

Green in the Military
LEED Building – Case Study
Pentagon Athletic Center
Turner Construction Company

Project Description

- 200,000 GSF Mixed Use
- Athletic Center – Fitness Facility
 - Pool; Basketball; Volleyball; Racquetball;
Squash; Indoor Elevated Running Track;
Treadmills; Stationary Bikes; Weights
Locker Rooms; Administrative Offices
- Auditorium
- TV Production Studio

Organizations

- Pentagon Renovation Program
- Turner Construction Co Design Builder
- HNTB Architecture Architect
- HNTB Corporation Civil Engineer
- EK Fox & Associates Mechanical
- Fernandez & Associates Structural
- Lee & Associates Landscaping
- Sebesta Blomberg Commissioning

Contract

- Design Build
- Performance Criteria
- Award Fee
- Sustainability incorporated into Award Fee
- LEED Certified proposed by Turner- HNTB

Time Frame

- Notice to Proceed Dec 2001
- Design Start Dec 2001
- Field Start Demo Apr 2002
- Design Complete Dec 2002
- Athletic Center Complete 29 Mar 2004
- TV Studio Turnover May 2004
- Auditorium Occupancy Sept 2004
- Initial Submission 11 Mar 2004
- Preliminary LEED Review 07 Jun 2004
- Resubmission 12 July 2004
- LEED Certification 26 Aug 2004

LEED Issues

- Design Build – who pays

Bike Rack; CO2 Monitors; Humidity Sensors

- Phase II Canceled by PenRen

Recalculation; Impact to Site

- Anticipated vs Actual LEED Points

From 2002 to 2004

Correctly anticipated 49 items

Incorrect on 21

Of the 21: 6 rcvd point; 15 no point

- Innovation Points

Sustainable Successes

- Site

Metro; Alt Fuel; Parking; Heat Island; Site Lighting

- Water Efficiency – Reduction

- Energy - Additional Cx

Incorporated Natural Light

- Materials

Const Waste; Recycled Content (track); Local
Incorporated Bamboo & Cork

- Indoor Environmental

CO2 Monitoring; Low Emitting; ASHRAE 55

LEED Lessons

- Application HNTB lead
- Material Documentation Turner
- Electric Car Outlet; Parking
- Irrigation Technology – Weather Satellite
- Composite Wood
- Certified Wood – chain of custody
- Two Week Flush out – Schedule
- Renewable - Bamboo – Basketball Court –
Demonstration Court – Security

Accomplishments

- LEED Certified
 - 2nd for PenRen
 - 1st for Turner's WDC Business Unit
- 2002 Presidential Award for Federal Energy Management to PenRen
- Turner staff 612 LEED Accredited