



## PACKARD HOUSE

2010

LEED-NC GOLD PENDING

### PROJECT HIGHLIGHTS

- Urban infill on a previously developed site. The new building was built over an existing parking lot.
- Landscaping is composed of all native plants
- Rain garden to manage storm water
- Low flow faucets and plumbing fixtures
- Geothermal heating and cooling with a very well insulated building envelope
- Windows with low-e glass in all rooms for views, daylight and natural ventilation
- Wood louvers to deflect summer sun
- Energy efficient fluorescent lighting
- Low VOC paints and stains
- Bamboo: floors and kitchen cabinets
- Reclaimed white oak siding milled locally

### PROJECT DETAILS

Location: 523 Packard, Ann Arbor, MI

Type: Student Housing

Owner: Packard523 LLC

Construction: August 2009 – August 2010

Size: 1500 square feet

Occupants: 12 university students

## SUMMARY

The project consists of (2) six bedroom apartment units built as an addition to an existing historic apartment home in downtown Ann Arbor, Michigan. The site is located within one block of the University of Michigan Campus. The only way the building could be constructed in this dense area was to design a structural steel frame to support the building above. This solution was necessary to provide parking per the City of Ann Arbor Ordinance which resulted in over 50% covered tenant parking on grade, as well as contributing to a reduction of the heat island effect. The existing gravel parking area was paved thereby reducing pollutant discharge off the site. This was accomplished with the combined use of a storm water inlet set within a bioswale and a sedimentation tank to treat and hold storm water prior to discharging into the city storm water system. A well field is also located under the pavement providing the medium for the Geothermal HVAC system. This field was designed large enough to also convert the existing apartment house boiler system to Geothermal heating and cooling. The architectural design includes features, details and massing which complement its adjoining use and harmonizes with the surrounding area. The design contributes to the cohesive historical identity of both the University of Michigan and the City of Ann Arbor.

### PROJECT TEAM

Owner: Packard523 LLC

Architect: Warren Samberg, AIA, LEED AP

Builder: Bloom General Contracting

Civil Engineer: Perimeter Engineering

Structural Engineer: Johnston Design

Commissioning Agent: Horizon Engineering

HVAC: Comfort One



## SUSTAINABLE SITES

The addition was built on a previously developed site in an urban setting within 1 block of the University of Michigan Campus. There are sidewalks and bus routes with easy access to many community services. Bike racks are provided along with covered parking for 6 of 8 required spaces. The covered parking area below the building as well as a light metal roof helps to minimize the heat island effect. Stormwater is managed with a rain garden and an underground concrete basin.



## WATER EFFICIENCY

Landscaping is composed of only native plants that will survive without implementing any permanent irrigation measures. A temporary underground hose was installed to help establish the plants within the first year. Plumbing fixtures and faucets were chosen as low-flow.



## ENERGY AND ATMOSPHERE

Geothermal heating and cooling along with a well insulated building envelope was designed to optimize the energy performance of the building.

All lighting is energy efficient. The enclosed stair tower has occupancy sensors so that it is not illuminated needlessly. The covered parking area has lighting on the ceiling which has dusk to dawn sensors.

All windows use low-e glass to lower the amount of heat from solar radiation.



## MATERIALS AND RESOURCES

Many materials used had either recycled content or are made from bamboo. Kitchen countertops are Corian with recycled material. Floors and kitchen cabinets are composed of bamboo. The building is built over the parking lot on a steel structure which is inherently 25% post-consumer recycled material. More than 50% of all wood used is FSC certified wood. Trusses were all pre-engineered to control the amount of waste generated.



## **INDOOR ENVIRONMENTAL QUALITY**

No smoking anywhere inside the building is a strict prerequisite for being a tenant.

All surface and building elements were finished with low VOC paint and stain.

All rooms have large windows so that residents benefit from natural light, ventilation, and views. The common spaces even have cross ventilation from the dining area at the south to the living area at the north.



## **INNOVATION AND DESIGN**