Adaptive Reuse: Reimagining Existing Buildings

Better Buildings Summit
May 27-29, 2015
Sustaining Our Future By Preserving Our Past

Adaptive Reuse of Historic Properties

Peter Bell
President & CEO of NH&RA
New York Times Magazine “His New ‘Old New York’ Neighborhood” By Pete Gamlen
New York Times Magazine “His New ‘Old New York’ Neighborhood” By Pete Gamlen
New York Times Magazine “His New ‘Old New York’ Neighborhood” By Pete Gamlen
J. Timothy Anderson

- Pioneer of adaptive reuse
- Transformed Boston’s waterfront
- First school-to-residential conversion
- Professor at Boston University
The Timmy Awards

• Awards for Excellence in Historic Rehabilitation
• 5 categories
  – Best Commercial/Retail/Non-Residential Project
  – Best Historic Rehab Utilizing LIHTCs – Small
  – Best Historic Rehab Utilizing LIHTCs – Large
  – Best Historic Rehab Utilizing New Markets Tax Credits
  – Best Market-Rate or Mixed-Income Residential
• 4 judges’ awards

• Judged based on:
  – Overall design and quality
  – Interpretation and respect of historic elements
  – Market/financial success
  – Innovative approach to construction and use of building materials
  – Community impact
  – Sustainability

• 11th Annual Awards
• Submissions due July 31
Central Grammar Apartments

- Constructed in 1889 as high school
- Became grammar school in 1940
- Abandoned in 1971
- Tim Anderson designed 1975 adaptive reuse
- $1,800,000 to convert school into 80 units for elderly
Central Grammar Apartments

- $7 million renovation in 2012
- 80 affordable units for elderly residents
- Updated mechanical systems, windows, roofing, skylights, site drainage, bathrooms, kitchens, and hallways
First Ward School Apartments
First Ward School Apartments

- Elkins, WV
- Constructed in 1908
- 70 years as school
- 30 years as storage for county school board
Before
Before
After
After
After
First Ward School Apartments

- $3.7 million
- 16 affordable units
- Funding sources:
  - LIHTC
  - Federal and state historic tax credits
  - General partner equity
- 2013 Timmy Award for Best Historic Rehab Utilizing LIHTCs
Lafayette Place Lofts
Before
Lafayette Place Lofts

- Pontiac, MI
- Constructed in 1928/1929
- Sears, Roebuck & Company department store
- Sat empty for decades
- $19.2 million historic rehab project
- Won 2013 Timmy Judges Award for Achievement in Sustainability
Before
Before
After
Lafayette Place Lofts

• 30 affordable, 16 market-rate units
• First fresh market and fitness center for area in 40+ years
• LEED Platinum-certified
After
A-Mill Artist Lofts
A-Mill Artist Lofts

- Pillsbury A-Mill served as the largest flourmill in the world for 40 years
- Hydropower in the area since the mid-1800’s
- A-Mill utilized water rights 1856-1956
- Shuttered in 2003
Before
Pillsbury A-Mill Complex

- $156 million
- 251 affordable artist apartments
- 70% of building energy met by hydroelectric power
- Galleries, artist studios, culinary kitchen, dance studio, performance center
- Fitness center, yoga studio
After
After
Oliver Lofts

- Boston, MA
- 1892: Constructed as brewery bottling and storage facility
- R and S Pickle factory
- 2 historic interconnected mill buildings
Oliver Lofts
After
Before
After
Oliver Lofts

- $24.8 million
- 62 affordable and market-rate apartments
- LEED Platinum
- 2012 Timmy Judges Award for Achievement in Sustainability
Harvest Commons Apartments
Harvest Commons Apartments

• Built 1929 as Union Park Hotel
• Converted to SRO
• Fell into disrepair and closed
• City sold to Heartland Housing in 2011 for $1
Before
After
After
Harvest Commons Apartments

- Placed in service 2013
- 89 affordable units
- Urban farm
- Training kitchen
- Rooftop solar
- Geothermal heating and cooling
- Solar-thermal domestic hot water system
Challenges of Adaptive Reuse

• Reconciling historic preservation and sustainable design
  – Windows
  – Rooftop solar
  – Materials
  – Emergency egress
  – Interior details
Better Building Challenge
An Adaptive Reuse
Reimagining the Lace Mill as Creative Placemaking
Kevin O’Connor
May 28, 2015

Strengthening Homes, Communities and Lives
Our mission is to create homes, support people and improve communities.

Our vision is for strong, vibrant communities with opportunity and a home for everyone.
Real Estate Development leads the way

Strengthening Homes, Communities and Lives
In 2007, RUPCO joins US Green Building Council
In 2012, RUPCO achieved its Green NeighborWorks designation.

Strengthening Homes, Communities and Lives
In 2013, RUPCO was one of only 24 organizations nationwide to first achieve HUD’s Sustainable Performance Institute accreditation.
Also in 2013, RUPCO signed onto the Better Building Challenge as multi-family residential partner.
The Lace Mill
An Adaptive Reuse

Strengthening Homes, Communities and Lives
Strengthening Homes, Communities and Lives
Strengthening Homes, Communities and Lives
Strengthening Homes, Communities and Lives
Strengthening Homes, Communities and Lives
Strengthening Homes, Communities and Lives
Strengthening Homes, Communities and Lives
Creative Placemaking

- Artplace defines creative placemaking as strengthening the social, physical and economic fabric of a community through arts and culture.
Creative Placemaking in Kingston’s Midtown Arts District
- Energy-efficient
- Adaptive Reuse
- Historic Preservation
- Urban Revitalization
- Economic Motivator
Creative Placemaking

• Creating a place where people want to be…where people want to linger.
Strengthening Homes, Communities and Lives
Strengthening Homes, Communities and Lives
Strengthening Homes, Communities and Lives
Strengthening Homes, Communities and Lives
Adaptive Reuse Challenges

Involved disciplines:
  Affordable Housing
  Historic Preservation
  Energy Efficiency
  Health, Safety & Comfort
  Building Science
Adaptive Reuse Challenges

Program:
55 rental units
All preferred for artists
Community space
Common gallery & studio space
BEAHIVE
Adaptive Reuse Challenges

Building Conditions
Never insulated
40-50 year disrepair condition
Spalling brick, mortar joint erosion
Bricks exhausted 50% of useful life
Missing window fabric
Adaptive Reuse Challenges

Historic and Energy
Leave exposed brick because the factory never had interior walls
Energy code exempts historic buildings
NYSERDA creates Energy Smart designation for adaptive reuse

Building Science says:
Evaluate proper amount of insulation to install
More insulation – less heat to brick exterior wall
Adaptive Reuse Challenges

Water Management
Gutters, leaders, cracks
Minimize moisture impact, etc.

Wall Insulation
Optimum: ½” closed cell spray foam
Installed: Rigid foam board
More labor & cost
Achieved R-10 per Building Science recommendation

Policy Consideration: Reconsider reversibility
Adaptive Reuse Challenges

Wall Insulation
Alternative: Parging over brick and installing insulation on outside
Possible to Achieve R-60

R-10: 60-75% better than doing nothing at all

R-10 with Energy Star Windows (R-3)

Results: Not great, very good
Adaptive Reuse Challenges

Tighten Building Envelope, Shell
Greatest energy loss is through air loss
Penetrations to brick sealed

Roof Insulation
On top, limited by parapet wall height
Achieved R-42 - Code is R-49

Under New Slab Insulation
Spray foam
Achieved R-12
Adaptive Reuse Challenges

Ventilation
Heat Recovery Ventilation (ERV)
Achieved 65% more efficiency

HVAC
Water Source Heat Pumps (70 units)
Tempered water loop by HE gas boiler & cooling tower
Premium water pumps
Electric Storage Water Heaters (EF 0.93)
Adaptive Reuse Challenges

Solar
On-roof installation – 160k rated capacity
Estimated power generation: 182,715 kWhr/Yr
Expected to cover 70% of common load

Lighting
More than 60% LED lighting

Appliances
Energy Star
Adaptive Reuse Challenges

Safety
Compartmentalize each living unit through air sealing

Sound
Detenuation from other units, halls common space & exterior including CSX Railroad Line
### Permanent Sources of Funding

<table>
<thead>
<tr>
<th>Source</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>HFA first mortgage</td>
<td>$1,640,000</td>
</tr>
<tr>
<td>LIHTC (4% bond, HFA)</td>
<td>$5,437,295</td>
</tr>
<tr>
<td>Federal Historic TC</td>
<td>$2,870,508</td>
</tr>
<tr>
<td>NYS Historic TC</td>
<td>$1,794,067</td>
</tr>
<tr>
<td>HFA second mortgage</td>
<td>$4,368,000</td>
</tr>
<tr>
<td>RUPCO sponsor loan</td>
<td>$1,142,787</td>
</tr>
<tr>
<td>$150k Urban Initiatives (HCR)</td>
<td></td>
</tr>
<tr>
<td>$75k Central Hudson Utility</td>
<td></td>
</tr>
<tr>
<td>$100k TD Charitable Foundation</td>
<td></td>
</tr>
<tr>
<td><strong>$200k NeighborWorks</strong></td>
<td></td>
</tr>
<tr>
<td>$16.5k Ulster Savings Bank</td>
<td></td>
</tr>
<tr>
<td>City of Kingston CDBG</td>
<td>$100,000</td>
</tr>
<tr>
<td>Deferred Dev. Fee</td>
<td>$971,215</td>
</tr>
<tr>
<td>GP Capital Fund Reserves</td>
<td>$266,888</td>
</tr>
<tr>
<td>RUPCO LOC</td>
<td>$300,000</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$18,890,760</strong></td>
</tr>
</tbody>
</table>
# Uses of Funds

<table>
<thead>
<tr>
<th>Category</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acquisition</td>
<td>$1,400,000</td>
</tr>
<tr>
<td>Construction</td>
<td>$10,019,500</td>
</tr>
<tr>
<td>Contingency</td>
<td>$1,520,000</td>
</tr>
<tr>
<td>Environ. Remediation</td>
<td>$185,000</td>
</tr>
<tr>
<td>Developer’s Fee</td>
<td>$2,240,000</td>
</tr>
<tr>
<td>Soft Costs</td>
<td>$3,165,249</td>
</tr>
<tr>
<td>Cap. Reserves</td>
<td>$361,011</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$18,890,760</strong></td>
</tr>
</tbody>
</table>
Architect: Scott Dutton Associates

Construction Manager: Affordable Housing Concepts

Energy Consultant: Integral Building & Design

Historical Consultant: Heritage Consulting

Syndicator: National Equity Fund

Lender: CHASE Bank

Special thanks to: Mayor Shayne Gallo

Strengthening Homes, Communities and Lives
Bringing Green Home

Kevin O’Connor
koconnor@rupco.org
www.rupco.org

Strengthening Homes, Communities and Lives
The University of Virginia: Where History and Sustainability Cohabit

Kristine Vey, LEED AP ID+C
Senior Project Manager at the University of Virginia
Agenda
UVA Then & Now
- Historic Context
- Current Stats
- Framework Plan
Sustainability at UVA
- Timeline
- Where are we now?
Sustainability & Preservation
- Where are we now?
- How did we do it?
- Strategies & Projects
- Tips
An Academical Village

Cornerstone laid October 6, 1817
Classes start March 7, 1825
8 faculty
68 students
100 +/- staff and enslaved workers

Along with Monticello, designated a UNESCO world Heritage site in 1987
A Large and Growing Academic and Medical Community

Nearly 21,000 Students

13,500+ Staff and Faculty

642,777 Outpatient Visits

176,614 Patient Days

Over 15,000,000 GSF built space
Historic Buildings Framework Plan 2007

160 Buildings Identified as Historic:

• Fundamental (Jefferson Era)
• Essential
• Important
• Contributing

UVA Sustainability Timeline

2006

Presidential Committee on Sustainability Established

2007

GHG Reduction Goals Established

2009

Office for Sustainability Established

2013
Sustainability at the University of Virginia calls for collaboration and ingenuity to promote the well-being of the community, solve local and global challenges through scholarship and practice, educate ethical leaders and steward this special place.

-U.Va. Sustainability Statement

Green Workplace Program
The Green Workplace Program engages U.Va. employees and workplaces in actions that conserve energy, save money, and advance sustainability. Learn more...

U.Va. Sustainability Plan
Make your voice a part of the five year U.Va. sustainability plan to steward this special place. The Plan will compile new and existing ideas while building upon U.Va.’s current initiatives and accomplishments. Add your voice...

From the Grounds Up Blog
Follow the latest sustainability initiatives happening on Grounds and beyond with the recently launched U.Va. Sustainability blog.

Chuck It For Charity
Chuck It For Charity is an annual collection drive to enable students to donate their unused furniture, appliances, non-perishable food and clothing to local charities. Drop-off at the SAC from Thursday, April 30 through Tuesday, May 12. Learn more...

Earth Week 2015
Earth Week is a celebration of sustainability, aiming to bring together students, faculty, and staff for a week of events that build awareness, inspire creativity, and foster stewardship of our world and ourselves. All events are free and welcoming to all. Learn more...

Explore Our Research
The University of Virginia supports research and embraces innovation to address current and future needs.
April 2015

41 LEED Projects/Buildings Certified to Date

LEED Platinum
1

LEED Gold
8
1 Historic Building

LEED Silver
19

LEED Certified
13
4 Historic Buildings
Project: New Cabell Hall

“Contributing” in the Historic Buildings Framework Plan

Targeting Gold

Six Stories

150,000 GSF
New Cabell Hall – Landscape and Daylight
New Cabell Hall – Transformed Environment
New Cabell Hall – Making It Work
Project:
Garrett Hall
LEED 2.2

“Essential” in the Historic Buildings Framework Plan
Garrett Hall - Unseen Improvements
Garrett Hall - Some Old Ideas Still Work
Pavilion X

LEED 2009 Certified
Pavilion X – Blending the 19th and 21st Centuries
Pavilion X – Making It All Work
Pavilion X – Blending the 19th and 21st Centuries
Pavilion IX

LEED 2009 Certified

Preservation Update

Pavilion IX Renovation
What We Didn’t Do – Replace Doors
What We Didn’t Do – Replace Windows
Materials And Finishes

Easy Choices
Reclaimed heart pine for repairs and new floors
Linoleum for bathrooms
FSC wood for the new cabinets
Low VOC caulks, paint and sealants
Water-based polyurethane for wood floors in kitchens and bathrooms

Hard Choices - Floor finishes
Turpentine and mineral spirit cleaners are customary for removing wax.

Shellac, historically used as sealant, is diluted with ethyl alcohol at high concentrations.
Up Next
Tips:

Use district generated chilled and hot water to save energy

Develop relationships with skilled crafts people

Learn the Buildings – reuse as much as possible

Consider basement/attic space for Mechanical Systems equipment
Special Thanks to:

Connie Warnock, Assistant University Architect, Office of the University Architect

Brian Hogg, Senior Preservation Planner, Office of the University Architect

James Zehmer, Project Manager, Facilities Planning and Construction

Jesse Warren, Sustainability Program Manager, Office for Sustainability
The University of Virginia: Where History and Sustainability Cohabit

Kristine Vey, LEED AP ID+C
Senior Project Manager at the University of Virginia
kv4q@virginia.edu
http://www.fm.virginia.edu/