

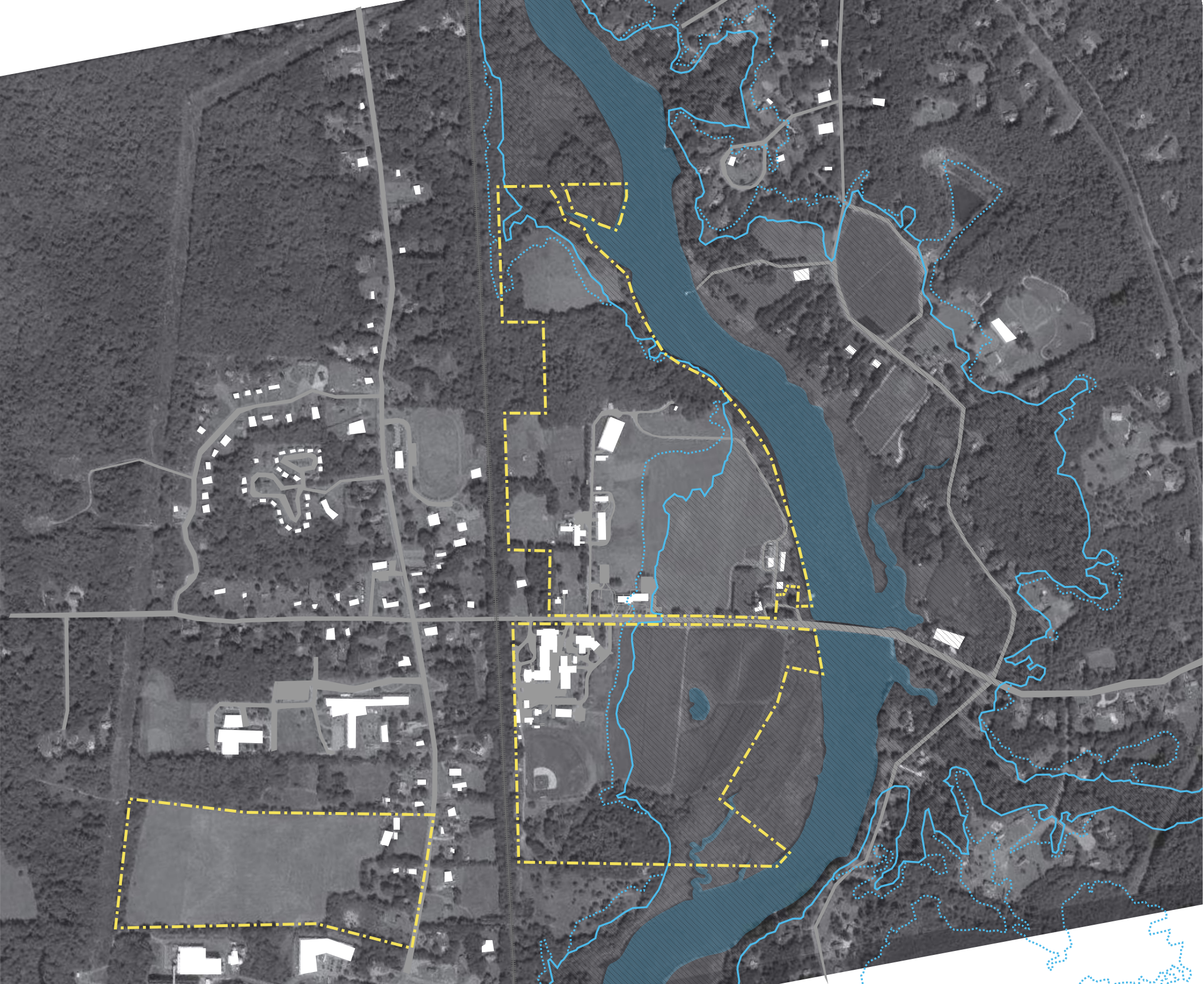
MASSACHUSETTS K-12 SCHOOLS EMBRACING SUSTAINABILITY



BRISTOL COUNTY AGRICULTURAL HIGH SCHOOL



**HM
FH**



EXISTING CAMPUS

220 acre working farm
along the Taunton River

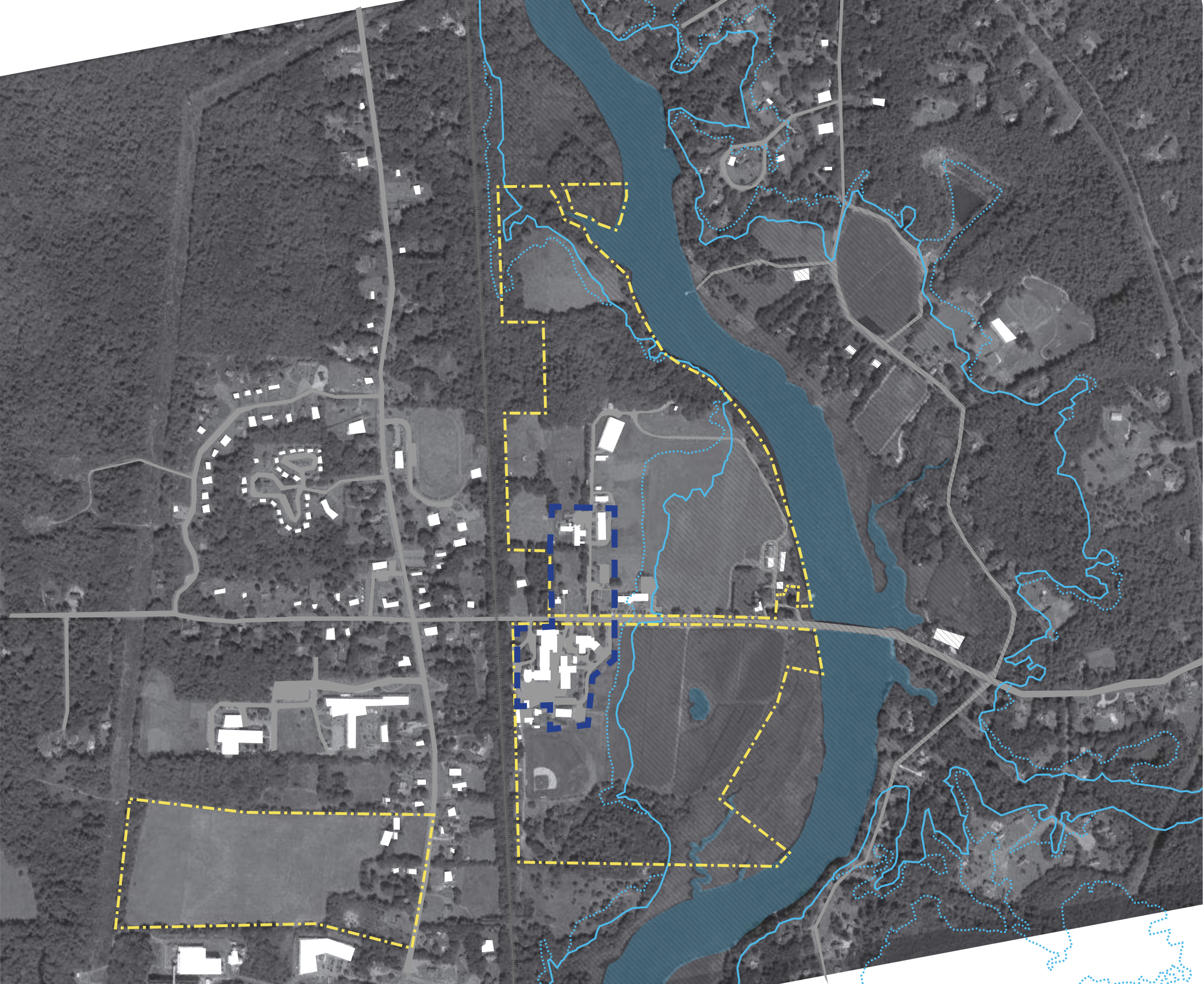
Public career technical
vocational high school

Agricultural and science
based curriculum

22 Sending communities



HM
FH



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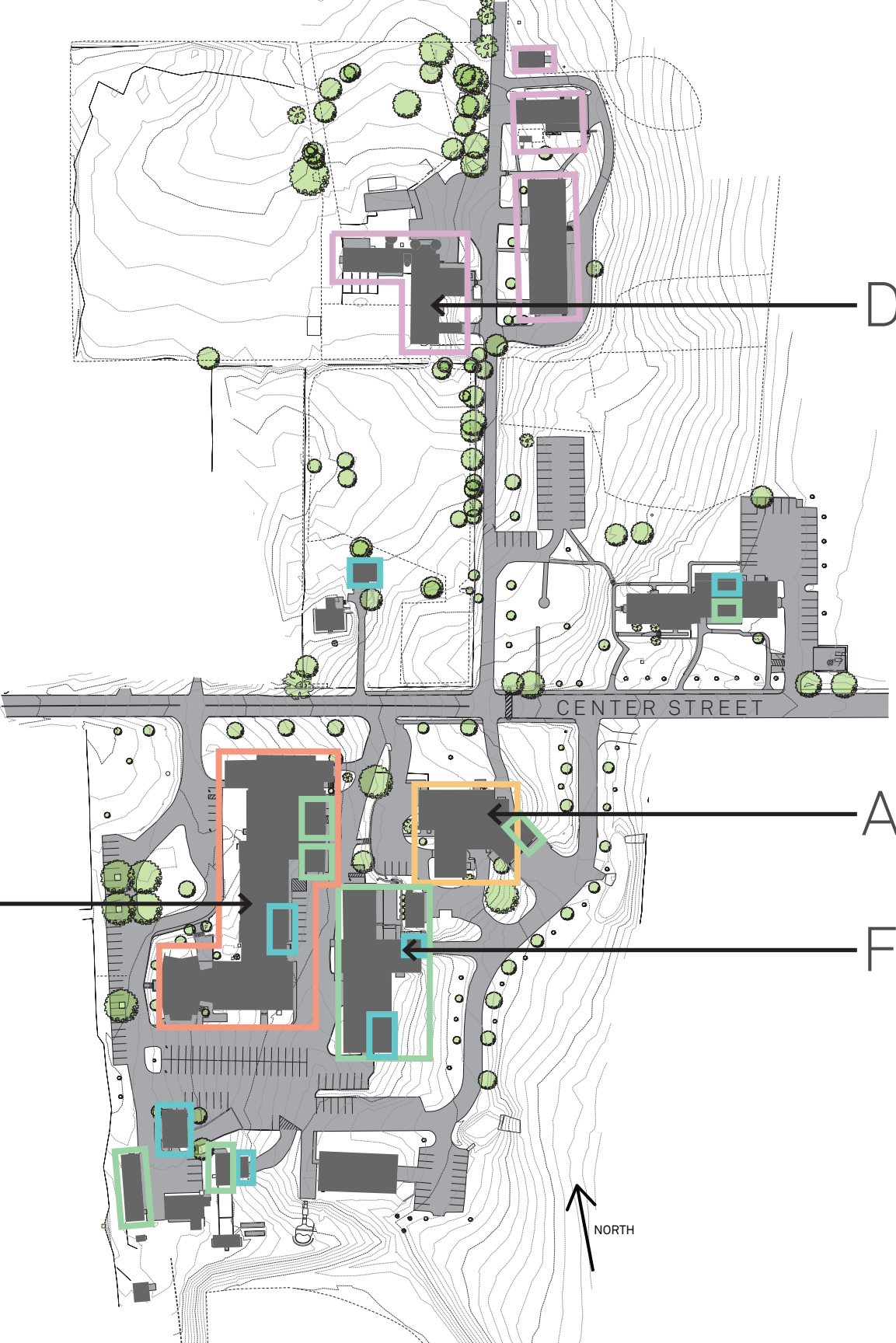


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EXG SITE PLAN

Bristol County Agricultural HS

- ENGLISH/HISTORY/MATH/SCIENCE
- HORTICULTURE
- NATURAL RESOURCE MANAGEMENT
- AGRICULTURAL MECHANICS
- ANIMAL SCIENCE



Dairy Barn (DB)

Ag Mech (AG)

Floriculture

Gilbert Hall (GH)



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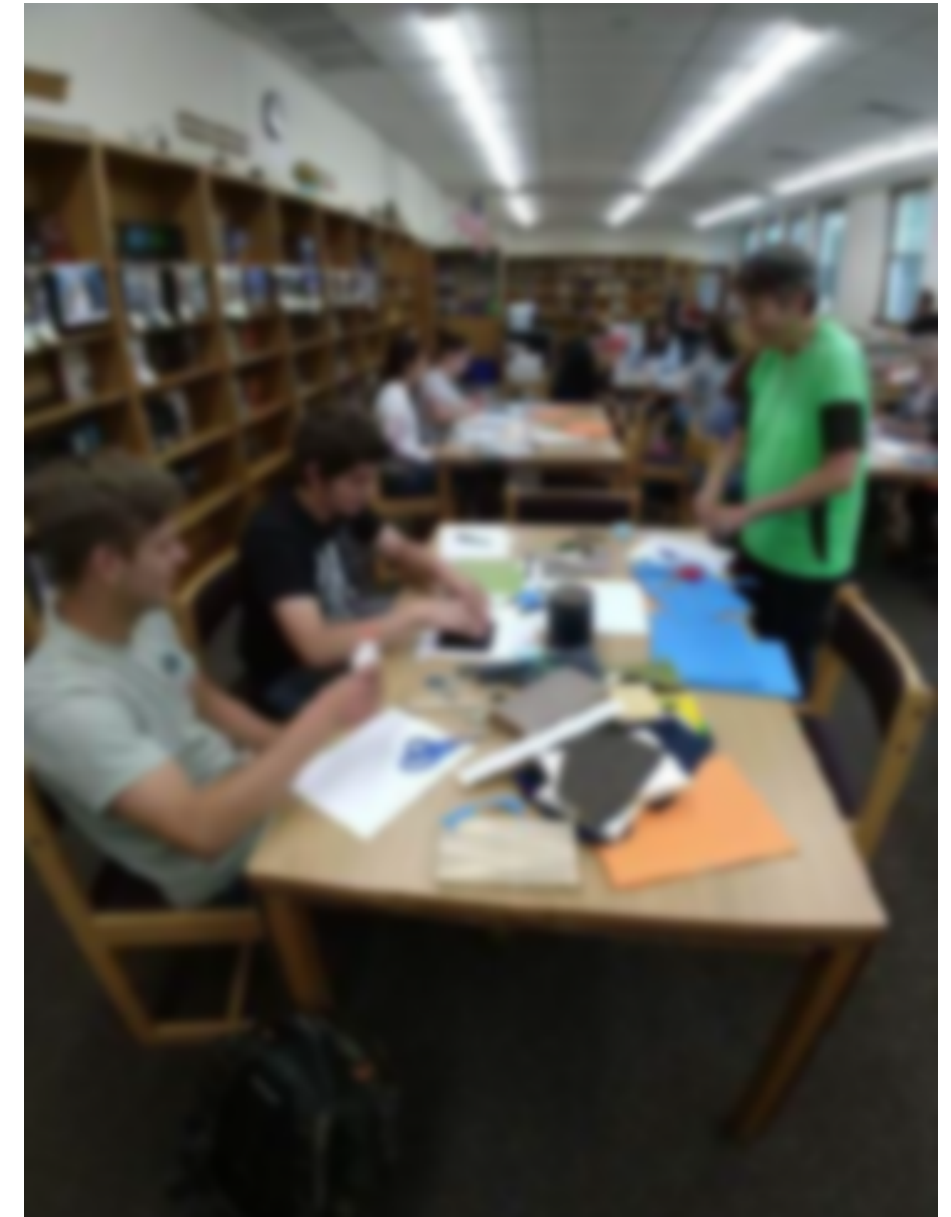
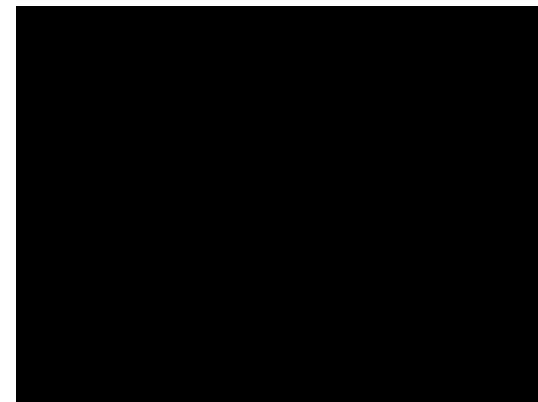
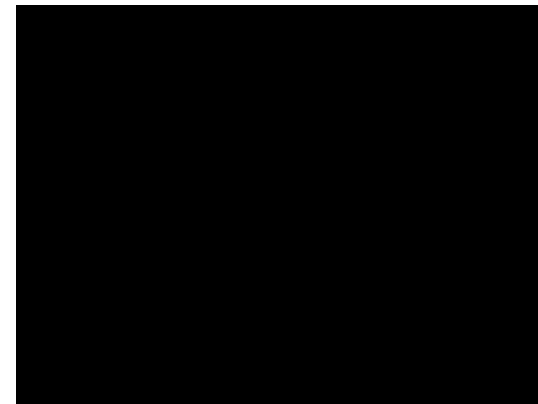
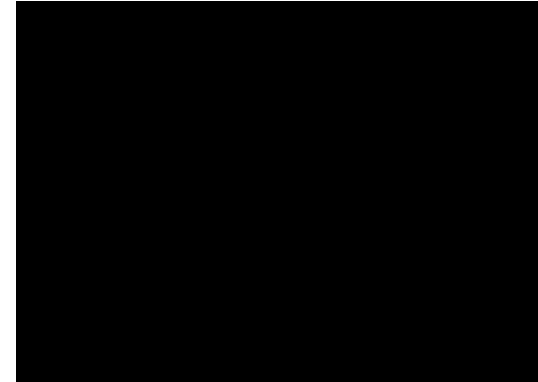
VISIONING - Education + Sustainability

Administration, Teachers, Staff, Students, Community Members, Students, and a Legislators



VISIONING - Student Center

Students



BRISTOL COUNTY AGRICULTURAL HIGH SCHOOL

A Day in the Life of a Vocational Student



BRISTOL COUNTY AGRICULTURAL HIGH SCHOOL

Sustainability Goals

- No impact on the Taunton River watershed
- Achieve 10% better than code
- Design Buildings PV ready & the Dairy Barn to be NZE
- Make each building /structure a champion for specific sustainability measures
- Center for Science and the Environment will be a 'living lab' for the students and the community
- Reinforce connections to nature throughout campus and buildings



NEW SITE PLAN

Bristol County Agricultural HS

Center for Science and the Environment **(CSE)**

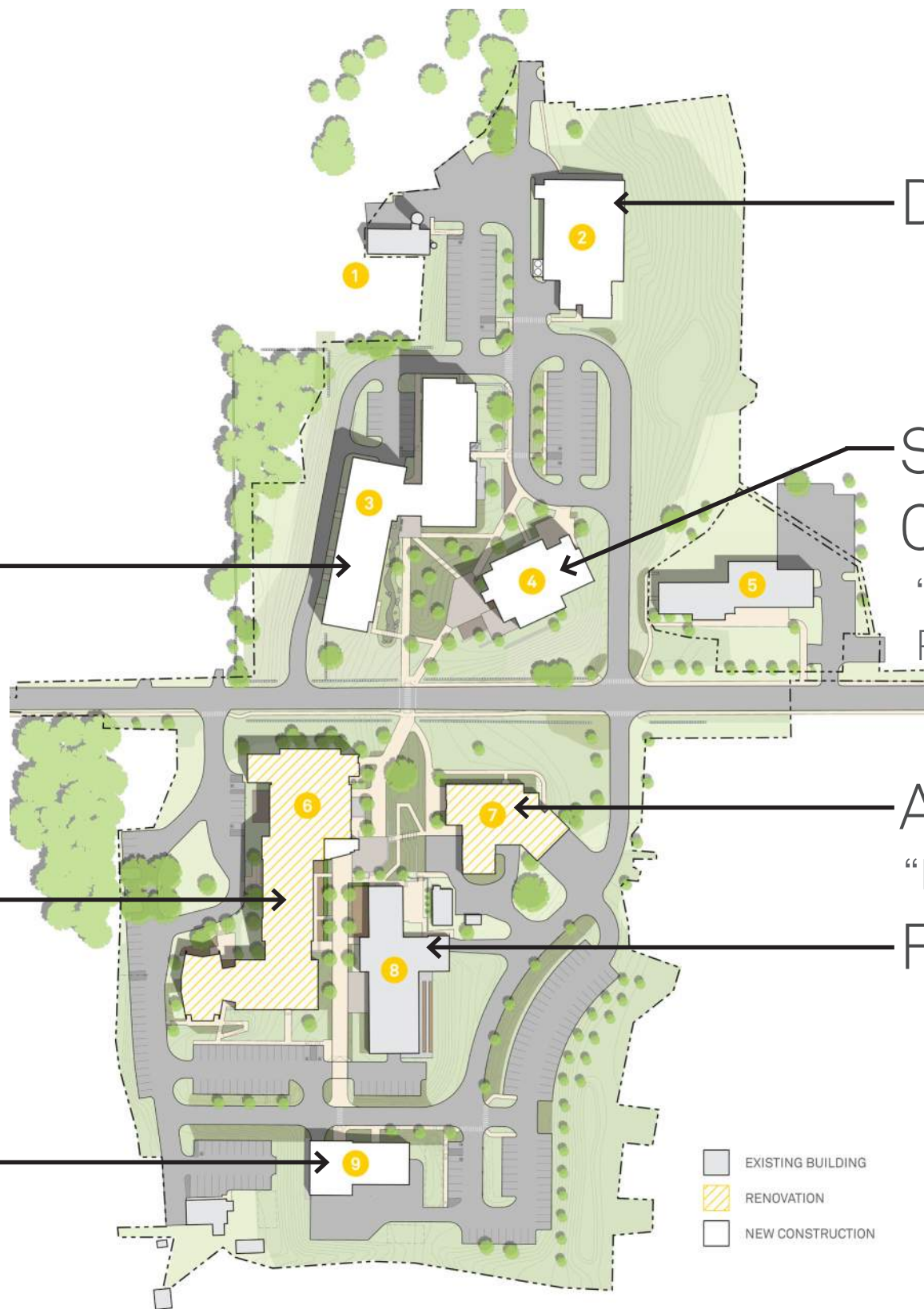
“LEED GOLD New Construction, Living Lab with focus on Water Conservation”

Gilbert Hall **(GH)**

“LEED GOLD Renovation / Reuse”

Landscape/Arbor **(LA)**

“NZE Ready, Embodied Carbon Reduction”



Dairy Barn **(DB)**

“NZE, Embodied Carbon Reduction”

Student Commons **(SC)**

“Embodied Carbon Reduction”

Ag Mech **(AG)**

“Renovation / Reuse”

Floriculture

- EXISTING BUILDING
- RENOVATION
- NEW CONSTRUCTION



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BUILDINGS AS TEACHING TOOLS

Driver for holistic sustainability



NEW SITE CONNECTIONS

Bristol County Agricultural High School



OUTDOOR CLASSROOMS

Bristol County Agricultural High School



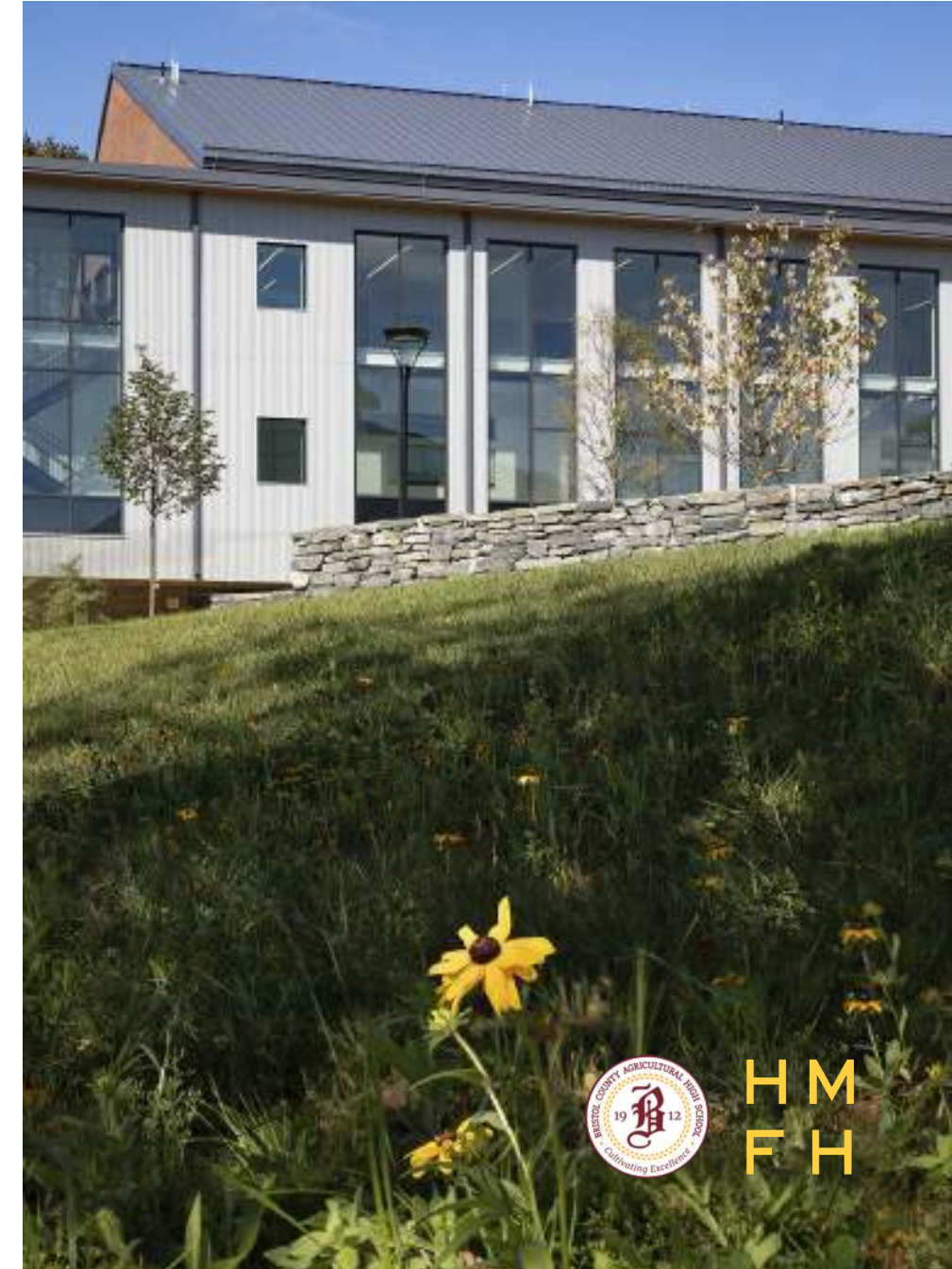
RE-IMAGINED LEARNING SPACES

Bristol County Agricultural High School



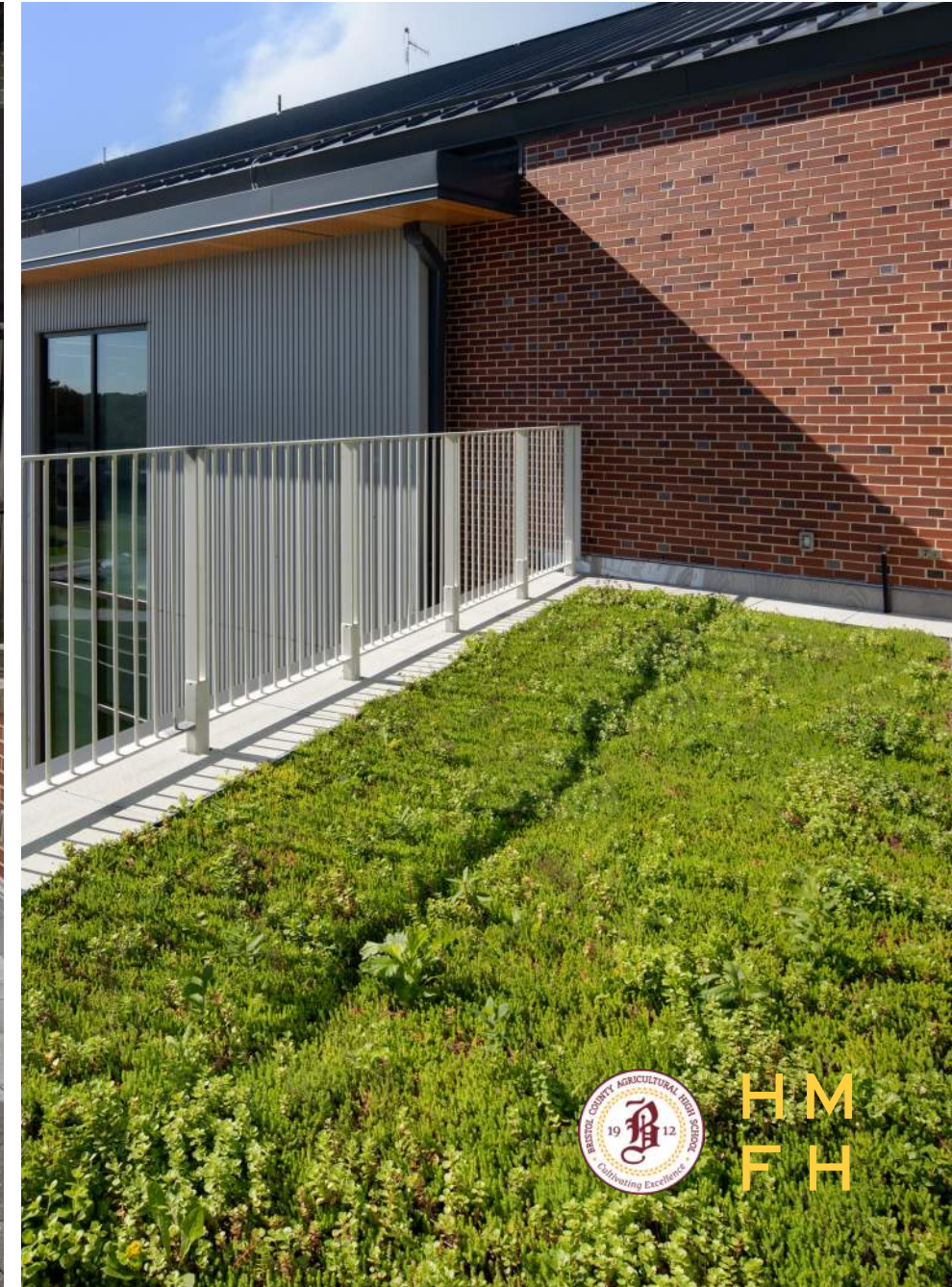
SITE (Storm Water Management)

Visibility, Function, and Beauty



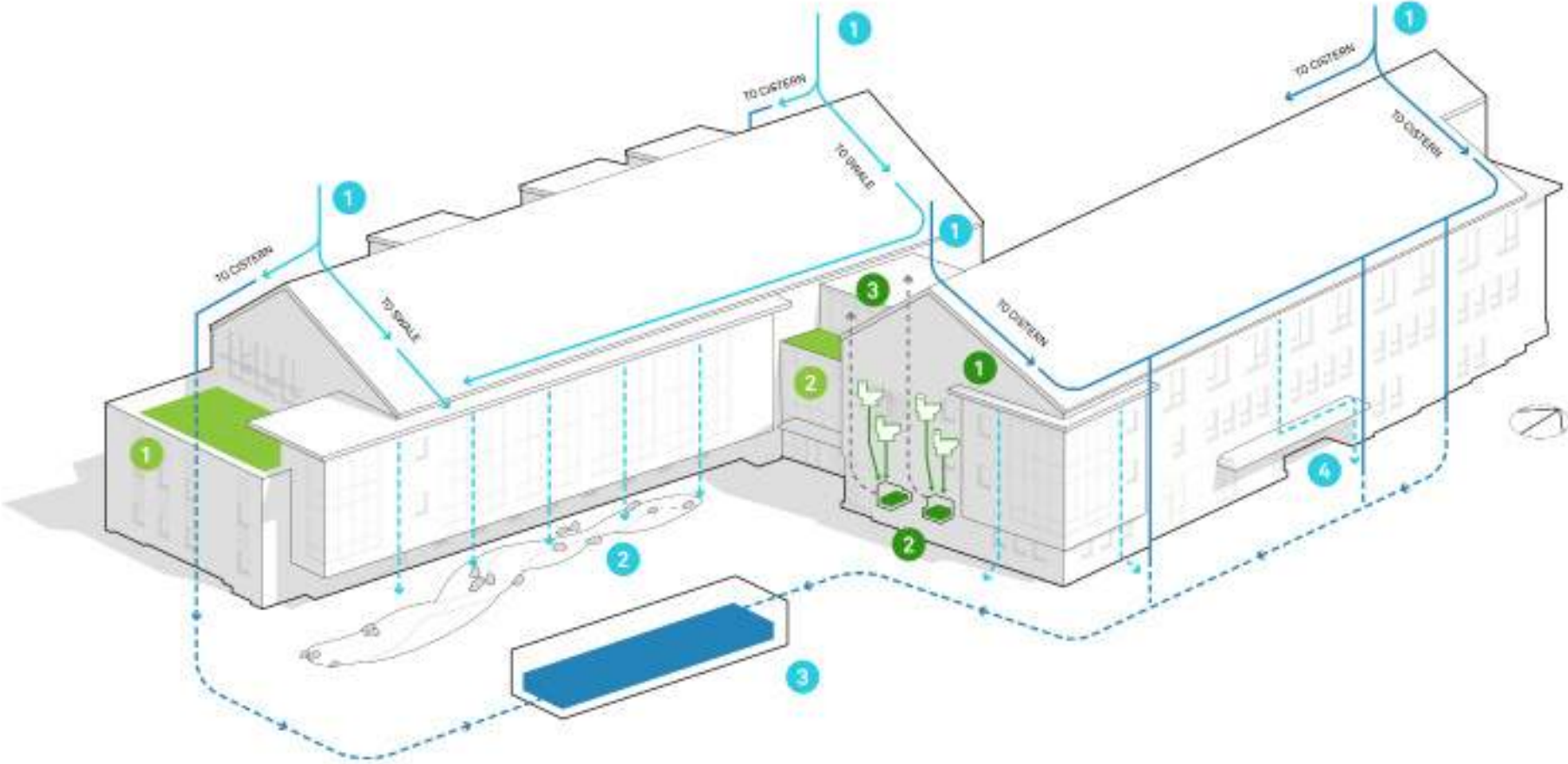
BUILDINGS (Storm Water Management)

Green Roofs



BUILDINGS (Storm & Water Management)

Combined Systems



- STORMWATER MANAGEMENT**
- 1. Incoming rain
 - 2. Dry swale
 - 3. Underground irrigation cistern
 - 4. Rain chain

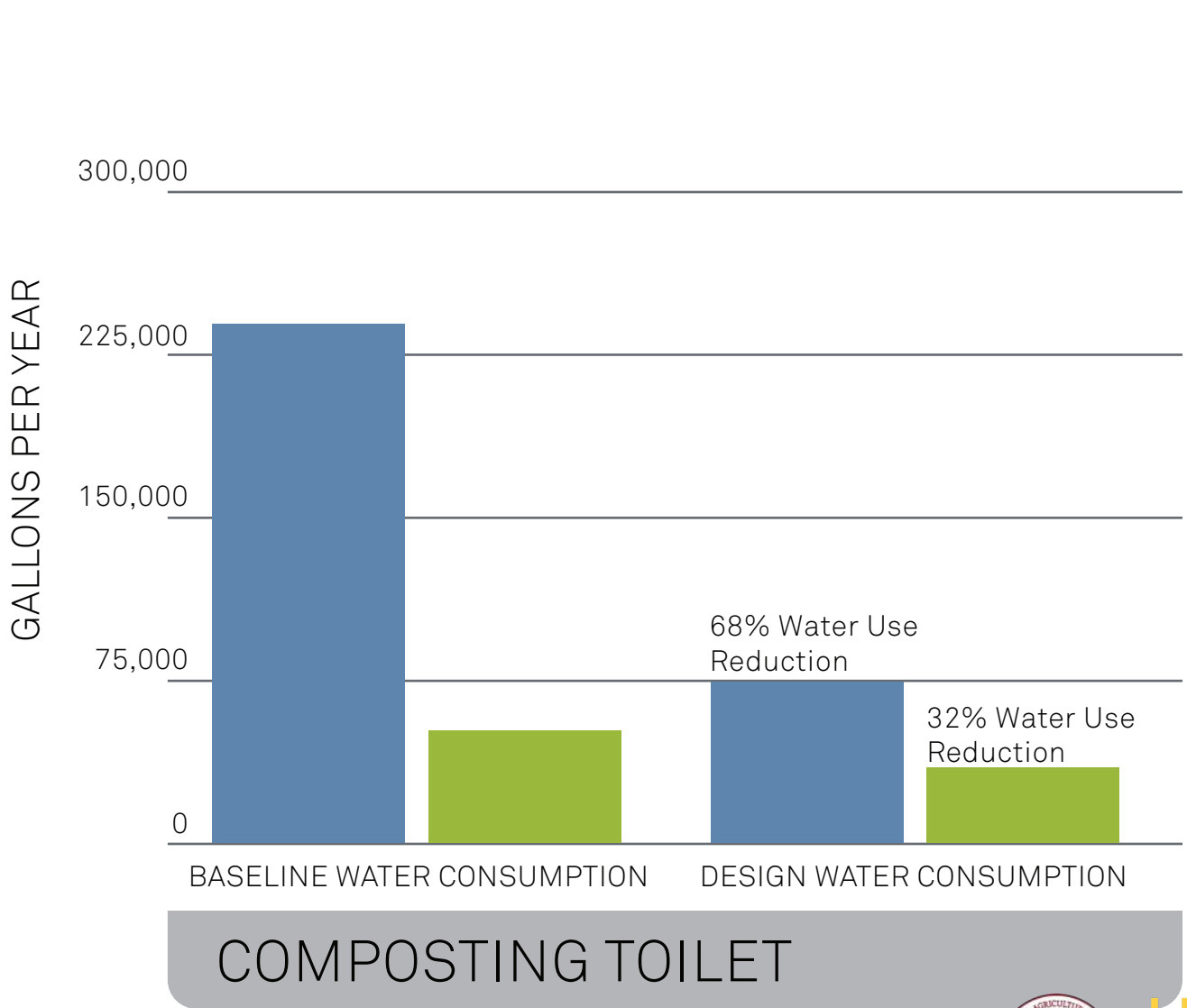
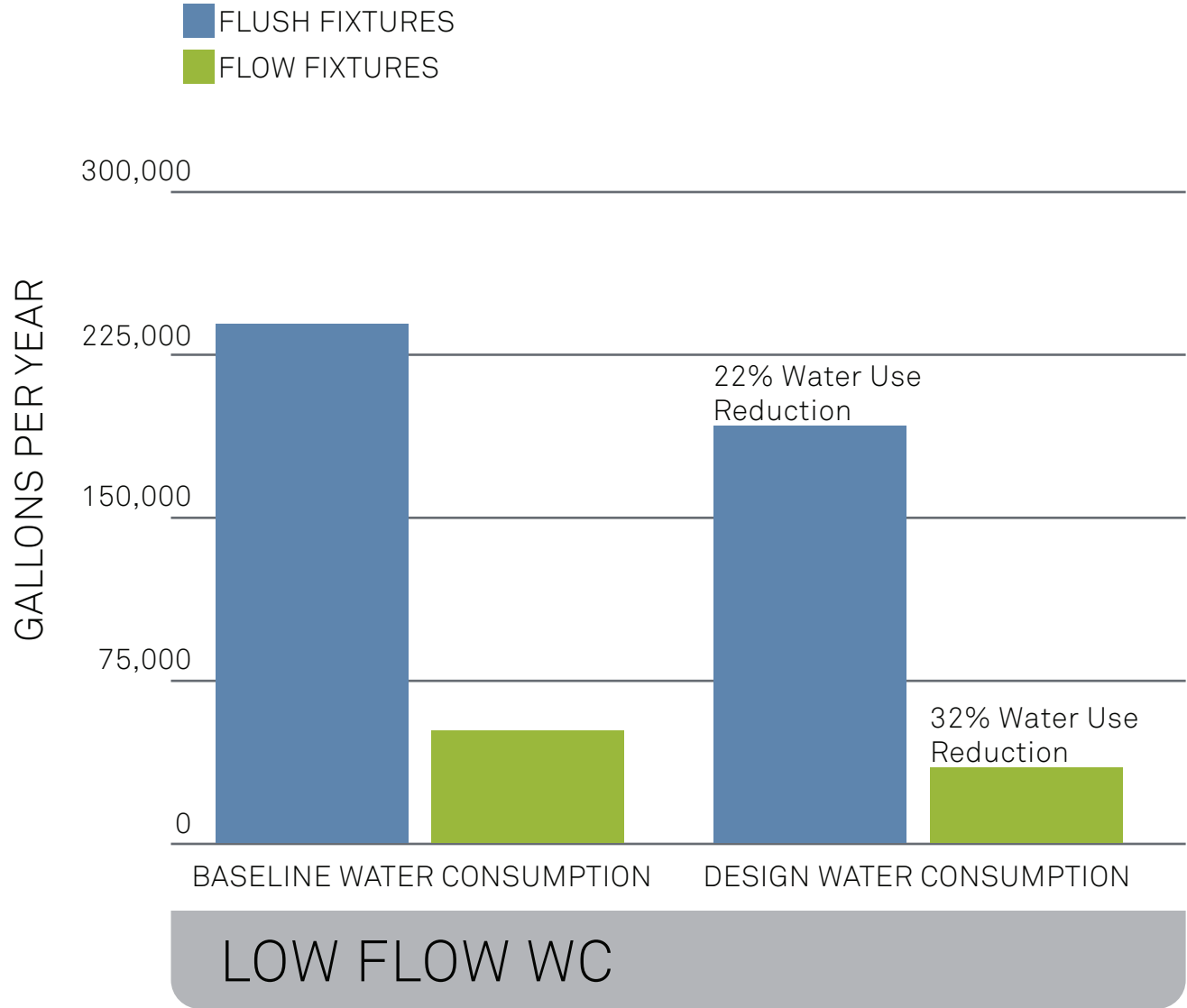
- GREEN ROOFS**
- 1. Intensive green roof
 - 2. Extensive green roof

- COMPOSTING TOILET SYSTEM**
- 1. Composting toilets
 - 2. Composters
 - 3. Exhaust vents



BUILDINGS (WATER USAGE)

Code Baseline Comparison

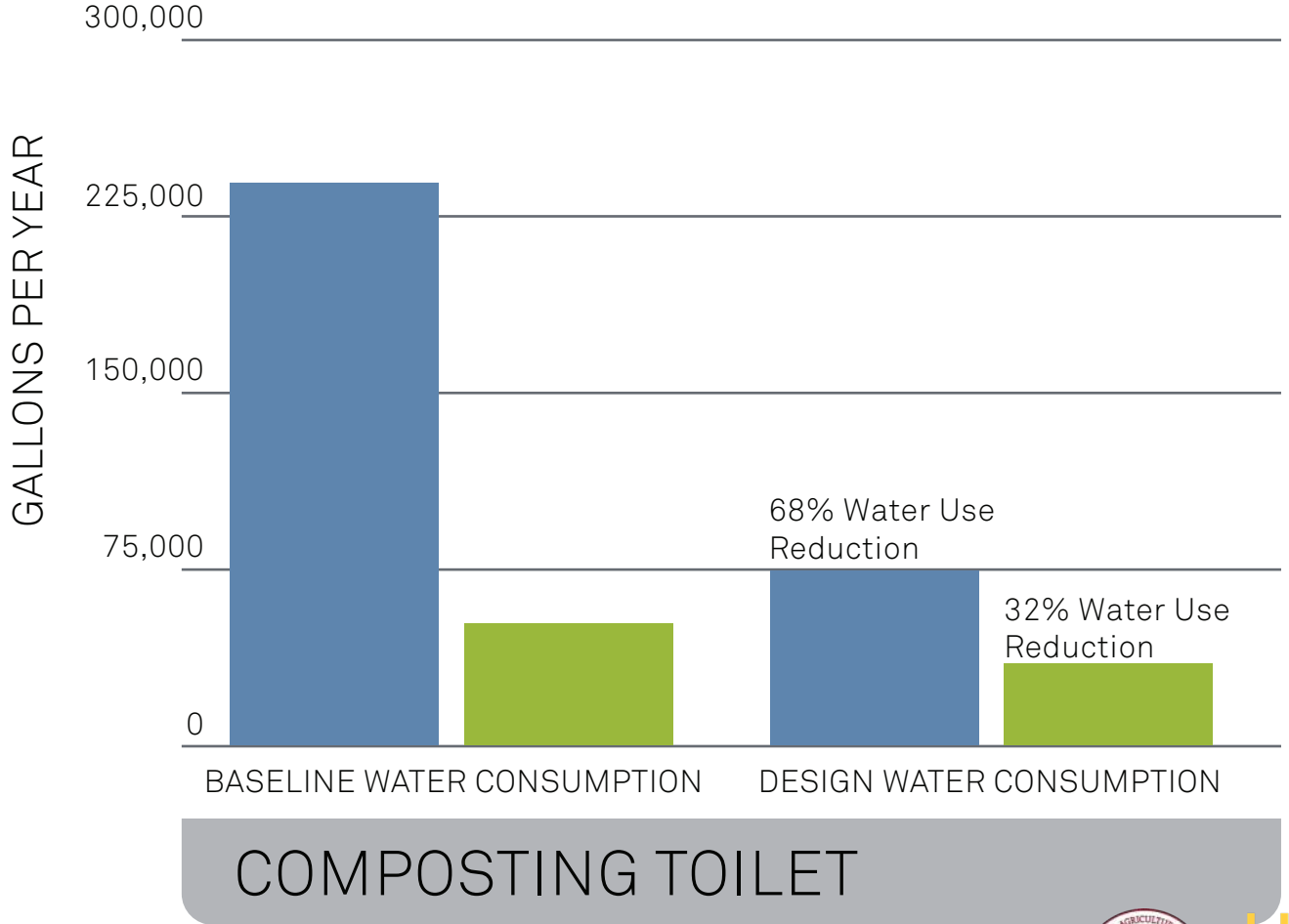
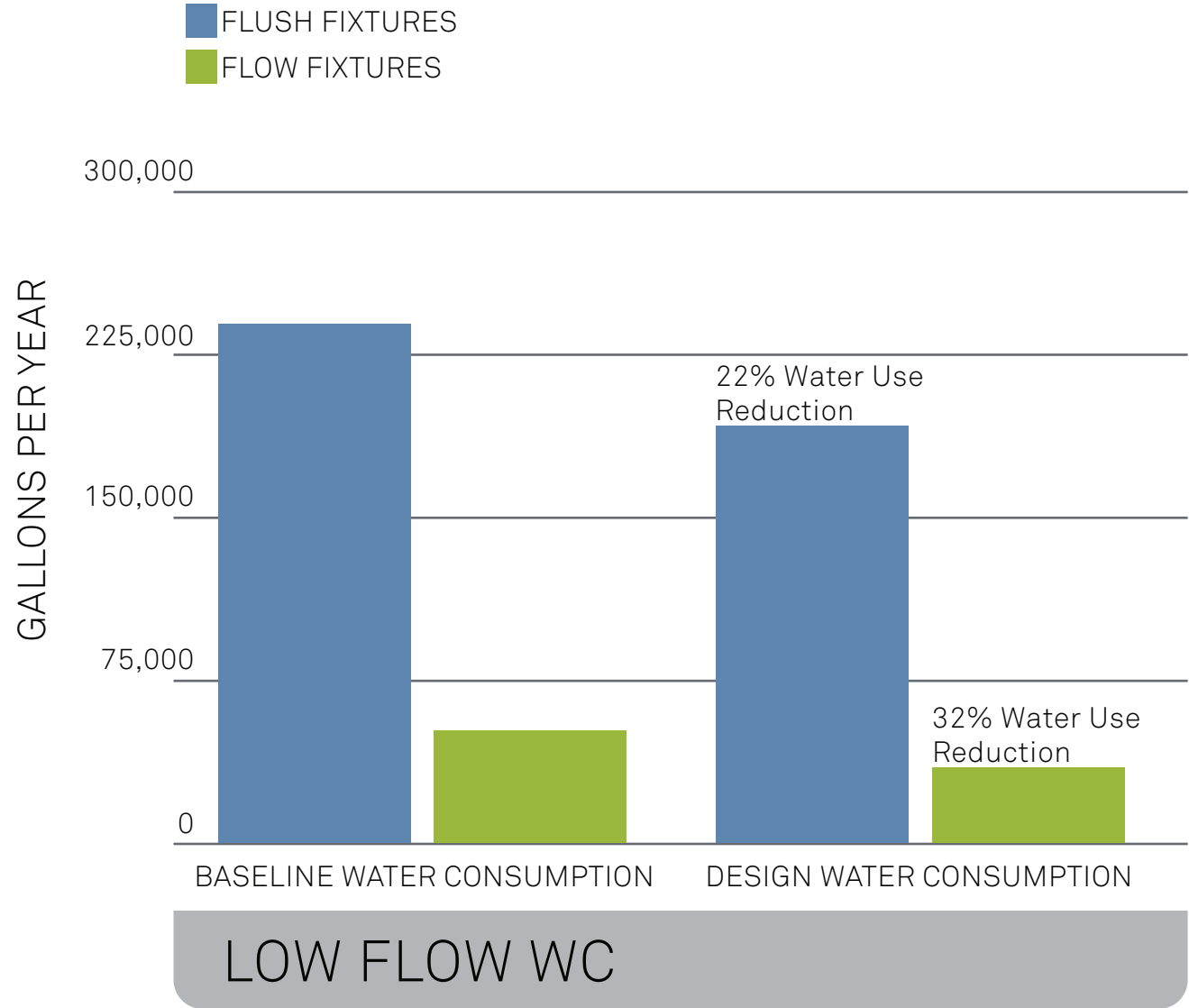


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BUILDINGS (WATER USAGE)

Code Baseline Comparison

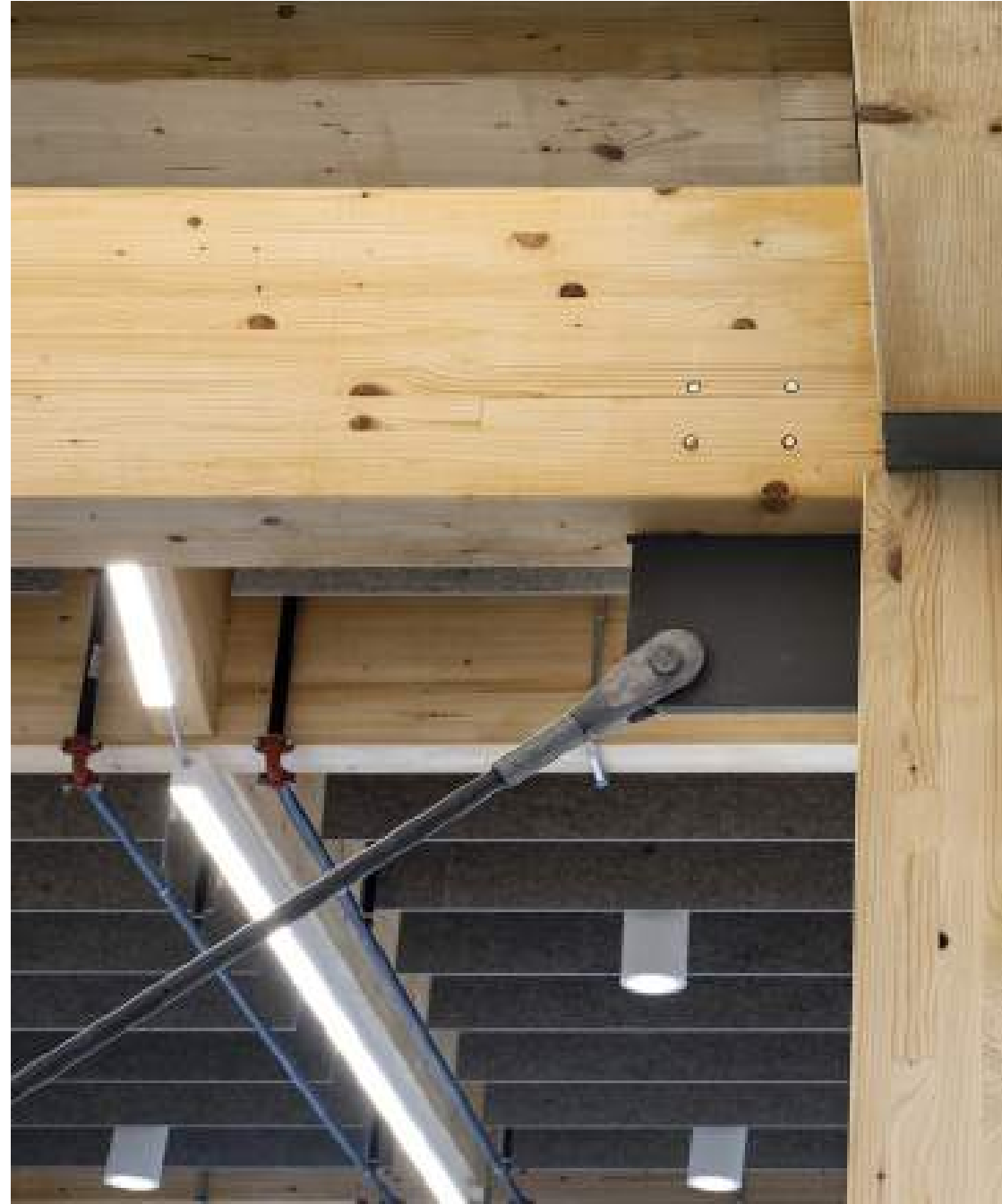
Avoided need for
new pump station
and road work



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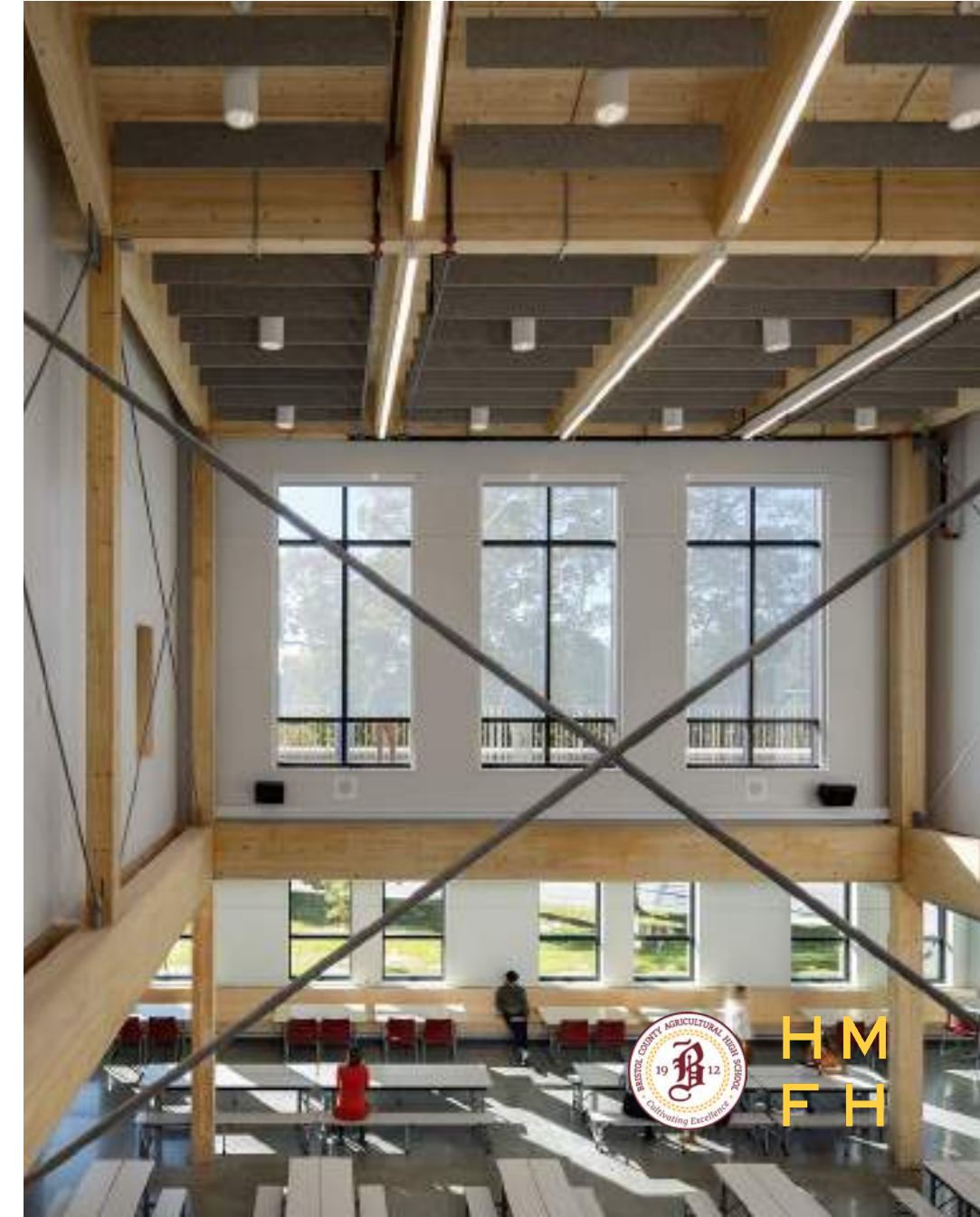
BUILDINGS (MATERIALS)

New Materials



BUILDINGS (MATERIALS)

Carbon Reduction Strategies



BUILDINGS (MATERIALS)

Reuse Strategy

BUILD NEW OR RENOVATE?

28%
REDUCTION
FOR REUSE

=

744 METRIC TONS OF
CARBON AVOIDED



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BUILDINGS (ENERGY)



First State Funded (MSBA) Building with **Composting Toilets**
BE+ Green Building of the Year 2022

LEED GOLD CSE and GH

HMFH ARCHITECTS



SUPPORT HAS ENHANCED OUR MISSION

Because of **YOU**, we have been able to:

1. Educate students in safe, state of the art facilities with industry standard equipment

a. MSBA

b. Four Capital Skills Grants (Ag Mech, NRM, Hort and Vet Science)

- Coming soon! STEM Conservation Science Center

2. Educate Bristol County and beyond to be workforce ready

a. Provide **skilled** workers to fill the ‘pipeline’

- Projected growth for Vet Science = 27%
- Projected growth for Environmental Conservation = 21%



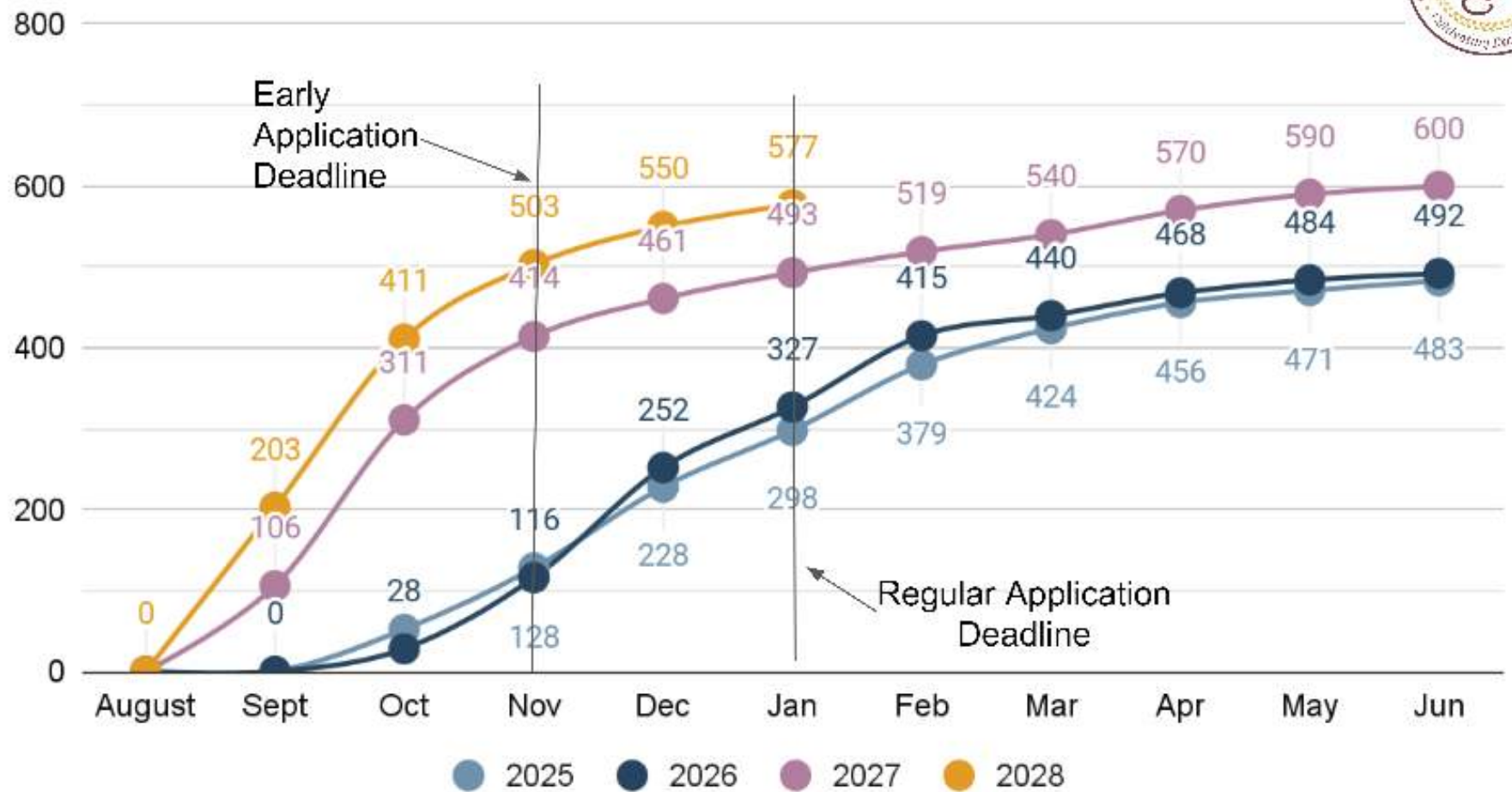
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EMBRACING CAMPUS' SUSTAINABILITY

Upsides from environmental impact to enrollment

- Applicant and enrollment increases
- New buildings showcase the campus and its unique character.
- Consolidation of the campus | Showcase each program equally

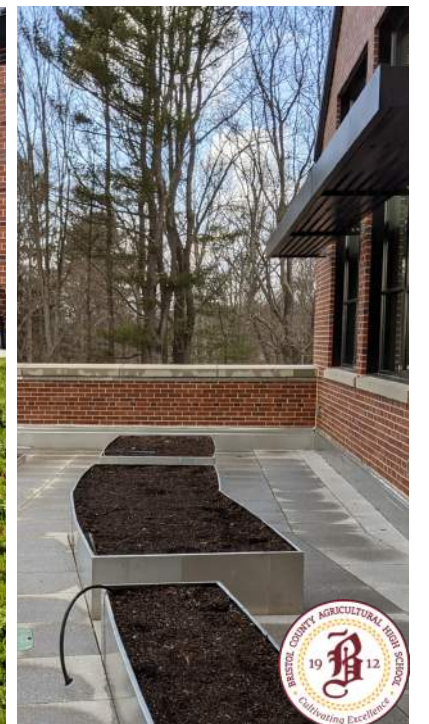
Applications by Month



HANDS-ON LEARNING

Outdoor/Indoor Opportunities

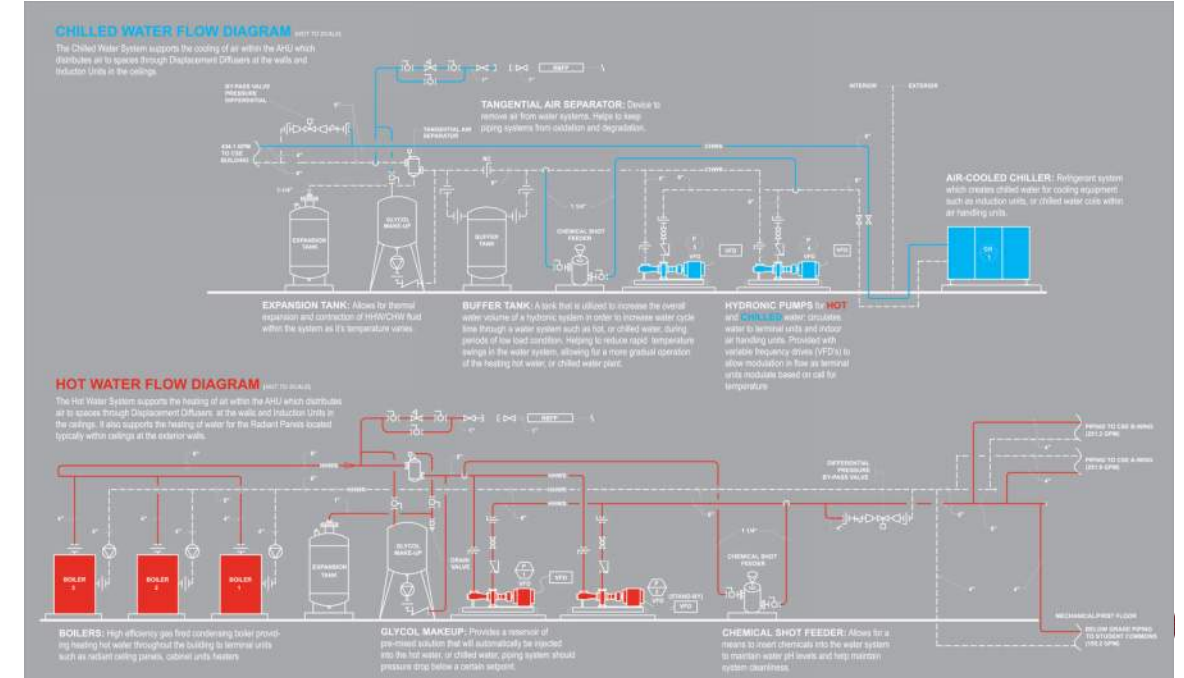
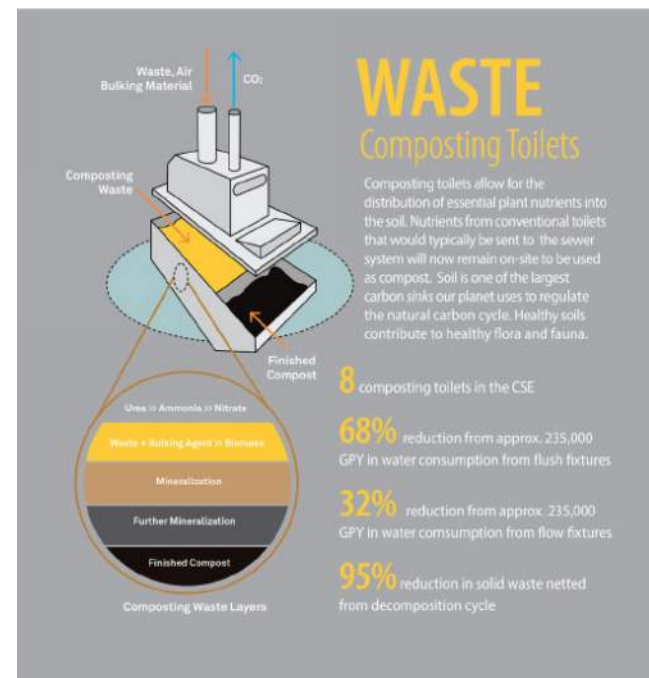
- Students work with systems: Green roof systems, Mechanical systems, BMS
- Outdoor learning enhances interdisciplinary work with our ECD, HORT, and SCIENCE



OPERATIONS & MAINTENANCE IMPLICATIONS

New systems

- Advantages with new systems
- Challenges with new systems
- Managing existing systems



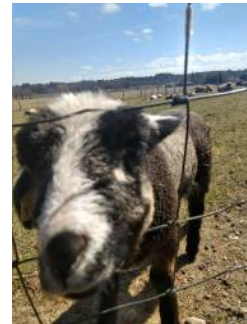
LESSONS LEARNED

Improving never ends

- Compostible toilets lessons learned
- Advice for districts considering adopting new systems



Thank you!



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