

Duke School
Center for Ideas

DTW Architects & Planners LTD

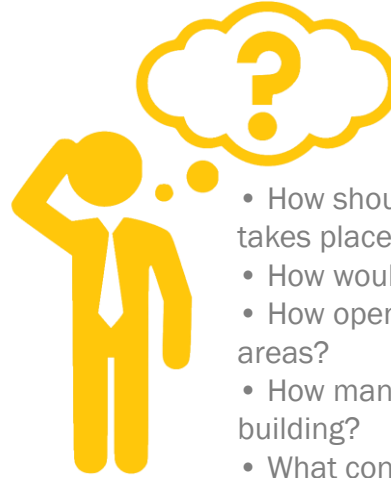


Duke School is an independent preschool through eighth grade project-based school located in Durham, NC since 1947.



Duke School Master Plan

Design Phase / 2005-2207



- How should the design influence the education that takes place there?
- How would the inside and outside be connected?
- How open would learning spaces be to more public areas?
- How many grades and classes should be in each building?
- What connections should there be between buildings?



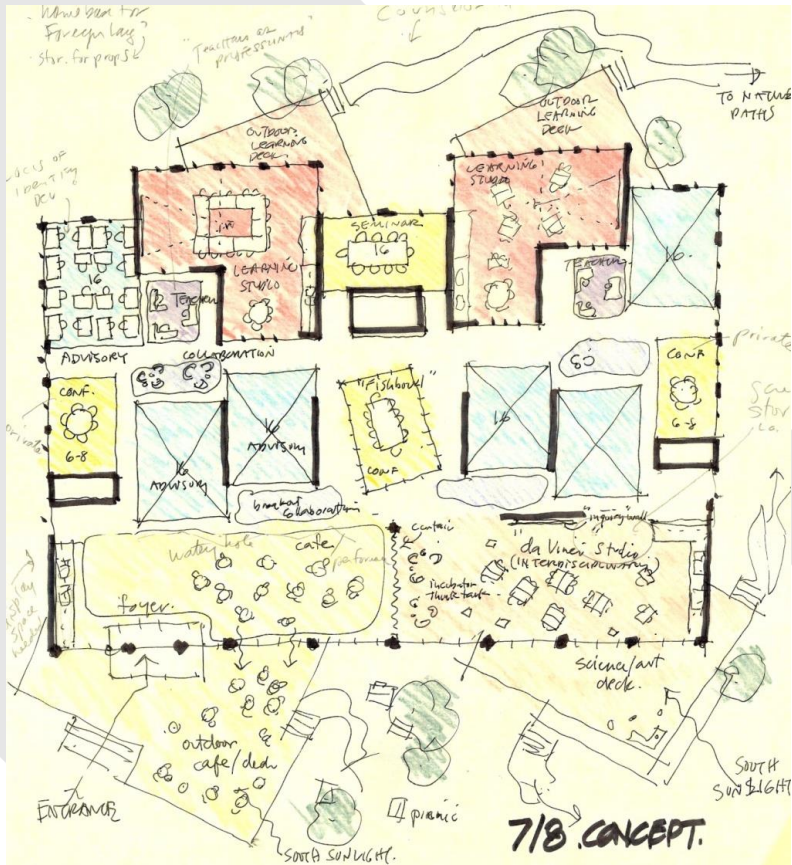
Final master plan

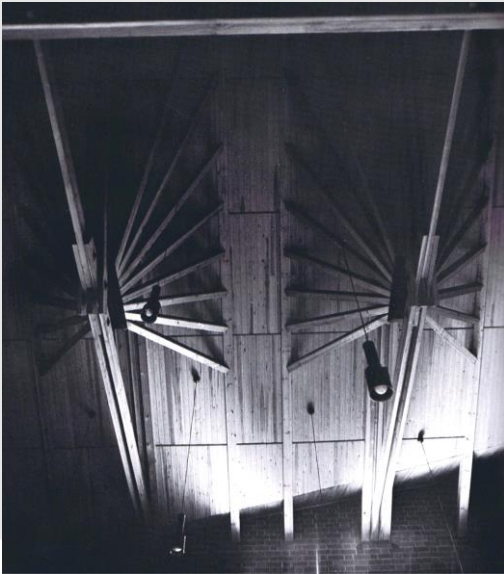
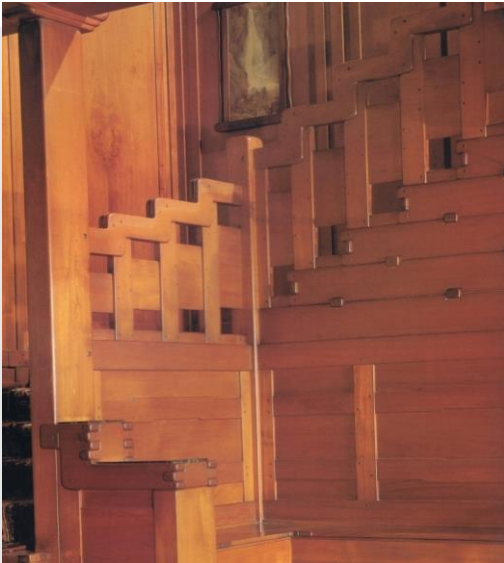


Before

Duke School

Program + Design Phase 2007





To Alvar Aalto, wood was
“the form-inspiring, deeply
human material”

Duke School (Lower and Middle)

Project completion year: 2009

- ☀️ 2010 NC CEFPI Design Award
- ☀️ 2013 Wood School Design Award
- ☀️ 2018 Golden Leaf Sustainable Design Award

- Supporting the project-based educational philosophy of Duke School, the multiple academic buildings are similar in design, with **light-filled central atriums** for group projects or lunch and discussion, and academic areas that are flexible and open.

- Numerous **sustainable design features** are **integrated into the buildings**, many of which are incorporated into the school’s curriculum.



Lower and Middle School

Duke School



Project scope:

- 20 Acre site with roads, new parking, storm drainage waterline / sewer infrastructure, playfields and landscaping
- 4 new middle school buildings at 37,240 SF
- 2 new lower school buildings at 16,092 SF
- 4 renovated lower school buildings at 25,871 SF
- Total campus new and renovated at 79,204 SF
- Lower School 250 students / Middle School 200 students



Project cost (2007 prices):

- Total project: \$9,347,587
- Site Cost: \$2,400,000
- Middle School Buildings: Average Enclosed \$112/SF
- Lower School Buildings: Average Enclosed \$130/SF
- Middle School Buildings: Average with Canopy \$90/SF
- Lower School Buildings: Average with Canopy \$ 95/SF
- Cost of Wood Construction vs Exposed Steel: 5% more

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Middle School Media Center 2009



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Middle School / 7-8 Grade Classroom Building



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Lower School / K-1 Building Commons



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Carbon Footprint

Carbon stored in the wood products is the equivalent of:

380
MTCO₂e

Wood products store CO₂, keeping it out of the atmosphere while stimulating the expansion of managed forests. 49% of the weight of wood products is carbon. This contributes to the long-term sequestration of carbon.

Avoided greenhouse emissions:

820
MTCO₂e

Wood products typically require less energy to manufacture than other building materials. Therefore, using wood instead of fossil fuel-intensive materials is a way of avoiding greenhouse gas emissions.

Volume of wood products used:

490
m³

Do you know that U.S. forests grow this much wood in under 1 minute?

Potential carbon benefit:

1200
MTCO₂e

This is the equivalent of taking 230 cars off the road for a year, and the equivalent energy to operate a home for 102 years.



A building's life cycle carbon footprint is the amount of CO₂ it produces during its operations and activities.



SUSTAINABLE FEATURES AND BUILDING CHARACTERISTICS

- 1 Use of 17 and 21 SEER heat pumps, which contributes to 35% of energy reduction
- 2 The project maximizes daylight and includes daylight sensors on electric lights
- 3 Water saving plumbing fixtures
- 4 Regional and recycled materials
- 5 FSC Certified wood library casework and doors
- 6 Drought resistant landscaping

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Center for IDEAS / Master Planning Phase



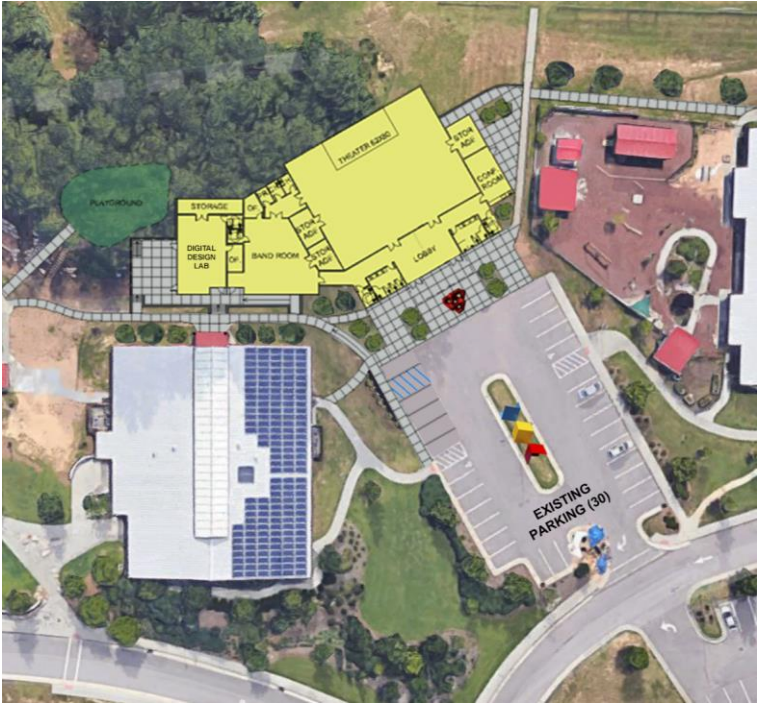
Existing Campus 2021

Duke School

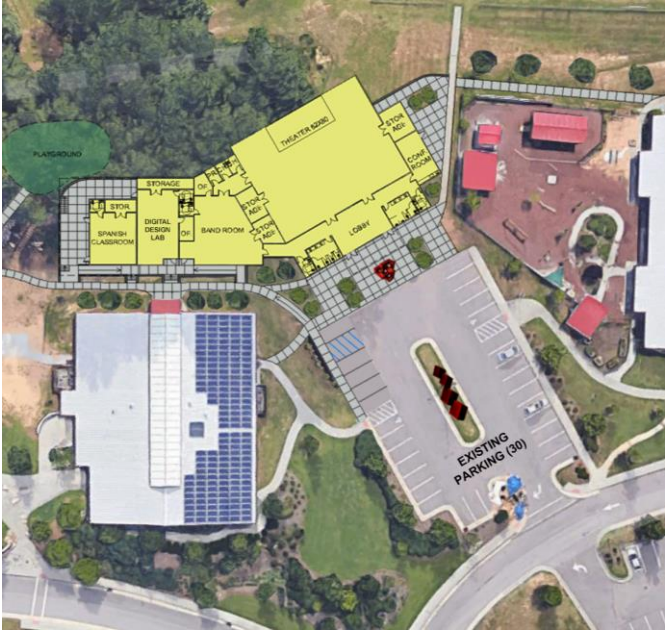
Center for IDEAS / Master Plan Site + Building Options



Scheme B



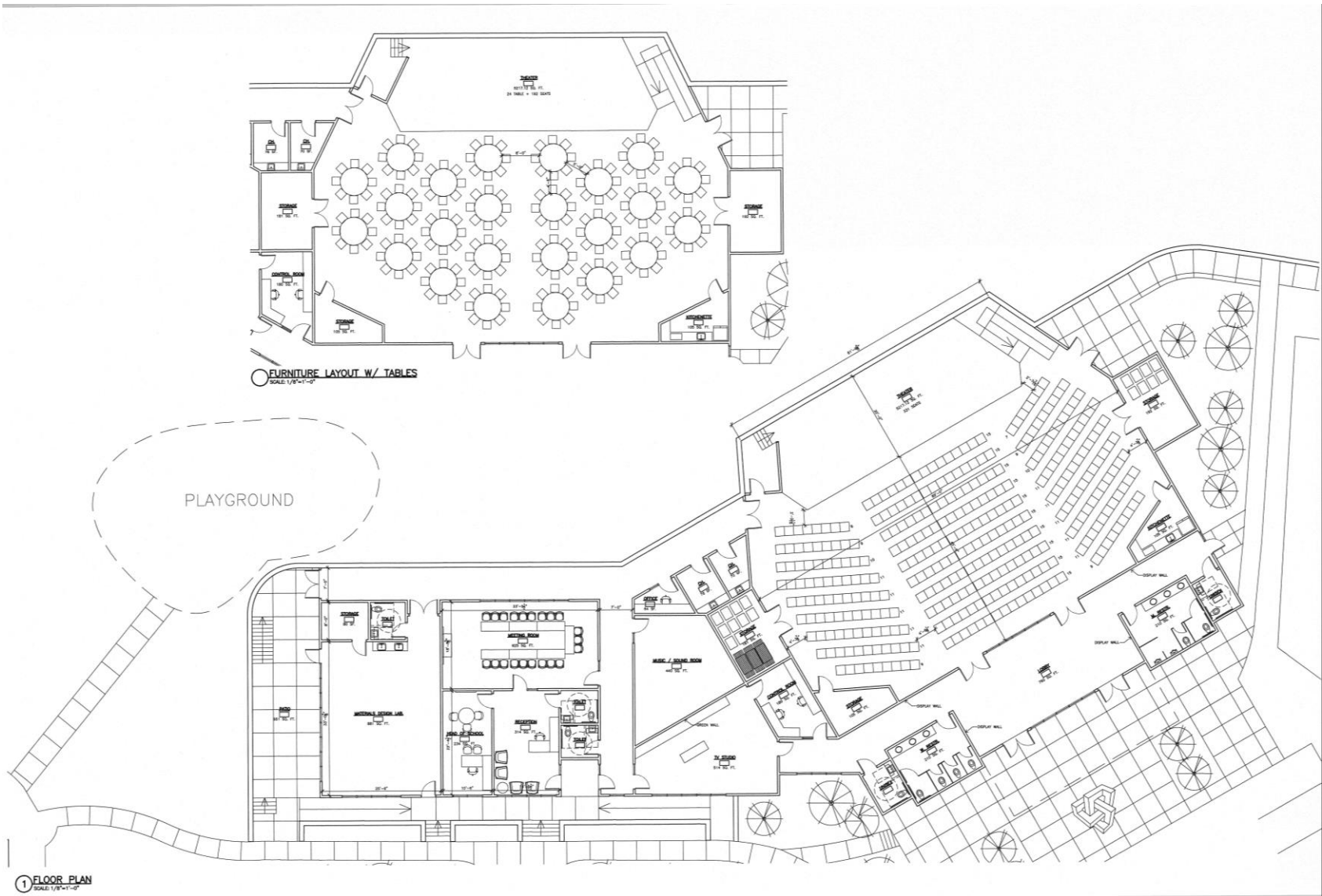
Scheme A



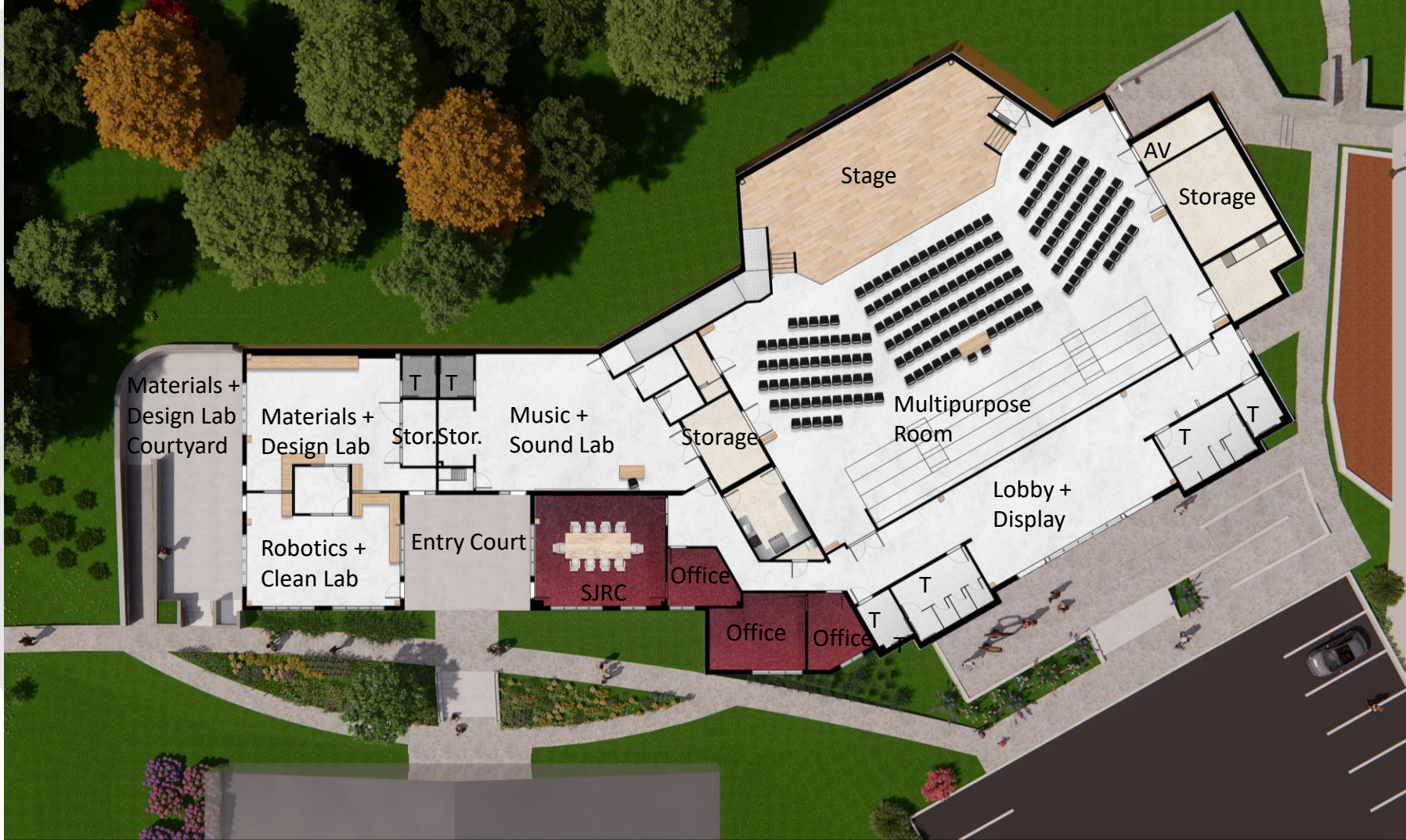
Scheme C



Center for IDEAS Preliminary Master Site Plan Concept 2021 - 2022



Center for IDEAS Preliminary Master Floor Plan Concept 2021 - 2022



Center for IDEAS Final Master Floor Plan Concept 2022

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Center for IDEAS / Design Phase



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Project scope:

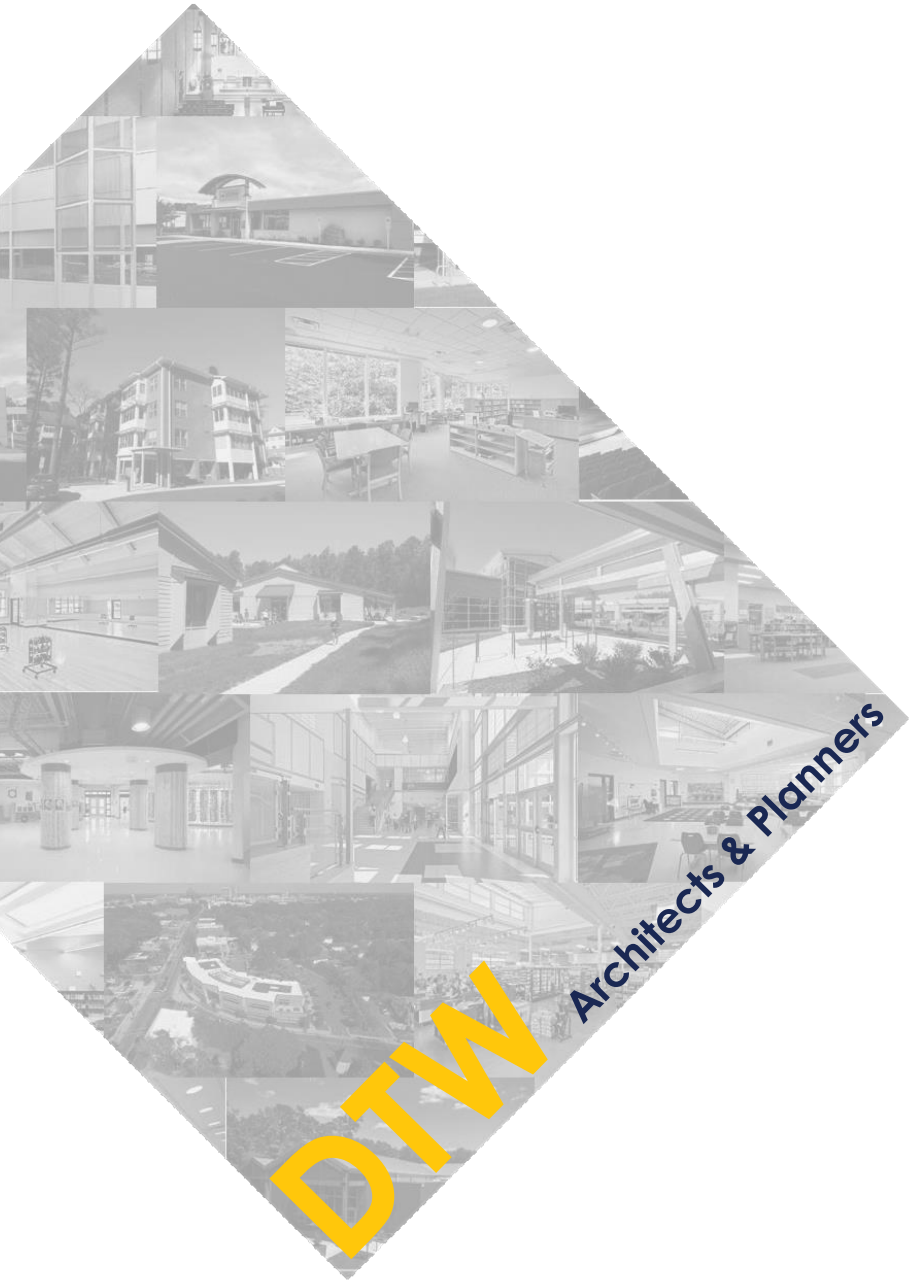
- Existing site with roads, new parking, storm drainage waterline / sewer infrastructure and landscaping
- 1 new middle school buildings at 14,000 SF
- Construction Type VB



Project cost

- Total Construction project: \$7,995,000
- Site Cost: \$1,135,000
- Building Cost: \$6,860,00 / \$490 SF





Thank you