DURHAM COUNTY YOUTH HOME

MOSELEY ARCHITECTS

BORDEAUX
Construction Company, Inc.

Durham Board of County Commissioners Work Session

January 4, 2021
9AM

AGENDA

1. EXISTING FACILITY	*Angela Nunn, Director* *Durham County Youth Home*
2. PROJECT OVERVIEW	*Bryan Payne, Project Manager* *Moseley Architects*
3. PROJECT SCHEDULE	*Bryan Payne, Project Manager* *Moseley Architects*
4. SUSTAINABILITY UPDATE	*John Nichols, Director of Energy Analytics and Informed Design* *Moseley Architects*
5. PROJECT COST	*Peri Manns, Deputy Director of Engineering and Environmental Services* *Durham County*

EXISTING FACILITY

EXTERIOR VIEW AT ENTRANCE

INTERIOR VIEW OF DAYROOM

HIGHLIGHTS

- Built in 1983
- Challenges with the facility
- Increase in bed space needs due to Raise the Age and HB593 Legislation

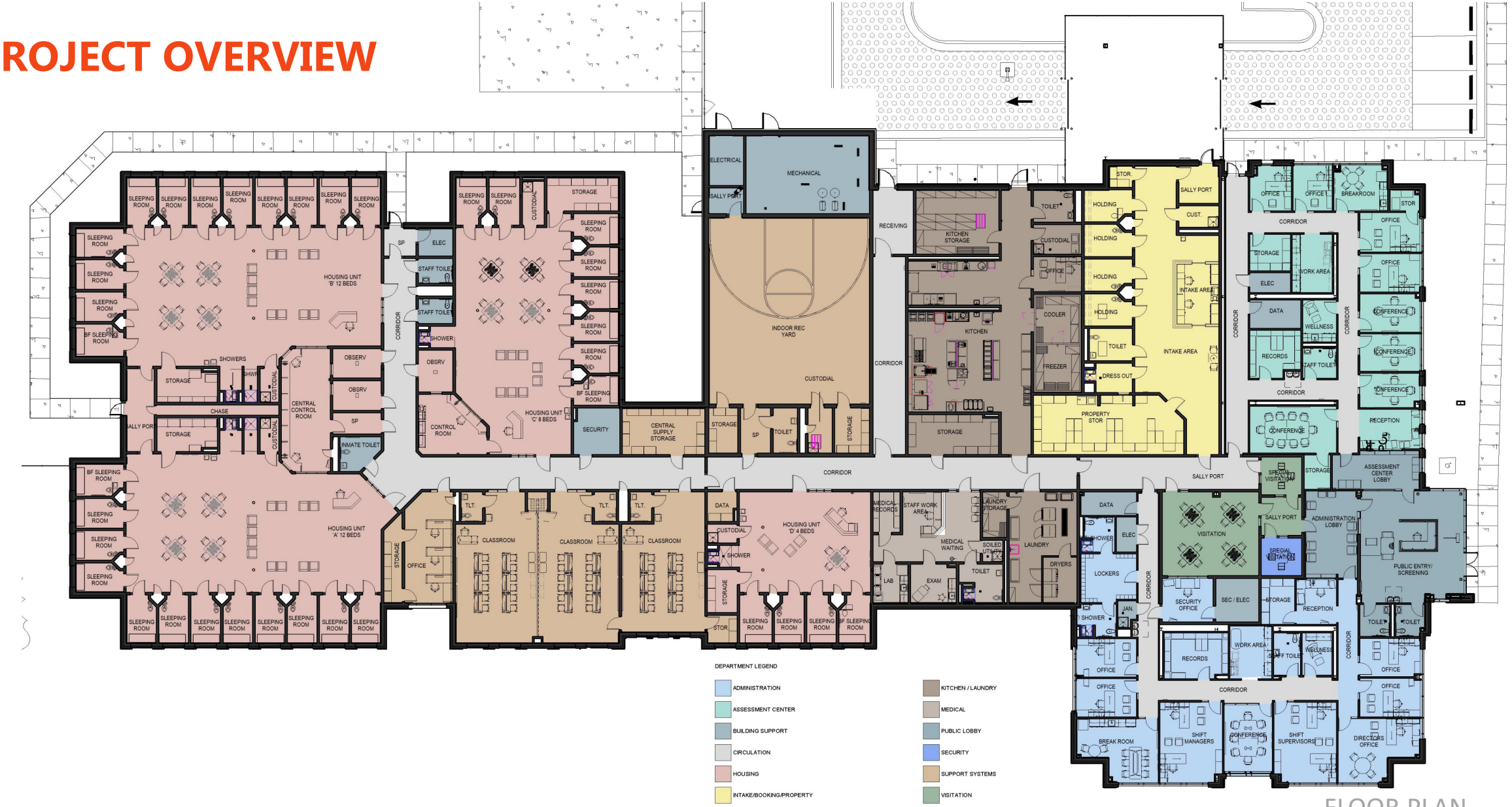
EXTERIOR VIEW FROM BROAD STREET

PROJECT OVERVIEW

PROJECT HIGHLIGHTS

- Goal to keep Durham's troubled kids in Durham Co
- 36 Bed New Facility
- Planned for future expansion
- Pursuing LEED Gold
- First Geothermal HVAC system for a County facility
- Use of Native Planting – low maintenance

PROJECT OVERVIEW



FLOOR PLAN

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January 4, 2021

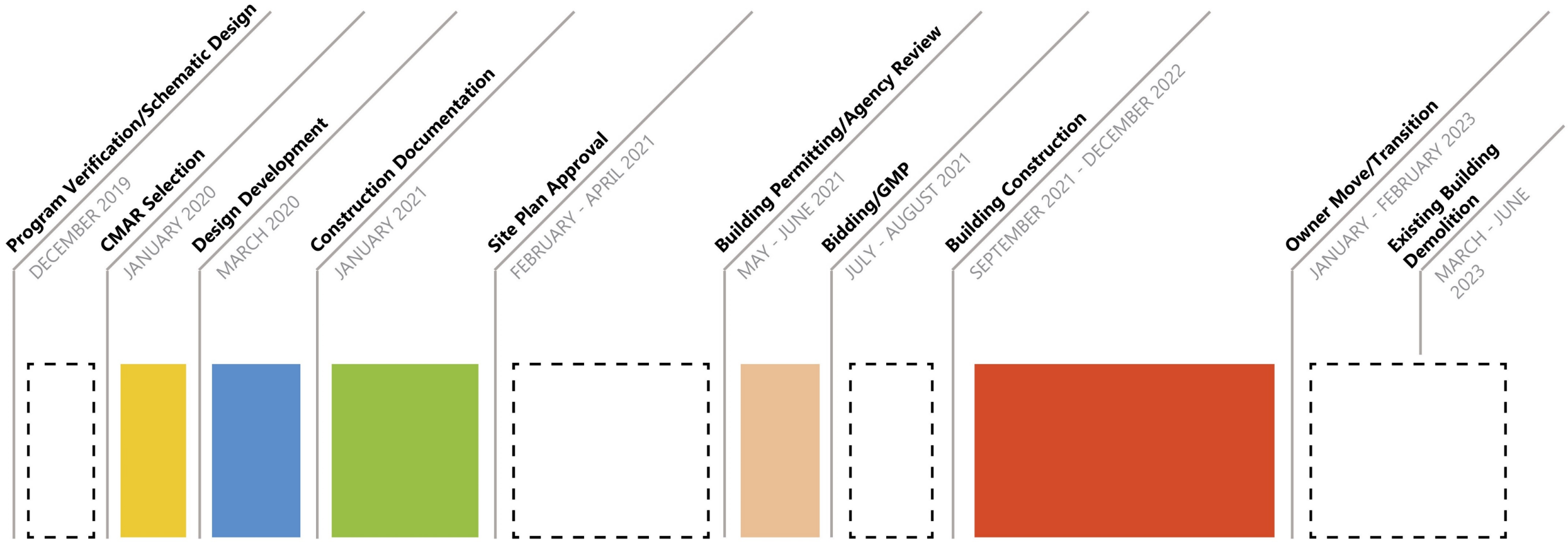
PROJECT OVERVIEW

RENDERING AT FRONT ENTRY

PROJECT OVERVIEW

RENDERING ALONG BROAD STREET

PROJECT SCHEDULE

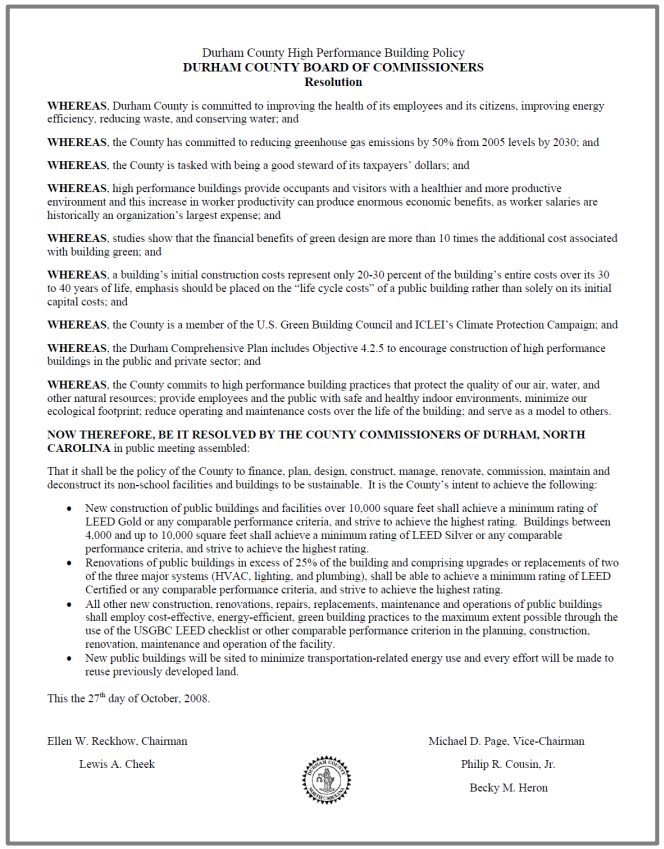


PROJECT SCHEDULE

Next Milestones	Target Dates
Site Plan Submittals	Feb - April 2021
Building Permit/ Agency Review	May – June 2021
Bidding/ GMP	July – August 2021
Building Construction	Sept 2021 – Dec 2022
Owner Occupancy	January - February 2023
Demolish Existing Building	March – June 2023

SUSTAINABILITY UPDATE

High Performance Building Policy (2008)



Durham County High Performance Building Policy
DURHAM COUNTY BOARD OF COMMISSIONERS
Resolution

WHEREAS, Durham County is committed to improving the health of its employees and its citizens, improving energy efficiency, reducing waste, and conserving water; and

WHEREAS, the County has committed to reducing greenhouse gas emissions by 50% from 2005 levels by 2030; and

WHEREAS, the County is tasked with being a good steward of its taxpayers' dollars; and

WHEREAS, high performance buildings provide occupants and visitors with a healthier and more productive environment and this increase in worker productivity can produce enormous economic benefits, as worker salaries are historically an organization's largest expense; and

WHEREAS, studies show that the financial benefits of green design are more than 10 times the additional cost associated with building green; and

WHEREAS, a building's initial construction costs represent only 20-30 percent of the building's entire costs over its 30 to 40 years of life, emphasis should be placed on the "life cycle costs" of a public building rather than solely on its initial capital costs; and

WHEREAS, the County is a member of the U.S. Green Building Council and ICLEI's Climate Protection Campaign; and

WHEREAS, the Durham Comprehensive Plan includes Objective 4.2.5 to encourage construction of high performance buildings in the public and private sector; and

WHEREAS, the County commits to high performance building practices that protect the quality of our air, water, and other natural resources; provide employees and the public with safe and healthy indoor environments, minimize our ecological footprint; reduce operating and maintenance costs over the life of the building; and serve as a model to others.

NOW THEREFORE, BE IT RESOLVED BY THE COUNTY COMMISSIONERS OF DURHAM, NORTH CAROLINA in public meeting assembled:

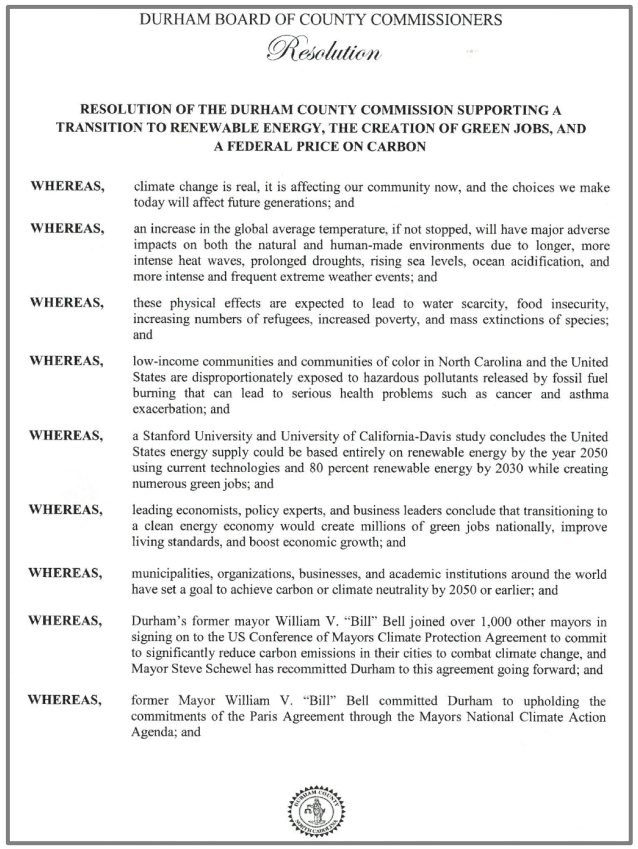
That it shall be the policy of the County to finance, plan, design, construct, manage, renovate, commission, maintain and deconstruct its non-school facilities and buildings to be sustainable. It is the County's intent to achieve the following:

- New construction of public buildings and facilities over 10,000 square feet shall achieve a minimum rating of LEED Gold or any comparable performance criteria, and strive to achieve the highest rating. Buildings between 4,000 and up to 10,000 square feet shall achieve a minimum rating of LEED Silver or any comparable performance criteria, and strive to achieve the highest rating.
- Renovations of public buildings in excess of 25% of the building and comprising upgrades or replacements of two of the three major systems (HVAC, lighting, and plumbing), shall be able to achieve a minimum rating of LEED Certified or any comparable performance criteria, and strive to achieve the highest rating.
- All other new construction, renovations, repairs, replacements, maintenance and operations of public buildings shall employ cost-effective, energy-efficient, green building practices to the maximum extent possible through the use of the USGBC LEED checklist or other comparable performance criterion in the planning, construction, renovation, maintenance and operation of the facility.
- New public buildings will be sited to minimize transportation-related energy use and every effort will be made to reuse previously developed land.

This the 27th day of October, 2008.

Ellen W. Reckhow, Chairman
Lewis A. Cheek
Michael D. Page, Vice-Chairman
Philip R. Cousin, Jr.
Becky M. Heron

Renewable Energy Resolution (2018)



DURHAM BOARD OF COUNTY COMMISSIONERS
Resolution

RESOLUTION OF THE DURHAM COUNTY COMMISSION SUPPORTING A TRANSITION TO RENEWABLE ENERGY, THE CREATION OF GREEN JOBS, AND A FEDERAL PRICE ON CARBON

WHEREAS, climate change is real, it is affecting our community now, and the choices we make today will affect future generations; and

WHEREAS, an increase in the global average temperature, if not stopped, will have major adverse impacts on both the natural and human-made environments due to longer, more intense heat waves, prolonged droughts, rising sea levels, ocean acidification, and more intense and frequent extreme weather events; and

WHEREAS, these physical effects are expected to lead to water scarcity, food insecurity, increasing numbers of refugees, increased poverty, and mass extinctions of species; and

WHEREAS, low-income communities and communities of color in North Carolina and the United States are disproportionately exposed to hazardous pollutants released by fossil fuel burning that can lead to serious health problems such as cancer and asthma exacerbation; and

WHEREAS, a Stanford University and University of California-Davis study concludes the United States energy supply could be based entirely on renewable energy by the year 2050 using current technologies and 80 percent renewable energy by 2030 while creating numerous green jobs; and

WHEREAS, leading economists, policy experts, and business leaders conclude that transitioning to a clean energy economy would create millions of green jobs nationally, improve living standards, and boost economic growth; and

WHEREAS, municipalities, organizations, businesses, and academic institutions around the world have set a goal to achieve carbon or climate neutrality by 2050 or earlier; and

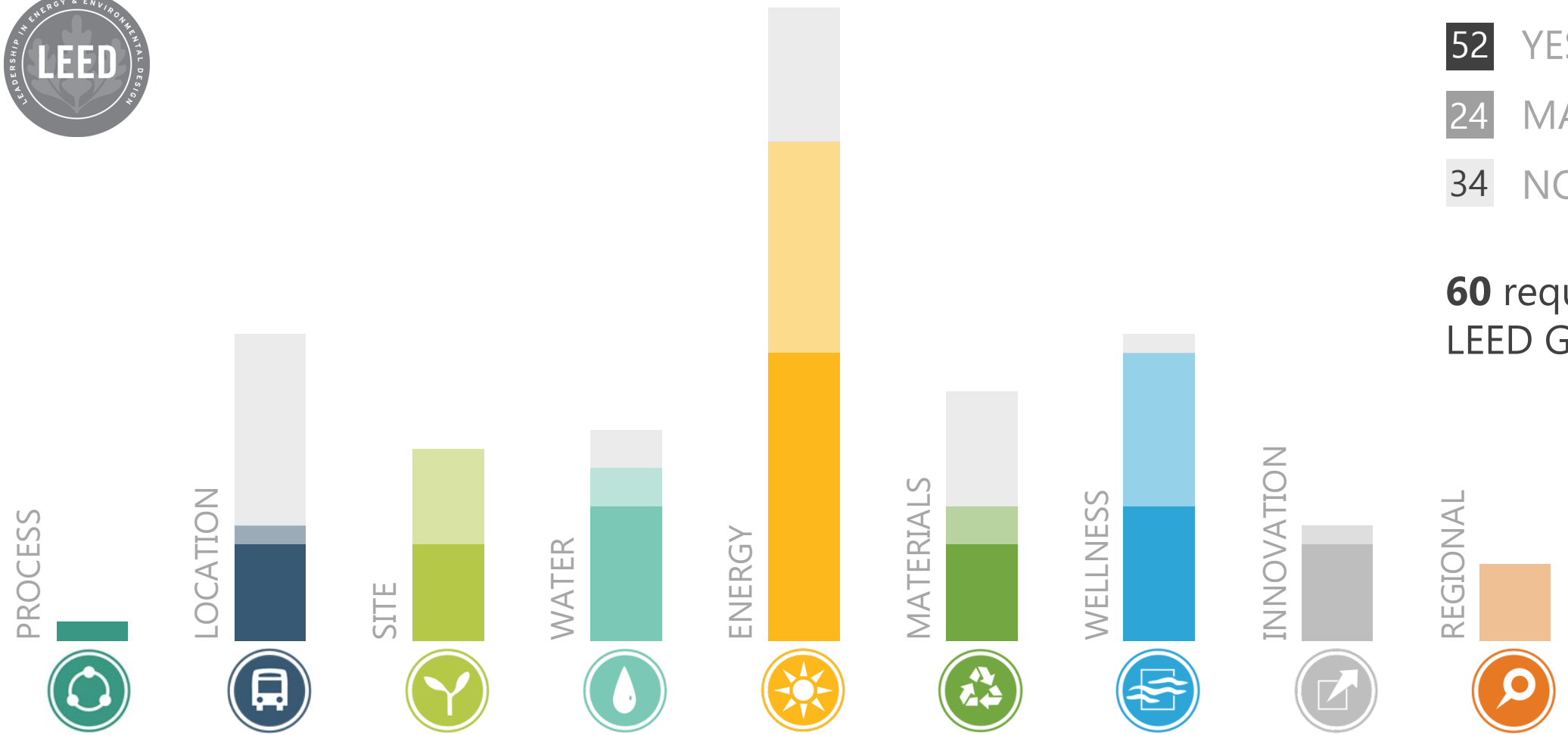
WHEREAS, Durham's former mayor William V. "Bill" Bell joined over 1,000 other mayors in signing on to the US Conference of Mayors Climate Protection Agreement to commit to significantly reduce carbon emissions in their cities to combat climate change, and Mayor Steve Schewel has recommitted Durham to this agreement going forward; and

WHEREAS, former Mayor William V. "Bill" Bell committed Durham to upholding the commitments of the Paris Agreement through the Mayors National Climate Action Agenda; and

HIGHLIGHTS

- LEED Gold required for buildings >10,000 SF
- 30% CO_2 reduction by 2030
- 100% reduction by 2050

SUSTAINABILITY UPDATE



LEED POINTS

52 YES

24 MAYBE

34 NO

60 required for LEED Gold

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January 4, 2021

SUSTAINABILITY UPDATE

Energy

High efficiency HVAC
Rooftop solar PV array (alternate)
Energy recovery units
ENERGY STAR foodservice equip.
Air barrier system
LED lighting

Water

Low-flow plumbing fixtures
Water-efficient kitchen equip.
No permanent irrigation required

Waste

Construction waste recycling
Recycled & regional materials

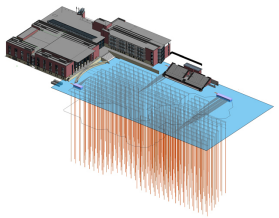
Wellness

Construction IAQ management
Building flush-out / IAQ test
Low VOC materials
Dimmable lighting controls (staff)

Site

EV charging infrastructure
Stormwater management

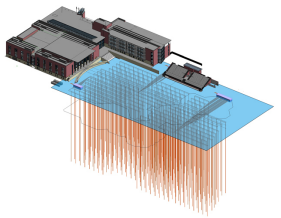
SUSTAINABILITY UPDATE



COST

	Basic Strategies	Solar PV Array	Geothermal HVAC
Upfront Cost	$89,300	$195,300	$930,000
Minus Rebate	-$37,000	-$67,500	-$47,000
Net Cost	$52,300	$127,800	$883,000

SUSTAINABILITY UPDATE



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	Net Cost	$52,300	$127,800	$883,000
SAVINGS	Annual Savings	$17,800/yr	$8,000/yr	$41,700/yr
	Payback Period	2.9 yrs	16.0 yrs	21.2 yrs
	Add'l LEED Points	6 pts	6 pts	4 pts

PROJECT COST

Project Costs

Estimated Construction Cost $24,500,000

- *Includes $1.9M Cost of Sustainable Strategies*

Other Project Costs $ 3,740,000

- *Includes $1.8M Cost for FFE/ IT/ AV*
- *Includes $1.9M Cost for Professional Fees (A&E/ CM@R/ Commissioning)*
- *Includes $40k Cost for Design Phase Testing*

Board Direction

- *Adherence to County Sustainable Policy*

THANK YOU!

DURHAM COUNTY
DCO NC
1881

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