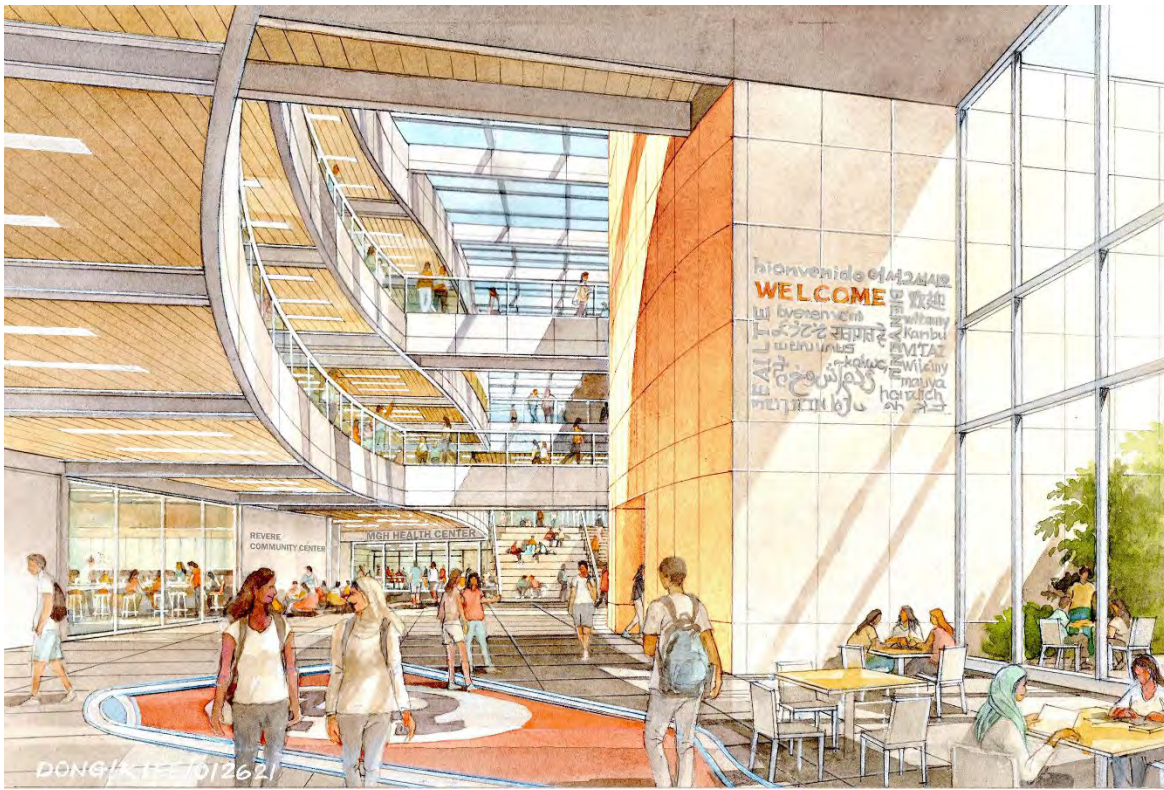


# Revere High School Schematic Design Report

MSBA Module 4 Schematic Design

## For the Massachusetts School Building Authority

Submitted February 29, 2024



# Module 4

## Schematic Design

### 4.1 Schematic Design Submittal

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# Introduction

## 4.1.2 Schematic Design Binder

### Revere High School

## Introduction

### A. Summary of the District’s Preferred Solution

The Preferred Option addresses all the educational and community objectives for Revere High School. This solution constructs a new building on the (former) Wonderland Dog Park Site. This location is a vacant, mostly flat parcel situated across the Wonderland T station along Veterans of Foreign Wars Parkway and North Shore Road, and is bound by rail tracks on the north side and an abandoned dog racing track on the east. The building is organized around a central 3-story Heart of the School with (2) 4-story Academic Wings to the south and a 2-story Health & Wellness Wing and 2-story Performing Arts Wing to the north. The design holds good solar orientation for the two academic wings and has a central public/community spine. This allows for a clearly organized plan clear separation of community/large activity and academic spaces which allows better control with lock-off zones and security capabilities.

Creating a cohesive campus setting and destination is a key goal of this project. The proposed site design and landscape character is inspired by the natural beauty of the surrounding marshes and the nearby Rumney Marsh. Site materials, furnishings, and plantings are inspired by the coastal marshland character of the surrounding landscape. The building design is grounded in its Revere Beach roots with an ocean and wave concept that celebrates the textures and materials that can be found along the shorelines of Revere. A warm, natural palette of stone, light brick, blue glass and natural wood all highlight the local natural resources.

The building has always been envisioned as a Community asset as well as an educational one. The central feature of the building is the multi-story heart of the school. This space serves as the Student Commons, provides transparency of unique Revere High School curriculum, support arts and tech and has connectivity to the academic wings, performing arts and health & wellness. Indoor and outdoor connectivity is a critical design element and blurs the lines between indoor and outdoor learning. The Academic Wings are designed to allow flexibility, variety of different sized learning spaces, and opportunities to learn in every corner of the building. This campus and building will be a beacon on education and learning for the City of Revere.

### B. Community Process Overview

From the beginning of the process in November of 2020, the School Building Committee has encouraged participation and engagement in the process.

1. SPC meetings – there have been over 60 held during the process.
2. Working groups to focus on aspects of the design (MEP/FP, Sustainability, Exterior & Interior Materials etc.), each of these has given the opportunity to engage a smaller subset on a more intimate and personal level.

3. Presentations and meetings of the City Council and Ways and Means Sub-committee – there have been over fifteen held during the process.
4. Individual meetings with City Councilors, in the period post the seating of the council in early 2024 the design team, CM and OPM meet with each City Councilor to ensure that each one had the opportunity to ask questions and gather information about the project and process.
5. Project Website with updates after every SPC meeting.
6. Community Forums, there have been four thus far during the process.

The selected site is in an Environmental Justice Zone, therefore the SBC and team will be reaching out to the direct neighbors in an effort to engage them directly in the design process so that they fully understand the proposed development and have a chance to comment.

### C. District's Total Project Budget & Steps to Local Funding

During the initial Preferred Schematic Report phase of the Project in Spring 2022, the Total Project cost range from a renovation to a new build was estimated to be approximately between \$181,619,959 and \$394,287,291 with an estimated \$154,590,385 to \$171,010,645 being funded by the MSBA as reimbursement on eligible costs, leaving the City to fund a range of costs between \$223,276,646 to \$231,059,652. The original preferred solution, new construction at the Wonderland site, included a total project budget of \$378,590,385 and a potential MSBA grant totaling \$154,333,123. After the initial Preferred Schematic Report phase was restarted due to the City decision to remove the Preferred Option at the Wonderland site, a second Preferred Schematic Report phase was undertaken in 2024 and resulted in a cost range from a renovation to a new build between \$267,909,866 and \$557,093,098 with an estimated range of MSBA reimbursement on eligible costs between \$203,574,606 and \$239,534,653, leaving the City to fund a range of costs between \$259,100,545 and \$327,346,331.

During this second Preferred Schematic design phase, the estimated total project budget of the preferred solution was estimated at \$497,517,901, not including the \$29.5m property acquisition costs, with an estimated 80% MSBA reimbursement rate on eligible costs (\$228,653,987), leaving the district share at an estimated \$268,863,914 (including the \$4.3m Feasibility Study). The City will not require a debt exclusion vote as they have indicated that the capacity exists to fund the project without any additional tax levy.

### D. Updated Description of the Project

The Revere High School is a new 2,450 student building designed to serve grades 9 through 12 and will replace the existing Revere High School located on School Street. The 422,600 gross square foot building is sited on the former Wonderland Dog Track site which is located across from the MBTA blueline station on VFW Parkway. The Total Project Budget is \$497,517,901 million dollars and will be constructed using the CMAR process.

The selection of the Wonderland site does not come without its complexities, the City of Revere is land poor with no real space to develop a suitable new school of this size which is why the City elected to take the Wonderland property by eminent domain. Among the many complexities of this site is it is fully within the flood plain and therefore the first floor must be raised up off the existing grade by 15 feet. This creates a void under the building which the project team has opted to fill with parking. It was the general feeling that this solution was better than on-grade parking as the space was not created specifically for parking but by the requirements of the flood plain. If the void was not utilized it would remain as a dark empty space under the building attracting some of the potentially undesirable aspects of the underside of overpasses. It also cannot be fully enclosed as water needs to be able to flow freely into and out of the space below, adding to this is the site is a non-import/export site and it must be fully balanced with what is on site now limiting the team's ability to berm up around this to conceal it. The City and the design team felt that ultimately a lit and habitable garage space was preferable to a dark uninhabited void. Unfortunately developing the area does not come without cost, the CM estimates that outfitting the space for parking costs \$75-80 a square foot, at 165,995 that equate to a \$12.5 to \$13.2 million dollar investment by the city.

## E. Copy of MSBA's PSR Review and Corresponding District Response

A copy of the MSBA PSR review comments and the District's response is included in the Appendix of this submission.

## F. Summary of Examination of the Existing Site

The Project submitted its first Preferred Schematic Report (including the Preferred Option for all-new construction at the Wonderland site) to the MSBA in March 2022, attended Facilities Assessment Subcommittee meetings in April 2024, and received MSBA Board approval to proceed into Schematic Design via the MSBA Board Action Letter dated April 27, 2022.

From May 2022 through December 2022 the Project Team completed a Schematic Design phase further studying the proposed project at the Wonderland site, including various School Building Committee, School Committee and City Council meetings as outlined in the Local Actions Letter. On December 8, 2022 the School Building Committee and School Committee voted unanimously (by those present) to approve submission of the Wonderland Schematic Design Report to MSBA. However, via City Council and City Council Ways & Means Sub-Committee meetings in December 2022 and January 2023, the City Council voted down submission of the Wonderland Schematic Design Report and instructed the School Building Committee and School Committee to continue the process without the Wonderland site being an available option.

After coordination with the City, MSBA and Project Team, and via approved Feasibility Study extension requests approved by MSBA, the Project embarked upon a repeat of the Preferred Schematic Phase during the Spring, Summer and Fall months of 2023. During this repeat phase it

was quickly established that, with Wonderland not being supported by the City Council, the only options remaining to build the new school were on the existing High School site. The team developed updated designs, schedules and estimates for renovation, addition/renovation and all-new construction options at the Existing Site. In Fall of 2023 as the Team was laying out the completion sequence for the repeat PSR phase, the School Building Committee expressed dissatisfaction with all options on the existing site due to a myriad of reasons that centered around safety concerns, lack of parking and loss of access to existing fields during construction, the permanent loss of the existing High School (which is envisioned as a future potential host location for a magnet Middle School in the School Department’s master plan), proximity and impact to abutters and the neighborhood, traffic congestion, concerns about scope and cost for an underground drainage culvert on the existing site, and the restrictions such a tight site imposes upon the Project’s goals that were established during prior phases of the Project.

The Project Team was requested to update the schedule and budget for the former Preferred Option at Wonderland and presented that information alongside the options that were developed on the Existing Site during the repeated PSR phase. On January 3, 2024, the School Building Committee unanimously approved a motion (by those present) to select the Wonderland option as the Preferred Option for a second time, but added language to identify the all-new construction “Courtyard” scheme on the existing site as an acceptable alternate in the event the School Committee or City Council did not approve the Wonderland selection. In the following weeks, the School Committee unanimously approved the re-selection of the Wonderland Scheme as the Preferred Option, and the City Council voted 10-1 in favor of that option as well. Based on these events, and after coordination with the MSBA, it was determined that submission of this Schematic Design Report was the appropriate next step for the Project.

The OPM, Project Team, School Department and City would like to thank MSBA for their support and understanding throughout this process and looks forward to further coordination with the team as well as attendance of a pending Facilities Assessment Sub-Committee meeting in March to discuss the Project.



# Final Design Program

## 4.1.2.B – FINAL DESIGN PROGRAM

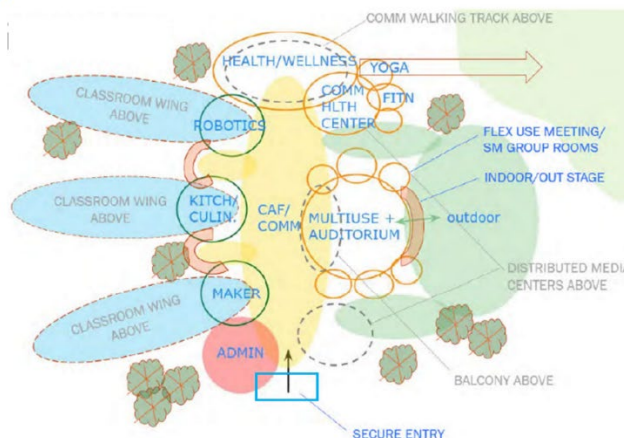
### ***ARCHITECTURAL CHARACTERISTICS***

The following key Revere High School Design Goals and Objectives include;

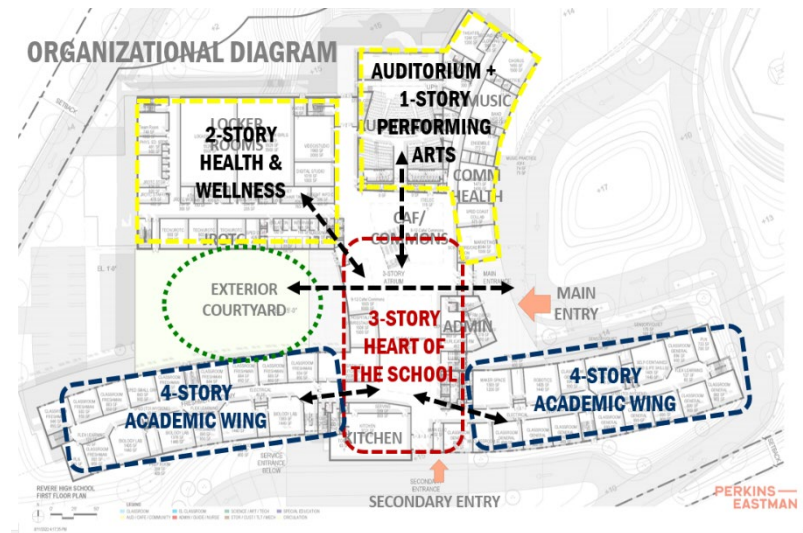
- Create a Heart to the School – Design should create a dynamic space that is actively identifiable by all students as a true “heart of the school” that provides connectivity to Academic Neighborhoods, Health & Wellness, Media Commons and Arts & Tech. This space should celebrate student achievement and highlight unique programs at Revere High School
- Zone for Community & Extended Hours Use – Zone the building for community use and extended hours for community use. This campus and building are intentionally designed to service students during school hours and City of Revere residents and programs off-school hours and weekends.
- Organize for Classroom Clusters/ Neighborhoods for Interdisciplinary Collaboration - STEM and Humanities clusters are organized for faculty collaboration rather than a cohort of students being assigned as a team. This includes a designated Freshman Academy for 9<sup>th</sup> Grade Students.
- Variety of Specialty Labs to support Revere HS Programs- Revere has a rich program offerings and plans to celebrate their uniqueness through Multiple pathways and opportunities for vocational interests. These Labs and spaces will prepare students by giving them opportunities to learn about careers that will provide financial stability in their lives.
- Provide Flexible and Agile Classrooms and Labs - Flexibility that allows rooms to be opened up to accommodate large groups or closed off for small group learning. Provide spaces that accommodate multi-use/multi-purpose activities. Design dynamic spaces that allow for growth and change.
- Campus Concept- Provide a secure campus with learning inside and outside; a safe and open campus, with room to breathe and open space that is environmentally friendly.
- Make Indoor/Outdoor Connections- The building orientation will have classrooms face north or south with a vertical “heart of the school” connecting the classroom wings to the Arts & Health/wellness spaces. All areas of the building will look to provide optimal or controlled daylight and connect the indoors to outdoors through celebration of natural resources in Revere.

#### **EDUCATIONAL VISION**

HEART OF SCHOOL  
COMMUNITY/EXTENDED USE  
CLUSTERS/NEIGHBORHOODS  
VARIED/SPECIALTY LABS  
FLEXIBLE/AGILE CRS & LABS  
CAMPUS CONCEPT  
INDOOR/OUT CONNECTIONS

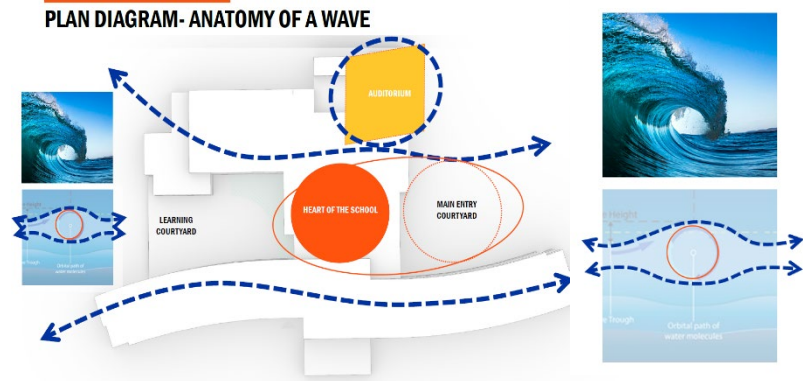


PERKINS EASTMAN REVERE HIGH SCHOOL



The Revere High School is organized around a central 3-story Heart of the School with (2) 4-story Academic Wings to the south and a 2-story Health & Wellness Wing and 1-story Performing Arts Wing to the north.

A “wave” concept in the floor plan utilizes a subtle segmented curve that provides connectivity between the two classroom wings and helps diminish the length of those wings. These classroom wings as well as community spaces radiate out from the Heart of the School which runs N/S perpendicular to the classroom wings. The Health and Wellness Suite at the north is a two-story component where emphasis of student mind/body wellness is celebrated.



The Performing Arts + Music/Tech wing provides a subtle curve single story building that guides one toward the front entryway and embraces the site to create a warm, scaled entry to the school.

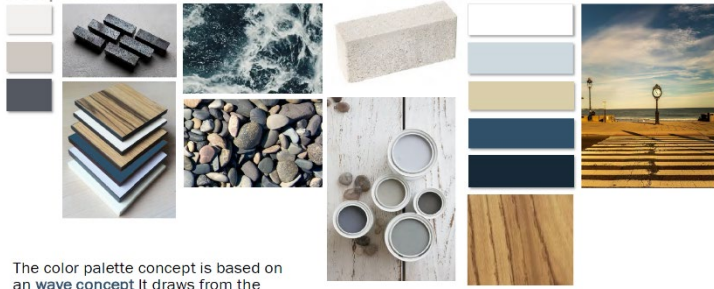


Building orientation strategically optimizing natural daylight and views with classroom wing axis East/West in order to have North/South facing classrooms.

The Revere High School has a Main entry on the East side of the building where student drop-off and visitor entry will occur- The Main Administrative Office is directly adjacent for visual control and visitor check-in. Security and SRO are also located here. A large

### EXTERIOR DESIGN PALETTE

OCEAN | WAVE CONCEPT



The color palette concept is based on an wave concept It draws from the rich colors and textures in Revere at the ocean and beach.

PERKINS EASTMAN REVERE HIGH SCHOOL

### EXTERIOR DESIGN PALETTE

EXTERIOR MATERIAL CONCEPTS



PERKINS EASTMAN REVERE HIGH SCHOOL

### EXTERIOR DESIGN PALETTE- FINAL BASIS OF DESIGN SELECTIONS



canopy protects student from the weather and covers a large entry plaza with nearby visitor and accessible parking.

The wave concept is emphasized by the materials palette that was selected by the Exterior Working Group This materials palette simulates the textures and materials of ocean and beach. Sand, stone jetties, sea-glass, driftwood, ripples, reflections, blue and beige all contribute to a rich palette of colors and textures that may be found along the shoreline in Revere.

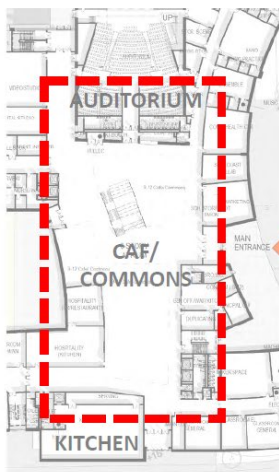
The durable stone base will clad and protect the lowest level of the building and is representative of stone jetties along the shoreline. The majority of the exterior cladding is large scale (16' long) brick beige brick representative of sand on the beach. Classroom window opening have ironspot brick above and below to help break down the building scale and have a dark blue glass representative of hint of reflection and color of sea glass. The Heart of the School at the East/West and bus entry at the South is transparent to support the indoor/outdoor connections and have wood-look phenolic fins with a drift-wood feel that provide relief from the mostly brick façade and more importantly provide solar shading for temperature and glare control.



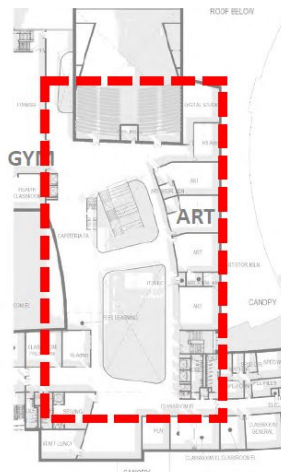
The centerpiece of the Revere High School design includes a 3-story Heart of the School that anchors the building and creates a place through which educational programs radiate out. This Heart of the School and Student Commons is designed to intentionally support and highlight adjacent program spaces and allow movement through that will provide connectivity from entry to program space, courtyard to academics and creativity/arts to health/ wellness. This space generates energy and creates student pride which enhances the overall student experience.

## REVERE HIGH SCHOOL

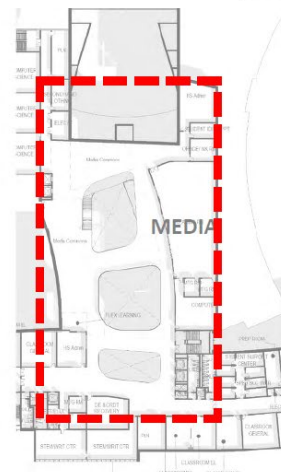
### HEART OF THE SCHOOL



First Floor

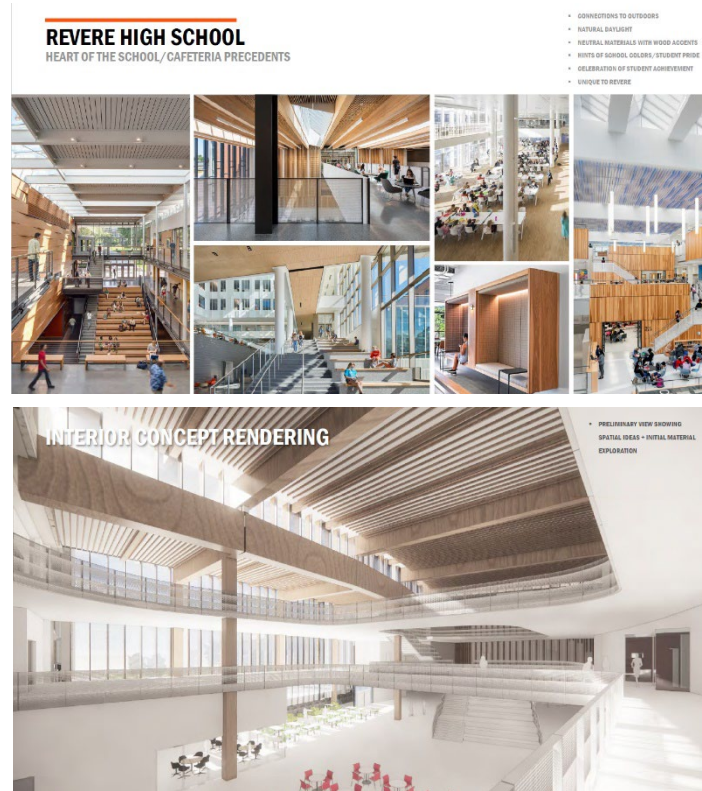


Second Floor

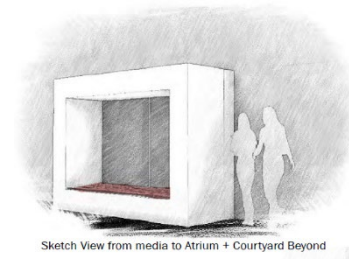


Third Floor

PERKINS EASTMAN REVERE HIGH SCHOOL

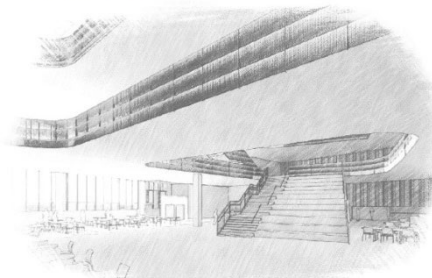


**REVERE HIGH SCHOOL**  
HEART OF THE SCHOOL / CONCEPT SKETCHES



Sketch View from media to Atrium + Courtyard Beyond

**REVERE HIGH SCHOOL**  
HEART OF THE SCHOOL / STAIR



Sketch View of Atrium Stair

The site location for this project is an abandoned dog racing track that has been undeveloped for over ten years. It's located in a flood zone near Revere Beach and is bound by major roadways and train tracks. One of the challenges is its lack of pedestrian access; the City has ideas and plans to improve that. The property has an eastern county ditch running through it and possible wetlands to avoid. The building will be situated approximately 15 feet above existing grade, with parking structure underneath, the site landscape carefully balances accessibility and compensatory flood storage by incorporating landscape built on structure, as well as earthwork berms and basins throughout the site to channel and store water.

**SITE PLAN- TWO FIELDS**



The proposed site design and landscape character is inspired by the natural beauty of the surrounding marshes and the nearby Rumney Marsh. The geometry of the site design takes cues from the building architecture and creates a pedestrian and bicycle friendly campus with clear sight lines. Materials, furnishings, and plantings are inspired by the coastal marshland character of the surrounding landscape.

**EDUCATIONAL SPACE SUMMARY (SEE APPENDIX FOR THE FULL FORM)**

The Educational Space Summary has had modest changes since the Preferred Schematic Report submission. Minor changes were made in the Core Academics, Special Education and Health & Physical Education categories to net square footage and those modest changes were absorbed into the grossing factor therefore not changing the Gross Square Footage of the building.

Core Academics increased by (+10sf). This change was made with the Flexible Learning Spaces in the Classroom neighborhoods. We previously had (19) at 50sf/each. We now have (16) @ 60sf/each. This is a function of the Academic Wing layout and providing a Flex Learning Space for each cluster.

Special Education decreased mostly due to a move of Adaptive PE (3000sf) from Special Education to Health & Physical Education per the MSBA comments in PSR. The net square footage did increase (+360sf) for Special Ed. We needed to add one SPED Toilet/Hygiene to get to eight total (+60sf) and increased Coast Collaborative from 900sf to 1200sf. (+300sf) During User Meetings we learned those students spend all day in their Classroom. They eat lunch and need to clean up and have a kitchenette to service the needs. They also need a private room to make phone calls with families within their space.

Since the Response to the PSR Submission the following changes have been made:

	SDR	PSR	MSBA (+PSR Comments)
<b>Core Academics</b>	123,050	123,040	120,140 (+2910 over)
<b>Special Education</b>	17,480	20,120	24,170(-6690 under- DESE approval needed)
<b>Art &amp; Music</b>	11,350	11,350	11,350(accepted, matches guidelines)
<b>Vocations &amp; Technology</b>	24,480	24,480	24,480(accepted, matches guidelines)
<b>Health &amp; PE</b>	35,920	32,920	35,920 (6000 over, approved)
<b>Media Center</b>	15,213	15,213	15,213(accepted, matches guidelines)
<b>Auditorium/Drama</b>	13,300	13,300	10,400 (+2900 over)
<b>Dining &amp; Food Serv.</b>	18,226	18,226	18,226(accepted, matches guidelines)
<b>Medical</b>	1,910	1,910	1,910 (accepted, matches guidelines)
<b>Admin &amp; Guidance</b>	12,250	12,250	8,014
<b>Custodial &amp; Maint.</b>	3,463	3,463	3,463 (accepted, matches guidelines)
<b>Other</b>	5,450	5,450	0
<b>Net Total</b>	282,092	281,722	267,284 (+14,808sf)
<b>Gross Total</b>	422,600	422,600	

**Total Gross** remains unchanged at 422,600sf We absorbed the modest net increase within our 1.5 grossing factor

## **HOW THE DESIGN SUPPORTS THE DISTRICT'S EDUCATIONAL PROGRAM**

The Revere High School design is strategically organized around a central 3-story Heart of the School with (2) 4-story Academic Wings to the south and a 2-story Health & Wellness Wing to support the school and the community and 2-story Performing Arts Wing.

Academically this solution brings the freshman together in two stories of one Academic Wing to create a Freshman Academy. The academics are organized in neighborhoods of clusters of general, sped, and science classrooms with flexible pull-out space and a nearby Teacher planning space. These clusters are stacked and create a semi-contained small learning environment as an introduction into the larger school. Freshman are intended to mix with the greater population for specialty programs, fine-arts, physical education and athletics, but do have their own Dining Commons at the second floor Heart of the School for scaled social interaction.

As is the priority with any new academic space, both academic wings are aligned for ideal solar orientation with classrooms facing North & South providing consistent controllable daylighting throughout the school day and a more energy efficient building. Creating views and natural indoor/outdoor connections along with providing quality daylight and good solar orientation was another critical educational objective.

The interior organization is zoned for community use and operational lock-off (incrementally) of academic areas. The Heart of the School axis includes the majority of shared program and specialty spaces with an open Cafeteria connected to the main lobby as a social hub and is vertically open to the Freshman Cafeteria above and the media center and technology hub on the third floor.

This “heart of the school” is a key component to the design is a place where students can congregate, socialize, see/be seen and create a positive energy throughout the school. This space will connect major educational and community spaces within the school; like the hub of a bicycle wheel and become the connection through which most students pass through to travel from one part of the building to another. The space is intended to connect students, community and culture.

The plan allows for layered lock-off of buildings, wings and hallways as part of a secure facility, but also to manage community access and events. This includes the outdoor courtyard where students can be outside and smell the ocean or sit and read between classes. It's an extension of the building and makes connections to the outdoors through many different spaces in the building. The building can support the desire to have connections to the outdoors from all these spaces.

The Schematic Plan instills all the significant features born out of the Visioning and outlined in the Educational Program.

## **FUNCTIONAL RELATIONSHIPS AND ADJACENCIES**

The Revere High School building design meets all the functional and spatial relationships required in the educational program:

- The **Freshman Academy** is grouped intentionally in one wing on two floors in order to incorporate all freshman students in one central space . The proposed design creates a distinct Freshman Academy as a small learning community within the school, but not completely



isolated, as students will utilize shared programs, such as World Language Classrooms, Library/Media Center, Gymnasium and Arts/Tech programs. Class scheduling may be used to keep shared programs distinctly separate, but also intentionally mixed to expose new students to the larger high school community in a deliberate manner.

- **Academic Classrooms** are distributed in clusters throughout the Academic Wings these clusters of classrooms encourage cross-discipline collaboration amongst the teachers. Each academic neighborhood has integrated SPED classrooms, Science Labs and a teacher planning space nearby.
- **Administration Offices** are distributed throughout the campus
  - a. The Main Office is located directly adjacent to the main entrance with Security and SRO offices nearby. The Nurse's Suite near the Heart of the School and Gymnasium. There is a satellite nurse in one of the Academic Wings.
  - b. House Offices with Asst. Principals are strategically located throughout the building
  - c. Teacher Planning Rooms are distributed on all floors for passive and active supervision throughout the school.
- One project goal is to provide all core educational spaces with **natural light** and indoor/outdoor connectivity.
- The "**Heart of the School**" is the student commons and connects the gymnasium, school store, courtyard, building entry, many art & tech spaces as well as performing arts; this connectivity will promote a connected community and welcome visitors without disrupting the school day.

### **SECURITY AND VISUAL ACCESS REQUIREMENTS**

The design Team explored safety and security objectives as part of the early Visioning and Programming process with a wide variety of educational leaders, teachers students and parents. These meetings were supplemented by direct discussions with Revere Public Schools, Police and Fire Department. These security recommendations are being coordinated and implemented in the building design, including:

- Personnel, Liaisons and Supporting Procedures
- Visitor Screening Measures
- Video Surveillance Measures
- Access Control Measures
- Natural Surveillance and CPTED measures
- Internal and External Response Measures
- Existing Systems Integration and Function (Hardware, Software, IT and Networking)
- Parking Lots and General Site Security

#### **Main Entry/Access Controls**

The District intends on having managed entry through at least two main locations upon student arrival- Drop-off at the Main Entry to the east and Bus Drop at the Bus Entry to the South. After the start of the school day, all doors are kept locked and access would be through the Main Entry/Security.

#### Signage/First Responder Wayfinding

The entry doors around the facility will be numbered as per the request of the Revere Fire Department, additionally, AI Phones will be provided at Entry Points, the Kitchen/Receiving, and Gymnasium (side entrance) to allow for emergency entrance to the facility at alternative access points controlled by the administration.

#### Layers of Lock-Off

Corridor and Stairwell doors will be on hold-opens to allow fluid circulation throughout the day but can be controlled in the event of an emergency to limit public access into entire buildings, floors or wings. The Gymnasium is designed to be opened independently or separately from the rest of the school. The lobby, auditorium, and cafeteria zone is also able to be opened while connecting to the school store, credit union, community health, and hospitality, while limiting access elsewhere.

#### Classrooms/Controls

It was confirmed that the proposed sidelights at classrooms doors provide desired connections, awareness and visibility out to corridors, but that rooms would be designed for controlled visibility in and out-of-sight space within the rooms.

#### Surveillance Systems

Security cameras will be positioned throughout the building and around the campus, with display screens and console located with security and potentially available to administrators via secure network. The ability to have communication, detection and tracking ability is being explored.

#### Other Safety/Security

Multiple drop-off locations are provided along the campus roadways, with safe pedestrian walkways and minimal crossings on-site. An emergency access drive will be provided around the building.

- Safe pathways for pedestrians and bicyclists, including on-site storage
- Safe and appropriate access to the perimeter of the building and outdoor spaces
- The building is designed to provide clear visual connections throughout the school minimizing hidden alcoves and blind spots around the campus exterior and internally. This is supplemented by strategically locating administration on the first and second floors and distributing school resource officers, administration and teacher planning rooms so that natural supervision can occur.
- Toilet rooms are designed 'airport' style, without doors to provide natural surveillance and open acoustic communication and awareness.

## **SITE DEVELOPMENT REQUIREMENTS**

### **Site Design - General**

This location is a vacant, mostly flat parcel situated across the Wonderland T station along Veterans of Foreign Wars Parkway and North Shore Road, and is bound by rail tracks on the north side and an abandoned dog racing track on the east.

Stormwater management plays a central role in site design given the site's proximity to the ocean, concerns with sea-level rise, a recent history of this area being flooded, and the Eastern County Ditch, which bisects the site diagonally. Overall, the site offers significant environmental constraints that need to be addressed in order to build a resilient campus. A key factor in the landscape design is the current and future compensatory flood storage needs in siting the site program elements. With the school building situated approximately 15 feet above existing grade, with parking structure underneath, the site landscape carefully balances accessibility and compensatory flood storage by incorporating landscape built on structure, as well as earthwork berms and basins throughout the site to channel and store water. The proposed site design addresses the environmental concerns while meeting all the program needs of the school, from adequate parking to athletic facilities, pedestrian and bike pathways, safe vehicular circulation, and outdoor learning interspersed throughout the site integrating with the adjacent marshland.

The proposed site design and landscape character is inspired by the natural beauty of the surrounding marshes and the nearby Rumney Marsh. The geometry of the site design takes cues from the building architecture and creates a pedestrian and bicycle friendly campus with clear sight lines. Materials, furnishings, and plantings are inspired by the coastal marshland character of the surrounding landscape.

### **Vehicular Circulation and Parking**

The new high school building is positioned at the higher ground of the property on the south half of the site. The main vehicular entrance is north of the rotary off North Shore Road and shares a signalized traffic intersection with the Wonderland T station. This allows ample space for long car queues while separating the buses from the cars immediately upon entry into the site. The primary exit point is a signalized intersection at VFW south of the rotary. Additional emergency access will be provided through a connection at the north corner of the site to Dunn Road, which is an existing residential street. This connection will also serve as access to the site for pedestrians and cyclists coming to the school from the residential neighborhoods to the north.

Within the site, the main driveway allows cars to access multiple surface parking lots and a drop-off area at the school's main entrance. Buses enter the site at the same point as cars, but a separate bus drop-off and access driveway is provided in order to separate bus and car traffic.

Service and loading areas are accessed from the VFW entrance. A driveway circumnavigates the building for emergency vehicles and access to the parking under the school building.

The project is targeting approximately 600 total parking spaces. There are 210 above ground proposed parking spaces in the design. Additionally, there are approximately 410 parking spaces proposed under the building.

### **Athletic Program**

An integral part of the project includes providing several sports fields for school use. Since much of the property will be taken up for flood mitigation, at least one field will be synthetic turf with sports lighting to maximize hours of play for school and community use. The baseball field will have an overlapping multipurpose field which is another efficient use of space. The grades of the fields are at street level, so during a large storm or flood event, these fields would flood at the same time-period as the entrance to the property. Some practice and game cancellations would be anticipated. Similarly, the tennis courts also with sports lighting are set at a relatively low elevation providing potential compensatory storage.

### **Outdoor Spaces and Unique Opportunities**

Some outdoor spaces have been provided on structure with parking below, such as the main school entrance and outdoor learning courtyard. Both will incorporate pedestal paving systems and drought-tolerant planting in intensive green roofs. The landscape that connects the main school entrance on structure and the low athletic fields will be a sloped landscape that features amphitheater-style seating integrated into the slope. In this way, the site grading creates a unique opportunity to incorporate seating and viewing areas for the athletic fields. A curtain wall will separate the slope from the parking below structure in order to create a seamless transition from the landscape on fill to the landscape on structure. This will help ensure that the approach to the school's main entrance looks and feels like a natural landscape.

Additionally, some outdoor spaces will be cantilevered off the school building and open to the existing grade below, such as the outdoor amphitheater. This space is intended to be used as an outdoor classroom for lectures or music rehearsals, and is located outside of the school's auditorium and music rooms.

Throughout the property, numerous stormwater basins and ponds serve as potential learning opportunities and habitat for native ecology and habitat. An elevated deck that extends over the Eastern County Ditch and a large stormwater basin provides a space for students to study the ecological systems just outside their classrooms.

### **Site Lighting**

Site lighting will be provided with full cut-off LED fixtures at driveways, parking areas and walkways. Doorways, service and functions adjacent to the building will be illuminated with building-mounted fixtures. At least one athletic field will be equipped with sports lighting.

### **Planting**

The landscape planting has been designed to meet sustainability goals for the project as well as be reasonably low maintenance for ongoing care and upkeep. Water loving species will be provided at low areas. Native seashore plants that are recommended by the MA Coastal Agency for resiliency will be used in conjunction with ornamental shrubs and trees.