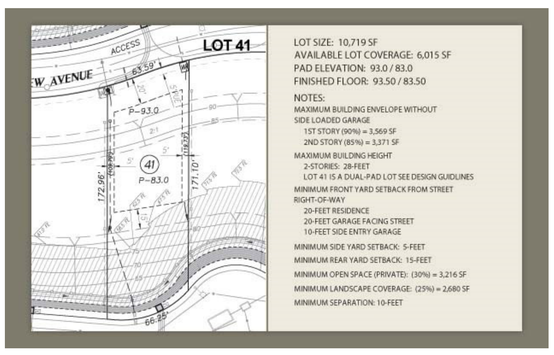
SANTA CLARA - A LEED CERTIFIED HOME

ABSTRACT

Santa Clara, a residence located in Dana Point, California, has been designed as a LEED Certified home. LEED, Leadership in Energy and Environmental Design, is a certification program for green building. There are various ratings that can be earned for homes including Certified, Silver, Gold and Platinum. In order to gain certification, a minimum of forty points must be obtained using the LEED V4 Homes and Multi-Family Midrise scorecard. This scorecard has eight categories, including: Location and Transportation, Sustainable Sites, Water Efficiency, Energy and Atmosphere, Materials and Resources, Indoor Environmental Quality, Innovation, and Regional Priority. Each category consists of prerequisites that are required as well as credits that can be obtained to earn points. The purpose of fulfilling these credits is to create a home that has better air quality, uses less energy and has less impact on the environment. An added benefit of having a LEED Certified home means lower utility bills for the homeowner.

The site for Santa Clara is located at Lot Forty-One in the Strand Point community. Landscaping, including a pool and spa, are important to the homeowner. This must be considered while choosing LEED credits to obtain. The largest categories effected by the landscaping and pool are the Water Efficiency and Sustainable Sites. There are steps that can be taken to use less water even with the use of a pool and spa.

After evaluating the homeowner's wants and needs, forty-six points will be earned, allowing the home to become certified as LEED Bronze. A detailed list of how to achieve each point will be created, and proper evidence and documentation will be provided to show completion of each one.



WHAT IS LEED?

LEED, or Leadership in Energy and Environmental Design, is the most widely used green building rating system in the world. Available for virtually all building, community and home project types, LEED provides a framework to create healthy, highly efficient and cost-saving green buildings. LEED certification is a globally recognized symbol of sustainability achievement.

THE CERTIFICATION PROCESS

The process is designed to inspire project teams to seek innovative solutions that support public health and our environment, while saving building owners money over a project's life cycle. Based on the number of points achieved, a project then earns one of four LEED rating levels:

Certified	Silver	Gold	Platinum
40-49 points earned	50-59 points earned	60-79 points earned	80+ points earned

LT Credit: Site Selection

- I chose a previously developed area. More than 75% of the total buildable land has been previously developed by The Strands community for homes, golf course, spa, and other amenities. I also chose a location that is within ½ mile of a publicly accessible or community-based open space that is at least ¾ of an acre. This includes the Strands beach as well as a public park.

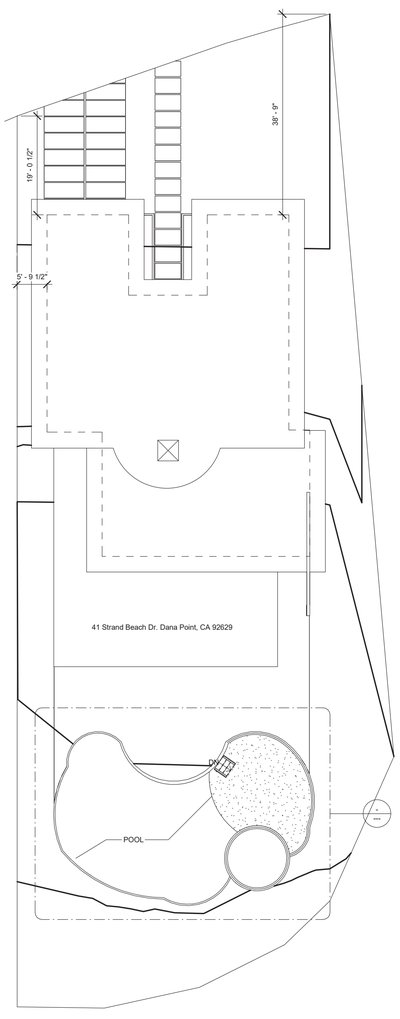
LT Credit: Community Resources

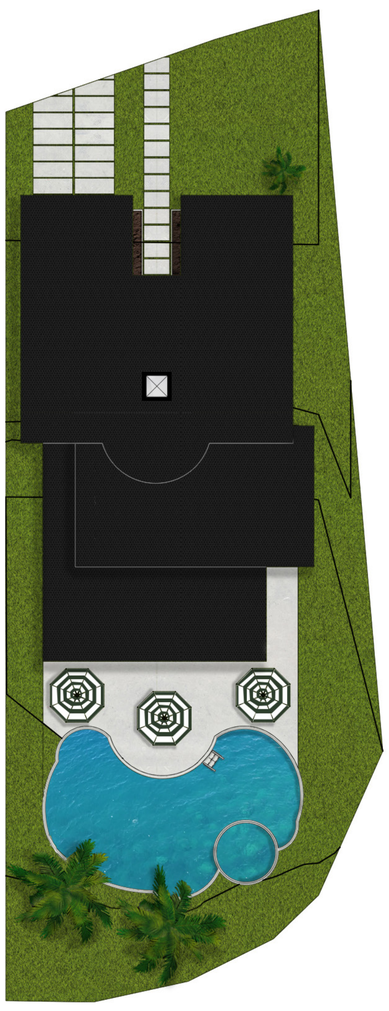
The home's main entrance is within a ½ mile walking distance from the building entrance of 8 other buildings specified under the Uses and Use Categories of LEED V4. This includes:

- Grocery Store (Rushmore Superfoods)
- Other Food Store (Purely Pomegranate Inc.)
- Services (Gym at The Strand)
- Restaurant (And Bar at The Strand)
- Public Park (Strand Vista Park)
- Medical Clinic (Practical Hospital Services)
- Family Entertainment Center (The Strand Golf Course)
- Community Center (Strand Beach Club)

EA Credit: Envelope Insulatio

- Insulation with an R-value exceeding the requirements listed in the 2012 International Energy Conservation Code, Chapter 4 by 20% will be used.

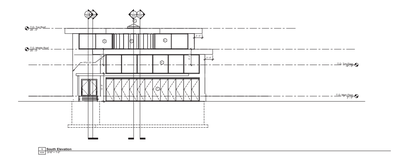


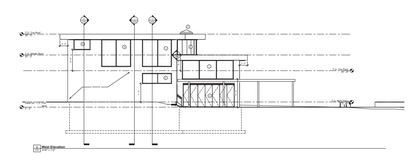


LEED v4 for Building Design and Construction: Homes and Multifamily Lowrise
Project Checklist

Y	?	N				
2			Credit	Integrative Process		2
7	0	0	**Location and Transportation**			15
Y			Prereq	Floodplain Avoidance		Required
			PERFORMANCE PATH			
		0	Credit	LEED for Neighborhood Development Location		15
			PRESCRIPTIVE PATH			
5			Credit	Site Selection		8
		0	Credit	Compact Development		3
1.5			Credit	Community Resources		2
		0	Credit	Access to Transit		2
2	0	0	**Sustainable Sites**			7
Y			Prereq	Construction Activity Pollution Prevention		Required
Y			Prereq	No Invasive Plants		Required
		0	Credit	Heat Island Reduction		2
		0	Credit	Rainwater Management		3
2			Credit	Non-Toxic Pest Control		2
5	0	0	**Water Efficiency**			12
Y			Prereq	Water Metering		Required
			PERFORMANCE PATH			
		0	Credit	Total Water Use		12
			PRESCRIPTIVE PATH			
5			Credit	Indoor Water Use		6
		0	Credit	Outdoor Water Use		4
22	0	0	**Energy and Atmosphere**			38
Y			Prereq	Minimum Energy Performance		Required
Y			Prereq	Energy Metering		Required
Y			Prereq	Education of the Homeowner, Tenant or Building Manager		Required
			PERFORMANCE PATH			
		0	Credit	Annual Energy Use		29
			BOTH PATHS			
5			Credit	Efficient Hot Water Distribution System		5
2			Credit	Advanced Utility Tracking		2
		0	Credit	Active Solar Ready Design		1
1			Credit	HVAC Start-Up Credentialing		1
			PRESCRIPTIVE PATH			
Y			Prereq	Home Size		Required
		0	Credit	Building Orientation for Passive Solar		3
		0	Credit	Air Infiltration		2
2			Credit	Envelope Insulation		2
		0	Credit	Windows		3
4			Credit	Space Heating & Cooling Equipment		4
				EA PRESCRIPTIVE PATH (continued)		
3			Credit	Heating & Cooling Distribution Systems		3
1			Credit	Efficient Domestic Hot Water Equipment		3
2			Credit	Lighting		2
1.5			Credit	High Efficiency Appliances		2
		0	Credit	Renewable Energy		4
2	0	0	**Materials and Resources**			10
Y			Prereq	Certified Tropical Wood		Required
Y			Prereq	Durability Management		Required
		0	Credit	Durability Management Verification		1
1.5			Credit	Environmentally Preferable Products		4
		0	Credit	Construction Waste Management		3
		0	Credit	Material Efficient Framing		2
8	0	0	**Indoor Environmental Quality**			16
Y			Prereq	Ventilation		Required
Y			Prereq	Combustion Venting		Required
Y			Prereq	Garage Pollutant Protection		Required
Y			Prereq	Radon-Resistant Construction		Required
Y			Prereq	Air Filtering		Required
Y			Prereq	Environmental Tobacco Smoke		Required
Y			Prereq	Compartmentalization		Required
3			Credit	Enhanced Ventilation		3
0.5			Credit	Contaminant Control		2
2			Credit	Balancing of Heating and Cooling Distribution Systems		3
		0	Credit	Enhanced Compartmentalization		1
2			Credit	Enhanced Combustion Venting		2
		0	Credit	Enhanced Garage Pollutant Protection		2
		0	Credit	Low Emitting Products		3
1	0	0	**Innovation**			6
Y			Prereq	Preliminary Rating		Required
		0	Credit	Innovation		5
1			Credit	LEED AP Homes		1
0	0	0	**Regional Priority**			4
		0	Credit	Regional Priority: Specific Credit		1
		0	Credit	Regional Priority: Specific Credit		1
		0	Credit	Regional Priority: Specific Credit		1
		0	Credit	Regional Priority: Specific Credit		1
45	0	0	**TOTALS**		Possible Points:	110

Certified: 40 to 49 points, **Silver:** 50 to 59 points, **Gold:** 60 to 79 points, **Platinum:** 80 to 110





SS Credit: Nontoxic Pest Control

- Each of the following measures will be taken to minimize pest problems and risk of exposure to pesticides. Each measure is worth ½ point. For below-grade walls, solid concrete foundation walls will be used. All cellulosic structural material, such as wood framing, will be treated with a registered pesticide containing borates for preconstruction treatment. A registered termite bait system will be installed and ongoing maintenance as required by the manufacturer will be provided. All external cracks, joints, penetrations, edges and entry points will be sealed with appropriate caulking.