 15,000	\$ 96,000	
<b>CREDIT 1.1: Innovation in Design</b>	1	1	Sustainable Education Program				
				\$ 1,000	\$ 15,000	\$ 16,000	
<b>CREDIT 1.2: Innovation in Design</b>	1	1	Implement Green Housekeeping Strategies				
				\$	\$	\$	0
<b>CREDIT 1.3: Innovation in Design</b>	1	1	Water Use Reduction to 40%				
				\$	\$	\$	0
<b>CREDIT 1.4: Innovation in Design</b>			TBD				
		1		\$	\$	\$	0
<b>CREDIT 2: LEED Accredited Professional</b>	1	1					
				\$ 80,000	\$	\$ 80,000	

**PROJECT TOTALS**

	Points Taken	Potential Points	Maximum Points	Design Costs	Construction Costs	Total Costs
<b>TOTAL POINTS TAKEN</b>	28			\$ 192,100	\$ 138,000	\$ 330,100
<b>TOTAL POTENTIAL POINTS</b>		6		\$ 0	\$ 0	\$ 0
<b>TOTAL COMBINED POINTS</b>	34	69		\$ 192,100	\$ 138,000	\$ 330,100

Points Taken	Potential Points	Maximum Points	Certified	26
<b>28</b>	<b>6</b>	<b>69</b>	Silver	33
			Gold	39
			Platinum	52

# Huntington Beach Senior Center



Project Type: Greenfield Site with New Building  
 Project Location: California  
 Building Type: Institutional  
 Building Structure: Other  
 Geographic Location: California  
 Climate Zone: Sage Brush  
 Author:  
 Company: LPA, Inc.

Structure Demolition: 0 Sq Ft  
 Paving Demolition: 0 Sq Ft  
 Underground Parking: 0 %  
 Building Gross Area: 45,000 Sq Ft  
 Number of Stories High: 1  
 Number of Occupants: 0  
 Total Site Area: 5.0000 Acres

## SUSTAINABLE SITES 14-POINTS POSSIBLE

	Points Taken	Potential Points	Maximum Points	Design Costs	Construction Costs	Total Costs	Difficulty
<b>TOTALS</b>	9	2	14	\$ 11,100	\$ 97,000	\$ 108,100	
<b>PREREQ 1: Construction Activity Pollution Prevention</b>				Assumes that the engineering fees are already included in the civil engineers fee.			
	+		0	\$	\$	\$ 0	
<b>CREDIT 1: Site Selection</b>							
			1	\$	\$	\$ 0	
<b>CREDIT 2: Development Density &amp; Community Connectivity</b>							
			1	\$	\$	\$ 0	
<b>CREDIT 3: Brownfield Development</b>							
			1	\$	\$	\$ 0	
<b>CREDIT 4.1: Alternative Transportation: Public Transportation Access</b>				Proximity to 2 bus lines. No additional costs.			
	1		1	\$	\$	\$ 0	
<b>CREDIT 4.2: Alternative Transportation: Bicycle Storage &amp; Changing Rooms</b>				Assumes 300 occupants maximum and will require 15 bike racks and 2 showers.			
	1		1	\$ 600	\$ 6,000	\$ 6,600	

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LPA LEADERSHIP IN DESIGN

<b>CREDIT 4.3: Alternative Transportation: Low Emitting &amp; Fuel Efficient Vehicles</b>	1	1	1	Provide preferred parking for low-emitting vehicles and fuel efficient vehicles equivalent to 5% of total parking capacity of the site. Add Signage			
				\$	\$	500	\$ 500
<b>CREDIT 4.4: Alternative Transportation: Parking Capacity</b>	1	1	1	Provide preferred parking for carpools and vanpools for for 5% of total site parking capacity. Add Signage			
				\$	\$	500	\$ 500
<b>CREDIT 5.1: Site Development: Protect or Restore Habitat</b>	1	1	1	Will require site re-configuration and clear definition to define limit of work to be disturbed. Site may have too much grading to be feasible.			
				\$	\$		\$ 0
<b>CREDIT 5.2: Site Development: Maximize Open Space</b>	1	1	1	Like Credit 5.2 will require a clear definition of what the total site area is.			
				\$	\$		\$ 0
<b>CREDIT 6.1: Stormwater Design: Quantity Control</b>	1	1	1	Limit post development storm discharge to equal to or less than pre-developmetn rates. Could require a retention basins			
				\$	4,500	\$ 35,000	\$ 39,500
<b>CREDIT 6.2: Stormwater Design: Quality Control</b>	1	1	1	Treatment of 90% of peak stormwater runoff through systems such as bioswales. Some Bioswales show on existing drawings.			
				\$	3,500	\$ 25,000	\$ 28,500
<b>CREDIT 7.1: Heat Island Effect: Non-Roof</b>	1	1	1	Will require light colored paving and shade trees. Assumes addition of shade trees in parking lot. Not a significant add to the landscape architect scope of work.			
				\$	2,500	\$ 15,000	\$ 17,500
<b>CREDIT 7.2: Heat Island Effect: Roof</b>	1	1	1	High solar reflectance on Standing Seam Metal Roof. Cool roof on flat roof areas. No cost to change color of Standing Seam Roof, additional cost to change built-up roof to cool roof.			
				\$		\$ 15,000	\$ 15,000
<b>CREDIT 8: Light Pollution Reduction</b>	1	1	1	This credit will require a significant light level reduction because of adjacent park. There could be a conflict if the city has a security/lighting ordinance.			
				\$			\$ 0

**WATER EFFICIENCY 5-POINTS POSSIBLE**

	Points Taken	Potential Points	Maximum Points	Design Costs	Construction Costs	Total Costs	Difficulty
<b>TOTALS</b>	<b>2</b>	<b>1</b>	<b>5</b>	<b>\$ 0</b>	<b>\$ 2,000</b>	<b>\$ 2,000</b>	

<b>CREDIT 1.1: Water Efficient Landscaping, Reduce by 50%</b>				Since reclaimed water is not available, this could prohibit the lawn area to allow for a 50% reduction in landscaping watering. Change will not effect cost.			
		1	1	\$	\$	\$ 0	

<b>CREDIT 1.2: Water Efficient Landscaping: No Potable Water Use or No Irrigation</b>				Will require reclaimed water on site.			
			1	\$	\$	\$ 0	

<b>CREDIT 2: Innovative Wastewater Technologies</b>				Will require significant measures such as reclaimed water on site, composting toilets.			
			1	\$	\$	\$ 0	

<b>CREDIT 3.1: Water Use Reduction: 20% Reduction</b>				Cost associated with changing existing fixtures low flow fixtures			
	1		1	\$	\$ 1,000	\$ 1,000	

<b>CREDIT 3.2: Water Use Reduction: 30% Reduction</b>				Pint Flush Fixtures, Dual Flush Valves, Low Flow Faucets, & Occupancy Sensors on Faucets.			
	1		1	\$	\$ 1,000	\$ 1,000	

**ENERGY AND ATMOSPHERE 17-POINTS POSSIBLE**

	Points Taken	Potential Points	Maximum Points	Design Costs	Construction Costs	Total Costs	Difficulty
<b>TOTALS</b>	<b>11</b>	<b>1</b>	<b>17</b>	<b>\$ 132,500</b>	<b>\$ 340,000</b>	<b>\$ 472,500</b>	

<b>PREREQ 1: Fundamental Commissioning of the Building Energy Systems</b>				Requires independant verification that the building's energy related systems are installed, calibrated and perform according to the owner's project requirements, basis of design, and construction documents.			
	+		0	\$ 75,000	\$	\$ 75,000	

# Huntington Beach Senior Center



<b>PREREQ 2: Minimum Energy Performance</b>				Requires establishment of the minimum level of energy efficiency for the proposed building and systems. Pre-requisite is achieved with Title 24 compliance.			
	+		0	\$	\$	\$	0
<b>PREREQ 3: Fundamental Refrigerant Management</b>				Zero use of CFC based refrigerants in HVAC&R systems to reduce ozone depletion.			
	+		0	\$	\$	\$	0
<b>CREDIT 1: Optimize Energy Performance</b>				2 points achieved through compliance with Title 24. Other points achieved in conjunction with installation of Photovoltaic Panels.			
	6		10	\$	\$	\$	0
<b>CREDIT 2: On-Site Renewable Energy</b>				Assumes addition of Photovoltaic Panels for onsite energy generation.			
	3		3	\$ 30,000	\$ 325,000	\$ 355,000	
<b>CREDIT 3: Enhanced Commissioning</b>				20% - 30% cost increase over PreReq. 3 Fundamental Commissioning of the Building Energy Systems.			
	1		1	\$ 25,000	\$	\$ 25,000	
<b>CREDIT 4: Enhanced Refrigerant Management</b>				Point will hinge upon what type of Air Handling System is specified. Point is easier with a Large Air Handler. May not apply to existing design.			
			1	\$	\$	\$	0
<b>CREDIT 5: Measurement &amp; Verification</b>				Install necessary metering equipment to measure energy usage to provide for the ongoing accountability of building energy consumption over time.			
	1		1	\$ 2,500	\$ 15,000	\$ 17,500	
<b>CREDIT 6: Green Power</b>				Can be a cost effective point to take advantage of if necessary. Cost associated with this credit will require a long term operation cost commitment.			
			1	\$	\$	\$	0

## MATERIALS AND RESOURCES 13-POINTS POSSIBLE

	Points Taken	Potential Points	Maximum Points	Design Costs	Construction Costs	Total Costs	Difficulty
<b>TOTALS</b>	3	3	13	\$ 0	\$ 25,000	\$ 25,000	

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<b>PREREQ 1: Storage &amp; Collection of Recyclables</b>				Provide dedicated areas for the collection and storage of recycled materials.	
	+		0	\$	\$ 0
<b>CREDIT 1.1: Building Reuse: Maintain 75% of Existing Walls, Floors &amp; Roof</b>					
			1	\$	\$ 0
<b>CREDIT 1.2: Building Reuse - Maintain 95% of Existing Walls, Floors &amp; Roof</b>					
			1	\$	\$ 0
<b>CREDIT 1.3: Building Reuse: Maintain 50% of Interior Non-Structural Elements</b>					
			1	\$	\$ 0
<b>CREDIT 2.1: Construction Waste Management: Divert 50% From Disposal</b>					
	1		1	\$	\$ 15,000
<b>CREDIT 2.2: Construction Waste Management: Divert 75% From Disposal</b>					
	1		1	\$	\$ 10,000
<b>CREDIT 3.1: Materials Reuse: 5%</b>					
			1	\$	\$ 0
<b>CREDIT 3.2: Materials Reuse: 10%</b>					
			1	\$	\$ 0
<b>CREDIT 4.1: Recycled Content: 10% (post-consumer + ½ pre-consumer)</b>					
		1	1	\$	\$ 0
<b>CREDIT 4.2: Recycled Content: 20% (post-consumer + ½ pre-consumer)</b>					
		1	1	\$	\$ 0

<b>CREDIT 5.1: Regional Materials: 10% Extracted, Processed &amp; Manufactured Regionally</b>				Achievable with a large amount of Site Work through locally supplied concrete and landscape materials.	
	1		1	\$	\$ 0

<b>CREDIT 5.2: Regional Materials: 20% Extracted, Processed &amp; Manufactured Regionally</b>					
			1	\$	\$ 0

<b>CREDIT 6: Rapidly Renewable Materials</b>					
			1	\$	\$ 0

<b>CREDIT 7: Certified Wood</b>				This could be a difficult point to achieve in a wood framed building.	
			1	\$	\$ 0

## INDOOR ENVIRONMENTAL QUALITY 15-POINTS POSSIBLE

	Points Taken	Potential Points	Maximum Points	Design Costs	Construction Costs	Total Costs	Difficulty
<b>TOTALS</b>	12	0	15	\$ 1,000	\$ 29,000	\$ 30,000	

<b>PREREQ 1: Minimum IAQ Performance</b>				Establish a minimum indoor air quality performance to enhance the indoor air quality in the buildings.	
	+		0	\$	\$ 0

<b>PREREQ 2: Environmental Tobacco Smoke (ETS) Control</b>				Prohibit smoking in the building and locate any exterior designated smoking areas at least 25 feet away from building entries, outdoor air intakes and operable windows.	
	+		0	\$	\$ 0

<b>CREDIT 1: Outdoor Air Delivery Monitoring</b>				Install permanent monitoring systems that provide feedback on ventilation system performance to ensure systems maintain minimum ventilation requirements.		
	1		1	\$ 1,000	\$ 10,000	\$ 11,000

<b>CREDIT 2: Increased Ventilation</b>				Provide additional outdoor air ventilation to improve indoor air quality for improved occupant comfort.	
	1		1	\$	\$ 0

# Huntington Beach Senior Center



<b>CREDIT 3.1: Construction IAQ Management Plan: During Construction</b>				Develop and implement an Indoor Air Quality Management Plan for construction and pre-occupancy phases.	
	1		1	\$	\$ 2,500 \$ 2,500
<b>CREDIT 3.2: Construction IAQ Management Plan: Before Occupancy</b>				Point can impact project schedule and budget due to testing and building flush-out.	
	1		1	\$	\$ 2,500 \$ 2,500
<b>CREDIT 4.1: Low-Emitting Materials: Adhesives &amp; Sealants</b>				All adhesives and sealants used on the interior of the building shall comply with the requirements of the South Coast Air Quality Management District for VOC limits.	
	1		1	\$	\$ 1,000 \$ 1,000
<b>CREDIT 4.2: Low-Emitting Materials: Paints &amp; Coatings</b>				Paints and coatings used on the interior of the building shall not exceed the VOC content limits established by the Green Seal Standard for paints.	
	1		1	\$	\$ 1,000 \$ 1,000
<b>CREDIT 4.3: Low-Emitting Materials: Carpet Systems</b>				All carpet installed in the building interior shall meet the product requirements for the Carpet and Rug Institute's Green Label Plus program to limit VOC content in carpet adhesives.	
	1		1	\$	\$ 1,000 \$ 1,000
<b>CREDIT 4.4: Low-Emitting Materials: Composite Wood &amp; Agrifiber Products</b>				Must pay close attention to particle board, plywood, door cores, etc. Composite wood and agrifiber products shall contain no added urea-formaldehyde resins.	
	1		1	\$	\$ 1,000 \$ 1,000
<b>CREDIT 5: Indoor Chemical &amp; Pollutant Source Control</b>				Minimize and control pollutants in occupied spaces through the use of permanent entryway systems designed to capture dirt and particulates from entering the building, exhaust rooms with hazardous gasses and chemicals to create negative pressure in those rooms, and provide MERV 13 filtration filters or better for mechanical ventilation system.	
	1		1	\$	\$ 10,000 \$ 10,000
<b>CREDIT 6.1: Controllability of Systems: Lighting</b>					
			1	\$	\$ 0 \$ 0
<b>CREDIT 6.2: Controllability of Systems: Thermal Comfort</b>					
			1	\$	\$ 0 \$ 0

# Huntington Beach Senior Center



<b>CREDIT 7.1: Thermal Comfort: Design</b>				Design mechanical ventilation system to meet the ASHRAE Standard for Thermal Comfort Conditions for Human Occupancy.			
	1		1	\$	\$	\$	0

<b>CREDIT 7.2: Thermal Comfort: Verification</b>				Requires a post occupancy survey of installed systems.			
	1		1	\$	\$	\$	0

<b>CREDIT 8.1: Daylight &amp; Views: Daylight 75% of Spaces</b>				Appears attainable based upon the existing layout of the building.			
	1		1	\$	\$	\$	0

<b>CREDIT 8.2: Daylight &amp; Views: Views for 90% of Spaces</b>							
			1	\$	\$	\$	0

## INNOVATION AND DESIGN PROCESS 5-POINTS POSSIBLE

	Points Taken	Potential Points	Maximum Points	Design Costs	Construction Costs	Total Costs	Difficulty
<b>TOTALS</b>	5	0	5	\$ 82,000	\$ 15,000	\$ 97,000	

<b>CREDIT 1.1: Innovation in Design</b>				Sustainable Education Program			
	1		1	\$ 1,000	\$ 15,000	\$ 16,000	

<b>CREDIT 1.2: Innovation in Design</b>				Implement Green Housekeeping Strategies			
	1		1	\$	\$	\$	0

<b>CREDIT 1.3: Innovation in Design</b>				Water Use Reduction to 40%			
	1		1	\$	\$	\$	0

<b>CREDIT 1.4: Innovation in Design</b>				TBD			
	1		1	\$ 1,000	\$	\$ 1,000	

<b>CREDIT 2: LEED Accredited Professional</b>							
	1		1	\$ 80,000	\$	\$ 80,000	

**PROJECT TOTALS**

	Points Taken	Potential Points	Maximum Points	Design Costs	Construction Costs	Total Costs
<b>TOTAL POINTS TAKEN</b>	42			\$ 226,600	\$ 508,000	\$ 734,600
<b>TOTAL POTENTIAL POINTS</b>		7		\$ 0	\$ 0	\$ 0
<b>TOTAL COMBINED POINTS</b>	49	69		\$ 226,600	\$ 508,000	\$ 734,600

Points Taken	Potential Points	Maximum Points	Certified	26
<b>42</b>	<b>7</b>	<b>69</b>	Silver	33
			Gold	39
			Platinum	52

**Wine, Linda**

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**From:** Wine, Linda  
**Sent:** Monday, December 10, 2007 5:29 PM  
**To:** Blair Farley; Devin Dwyer (E-mail); Elizabeth Burnett (E-mail); Fred Speaker; Joe Shaw; John Scandura ; Tom Livengood  
**Cc:** Hess, Scott; Fauland, Herb; Wine, Linda; Villasenor, Jennifer  
**Subject:** FW: HB Senior Center update to PC with LEED Certified Specs  
**Attachments:** HB SC LEED Certified.pdf; HB SC LEED Gold.pdf

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**From:** Villasenor, Jennifer  
**Sent:** Monday, December 10, 2007 5:28 PM  
**To:** Wine, Linda  
**Subject:** HB Senior Center update

To Planning Commissioners:

Staff has received new information today regarding two issues involving the senior center: Mitigation Measure 4.12-2 (removal of on-street parking on Goldenwest Street) and cost estimates for LEED certification. Although staff will provide more details on this information at tomorrow evening's meeting, it is important that you receive the most up-to-date information regarding the project as it develops.

Mitigation Measure 4.12-2 (removal of on-street parking on Goldenwest St.)

Staff, in consultation with PBS&J and Urban Crossroads, the EIR consultant team, has determined that Mitigation Measure 4.12-2 (regarding the removal of on-street parking on Goldenwest Street) is no longer required. Based on revised analyses of the trip generation estimates for the senior center, the level of service impact at the intersection of Slater Ave. and Goldenwest St. during the A.M. peak hour is less than significant. We are pleased to be able to provide a resolution to this matter and will provide the revised analyses and background data at tomorrow's project review meeting.

LEED Information

Subsequent to the November 27<sup>th</sup> study session, staff commissioned a LEED accredited professional to provide cost estimates for two levels of LEED certification for the proposed senior center – LEED certification and LEED Gold certification. Although staff will be presenting an overview of this information to the Planning Commission tomorrow evening, attached are the two LEED scorecards for your information.

In the meantime, should you have any questions regarding this most recent information, please feel free to contact me at extension 1661. Thank you.

*Jennifer Villasenor*

Planning Department  
City of Huntington Beach  
714-374-1661

12/11/2007