

## CASE STUDY: HANGAR CONVERSION PAYS HOMAGE TO THE PAST

**Developers:** Hartman Ely Investments  
Larimer Associates  
**Location:** Denver, CO  
**Square Feet:** 65,000 net rentable  
**# Units:** 600  
**Type of Construction:** Conversion

This is not another conversion story. We are accustomed to seeing vacant grocery stores, big box stores, downtown office buildings and even a Hawaiian cave converted successfully to accommodate self storage, but a historic airplane hangar in Denver offers a unique new home for storage, shopping and public amenities with a twist.

Hangar 2, as the project is called, is located in Lowry, a new Denver, Colorado neighborhood, built in a redeveloped U.S. Air Force Base. The history of the base is far-reaching and diverse. Established in 1938, Lowry Air Force Base was originally constructed to house an Air Force Technical Training School. Its original mission was aerial photography training, but Lowry was also heavily involved with the training of U.S. bomber crews and flight engineers during World War II. Two massive historic hangars were constructed on the base, Hangar 1 and Hangar 2.

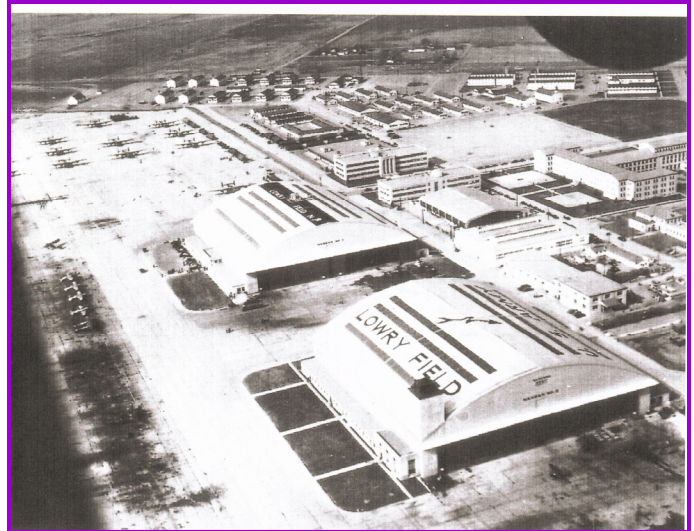
The base was also the home of the United States Air Force Academy from 1954 to 1958 until the Academy's permanent site in Colorado Springs was completed. Of further historical interest, President Eisenhower spent a period of time at Lowry, as his wife's family was from the Denver area. He essentially used it as a summer White House from 1953 through 1955 to afford Mamie her family time.

Due to the close proximity of the residential area around Lowry and the increase in the number of high performance jet aircraft accidents at the base, flight operations at Lowry ceased in 1966, but administrative offices and training remained active. Ultimately due to cost reduction measures taken by the military as part of the 1991 Base Realignment and Closure Commission, all offices and training facilities were closed in October, 1994.

Hangar 1 has been redeveloped as the Wings Over the Rockies Air & Space Museum. Hangar 2 had been vacant from 1994 until its rebirth in 2011 as a renovated historic landmark... thanks to the innovative development team of Hartman Ely Investments (HEI) and Larimer Associates, jointly known as Hangar 2 Partners (H2P). HEI specializes in the design and adaptive use of historic buildings, renewable energy and energy efficiency. Larimer Associates is a Denver-based real estate investment and management firm, best known for its Larimer Square project in downtown Denver, and has also created several energetic neighborhood redevelopment projects and restaurant properties. Together, HEI and Larimer brought complementary synergies to the table and a driving desire to infuse the Hangar with services that would unite the community while preserving its historic value.

Hangar 2 is a very unusual setting for a self storage conversion. H2P selected it for four distinct reasons:

1. High market demand/barrier to entry in this area for that product
2. Relatively low construction cost inside an existing hangar shell
3. Low parking demand (parking was much needed for other areas of the development)
4. Minor changes needed to the historic exterior facades



## Getting Started

Self storage industry consulting veteran Jim Chiswell was contacted to consult on the Hangar 2 project. "When attorney Jeff Greenberger called me to see if I would be interested in discussing doing a feasibility study for the conversion of an historic 100,000 square foot US Air Force airplane hangar in Colorado, I thought he was just teasing me. After a few phone calls with Hangar 2 principals Joe Vostrejs of Larimer Associates and Jim Hartman of Hartman Ely Investments, I was on a plane to Denver," Chiswell explained.

"I quickly discovered that the Hangar 2 team had an inspired mixed use vision of the property's re-purposing that was truly unique for a self storage conversion. Despite the surrounding competition, it was quickly evident that the facility would be serving primarily the Lowry community. All my research pointed to a market opportunity with extremely high barriers to any further entry into the Lowry community," said Chiswell.

Although the design went through a number of iterations, the final layout consists of 65,000 net square feet of storage space with a drive-thru aisle in Phase 1. Surrounded by restaurants, retail and office space in Phase 2, a distinctive marketing advantage for the Hangar 2 complex exists. Chiswell states, "The self storage portion of the master development plan is critically important to the overall financial feasibility because of the positive cash flow it will provide without a significant impact on space for parking."

H2P was interested in finding the best use for the hangar and analyzed many redevelopment concepts before settling on self storage combined with small scale office/retail as the best option. In addition to its unique historic appearance, Hangar 2 offered vast amounts of natural daylight through the existing glass hangar doors. A curved, southeast facing roof was also ideal for producing solar power. It also had almost 100,000 square feet of column-free space with a solid interior aircraft slab to build on. The final plan netted 65,000 rentable square feet plus 6,500 rentable square feet of airplane storage for the adjacent Wings Over the Rockies Museum. Total number of units: 600.

## Unique Features

Despite the massive column-free plot, alterations were necessary to adapt new building and fire code systems. H2P contracted with The Rabco Corporation to essentially build a new one-story building within the larger hangar shell without affecting the historic features. The connection of storage walls, roof and such to the atypical shape and size of the building caused some clever adaptations for The Rabco Corporation and Janus International, the supplier of the hallway components and roll up doors, as it didn't always jive with a typical 10' module. "Each unit that backed up against the historic hangar doors had to be fit differently by our installers," states Pat Nesbitt, Janus International's Technical Sales Manager. H2P chose gloss white doors and partitions for their clean look, brightness and lighting efficiency. Flush panels were also used, which furthers assists in light reflection. With a roof peak of 90 feet, managing the temperature control was also a factor. The Rabco Corporation essentially brought the roof system down to harness the temperature control at 12 feet and lower, the optimal cubic space for the Hangar's climate controlled storage.

Solar power played a significant roll in the implementation of the project. More than 500 solar panels in three rows were installed on the roof of Hangar 2 by Martifer Solar. The rows of panels were designed to replicate the look of the old hangar's roof skylights, preserving a little touch of history on the building. The PV panels convert solar radiation into direct current electricity. Hangar 2's solar energy panels are expected to provide at least one third of the energy required to run the building.



Hangar 2 has the unique ability to use only half of the energy that's required by typical, less efficient buildings of its size. Hangar 2 Partners has installed energy efficient lighting, heat controls, motion-sensing light switches and premium insulation. Together these sources of clean energy will promote environmental sustainability and combine sophisticated energy efficiency technologies with the historic integrity of the building.

The hangar's solar power system cost approximately \$500,000, but with recent support from the federal government and a rebate from Xcel Energy the net costs will be much less. Over the course of 1-2 years, Hangar 2 will pay for the cost of its solar power system and then will have the benefit of free, clean energy for the next 30 years.

"The solar power system is one of the largest and most visible examples of a Building Integrated Photo Voltaic installation in the country. Hangar 2 stands as Lowry's solar symbol. In fact, onlookers cheered as the first panels were set in place," states HEI partner Jim Hartman. He also suggests that anyone considering a solar installation should not ignore the significant marketing benefits for the facility in his decision making process in addition to the financial benefits.

H2P was able to incorporate a drive-thru unloading corridor that allows customers to be totally out of the weather when they access their storage units. This was a very complicated issue and required a great deal of negotiating to reach an agreement with the building and fire departments. H2P achieved a creative custom code solution that includes an engineered smoke exhaust system, fire walls to break the floor plate into smaller zones, specialized multi-zone fire sprinkler and fire alarm systems, and a carbon monoxide exhaust system for the drive aisles. Getting those systems successfully integrated, tested and operational was a real challenge, but one that was essential to allow full code compliance. H2P has found that taking customers completely out of the weather - rain, snow or hot sun - when accessing their units provides a unique marketing advantage for attracting both residential and commercial tenants.



After a thorough review of potential operators, H2P selected Extra Space to provide third party management for the self storage portion of the Hangar project. "When we reviewed the local market, we discovered that the properties managed by Extra Space had the best occupancy and rental rates," said Larimer Associates partner Joe Vostrejs. "In addition, we were really impressed by their revenue management systems and the outstanding quality of their personnel. They were a good fit for us."

### The Community

HEI and Larimer Associates have a unique relationship with the Lowry and Denver communities. Since both parties know the communities so well and are well trusted, they were able to pre-lease five large storage units at market rate for a year to a local business tenant... all before construction even started. Additionally, H2P holds periodic community events within the expansive drive aisle spaces and recently started the Lowry Farmer's Market at Hangar 2. These types of relationships and community events integrate the Hangar into the neighborhood in a symbiotic way that is very unusual for a self storage facility.

H2P has incorporated twelve spaces for the Lowry Dining District in Phase II of the project, which was designed by Semple Brown Design of Denver. Currently there is also a yoga studio, and future plans call for the Lowry Dog Spa and Hotel. Negotiations are in process to occupy another 2,500 square feet of retail space to a restaurant user.

H2P had to get Landmark Commission and community approval, and are indebted to many local and regional public officials that played a part in the success of the Hangar 2 project. Those agencies include the Denver Urban Renewal Authority, who provided essential financing for the project, the Lowry Community Master Association, the Lowry Redevelopment Authority and the City of Denver. FirstBank of Denver was also a key private sector team member, providing the bulk of the financing to get the job done.

Since opening in March, 2011, public reaction has been very positive to the Hangar project. H2P has aggressively marketed the self storage component, including an open house, local media outreach, direct mail, email blasts and personal calls. Jim Hartman's biggest piece of advice when tackling a historic building conversion? "Start early with the code approvals. It takes an incredible amount of time." But time well spent, as the Hangar project has secured its place in the self storage - and historic - hall of fame!



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