

GreenSource

THE MAGAZINE OF SUSTAINABLE DESIGN

curves over chicago

aqua tower
makes waves in
the windy city



lumber by
the numbers

lasting legacy:
vancouver 2010

smart grids
grow up

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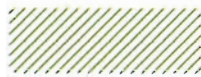
McGraw Hill
CONSTRUCTION

Venice, California



GREENING BOHEMIA

How the Vancouver firm of Bricault Design reinvigorated a pre-war Venice cottage, raising the bar on living the sustainable life.



Venice, California, plays host to many worlds. From the boardwalk's pageantry of bodybuilders and street vendors, to the artists and beats who made it famous, to the stars and ordinary folks who live there, the place takes top prize for eclecticism. The feeling of neighborhood, the walkable streets, the weather, and the ocean all contribute to bringing such unlikely bedfellows together.

The blatant foolery of tourist haunts belies the many worlds tucked behind the walls and gates of buildings of all shapes and proclivities, some abutting canals and others lining pedestrian-only alleys. Modern intervention and architectural experimentation, often using the original stock of pre-war bohemian cottages; are standard fare on these intimate streetscapes. One example is the renovation and addition to a 1940s cottage on Brooks Avenue, which was designed by Bricault Design, a firm founded by Marc Bricault, brother to the owner and occupant of the house.

Marc Bricault founded his Vancouver-based modest-sized firm nine years ago. With no formal training in architecture or design, he started out as a fine cabinet-maker. His commissions eventually led to interior design projects and then full architectural assignments. The firm's attention to detail demonstrates a high level of artisanship,

Left Primary materials on the exterior include the wooden rainscreens, steel, glass, and glass block, and of course the sedum that grows on the green walls and green roofs.



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KEY PARAMETERS

Location Venice, CA (Los Angeles basin)

Gross area 3,794 ft² (352 m²)

Cost \$1.2 million

Completed 2008

Program Main hall, bedrooms, bathroom, utility room, laundry, storage, carport, mechanical (addition); Guest bedroom, bath, powder room, kitchen, living room (renovation).

TEAM

Owner Paul & Cicek Bricault

Designer Bricault Design

Landscape The Great Outdoors Landscape Design & Construction

Engineers Protech Technical Services

Environmental consultant Bill Wilson

General contractors Allisal Builders

the work of a builder accustomed to executing his own designs. The design team brought this meticulous craftsmanship to the Brooks Avenue house, from the broad strokes of design to the most infinitesimal touches. This is evident as soon as one ducks beneath the bougain-villea and overgrown potato vines, walks through a gate of brushed metal with a subtle leaf pattern cut into it, and enters the front courtyard where the sound of water trickling in a Moroccan fountain has a relaxing effect.

Up a couple of steps, the front door opens to the original 515-square-foot cottage on the right, renovated by Bricault to become a powder room and guest suite. On the left the living room and kitchen/dining area occupy a 1,533-square-foot double-height addition that extends toward the rear, added by a spec developer 10 years ago and reworked over the

years. Contributing to this volume is the new 1,746-square-foot addition that extends all the way back to the alley, terminating in the master bedroom suite on the second floor with a carport beneath it. A rectilinear multipurpose room occupies the first floor connector between the older parts of the house and the new, with an office, guest room, and the children's bedroom and bath above it. While modest in overall footprint and a snug fit on the 5,280-square-foot site, the now 3,794-square-foot residence provides ample living space, indoors and out, with a high level of refinement in design and programming, and impressive energy performance.

Both brothers have an affinity for nature. Their parents worked for the Department of the Environment in Canada and encouraged them to play in the woods and partake of nature's pleasures as

children. For Marc, this house would be his first green design undertaking, a chance to learn the ropes. "The project was a great opportunity to research and explore strategies of green building. In part because of the clients' support and trust, it was easy to bring in new ideas," he says. Owner/occupant Paul Bricault and his wife became even further convinced of the green imperative after seeing Al Gore's film, *An Inconvenient Truth*. Paul also felt "collaborating on a green residence would be a way to honor the memory of our parents, who had both passed away."

The exterior of the master bedroom is clad on three sides with a living wall system pregrown with sedum. "The very manageable cell size made up of recycled plastic in a grid of angled pockets made installation quick and easy," remarked Marc Bricault. About four months after the walls were





Above The most obvious sustainable strategies are the three green walls and three green roofs.

Opposite, right, and top The ground-floor passageway between the new and older parts of the house serves as a multipurpose room. Its large glass doors swing open to the central courtyard connecting indoors to outdoors. A spiral stairway on one end leads to the roof, doubling as a thermal chimney to ventilate the home.

planted, the family took a vacation and the living walls did not get the watering they needed, resulting in some of the sedum dying, which are now rejuvenating.

On the roof are three small gardens. In one, the owner harvests artichokes, mandarin oranges, berries, peppers, and other edibles; drought-tolerant sedum grows in the other two gardens. Less visible on the roof are three banks of PV panels, which provide nearly enough electricity for the home, such that bills average \$12 per month.

Innovative strategies enable the capture of rainwater, which is collected in gutters and catch basins and delivered to large gravel trenches running along the side yards and across the front courtyard. This infiltration system creates a long continuous underground aquifer that provides deep irrigation for mature vegetation.



In addition, the rear courtyard features a discrete central lawn that is irrigated by an EPIC watering system. "This unique pond-like system," says landscape designer Richard Grigsby, "utilizes a non-pressurized irrigation distribution method, flooding a sealed underground chamber filled with sand. Capillary action from the flooded sand basin draws water up to the root system, efficiently watering the lawn from

below." The EPIC system can reduce water consumption for lawns by as much as 30 percent. In addition, the house is plumbed for graywater collection, soon to be legal in Southern California, which will augment the rainwater system and will directly irrigate the green roof and living walls.

The team investigated a ground-source heat pump, but the high expense persuaded them to settle on an efficient combination boiler that supplies radiant in-floor heating and domestic hot water. The building has been insulated with recycled cotton and spray foam. Zero-VOC paints, formaldehyde-free cabinetry, LED lighting, and low-flush toilets all contribute to the green agenda. Also, countertops consist of recycled stone, terrazzo on the deck in the courtyard contains recycled glass, and the carport and driveway are planted with tough grass

peeking out from pervious pavers.

The ground level of the passageway/multipurpose room features large glass doors, which swing open to the central courtyard providing a connection between the indoor and outdoor spaces. This, along with a spiral staircase that links the ground floor with the roof, functions as a chimney, tunneling cool air throughout the interior of the house and dispelling hot air at night,



ARAI PHOTOGRAPHY

Above The kitchen features Wenge cabinetry.

Opposite top A goldfish mosaic and terrazzo pattern on the master bath floor was conceived by the architect and executed by the artist Walter Gibson.

Opposite bottom The walls of the master bedroom are lined with locally harvested American ash millwork.

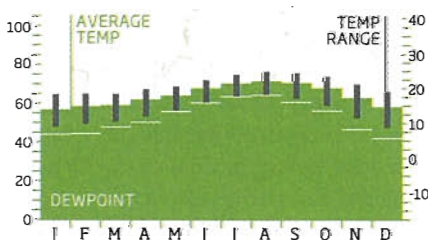
eliminating the need for air conditioning. A system of FSC-certified cedar battens serves as a shading device along this volume (windows opened inwardly so as not to

interfere with them). At the top of the stairwell, a lantern announces the arrival onto the roof. "While decorative in a sense, the steel and glass structure facilitates the stack effect through open vent windows that allow naturally rising warm air to escape, 'pulling' in cooler air from the yard in the evening. The design of the structure also creates the required shear for seismic and wind loads while maintaining transparency," says Marc Bricault.

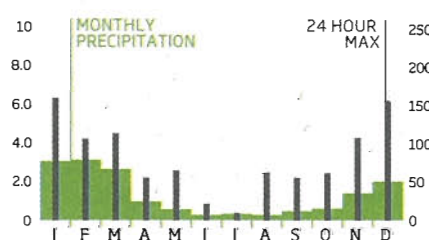
Inside, industrial heartiness juxtaposes

more traditional decor in an interesting way. Primary materials include rubberized floor tiles, bare steel beams, perforated metal sheet, and wood. Here and there flourishes of ornamental detailing are added. Examples include the railing on the balcony off the master bedroom with its Moorish tulip pattern (a nod to the owner's wife, who is Turkish), and a Gaudi-like lighting fixture made from recycled glass shards that hangs over the handmade dining table (a wedding gift to his brother).

TEMPERATURES & DEW POINTS
FAHRENHEIT/CELSIUS

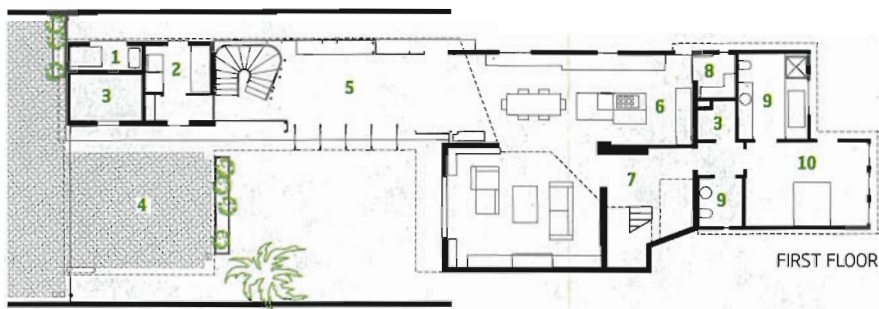


PRECIPITATION
INCHES/MILLIMETERS

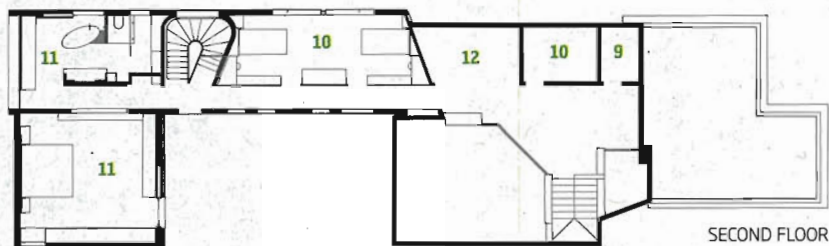


SKY CONDITIONS
PERCENT

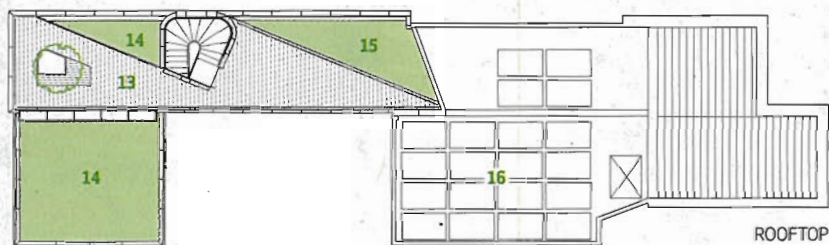




FIRST FLOOR



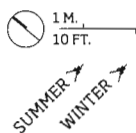
SECOND FLOOR



ROOFTOP

NEW
ADDITION

FIRST
ADDITION



ORIGINAL
COTTAGE

- | | |
|------------------------|-------------------------|
| 1 Mechanical | 9 Bath |
| 2 Laundry | 10 Bedroom |
| 3 Storage | 11 Master bedroom suite |
| 4 Carport | 12 Office |
| 5 Multipurpose hallway | 13 Rooftop deck |
| 6 Kitchen | 14 Green roof |
| 7 Living room | 15 Vegetable garden |
| 8 Pantry | 16 Solar panels |



General Contractor Martin Leon of Alisal Builders found “the exacting dimensions in the way the walls meet the ceiling and floors, the handcrafted railing and stairway, and other design imperatives required a mathematical exactness with zero tolerance for error.” With a predisposition for precision, Marc Bricault has created a finely crafted green jewel box worthy of Venice’s bohemian riches. **GS**

>SOURCES

Living wall Elevated Landscape Technologies
Windows Riverside Builders Supply
Glass block Seves Vetroarredo
TPO roofing membrane Allied Waterproofing
Green roof Elevated Landscape Technologies
Custom cabinets Cactus Custom Cabinets
Paint American Clay
Paneling American Ash
Terrazzo floors Hermosa Terrazzo
Mosaic floor W. Gibson-Co. scrap marble and glass
Cork flooring Expanko
Office chairs Herman Miller Aeron
Screen shading Nysan Solar Control
Interior lighting Halogen MR16 dimmers, retrofit LED floods
Photovoltaics Energy Efficiency Solar