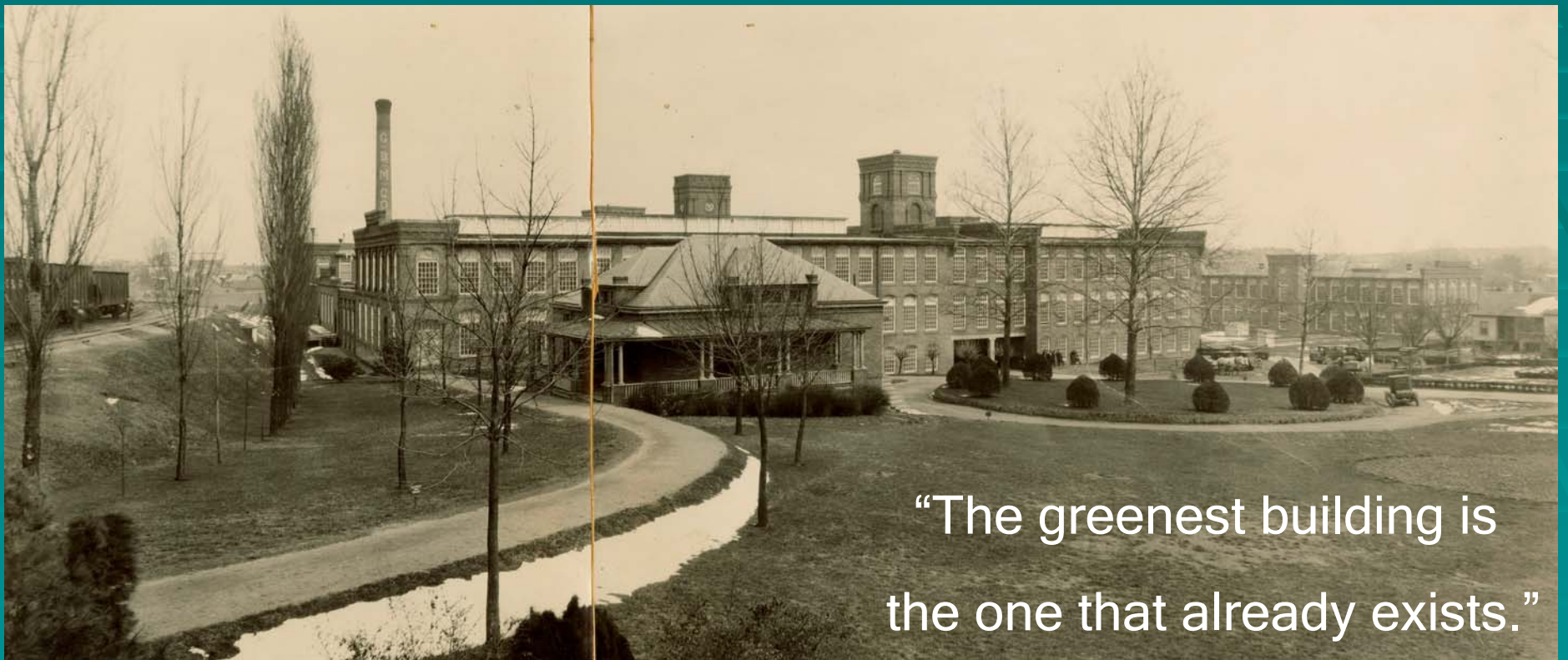




# Sustainability & The Standards

Tim E. Simmons  
Senior Preservation Architect  
North Carolina  
State Historic Preservation Office  
[www.hpo.ncdcr.gov](http://www.hpo.ncdcr.gov)

# Four Case Studies that Combined Historic Tax Credits & LEED Certification to Achieve Community- Wide Reuse & Reinvestment



“The greenest building is  
the one that already exists.”

# Golden Belt Center Durham, NC LEED Gold





# Opportunities

- Rehabilitated 155,000 square feet for mixed-use arts-focused campus
- Removal of nonhistoric additions/infill to restore original exterior walls
- Pedestrian, bike and bus accessibility



# Opportunities

- Heat island & storm water runoff reduction
- Sun lighting and view oriented layouts
- Full heritage building recycling
- Energy efficient lighting and HVAC

# Opportunities

- Extensive use of recycled and regionally sourced materials
- Energy efficient refurbished and new windows
- No irrigation—drought resistant landscaping

# Challenges

- \$26 million investment in what was a blighted neighborhood





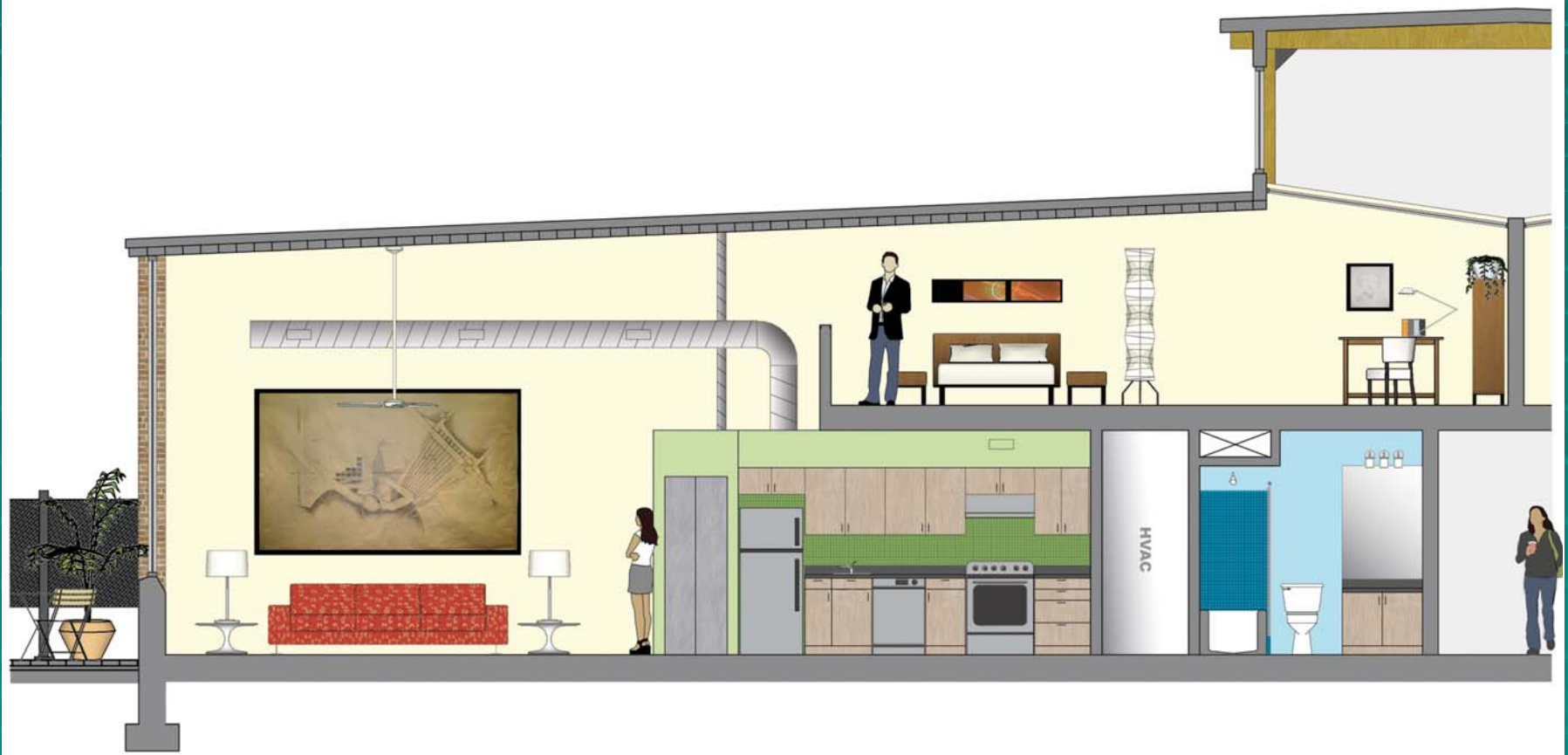






**Golden Belt Mill - Site Plan - Durham, NC**



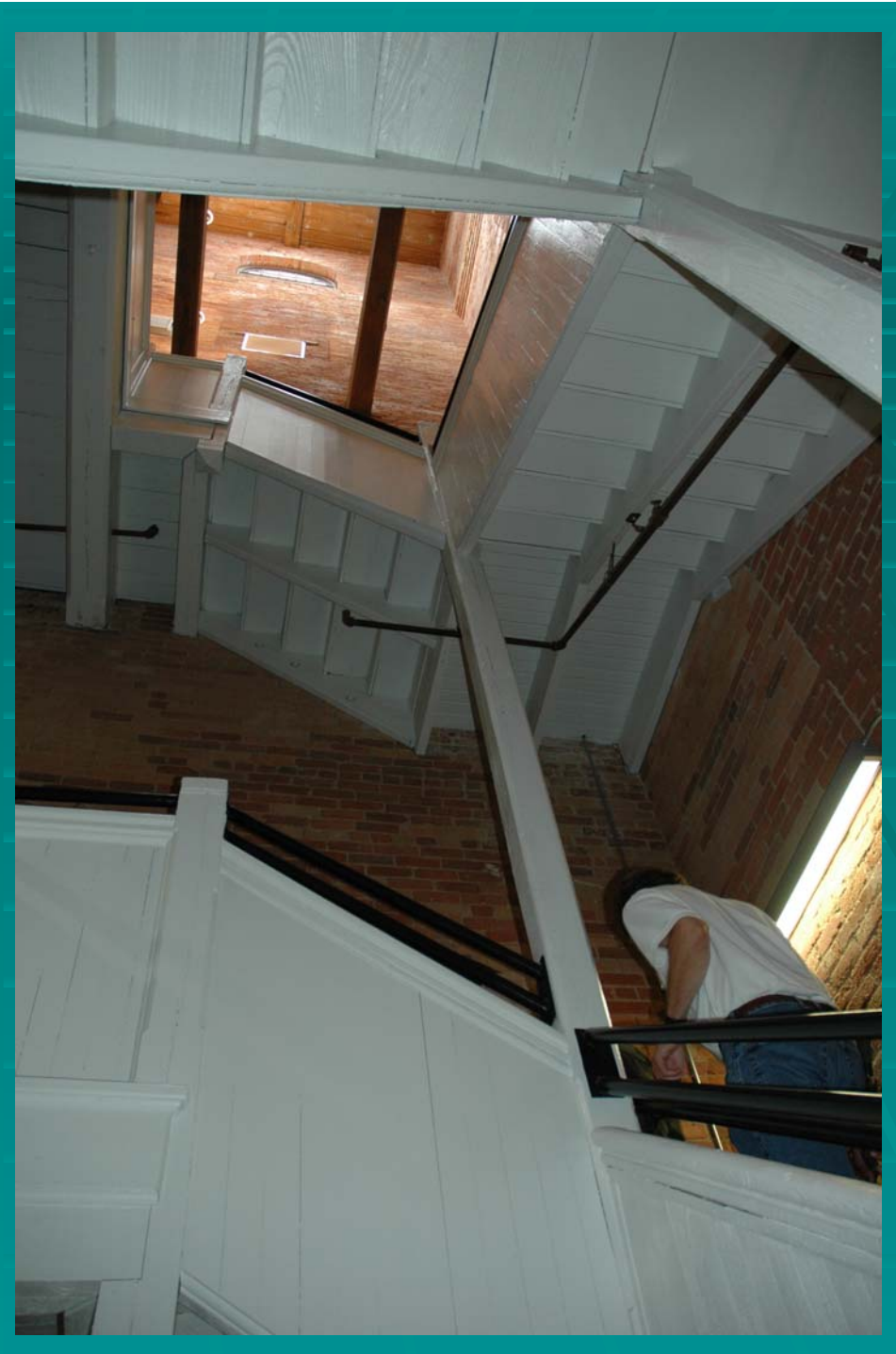














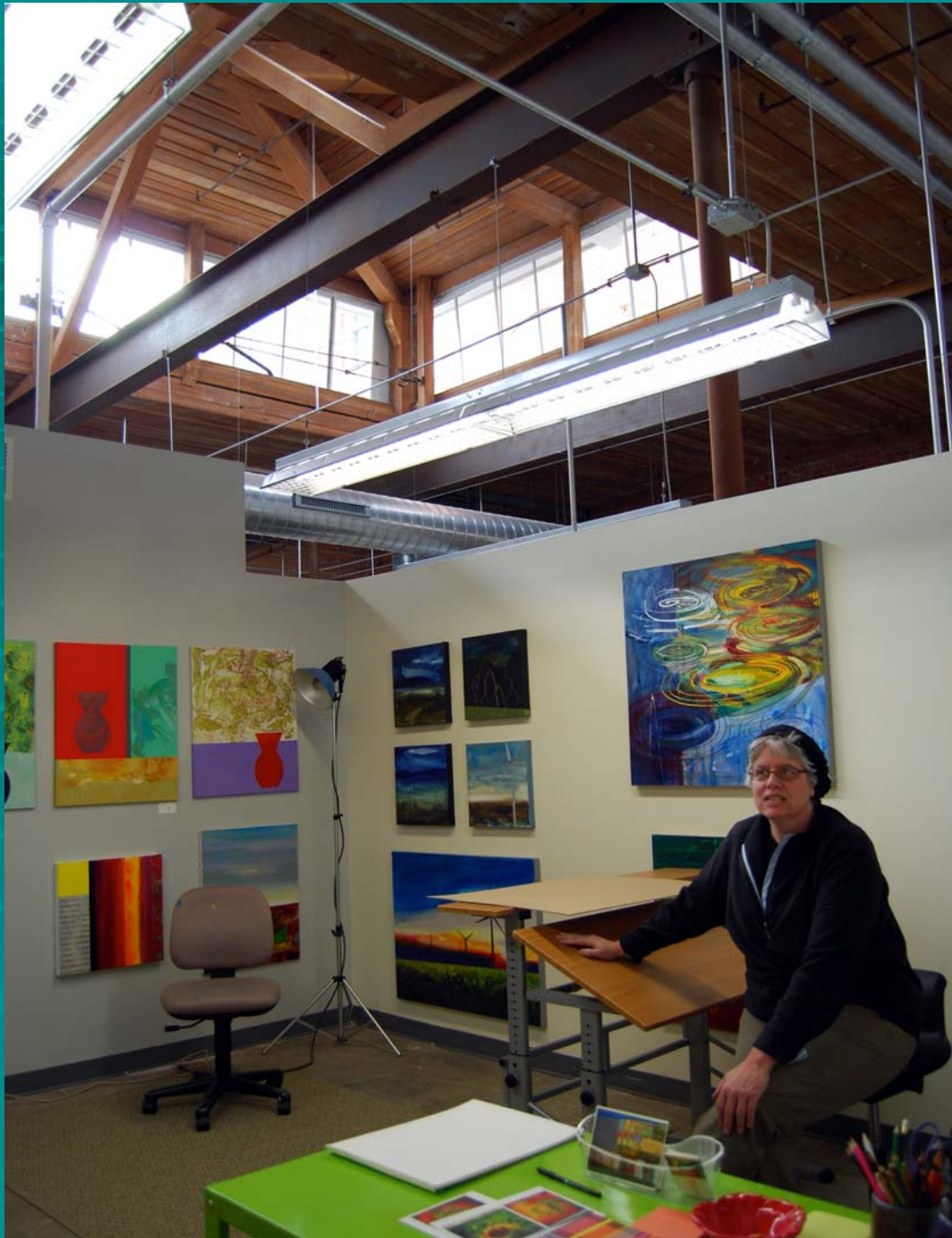


















# American Tobacco Historic District Durham, NC Pre-LEED Sustainable Measures

# Opportunities

- Rehabilitated 1 million square feet of vacant buildings for vibrant mixed-use
- Pedestrian, bike & bus accessibility
- New atrium spaces for natural lighting
- Drought resistant landscaping



# Opportunities

- Rainwater collection from roofs to cisterns for irrigation
- Heat island & storm water runoff reduction
- Sun lighting & view oriented layouts

# ■ Opportunities

- Full heritage building recycling
- Extensive use of recycled & regionally sourced materials
- Energy efficient lighting & HVAC
- High reflectance membrane roof



# ■ Opportunities

- Energy efficient refurbished & new windows
- 3 LEED Gold Commercial Interiors
- Gray recycled water for “Bull River”
- Green cleaning products

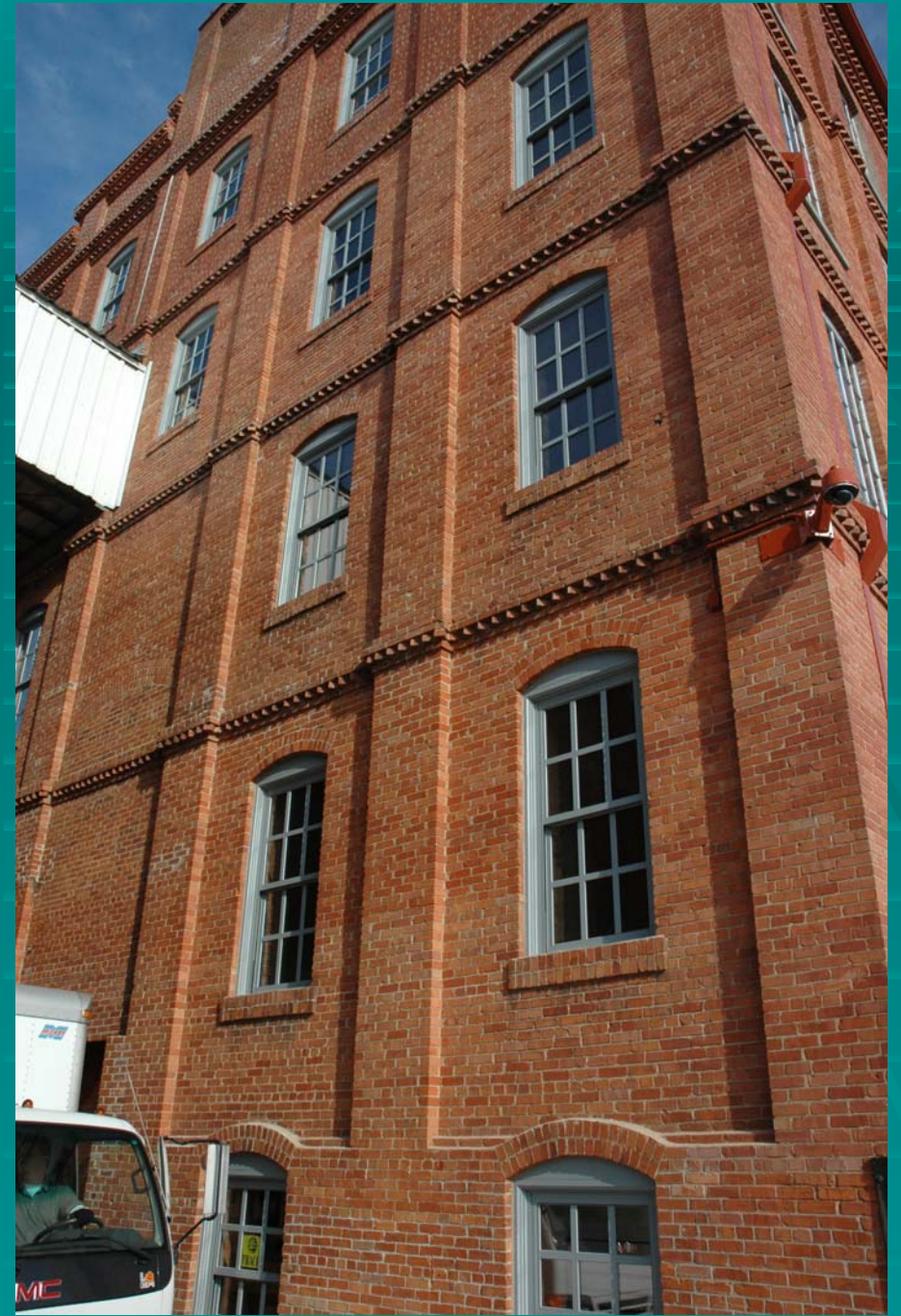
# Challenges

- New windows created to let light into formerly windowless Crowe Building
- Demolition of south end Washington Building to create a parking structure
- Currently developing a rooftop photovoltaic generation grid









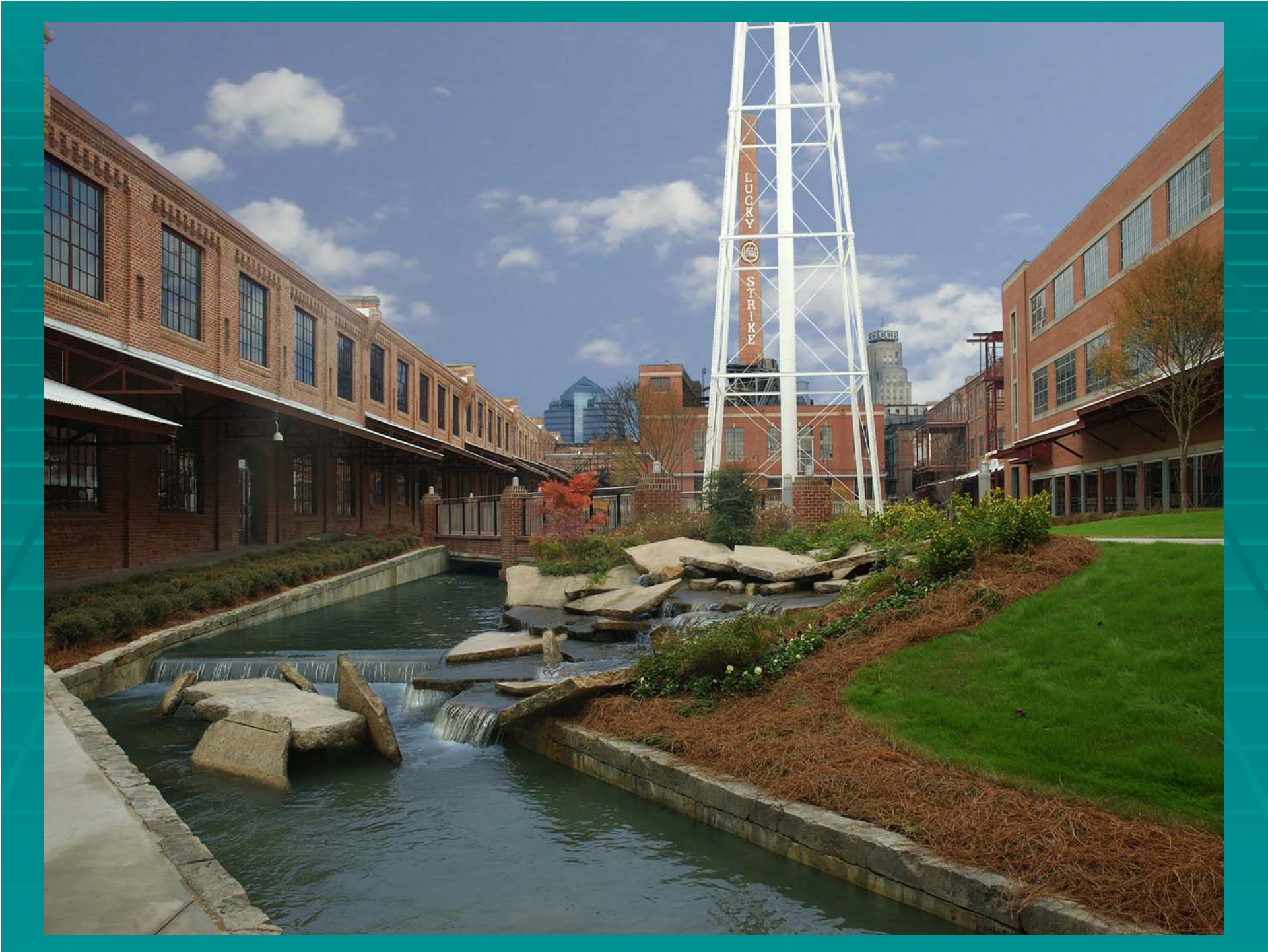












































# Roger's Alley Durham, NC LEED Registered





# Opportunities

- Rehabilitated 3 historic buildings for mixed-use
- Common courtyard serves for rain water collection to cistern for irrigation
- Installed geothermal heat pump system with 3 -1500' wells

# Opportunities

- High reflectance membrane roof with potential for solar water heat or vegetative roof
- Installed daylight monitors, operable windows & programmable exterior lighting



# Opportunities

- Ensured significant material reuse (e.g., recycled brick for hardscape, reused historic tin ceiling, repaired original hardwood flooring where possible, reused marble/wood bathroom partitions from another property)

# Opportunities

- Used reclaimed hardwoods where original flooring was too deteriorated
- Used high recycled content materials (e.g., carpet & drywall)
- Pedestrian, bike & bus accessibility



# Challenges

- Access to proposed green roof on Historic Durham Fire Station No. 1



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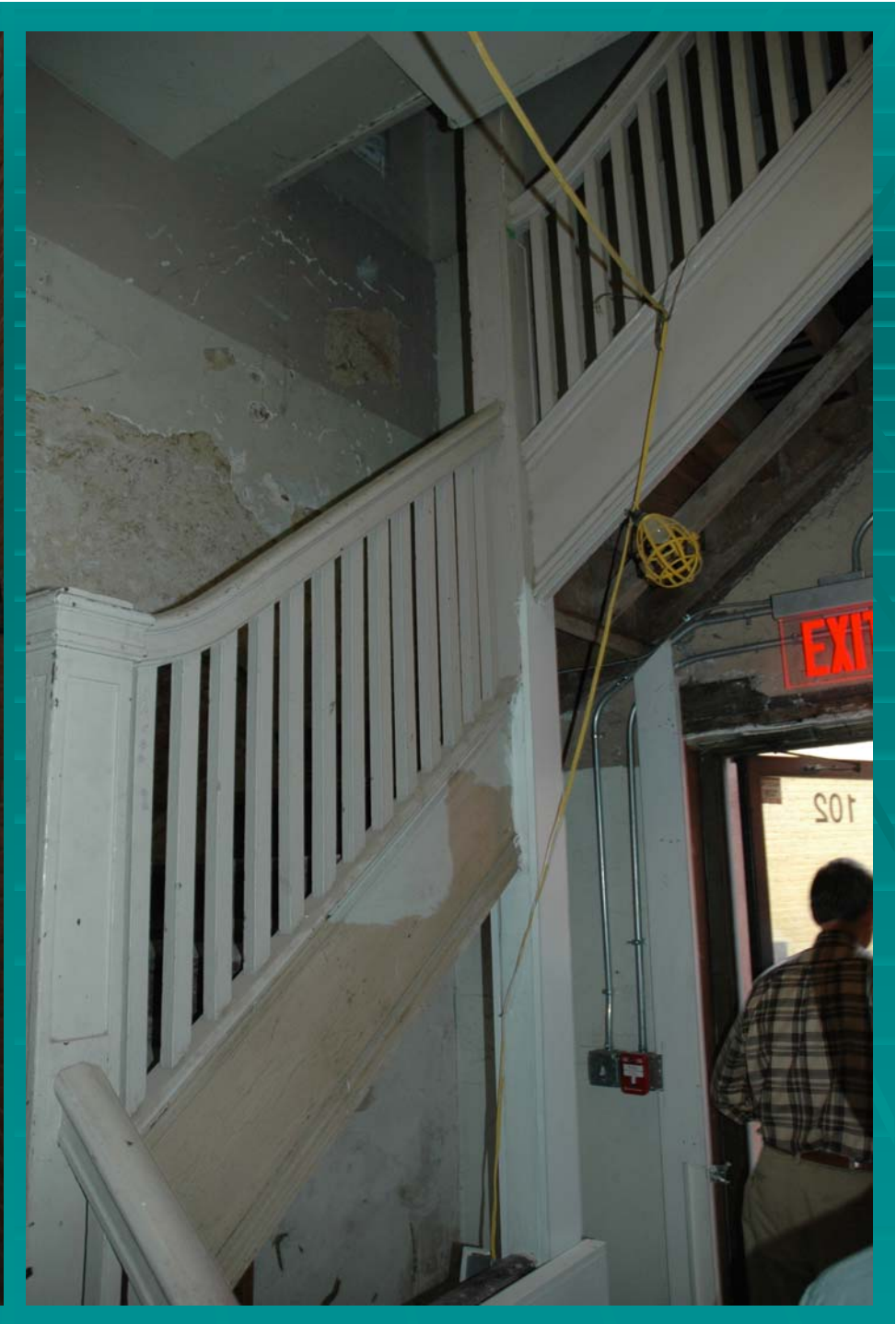


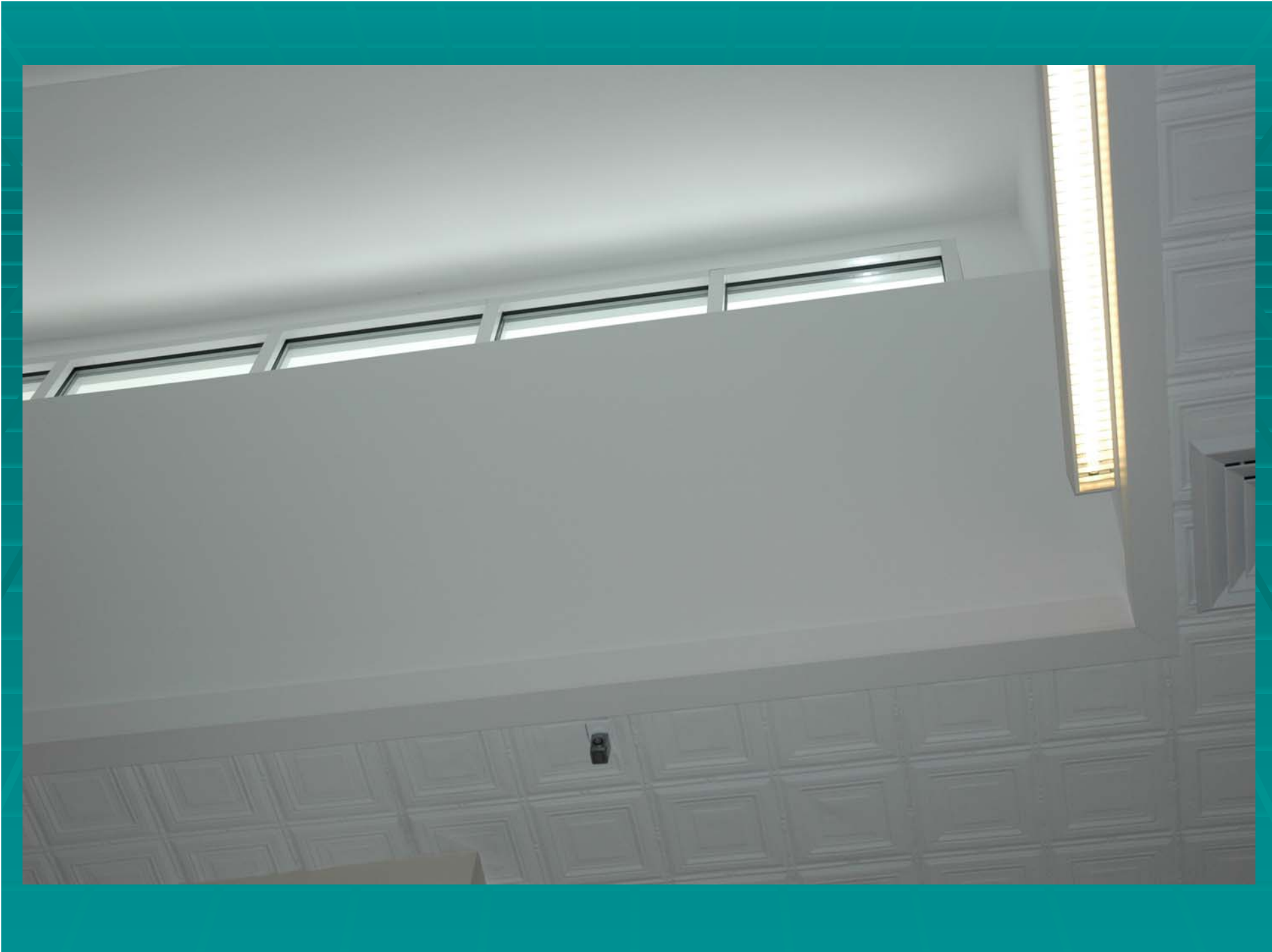














# Heilig-Levine Complex Raleigh, NC LEED Platinum Commercial Interiors



# Opportunities

- Rehabilitated 4+ historic buildings for mixed-use
- Retain long-term tenants like Capitol Barber Shop
- Pedestrian, bike and bus accessibility



# Opportunities

- Created shared accessible circulation, restrooms & mechanical for all 4 buildings within revamped courtyard for dining
- Energy efficient refurbished windows
- Use of low emitting materials

# Opportunities

- Efficient landscaping
- Waste & water use reduction
- Sun lighting and view oriented layouts
- Full heritage building recycling



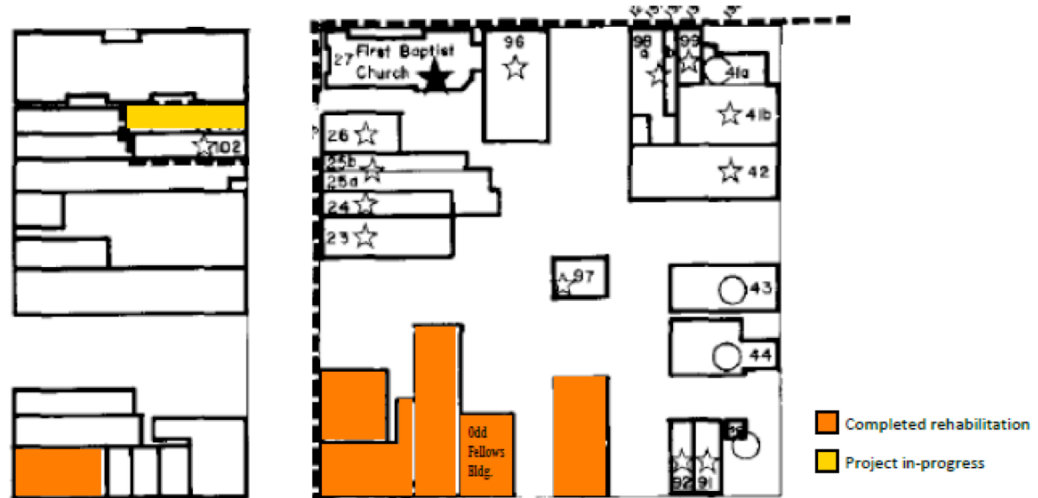
# Opportunities

- Extensive use of recycled and regionally sourced materials
- Energy efficient lighting and HVAC

# Challenges

- Painting exposed ductwork & previously painted materials





E. Hargett St. Jewish Enclave Raleigh's "Black Main Street"





Odd Fellows Building





# Capitol Barber Shop







Koonce Furniture Building



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Heilig-Levine Building







Womble Grocery Building































# North Carolina State Building Code

Volume IX—Existing Buildings (1994)

North Carolina Rehab Code (2001)

Volume I—Chapter 34, Existing Structures





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