

# Charleston Civic Center

Presentation June 13, 2017

prepared for:

Economic Development Through Energy Efficiency Conference



# Topics

process  
team  
design  
energy efficiency  
progress photos  
tour / reception

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# Location/History

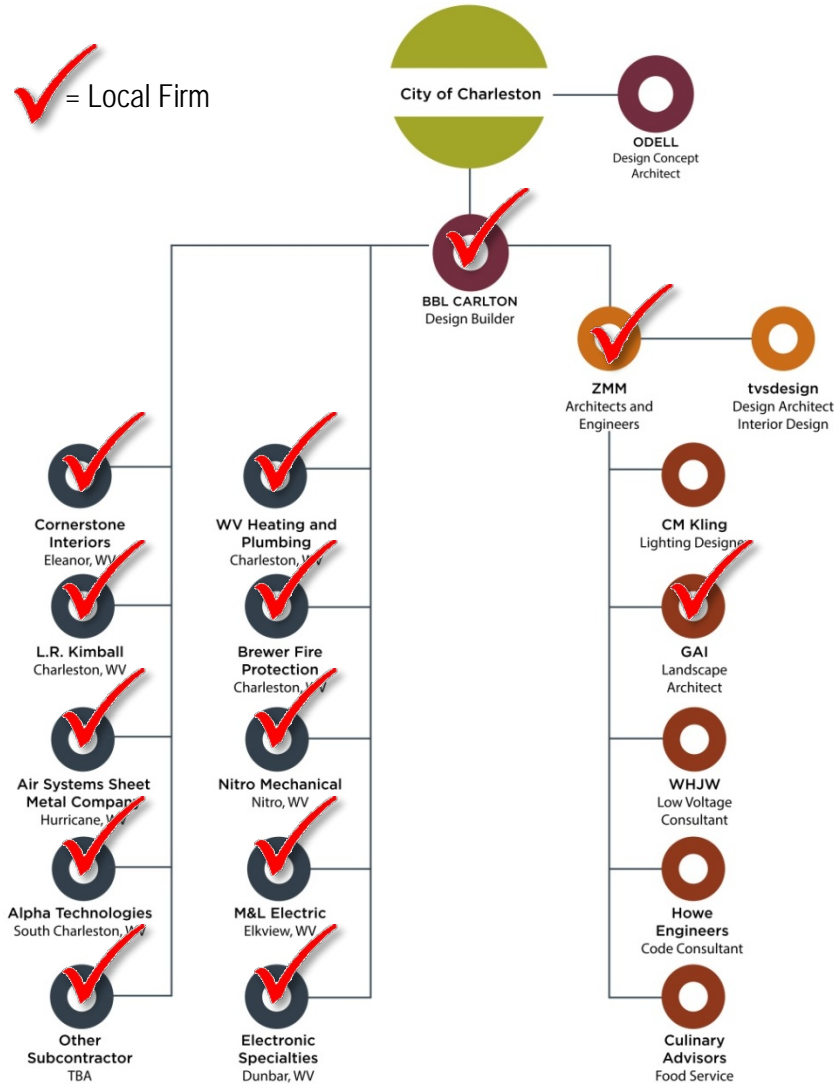
## History - Original Facility Completed in 1959

- Work Commenced in 1957, \$2.5M Budget
- Exhibit Hall/Performance Venue, Little Theater, Seating Capacity of 7,000
- Expanded in 1983 to Include 13,500 Seat Arena and 19,000 SF Lobby
- Recent Renovations: 2001 - Ice Rink Eliminated to Expand Exhibit Hall Space, 2004 - Meeting Rooms Updated
- 3000 Event Days per Year, Arena is Used 180 Days per Year - Facility will Remain Operational Throughout Construction



# Team

✓ = Local Firm



Design Builder:



Architect & Engineers of Record:



Design Architect:



Landscape & Civil:



gai consultants

# Process

## Design Build Competition

### Criteria Developer – Odell Associates, Charlotte, NC

- Newcomb and Boyd, Potesta
- Selected in November 2013
- Developed Criteria, Conceptual Design

### Design-Build Team Selection

- Stage 1: RFQ, Commenced November 2014
- 3 Teams Were Short-Listed in December
  - BBL/ZMM with tvsdesign
  - PJ Dick/Pray Construction/Silling with HKS
  - Mascaro/Bastian & Harris with GBBN

### Process

- Final Design Commenced January 2015
- Process – RFI's (Team Specific or General, Decided by Odell)
- 3 – 2 Hour Design Review Meetings with Civic Center, City, and Criteria Developer
- Design (DD Level), Pricing, and Final Presentation Due April 2, 2015
- Losing Teams Receive \$100K Stipend



# RFP Energy Requirements

## Design Build Competition

### **LEED Certification was NOT Originally a Project Requirement**

- “It is the intent of the City to have environmentally sound materials and design solutions incorporated into the project...”
- LEED Template Required to Demonstrate Reduced Energy Consumption
- Focus of RFP was Reduced Energy Consumption/Cost
- Commissioning / Envelope Commissioning

### **Energy Requirements**

- Design Energy Performance: 30% Less Than ASHRAE 90.1 - 2010
- Design Energy Cost: 22% Less Than ASHRAE 90.1 – 2010
- Design Water Consumption 20% Less Than Baseline Using LEED Template
- Metering and Submetering Per ASHRAE 90.1 - 2013

### **LEED Certification was Added After BBL/ZMM Team Selection**



# START WITH THE BIG PICTURE

We design and build buildings to bring people together  
to work, play and learn.

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# CREATE ECONOMIC IMPACT

Our design will attract outside dollars and keep and attract Charleston talent.



# REIMAGINED CIVIC CENTER

Each decision is focused on making the center more attractive and more useful to both the visitor and the community.



# UNIQUE AND AUTHENTIC EXPERIENCE

Our design reflect the unique location and character of Charleston and will be a new and authentic Landmark.





INSPIRED BY THE STORY  
OF WEST VIRGINIA

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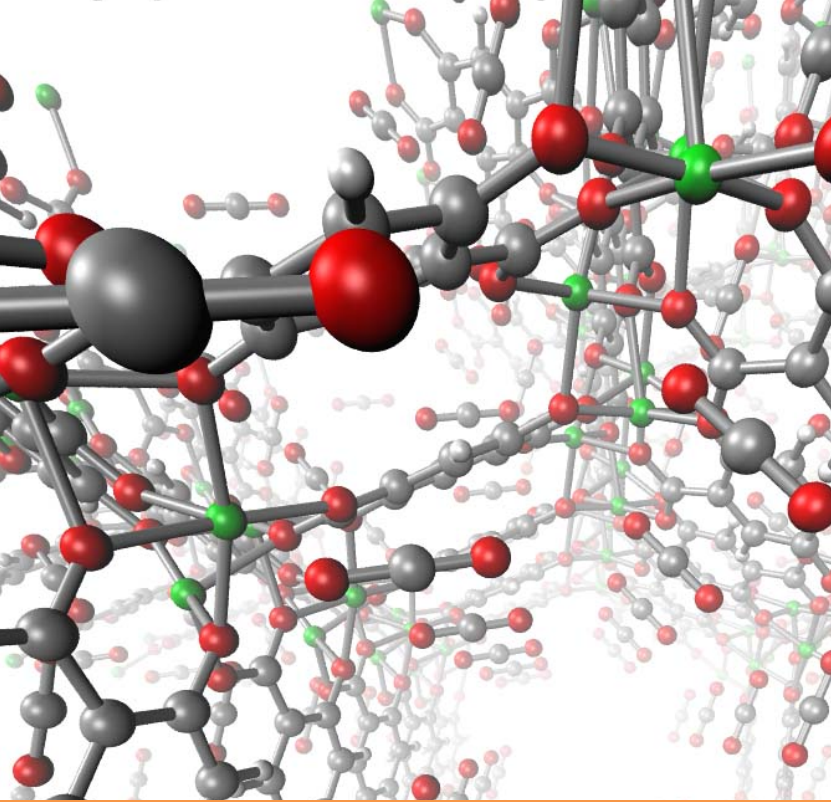


PROGRESSION FROM  
RUGGED FRONTIER

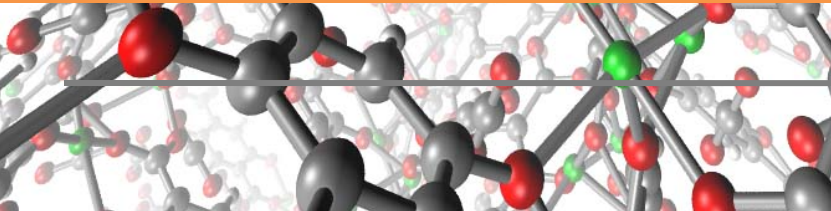


TO EXTRACTIVE  
INDUSTRIES





TO VALUE ADDED  
MANUFACTURING





An aerial photograph of a winding river, likely the Kanawha River, flowing through a lush green, hilly landscape. The river meanders from the top left towards the bottom right, with several sharp turns. The surrounding terrain is covered in dense green vegetation, and the river's path is clearly defined by its light brown color. In the lower-left corner, there is an orange rectangular overlay containing white text.

# ORGANIZATION

The rugged landscape around West Virginia is the inspiration for the re-organization of the Center.

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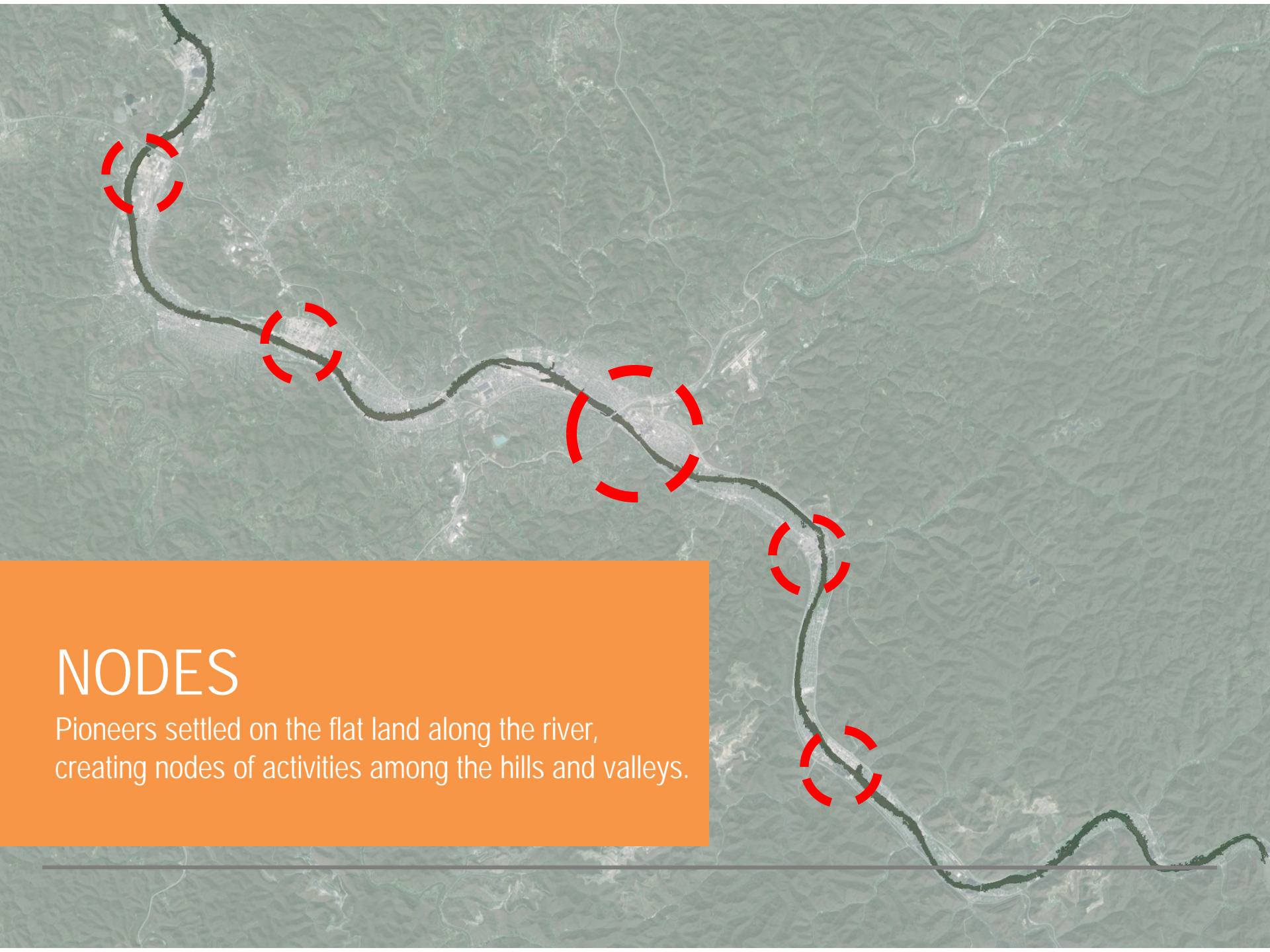


An aerial photograph of a valley with a winding river. A thick black line is overlaid on the image, tracing the path of the river from the top left to the bottom right. The river valley is a light-colored strip, while the surrounding mountains are covered in dense green forest. The text is located in the bottom left corner, overlaid on an orange rectangular background.

# CIRCULATION

The Kanawha River is the social link through the valley, cutting into the mountains and giving access to the region.

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# NODES

Pioneers settled on the flat land along the river, creating nodes of activities among the hills and valleys.



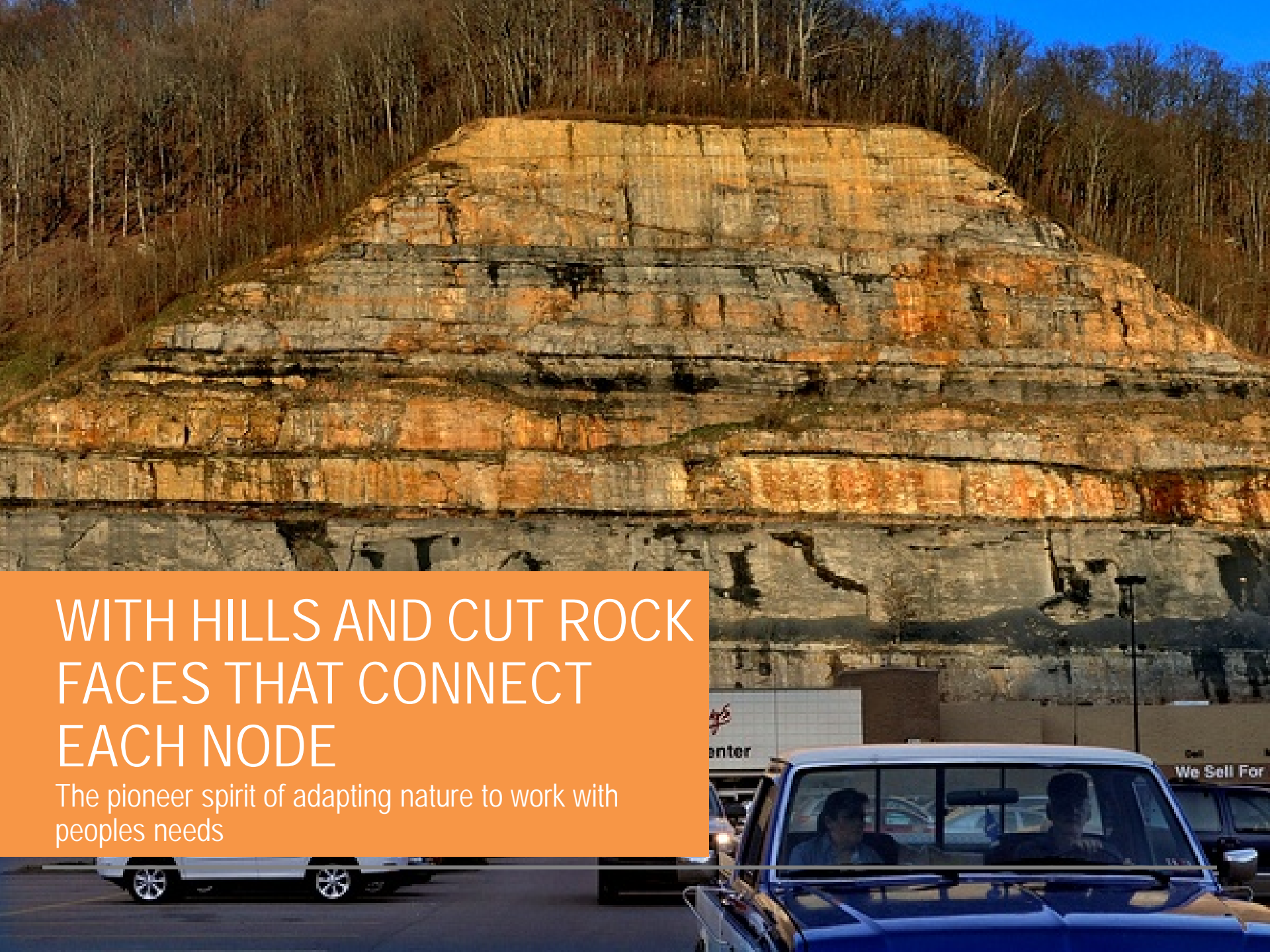
# IMAGINE A BUILDING THAT EMERGES FROM THE LANDSCAPE

Architecture and topography working together

# WITH ACTIVE NODES TO CELEBRATE EACH USE

Glass lobbies that mark the Arena, the Convention  
Center and the Ballroom





# WITH HILLS AND CUT ROCK FACES THAT CONNECT EACH NODE

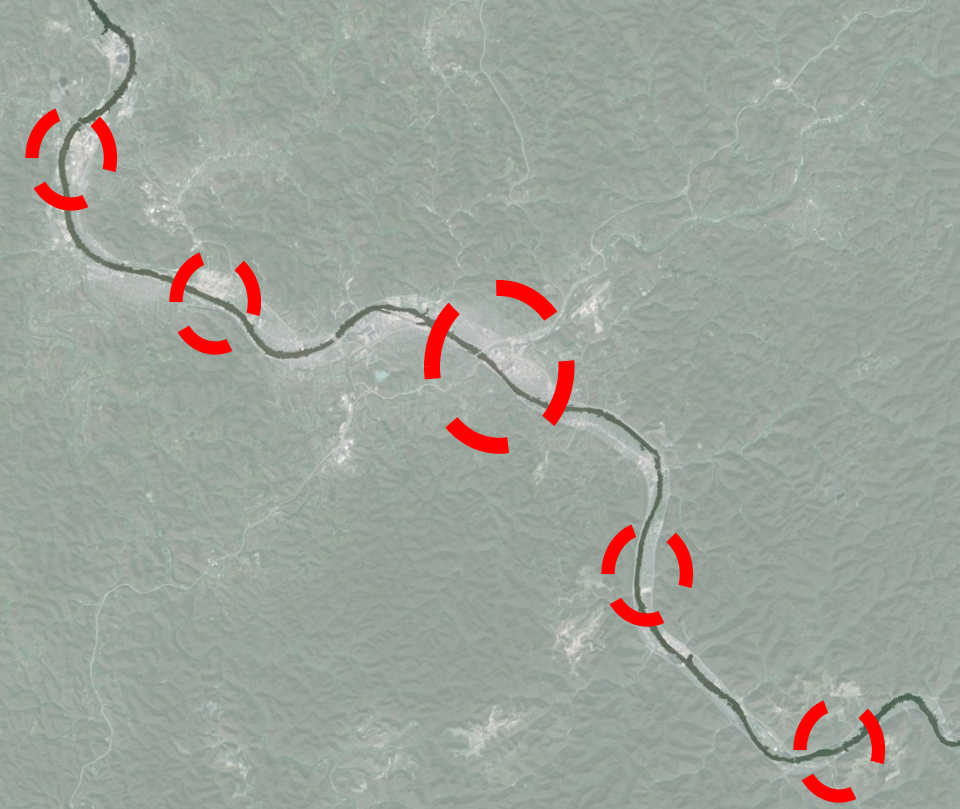
The pioneer spirit of adapting nature to work with  
peoples needs



# BUILDING EMERGES FROM LANDSCAPE

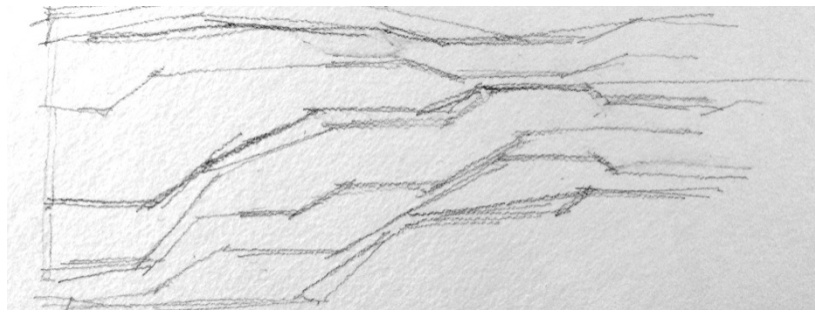
Reduces mass of building and connects it to the  
Arena imagery

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# WITH GLASS LOBBIES MARKING EACH NODE

Creates civic landmarks and helps users  
understand and use the building



# CONNECTED BY HILLS AND CUT ROCK WALLS

Reflects the human intervention in the landscape  
to connect each node

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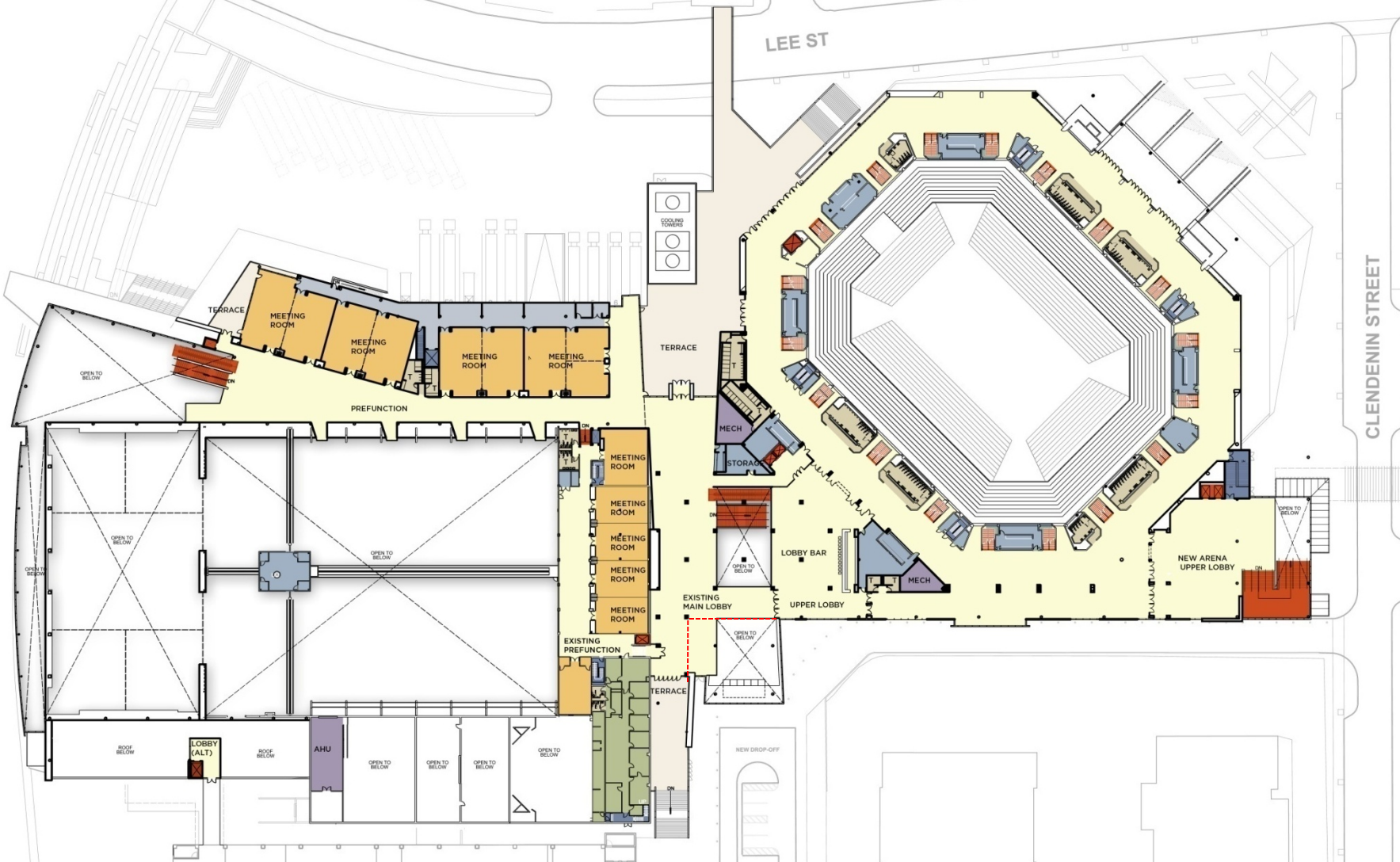


# ORGANIZE, INSPIRE, REFLECT

The design themes make this a uniquely Charleston building and reflect a hip, historic and almost heaven West Virginia.

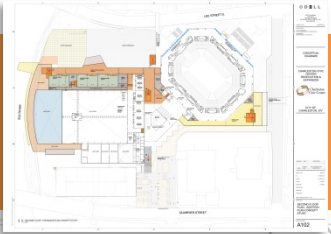
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# FLOOR PLAN

Lower Level















CHARLESTON CIVIC CENTER







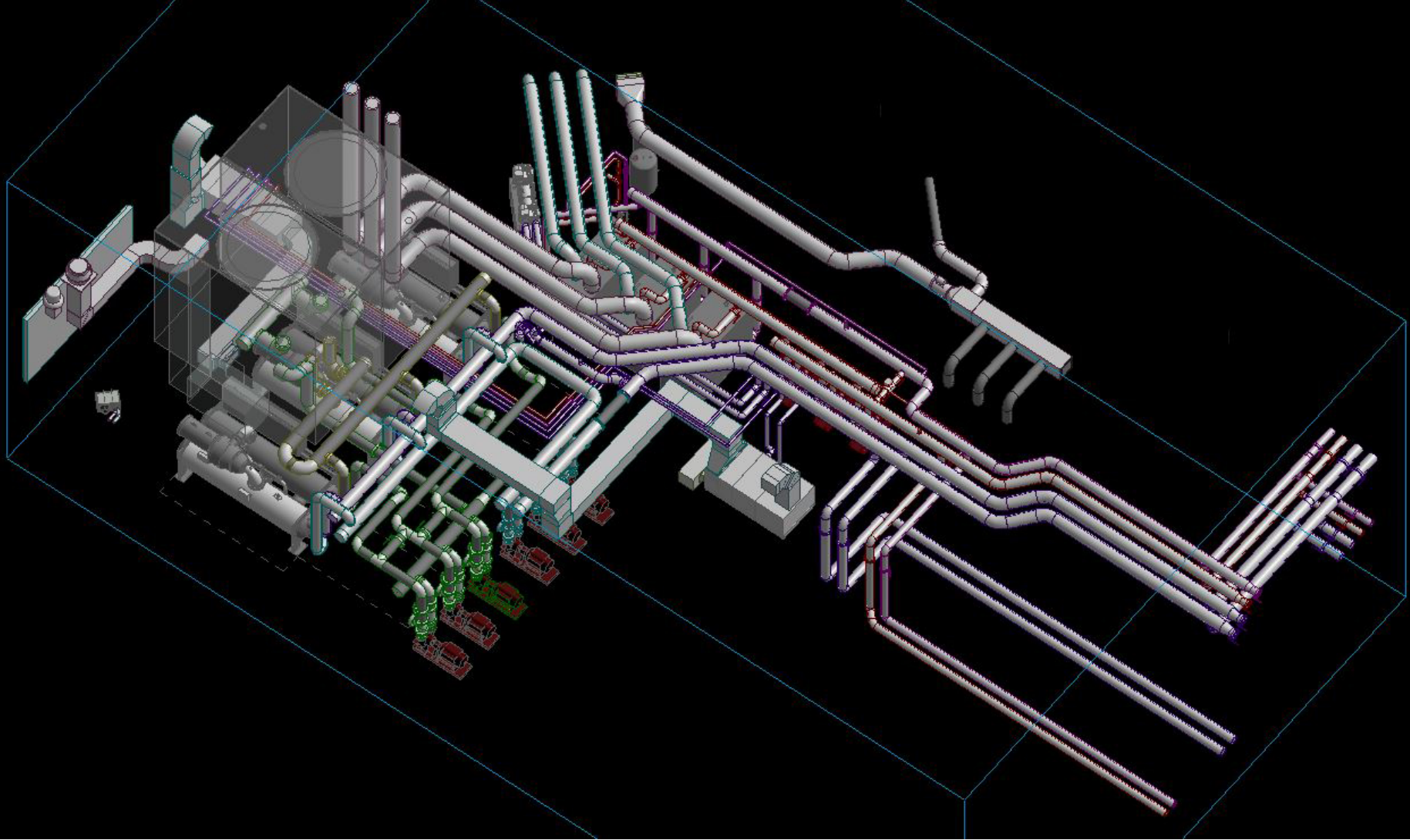
West Virginia

OVC CENTER









# Central Plant Model

Building Systems

# Energy Engineering

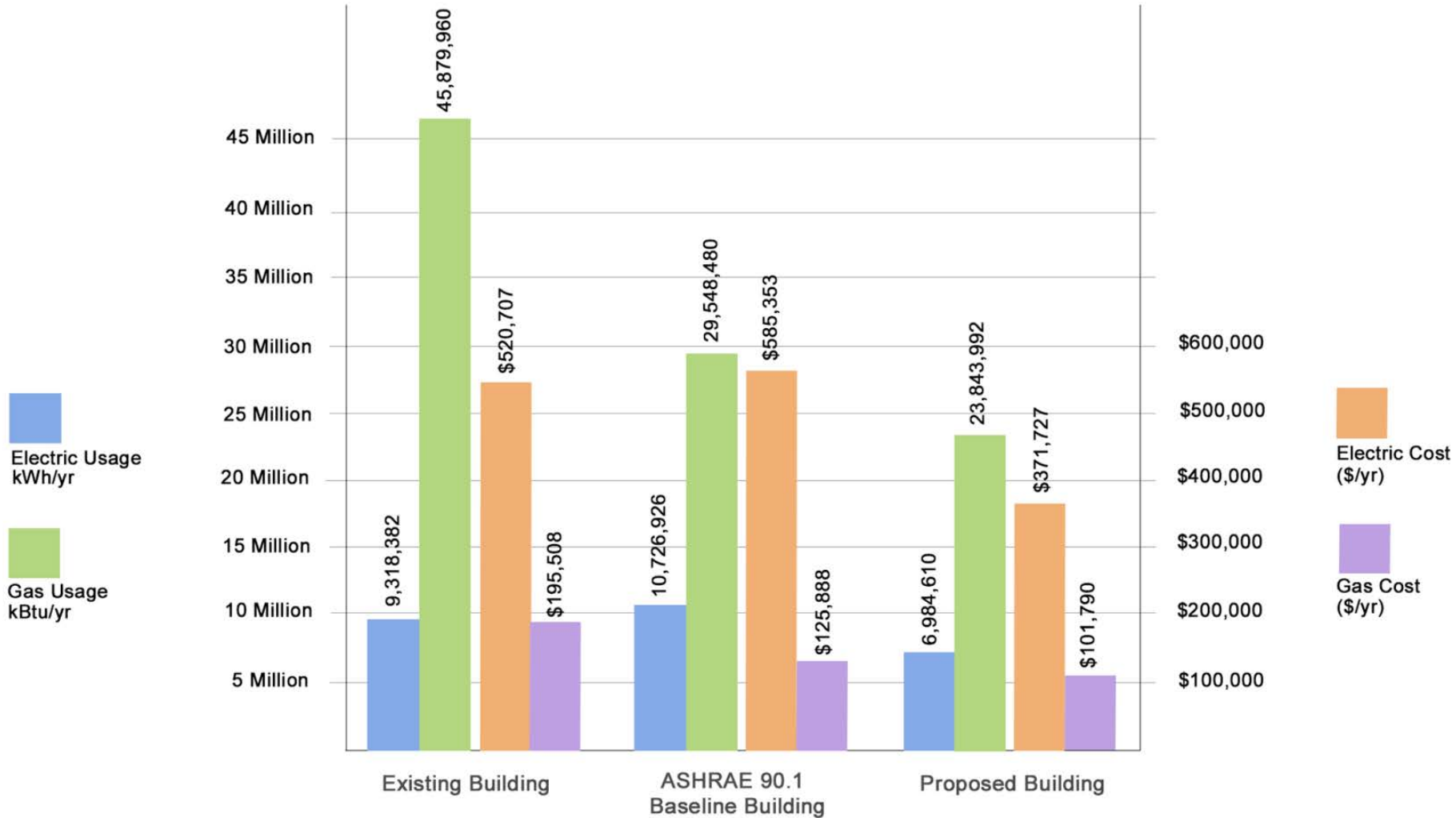
Building Systems Compliance & Design





# Energy Engineering

## Energy Model



# Sustainable Strategies



1. Building Reuse / Renovation
  2. Replacing Central Plant w/Efficient Equipment
    - 95% Efficiency Condensing Gas Boilers (Modulating)
    - Efficient Chillers and Cooling Towers with Variable Speed Drives
  3. LED Lighting
  4. Utilizing Energy Modeling as a Design Tool
  5. Commissioning (FBS and Envelope)
  6. Reduction in Demolition/Construction Waste
  7. Material Selection (Local, Recycled Content)
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# Progress Photos



# Progress Photos



# Progress Photos



# Progress Photos



# Progress Photos



# Progress Photos





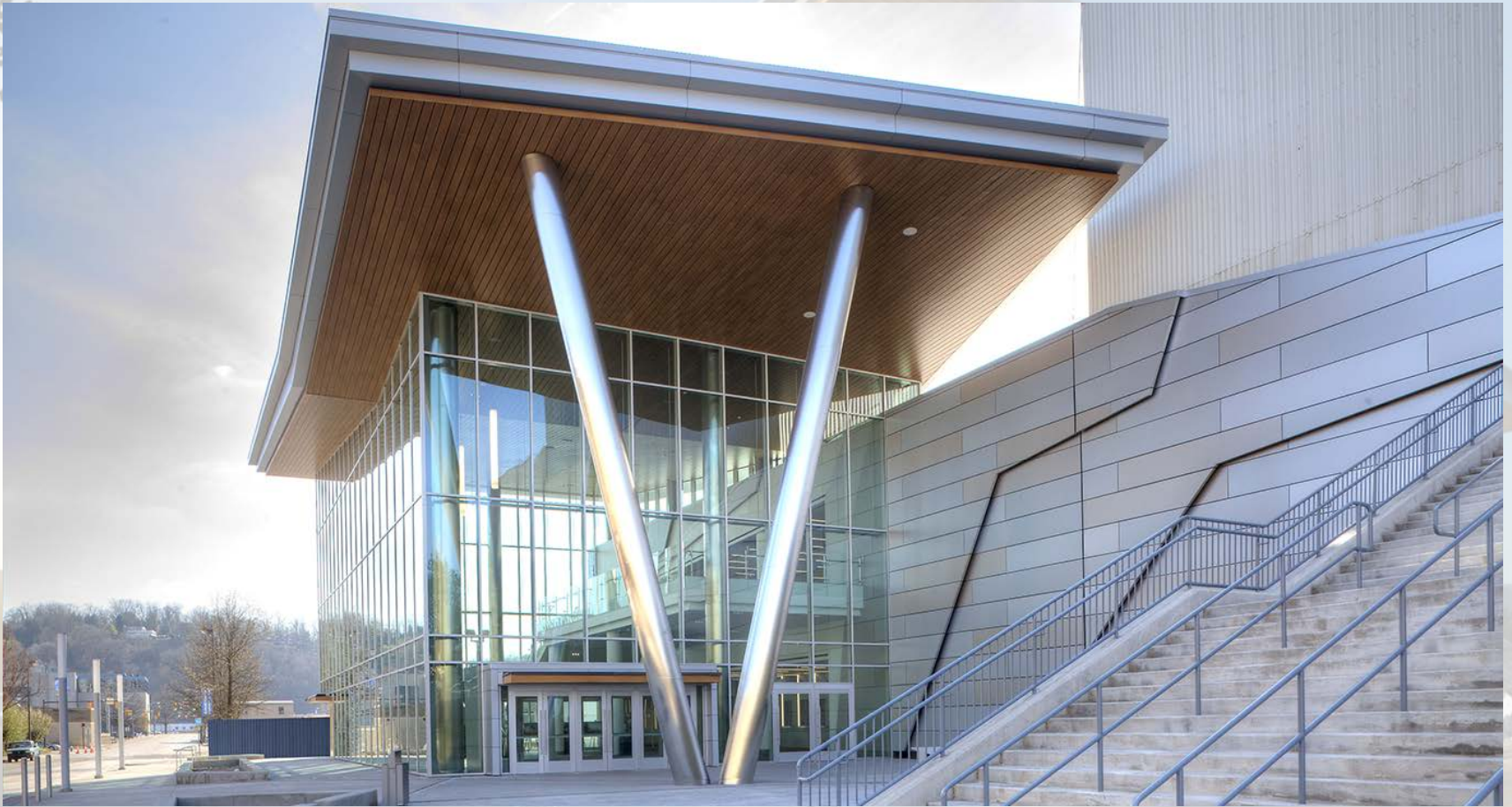
# Progress Photos



# Progress Photos



# Progress Photos





# Thank You

## Questions / Discussion



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