AGENDA
COMMUNITY MEETING – JULY 2020

• Welcome
• Project Schedule
• COVID-19 impacts
  • Design
  • Traffic
• Parking Ramp & Site
• Building Interior
• Building Exterior
SPEAKING TODAY

Louis DePasquale
Manager
City of Cambridge

Lisa Peterson
Deputy City Manager
City of Cambridge

Sean O’Donnell
Principal
Perkins Eastman

Omar Calderon-Santiago
Principal
Perkins Eastman

Carolyn Day
Senior Associate
Perkins Eastman

Dan Arons
Principal
Perkins Eastman

Kris Bradner
Principal
Traverse Landscape
SINCE WE LAST MET
CURRENT DESIGN SCHEDULE

PROJECT PHASES

Feb 2019
Feasibility Study

March 2020
Schematic Design

Sept 2020
Design Development

June 2021
Construction Documents

April 2022

TODAY

June 2020
EARLY PACKAGES

Oct. 2021

Existing Building & Site Investigatory Work

Sitework, Foundations & Steel Design

Soils, Geothermal & Storm water Design
CURRENT DESIGN SCHEDULE

MEETINGS

TODAY

Community Meetings
Focus Groups

Feasibility Study
Schematic Design
Design Development
Construction Documents

02/06/19
April 2020
November 2019
January 2020
February 2020
July 2020

Feb 2019
March 2020
Sept 2020
June 2021
April 2022
What has changed?

• Building will be occupied through the next school year
• Demolition and remediation will begin later, once school is vacated
• Revised plan for traffic studies
• Feasibility Study Report draft review was delayed, now complete

What hasn’t changed?

• Building design schedule on track (construction schedule under review)
• Focus group meetings held with teachers
• Regular Programming and Building committee meetings continue
DESIGN CONSIDERATIONS
COVID-19 IMPACTS

- Building Ventilation
- Air Filtration
- Operable Windows
- Material Selections
- Touchless Technologies
- Hand Washing Stations
- Restroom Layouts
- Student Traffic Flows
TRANSPORTATION ASSESSMENT
COVID-19 IMPACTS

• Comprehensive analysis, working with Traffic, Parking & Transportation department

• Looks at existing infrastructure and anticipated impacts

• Includes vehicle, pedestrian, and bicycle access and circulation
  • Reduced traffic due to COVID-19 stay at home order
  • Alternative method uses anonymous cell-phone location data collected previously

Existing Average Daily Traffic (ADT) Summary
TRAFFIC & PARKING
WHAT NEEDS TO BE STUDIED

Parking & Transportation Demand Management (PTDM) Plan

• National model, required when adding non-residential parking
• Looks to improve access, reduce congestion and reduce air pollution
• Goal to increase safety by promoting walking bicycling, and public transit

Key Elements of PTDM include

• Single-occupancy vehicle mode-share commitment
• Comprehensive Transportation Demand Management (TDM) measures
• Annual Single Occupancy Vehicle surveys
• Biennial car and bicycle counts
• Status of TDM measures
PARKING RAMP POSSIBILITIES

INITIAL THOUGHTS

WEST RAMP OPTION

BUS LOOP

EAST RAMP OPTION

ACROSS FROM STANDISH OPTION
EAST RAMP

Pros
• Separates buses and cars
• Vehicles are away from entrance
• No program compromises

Cons
• Closest to Alpine neighbors
• Requires tree removal
• Difficult left turn
Pros
• Separates buses and cars
• Uses existing intersection & curb cut
• Preserves and protects trees
• Shape slows traffic
• More intuitive crossing

Cons
• Divides green space
**WEST RAMP**

**Pros**
- One driveway on site
- Keeps traffic closer to Fresh Pond
- Uses existing curb cut

**Cons**
- Mixes buses and cars
- Reduces preschool playground
- Disconnects preschool classrooms from playground
- Difficult to fit with program
SITE OPPORTUNITIES

• Tree Preservation and Protection
• Importance of Tree Canopy
• Preservation Plan
• New Trees
SITE PROGRAM ELEMENTS
RECREATIONAL AREAS
SITE PROGRAM ELEMENTS

PLAYGROUNDS
SITE PROGRAM ELEMENTS
OUTDOOR LEARNING/GARDENING
SITE IDEAS PREVIEW

• Storm water management as a learning tool
• Sustainable soils and biomass
• Engaging neighbors and community
BUILDING
STACKING DIAGRAM

Floor 1: Small Gym
Floor 2: Learning Commons
Floor 3: Large Gym
Floor 4: Auditorium

VASSAL LANE
TOBIN
PRESCHOOL
ARTS
COMMON SPACES
FIRST FLOOR

- SMALL GYM
- DINING
- PRESCHOOL
- TOBIN
- COMMON SPACES
- VASSAL LANE
- ARTS
- PRESCHOOL
- TOBIN
- VASSAL LANE
THIRD FLOOR

- LARGE GYM
- LEARNING COMMONS
- AUDITORIUM
- VASSAL LANE
- TOBIN

VASSAL LANE
TOBIN
PRESCHOOL
ARTS
COMMON SPACES
GARAGE

STORMWATER TANK

WELLS

MAIN ENTRY

VASSAL LANE
TOBIN
PRESCHOOL
ARTS
COMMON SPACES

PERKINS EASTMAN  TOBIN MONTESSORI VASSAL LANE SCHOOLS
NET ZERO GOALS

- Zero on-site greenhouse gas emissions
- Net zero energy recovery systems
- Maximize on-site renewable energy
- High-performance building envelope
- On-site stormwater management
- Low-energy LED lighting
- Low-flow plumbing fixtures & heat pumps
- Energy metering
- Hybrid structural system
- Embodied carbon materials
- Low-carbon impact materials
EXTERIOR CONCEPTS
A BIT OF HISTORY

NATURAL HISTORY

The topography of the vicinity.

Artist depiction of the earth during the last ice age.

Fresh pond, a kettle lake left behind.
A BIT OF HISTORY

PATTERNS OF USE

The site could have looked like this around the turn of the century. Drying brick sheds dotted the low lying, clay covered landscape.

The site was industrialized during the discovery of clay deposits.

Ballast brick.
Montessori students, agency and self guided inquiry using every available surface as a place for learning.

Prior to “The Tobin” appearance on the site was used as a city waste site.
SOURCING THE MATERIALS

1. Industrial past.
2. Materials “of the land”
3. A virgin landscape
4. Water resources
SOURCING THE MATERIALS

1. Ultra high performance concrete panel - horizontal
2. Regional stone
3. Ultra high performance concrete panel - vertical
4. Masonry alternates
CONCEPT
RESPONSE TO NEIGHBORING SCALE

ANIMATION FOUND IN COMMUNITY MEETING PRESENTATION VIDEO
We are finding that by targeting an efficient, low energy utilization combined with 100,000 sf of solar panels, zero net energy is within what is possible on the site.
Solar Panel Summary -

- 41,700 SF of Solar Panels mounted on 5 degrees tilted continuous wing
- 28,500 SF of Solar Panels mounted on roof at 10 degrees east/west
EXTERIOR CONCEPTS STUDY

TYPICAL CLASSROOM WINDOW CONFIGURATION

Note: Design in progress.
EXTERIOR CONCEPTS
RESPONSIVENESS TO DAYLIGHT
SOLAR ANALYSIS

PROJECT GOALS

Spatial Daylight Autonomy (sDA) >75%

Annual Sunlight Exposure (ASE) <10%

GLASS OVERALL 30%

Daylight Analysis - Typical Classroom Analysis

Daylighting Analysis – Window Treatment

≥ 300 lux

< 300 lux
EXTERIOR CONCEPT STUDY

VASSAL LANE ENTRY

Note: Shown with Ramp Option 2. Design in progress.
EXTERIOR CONCEPT STUDY
VASSAL LANE & STANDISH ST. CROSSING

Note: Shown with Ramp Option 2. Design in progress.
EXTERIOR CONCEPT STUDY
CONCORD AVENUE

Note: Design in progress.
EXTERIOR CONCEPT STUDY
ATHLETIC CENTER - CIVIC SCALE ON CONCORD AVENUE

Note: Design in progress.
EXTERIOR CONCEPT STUDY

PEDESTRIAN WALKWAYS

Note: Shown with Ramp Option 2. Design in progress.
CITY OF CAMBRIDGE
TOBIN MONTESSORI AND VASSAL LANE UPPER SCHOOLS PROJECT
JULY 2020

COMMUNITY PRESENTATION

Note: Shown with Ramp Option 2. Design in progress.