

# Leveraging NYSERDA Programs to Reduce Energy Use and Save Money

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**NYSERDA**

# Overview of Clean Green Schools Initiative

- **Budget:**
  - \$160 M
    - \$100M of Clean Water, Clean Air and Green Jobs Environmental Bond Act funding
    - \$60M of CEF/RGGI funding
- **Program Goal:**
  - The goal of the program is to help under-resourced **public** schools decarbonize their building portfolio and improve indoor air quality (IAQ) across their buildings.
- **Eligibility:**
  - **Track I:** All public school districts across NYS that are designated as High-Needs by the New York State Education Department or have at least one building which is located in a disadvantaged community.
  - **Track II:** All public school districts across NYS that are designated as High-Needs by the New York State Education Department or school buildings which are located in a disadvantaged community.
  - Track I and Track II provide support for **existing buildings**, not new construction projects.

# Program Structure

- This program provides funding in two tracks to support a school's pathway towards decarbonization.
  - **Track I Planning: Open Enrollment (accepting apps until December 2024)**
    - Provides funding for services which will help schools evaluate, plan for and facilitate energy reduction projects, clean energy projects and indoor air quality projects.
    - *Once Track I closes, the Track I offering will be moved into other existing NYSERDA programs to streamline services being offered.*
  - **Track II Installation: Competitive (closed)**
    - Provides funding to implement construction projects which will help schools decarbonize their buildings.
    - *The tentative launch date for the third round of Track II is spring 2026.*
  - **Clean Energy Educational and Professional Development Opportunities:**
    - NYSERDA will provide funding to support a range of workforce development and student educational activities for P-12 students that explore, support or promote decarbonization efforts in their schools and communities.

# Track I Planning: Eligible Projects

- **Eligible services include, but are not limited to:**
  - Engineering & Architecture Services
    - Energy Benchmarking
    - Energy Studies
    - Energy Efficiency and Clean Heating and Cooling Design Services
    - Energy Master Planning and Decarbonization Roadmaps
    - Clean Transportation Studies
    - Indoor Air Quality Evaluation and Management
  - On-Site Energy Manager
    - District level or across districts
  - Services Associated with Clean Energy Projects
    - Grant Writer
    - Fiscal Advisor
  - Clean Energy Educational and Professional Development Activities
    - *This must be paired with an above bullet and is ineligible as a standalone project.*

# Track I Planning: Funding

Track I NYSERDA Caps		District Annual Energy Spend Less than \$500,000	District Annual Energy Spend \$500,000 - \$2,000,000	District Annual Energy Spend More than \$2,000,000
<b>Maximum District Caps</b>		\$650,000	\$950,000	\$1,250,000
	Metering (hardware costs only) <sup>1</sup>	not to exceed 10% of Track I services		
	Fiscal Advisor and/or Grant Writer <sup>1</sup>	not to exceed \$30,000	not to exceed \$60,000	not to exceed \$90,000
	Clean Energy Educational and Professional Development Activities Cap <sup>1</sup>	\$10,000 per building, not to exceed \$50,000 per district		

1. The cap is included in the Track I NYSERDA District Caps above.

- NYSERDA’s funding ranges from \$650,000 - \$1,250,000 per district depending on the district’s annual energy spend.
- School districts are not required to contribute funding to a Track I project unless the project cost exceeds the cap in the table above.

# Track I Planning: Application Requirements

- **A complete application package includes the following:**
  - Track I Program Application
  - Scope of Work
  - Budget
- **Applicants may be either the school or an authorized representative of the school.**
- **Applicants may include one or more Track I services in their Scope of Work.**
- **Applicants may submit one application on behalf of multiple buildings within a district.**
- **Template documents are available on the Clean Green Schools Initiative documents and resources website.**

# Track II Installation: Eligible Projects

- **Clean Heating and Cooling Projects:**
  - Ground Source Heat Pump
  - Air Source Heat Pump
  - Variable Refrigerant Flow System
- **Capital Projects to Move Towards Decarbonization:**
  - Comprehensive retrofits that impact energy consumption and overall building load
  - Electrification of building systems (e.g., kitchen equipment & domestic hot water heaters)
  - Building electrification readiness projects:
    - High performance building envelope (e.g., air sealing, insulation, window film)
    - Heating/cooling projects
    - Conversion of distribution systems (e.g., steam to hot water) to support potential future electrification
- **Round Two of Track II is closed.**

# Clean Energy Educational and Professional Development Opportunities

- **NYSERDA will provide funding to support a range of workforce development and student educational activities for P-12 students that explore, support or promote decarbonization efforts in their schools and communities.**
- **The Educational and Professional Development Activities Pathway document, which is located on the Clean and Green Schools Initiative documents and resources website:**
  - Should be consulted for assistance in designing these activities
  - Includes existing programs, tools, and resources
- **Eligible activity costs include, but are not limited to:**
  - Curriculum development, program/license fees, software subscription fees, project supplies/tools/equipment, field trips, promotional material, speakers, teacher stipends, internship wages, textbooks, signage, clean energy toolkits, registration/entrance fees (conferences, camps, workshops), space rental, consultants/trainers fees, professional development fees, food, travel and lodging.
- **Track I Planning:**
  - Per Building – Up to \$10,000
  - Per District – Up to \$50,000



# Flexible Technical Assistance Program (PON 4192)

- P12 Schools that are ineligible to participate in NYSERDA's Clean Green Schools Initiative (PON 4924) are eligible to participate in FlexTech (PON 4192) if they pay into the electric System Benefits Charge (SBC).
- Schools are eligible for a **cost-share up to 75%**.
- Example of Eligible Projects (e.g., technical assistance):
  - Energy audits
  - Investigation of clean heating and cooling systems (heat pumps and/or district thermal networks)
  - Targeted or comprehensive analysis of equipment or systems
  - Energy Master Planning
  - Retro-commissioning analysis
  - Load reduction studies

# On-Site Energy Manager (PON 3701)

- Covers 75% of costs associated with hiring a full or part time on-site energy manager to assess energy conditions and identify energy efficiency improvements.
- Funding is capped at \$100,000 for small projects (<\$1m in annual energy spend) and \$200,000 for large projects.
- Must pay into the System Benefits Charge (SBC) on electric bill.
- Minimum time commitment of 20 hours per week for one year; maximum time commitment of 40 hours per week for four years.
- Scope is general – OsEM can focus on activities related to energy management and efficiency.
- OsEM role can be fulfilled by permanent staff, a consultant, or a hybrid of the two; payments go directly to the consultant for projects where the consultant is the applicant.

# Important Dates and Resources

- **Clean Green Schools Initiative Website:**
  - Visit the Clean Green Schools Initiative website to see the most current list of Program resources, specific to eligibility, template documents, guidance documents and more.
    - [Link - nyserderda.ny.gov/P-12-Clean-Green-Schools](https://nyserderda.ny.gov/P-12-Clean-Green-Schools)
- **Contact Information:**
  - E-mail [Hannah.Morgan@nyserderda.ny.gov](mailto:Hannah.Morgan@nyserderda.ny.gov)
- **Upcoming Clean Green Schools Initiative PON Revisions:**
  - Clean Green Schools Initiative Track I offering will be moved into other existing NYSERDA programs to streamline services being offered (*anticipated December 2024*).
  - The tentative launch date for the third round of Track II is spring 2026.

Francis D'Ambrosio  
Energy Manager  
Canajoharie CSD



# Canajoharie Central School District

Implementing an Efficient and Healthy Schools initiative  
with the NYSERDA P-12 Track 1 programs

# Case Study

## Organization Name

- Canajoharie Central School District

## Location

- Canajoharie, New York

## Business Type

- K-12 Public School District

## Track 1 Eligible Activities

- OsEM, Clean Heating and Cooling Design, Educational Activities and Clean Transportation Study

## Current Energy Cost Savings

- 13% less than baseline

# Overview



## Services:

The District provides public educational services to 900 students and employs 190 staff.



## Service Area:

100 square miles of Towns and Villages in Montgomery County, New York.

NCES Locale Code: Distant (32)



## Facilities:

Elementary School

Middle School

High School

Athletic Center with an indoor pool

Transportation Facility

# Why Did We Apply?

## Goal:

- The District has prioritized clean energy and recognized a need to hire an OsEM to develop an Energy Management Plan.
- NYSERDA's P-12 Clean Green Schools Initiative offers tools, resources, information and support to guide the District's clean energy projects.
- The District chose to participate in the Track 1 OsEM program as an ideal starting point and continues participation to accomplish the goals.

## Scope:

- Comprehensive evaluation of existing energy systems
- Identify ECMs for current and future energy needs
- Identify and prioritize decarbonization recommendations for current and future building projects
- Implement Geothermal Technology for heating and cooling resilience
- Implement Solar Technology for Electrification Readiness and sustainability
- Transition facilities to meet the Zero Emissions Vehicle mandate
- Pursue grant opportunities for Zero Emissions Vehicles, Geothermal and Solar projects
- Infuse these energy initiatives into STEM and Engineering Pathways curriculums



# What Track 1 Activities Did We Apply For and How Much Funding Did We Receive?

- On-site Energy Manager, 2 phases spanning 28 months totaling \$230,776
- Educational Activities and Professional Development, part of OsEM scope
- Services Associated With Clean Energy Projects – Grant Writing, part of OsEM scope
- Clean Transportation Study, \$52,315 (consultant)
- Clean Heating and Cooling Design, \$507,900 (consultant)

The most appealing factor is the non-competitive nature of the Track 1 programs, NYSERDA is there to help districts meet their energy goals.

# What Are The Benefits of Participation?

The Starting Point:

NYSERDA provided funding assistance for appointment of an OsEM to identify ECMs that aligned with the District's goals.

An energy baseline was established to gauge progress

Benchmarking was completed to compare the District buildings to each other and to comparable buildings nationwide

Reports were generated to communicate the current level of performance

An Energy Team was recruited to develop, communicate and implement the Energy Management Plan



# Cross-Functional Team

- The OsEM is the link between the departments of the cross-functional energy team for development, communication and implementation of the Energy Management Plan.
  - Superintendent
  - Facilities Director
  - Curriculum Director
  - Principals
  - Support Staff



CANAJOHARIE CENTRAL SCHOOL DISTRICT

**ENERGY MANAGEMENT PLAN**

Revised February, 2024





# Identifying Opportunities

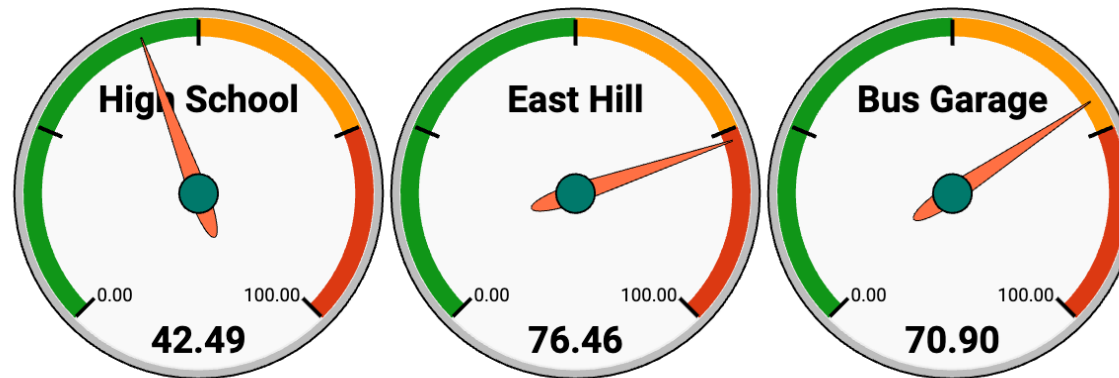
- Establishing a baseline provided the starting point for planning corrective actions and projects
- Walk through audits were conducted to identify no and low cost ECMs
- Initial no cost measures were implemented that included adjustment to HVAC setpoints and scheduling, deletion of unnecessary devices, redeployment of PLCs and energy supplier choices
- Low-cost measures were implemented that included roof leak repairs, heating system leak repairs, On-Demand DHW retrofit and automated lighting repairs
- Savings metrics for capital-intensive projects were calculated to promote buy-in

# Benchmarking and Engagement Progress

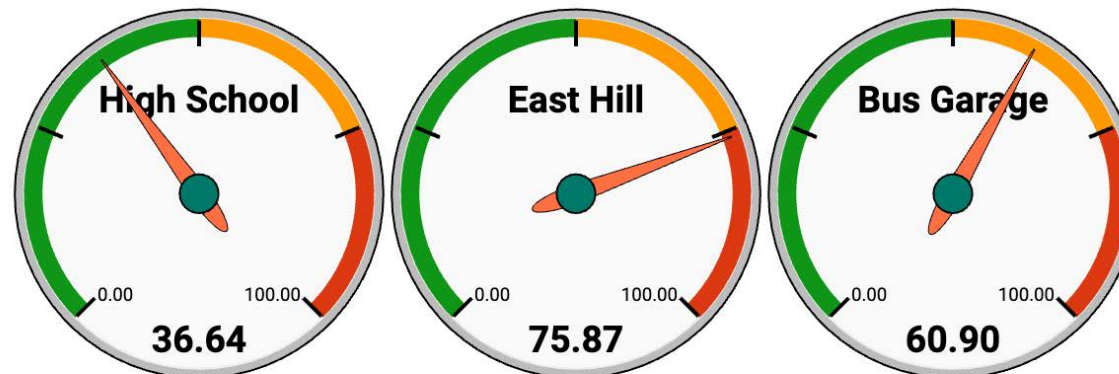
Reports provide quick identification of the performance at each building and indicates which energy source/s and/or building/s stand out as priorities.

The benchmarking results indicate that the East Hill complex is a priority triggering the pursuit of GSHP Technology.

2022 Median Energy Utilization Index For Total Site KBtu/Sq.ft.



2023 Median Energy Utilization Index For Total Site KBtu/Sq.ft.



# Establishing Results

- OsEM identified corrective actions began with improvements to operations, maintenance and processes by moving from reactive to preventative.
- One year into the engagement has provided an energy consumption savings of 4.5% in electricity and 8.9% in natural gas reducing energy expenditure by 8.7%.
- The upcoming District wide solar project for Electrification Readiness will offset electrical consumption by 84%.



# Additional NYSERDA P-12 Offerings



**Sustainable Activities Services:** An education component has allowed the OsEM to infuse energy initiative topics into STEM and Engineering Pathways curriculums.



**Services Associated with Clean Energy Projects:** A Grant Writing component allowed the OsEM pursue grant funding in support of financing the District's clean energy goals.



**Clean Transportation Studies:** A comprehensive School Bus Transition Plan for transitioning the school bus fleet to zero emissions starting in 2027 and fully transitioned by 2035. Establishment of this plan qualifies the District for additional funding through the NYSBIP.



**Clean Heating/Cooling Studies/Design Services:** A recent application for the study/design of a GSHP project towards decarbonization that will provide cooling capabilities of the Elementary and Middle Schools for resilience to climate change.

# How Are We Leveraging This Information?

01

Conveying the savings to the staff promotes buy-in

02

Commitment to improvements creates stronger funding applications

03

Utilizing programs to increase opportunities for additional support

04

Sharing and networking reveals hidden opportunities

05

Savings can be combined with Aid to significantly increase the results



# Moving Forward

- The District is committed to advancing the clean energy goals road mapped in the Energy Management Plan. This plan is a living document that is reviewed and adjusted as the District progresses towards these goals.
- It is important to note that the energy saving achievements and the Energy Management Plan providing the roadmap for a clean energy future is the direct result of participation in the NYSERDA OsEM program.
- Thank you to NYSERDA. This would not have been possible without the resources and support they provide.



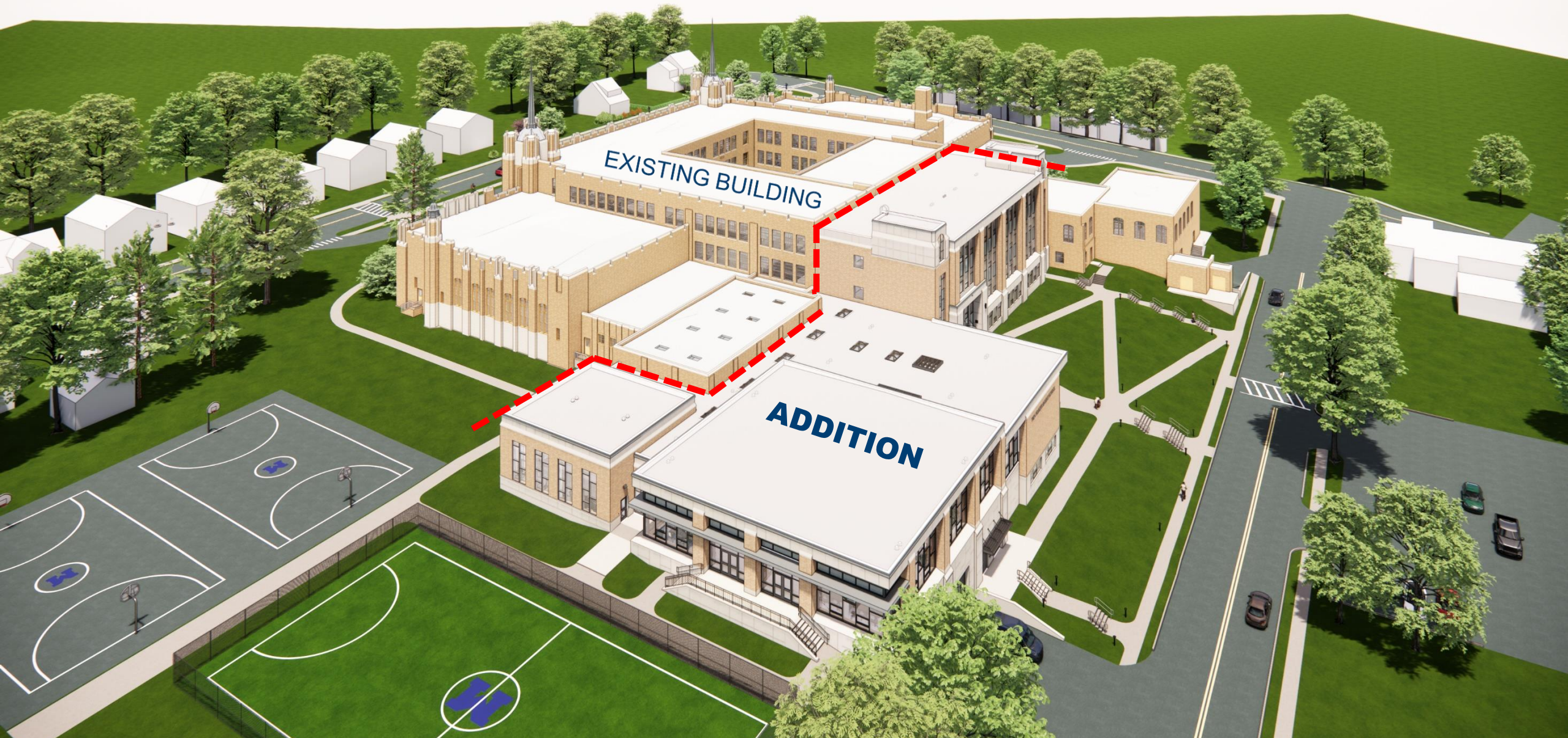
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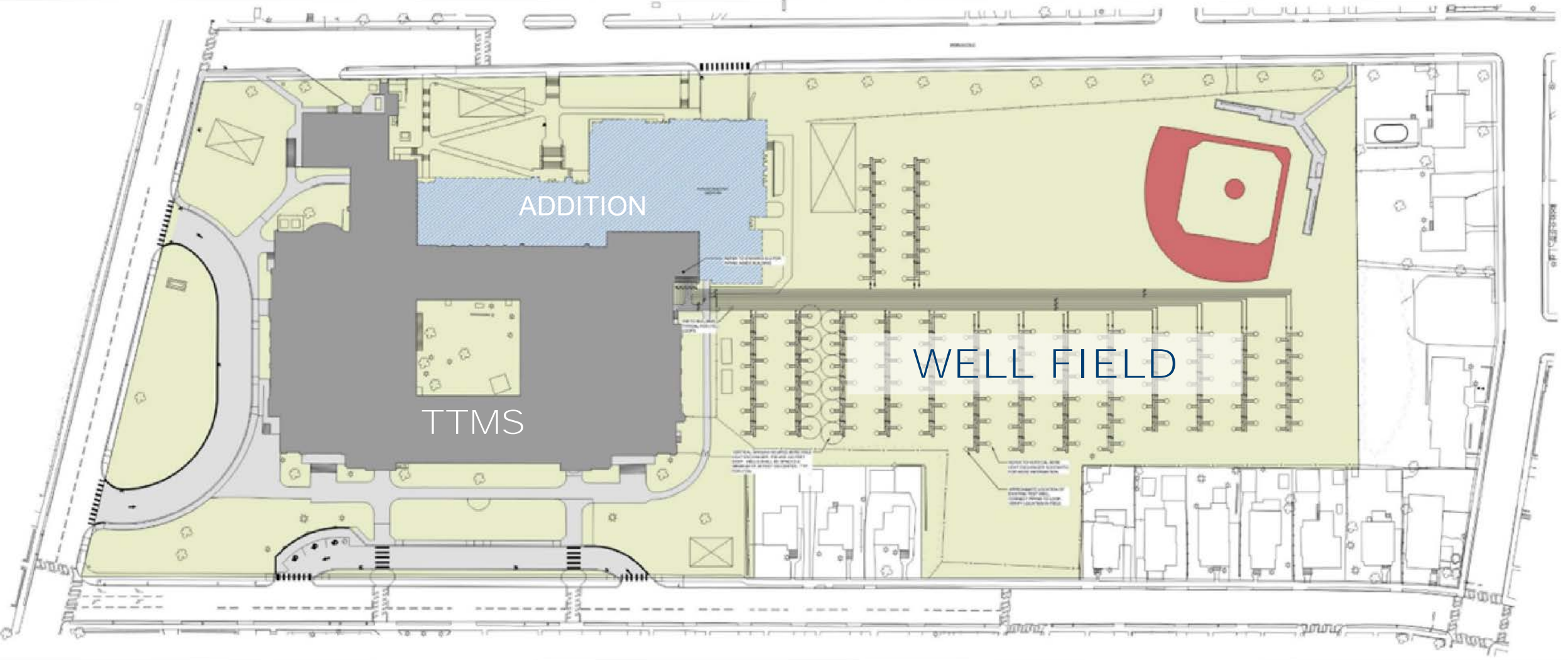


# Twin Towers Middle School

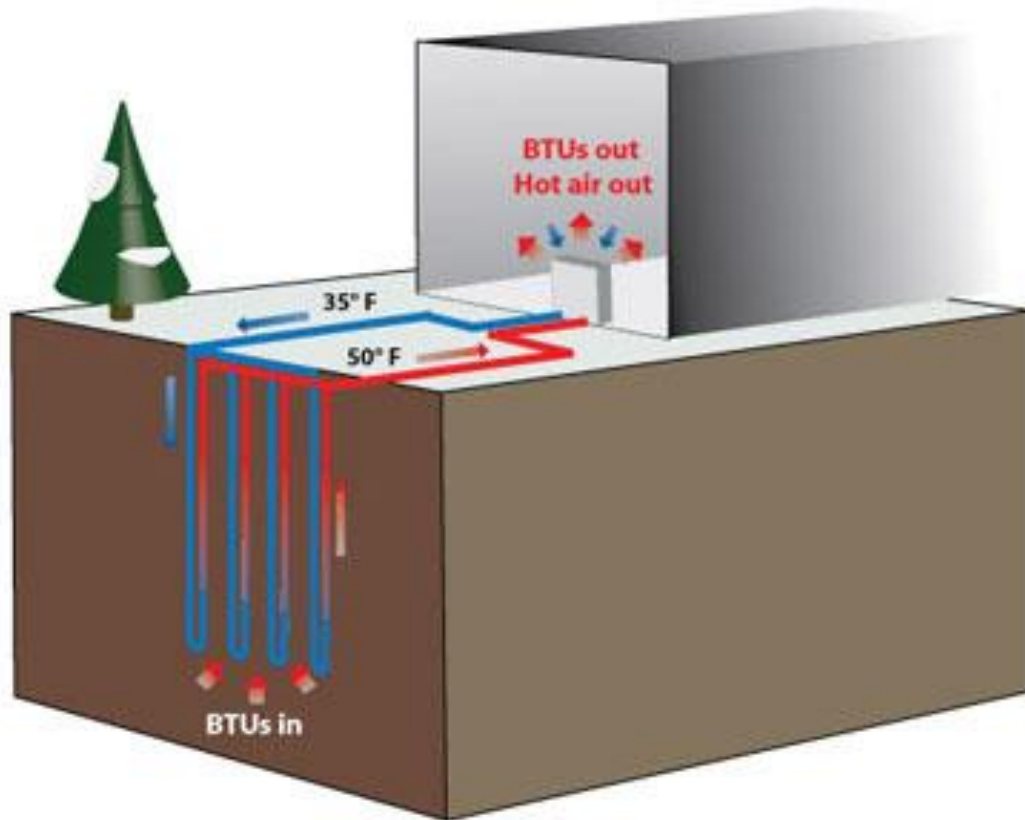
Additions + Alterations 2023 - 2026



# Geothermal System installed in Phase 1

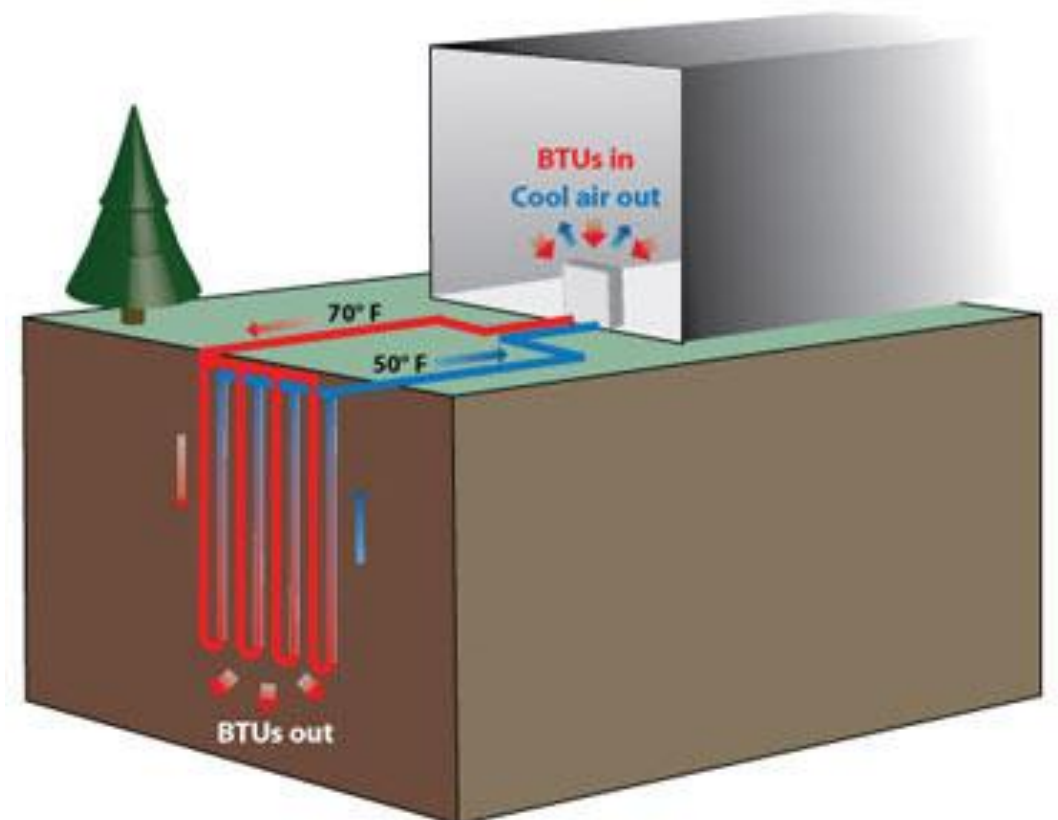


# Geothermal System



## HEATING

heat energy from ground transferred to building



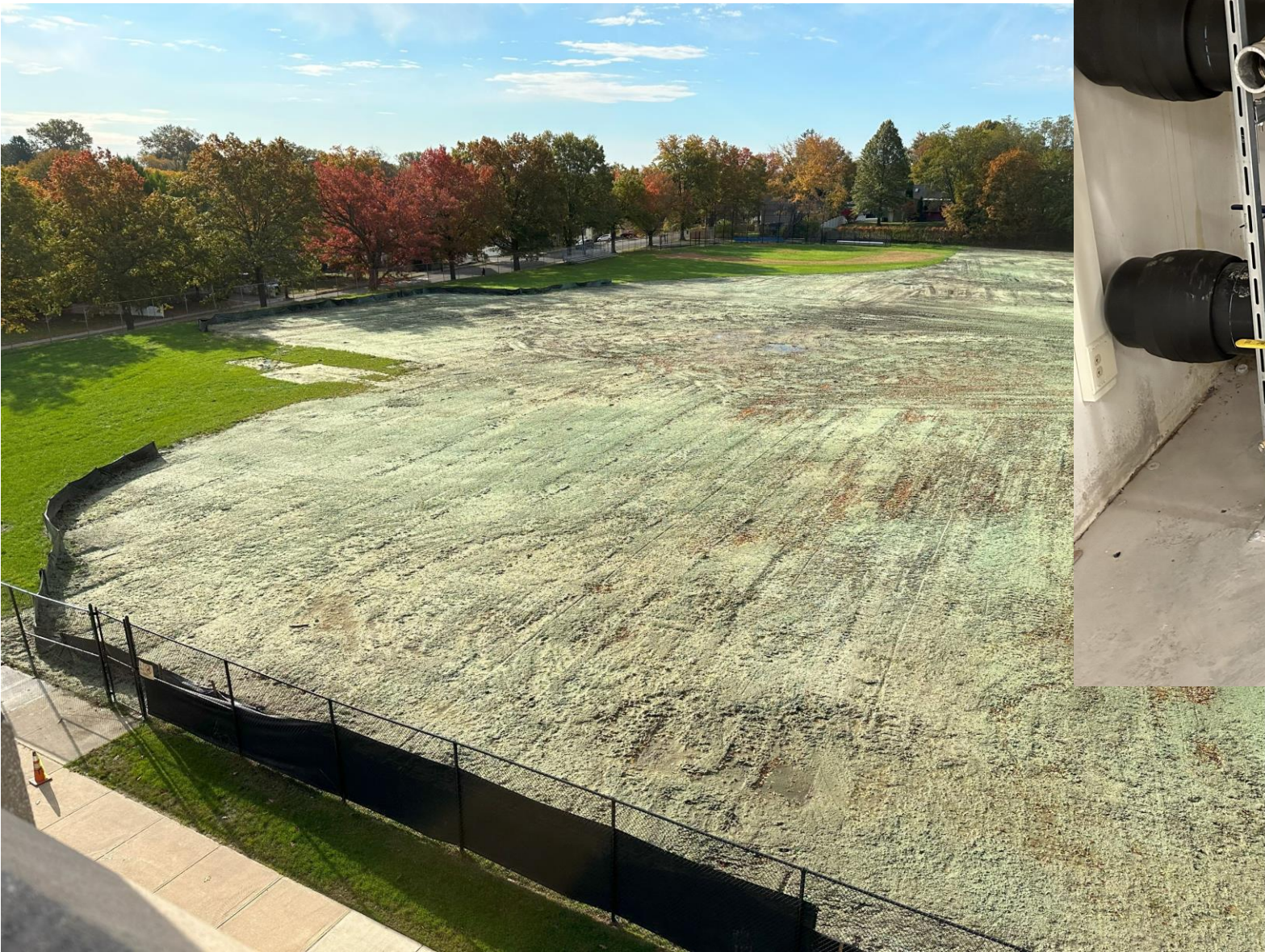
## COOLING

heat energy from building discharged to ground









# Questions

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