



## The construction concept was to build “a building within a building”.

- The exterior had reached the end of its useful life and needed to be replaced. In most respects, these materials were replaced with precisely their original profiles.
- Working within the exterior historic tax credit parameters meant the interior building had to be that much more efficient if the project was to realize its potential as a link from the past to the future.
- Maintaining the exterior profile is a great thing for the fabric of the neighborhood; the building continues to serve as an aesthetic connection to the time when Richmond was the first city in the US to have an electric trolley.



## Sustainable building processes, materials, and finishes were used throughout the building including:

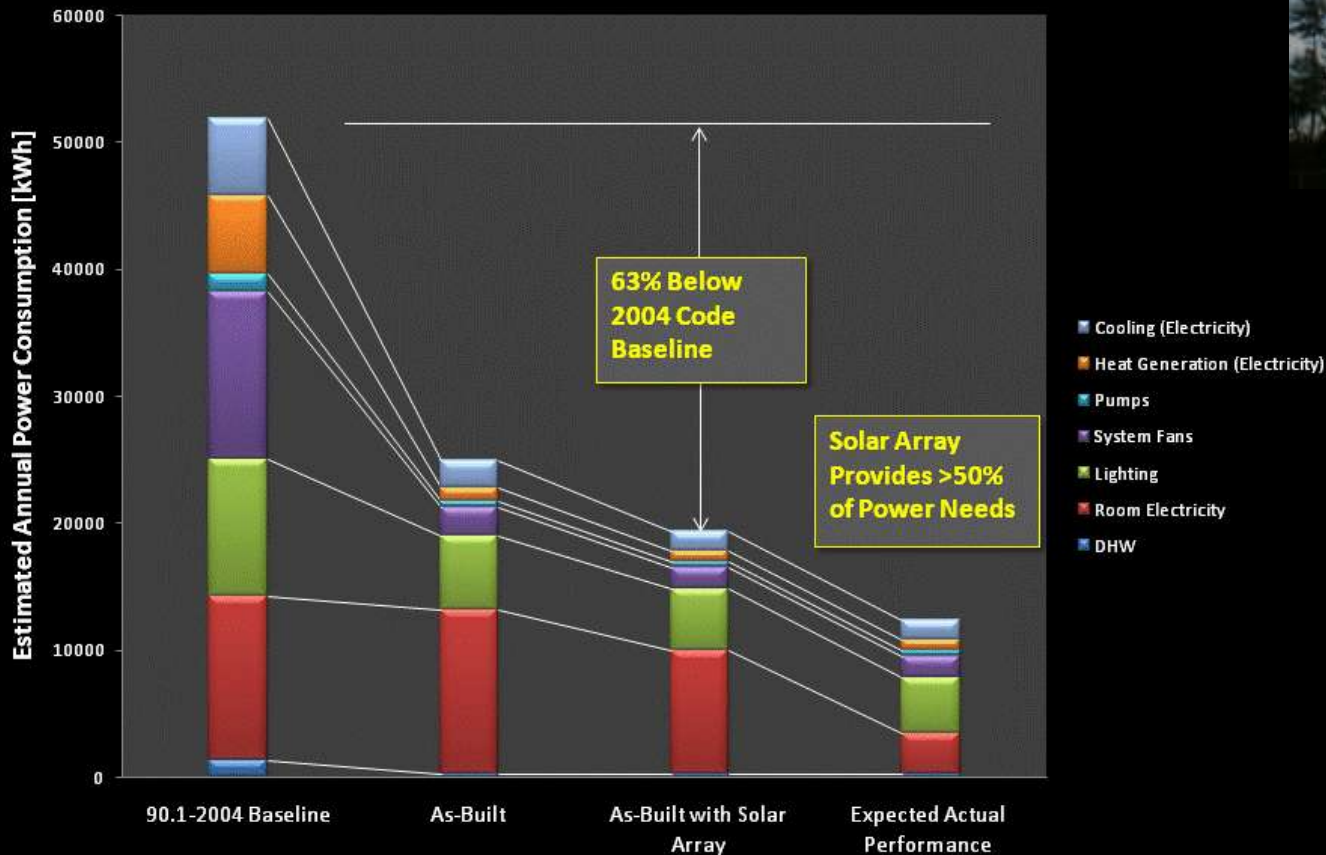
- Site work design is such that most of the rainwater stays on site. Native species were planted so that no additional irrigation will be needed once the plants are established.
- The majority of the framing and the exterior trim and plywood sheeting is FSC (Forest Stewardship Council) certified.
- The floors on the first level are polished concrete. There are cork and *Marmoleum* floors on the second level.
- The cabinetry is constructed from *Dakota Burl* which contains 84% pre-consumer recycled sunflower hulls.
- Counters are made from fine flake aluminum scrap, reclaimed pine flooring, and stainless steel with significant recycled content.
- Paints are non-toxic with no VOCs (Volatile Organic Compounds).
- Tile is manufactured incorporating recycled glass components.
- In addition to a waterless urinal, all of the plumbing fixtures are “ultra low-flow” making it possible to achieve every LEED water conservation point.
- Accent shelving, the bathroom vanity, and the conference table are constructed from salvaged timber that was originally on the site.
- Every potential load was scrutinized including the lighting systems. With the exception of (3) T-5 fluorescents, every interior light in the building is an LED (Light Emitting Diode). A variety of fixtures were customized to mitigate both energy and expense including a stage light chandelier with twelve LED lights that use less energy than it would take to power two 75-watt conventional bulbs.
- Motion and day-light sensors have been incorporated to ensure efficiency.



Energy modeling predicted energy savings of approximately 63% below code baseline, with the photo voltaic arrays providing approximately 23% of power needs. Results to date show that the building is generating more power than it is using (>100%) and the net electric meter is in fact running backward!

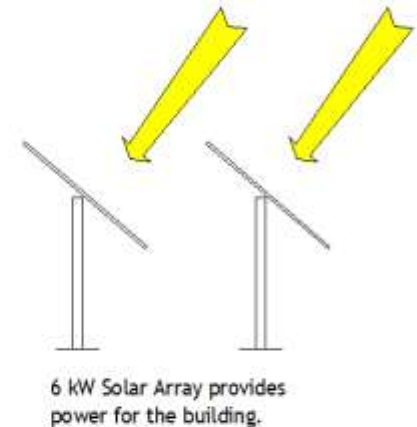
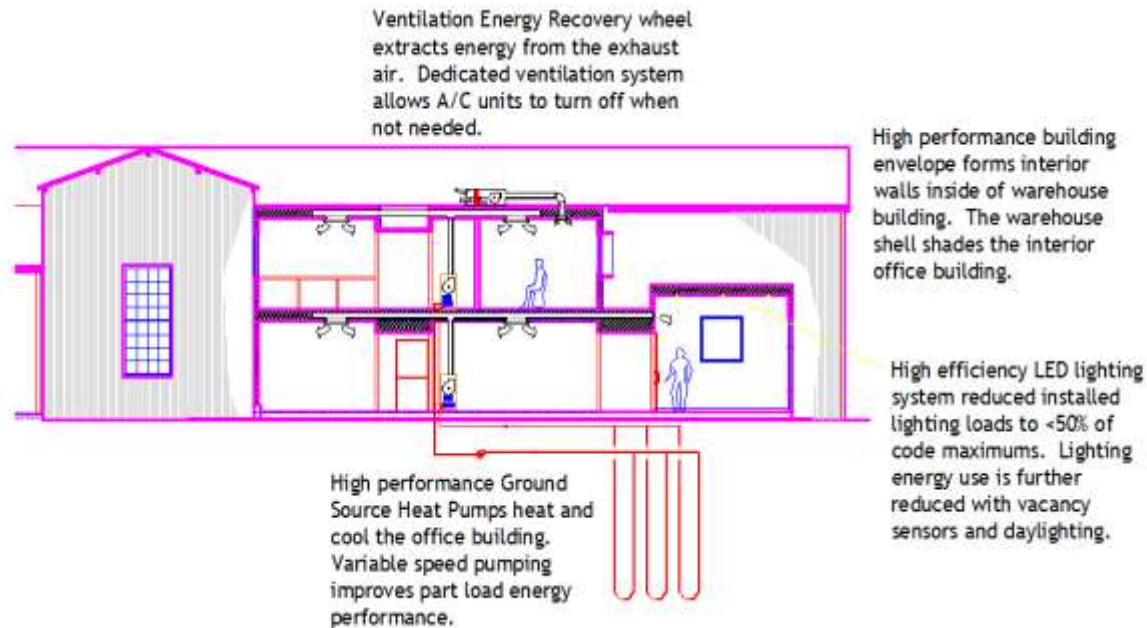


### Dovetail Construction Office Building Energy Modeling Results



## Additional features that make this building energy efficient include:

- Special framing techniques
- *Icynene* foam and rigid foam insulation
- Insulated windows
- Mechanical equipment within the conditioned space
- Energy recovery ventilators
- Geothermal heating and cooling
- A high efficiency hot water heater that utilizes hot water recovered from the geothermal system
- Web-based monitoring systems







## Operational practices designed to make this building a healthy, comfortable, and inspiring place include:

- Use of Green Seal Certified housekeeping products
- An office recycling program
- An on-site vegetable garden
- Composting
- Bike rack, shower and changing area to promote alternative modes of green transportation
- Ongoing best practice education

The building received the “Green Innovation Award for the Best Green Commercial Project in 2010” from the *Virginia Sustainable Building Network* and is currently being reviewed for *LEED* platinum certification.

Our vision is to provide progressive resources to our clients, our employees, and the community at large. We anticipate having dinners and meetings for a variety of groups including the nearby Maggie L. Walker Governor’s High School, Valentine Richmond History Center, Virginia Commonwealth University, *Green Drinks*, James River Green Building Council and other organizations interested in making a difference. It is a perfect place to discuss where we have been as a community and where we want to go.