

Project Minutes

Project: Stoneham High School Feasibility Study
 Prepared by: Joel Seeley
 Re: School Building Committee Meeting
 Location: Remote Participation
 Distribution: Attendees (MF)

Project No.: 20033
 Meeting Date: 2/8/2021
 Time: 7:00pm
 Meeting No: 19

Attendees:

PRESENT	NAME	AFFILIATION	VOTING MEMBER
Attended Remote	Marie Christie	Co-Chair, School Building Committee	Voting Member
Attended Remote	David Bois	Co-Chair, School Building Committee; Community Member with Architecture Experience	Voting Member
Attended Remote	Nicole Nial	School Committee Member	Voting Member
Attended Remote	Raymie Parker	Chair Select Board	Voting Member
Attended Remote	Douglas Gove	Community Member with Engineering Experience	Voting Member
Attended Remote	Stephen O'Neill	Community Member with Engineering Experience	Voting Member
Attended Remote	Josephine Thomson	Community Member	Voting Member
Attended Remote	Jeanne Craigie	Town Moderator	Voting Member
Attended Remote	Lisa Gallagher	Community Member, School Secretary, Past member of Middle School Building Committee	Voting Member
Attended Remote	Sharon Iovanni	Community Member	Voting Member
Attended Remote	Cory Mashburn	Community Member, Finance and Advisory Board	Voting Member
Attended Remote	Paul Ryder	Community Member with Construction Experience	Voting Member
Attended Remote	David Pignone	Athletic Director, Member knowledgeable in educational mission and function of facility	Voting Member
	Kevin Yianacopolus	Local Official responsible for Building Maintenance	Voting Member
Attended Remote	Dennis Sheehan	Town Administrator / MCPPO Certified	Non-Voting Member
Attended Remote	John Macero	Superintendent of Schools, Secretary of School Building Committee	Non-Voting Member
Attended Remote	Bryan Lombardi	Stoneham High School Principal	Non-Voting Member
Attended Remote	Brian McNeil	Town Facilities Director	Non-Voting Member
Attended Remote	April Lanni	Town Procurement Officer / MCPPO Certified	Non-Voting Member
Attended Remote	Brooke Trivas	Perkins and Will	
Attended Remote	Patrick Cunningham	Perkins and Will	
Attended Remote	Leo Liu	Perkins and Will	
Attended Remote	Joel Seeley	SMMA	

Item #	Action	Discussion
19.1	Record	Call to Order, 7:00 PM, meeting opened by roll call.
19.2	Record	In accordance with the executive order issued by the Governor on March 10, 2020, this meeting will be held via video conference and a recording of such will be posted on the Town's website.
19.3	Record	A motion was made by R. Parker and seconded by L. Gallagher to approve the 1/25/21 School Building Committee meeting minutes. No discussion, motion passed unanimous by roll call vote.
19.4	Record	J. Seeley reviewed the Budget Status Report, dated 1/31/21, attached.
19.5	J. Seeley	J. Seeley reviewed Warrant No. 8, attached. A motion was made by J. Craigie and seconded by L. Gallagher to approve Warrant No. 8. No discussion, motion passed unanimous by roll call vote. J. Seeley to forward Warrant No. 8 to D. Bois for signature.
19.6	Record	J. Seeley reviewed Designer Amendment No. 7, dated 2/8/21 for Geotechnical Services during the Schematic Design Phase for \$23,699.50 to be charged against ProPay Budget Code 0003-0000, which has a balance of \$88,266.36, attached. The work will be performed once the snow has sufficiently melted in the areas of the test pits. J. Seeley indicated with the execution of Amendment No. 7, there will be a total of \$96,254.50 remaining out of the \$750,000 appropriation. Perkins and Will has submitted a proposal for the Geothermal Test Well in the amount of approximately \$78,000 and is in the process of submitting a proposal for additional land surveying services, which together could be over the balance remaining. Committee Discussion: <ol style="list-style-type: none"> 1. R. Parker asked what would the cost be for the additional land surveying services? <i>B. Trivas indicated the cost is not yet known, the consultant is developing their proposal.</i> 2. D. Bois indicated the additional land surveying is important in determining the cut and fill analysis and the geothermal test well is important in determining the scope and quantity of geothermal wells needed to support the project design. 3. D. Bois asked what are the options if the additional fees needed are in excess of the appropriation.

Item #	Action	Discussion
		<p><i>D. Sheehan indicated the risks of not performing a service need to be better understood and he will meet with B. Trivas and J. Seeley to review before reviewing additional funding options.</i></p> <p>4. R. Parker asked if the decision on Amendment No. 7 can be held until all the costs are submitted? <i>B. Trivas indicated the scope and cost of the geotechnical services is at the minimum required for the Schematic Design phase.</i></p> <p>5. S. O'Neill asked if the prior borings were sufficient for the playfields and parking areas, as Amendment No. 7 is only for test pits related to the building area? <i>B. Trivas indicated yes for the Schematic Design Phase.</i></p> <p>A motion was made by R. Parker and seconded by J. Thomson to approve Designer Amendment No. 7, dated 2/8/21 for Geotechnical Services during the Schematic Design Phase for \$23,699.50 and recommend signature by D. Sheehan. No discussion, motion passed unanimous by roll call vote.</p>
19.7	J. Macero	J. Macero to review if there is a Pre-K Guideline that the proposed Pre-K program can be compared to. <i>(from prior meeting)</i>
19.8	J. Seeley	J. Seeley to break out the costs in a series of categories: Base High School Project followed by a listing of the Community Related Enhancements such as the synthetic playfields, concession/locker room building, traffic signals, PreK Program, District Offices, Larger Auditorium, Larger Gymnasium, District Kitchen in the SD Phase. <i>(from prior meeting)</i>
19.9	D. Warner	D. Warner to provide construction and maintenance costs comparing synthetic and natural turf fields. <i>(from prior meeting)</i>
19.10	PR Subcommittee	PR Subcommittee is establishing a SSBC Facebook page for posting project information, SMMA will upload the postings. <i>(from prior meeting)</i>
19.11	J. Seeley	J. Seeley to follow-up on the appointment of the Financial Subcommittee. <i>(from prior meeting)</i>
19.12	Record	<p>J. Seeley indicated J. Craigie, R. Parker, D. Sheehan, J. Macero, M. Christie, D. Kilbride and M. Sagarino met on 2/4/21 to review the dates for Town Meeting and the Debt Exclusion Ballot Vote, reflected as 10/4/21 and 11/2/21 respectively on the Schematic Design Project Schedule, attached.</p> <p>Committee Discussion:</p> <ol style="list-style-type: none"> J. Craigie indicated the process of mail-in Ballots is yet to be determined.

Item #	Action	Discussion
		<p>2. R. Parker indicated the Select Board will vote to formally schedule the Ballot vote after the 8/25/21 MSBA Board vote, tentatively scheduled to be at their 8/31/21 Select Board meeting.</p>
19.13	P. Cunningham Committee	<p>P. Cunningham presented a Site Plan and Floor Plan update, attached.</p> <p>Committee Discussion:</p> <ol style="list-style-type: none">1. J. Craigie asked if the pedestrian pathways can be utilized by emergency vehicles? <i>P. Cunningham indicated yes, and that he will provide a plan indicating which are for pedestrians and emergency vehicles and which are for just pedestrians.</i>2. D. Bois asked for further study of the proximity of accessible parking to the building, as well as the drop-off/pick-up locations. <i>P. Cunningham indicated these will be further studied.</i>3. D. Bois asked if there will be sufficient area for the Breakout spaces to the east and west of the gymnasium on the third floor, once the light wells are factored in? <i>P. Cunningham indicated these areas will be further reviewed.</i>4. D. Bois asked if the Pre-K program is sufficiently integrated into the building plan? <i>P. Cunningham indicated the level of integration will be reviewed with Pre-K staff during the one-on-one educational department meetings, currently being scheduled.</i>5. J. Macero asked if doors directly to the exterior from the Pre-K classrooms can be provided? <i>P. Cunningham indicated yes.</i>6. D. Pignone asked about the bleachers, main court, and windows locations in the gymnasium and why the locker rooms are no longer located on an exterior wall for direct access? <i>B. Trivas indicated these questions will be reviewed with D. Pignone during the one-on-one educational department meeting, currently being scheduled.</i>7. S. Iovanni asked if there will be special graphics in the building, similar to Billerica High School, celebrating the history and heritage of Stoneham? <i>P. Cunningham indicated yes, these details will be developed along with the plan development.</i>8. Committee members to email J. Seeley any additional comments on the updated site and floor plans.

Item #	Action	Discussion
19.14	P. Cunningham	<p>J. Seeley and P. Cunningham reviewed the Envelope Study, developed by Thornton Tomasetti, attached, with recommended design combinations for wall and roof R-Values, Window and Glazing Performance, Window-to-Wall Ratios, Air Infiltration Rates and Triple Pane Glazing.</p> <p>Committee Discussion:</p> <ol style="list-style-type: none"> D. Bois asked if Thornton Tomasetti ran scenarios in which triple pane glazed windows was not a constant? <i>P. Cunningham will review with Thornton Tomasetti.</i> <p>Perkins & Will to present building exterior imagery corresponding to the recommended design combinations at the next Committee meeting.</p>
19.15	Record	J. Seeley reviewed the District's Response to the MSBA PSR Submission Review Comments, dated 2/2/21, attached.
19.16	PR Subcommittee CM Selection Committee	<p>Subcommittee Updates</p> <p>Public Relations Subcommittee</p> <ol style="list-style-type: none"> S. Iovanni reviewed the Press Release for the 2/24/21 Community Forum No. 5, attached. D. Sheehan indicated the meeting with the regulatory Town Departments and Committees is scheduled for 2/12/21. S. Iovanni indicated the PSA Informational Video has been taped and is being edited, anticipate release within the next two weeks. <p>CM at Risk Selection Committee</p> <ol style="list-style-type: none"> S. O'Neill indicated the CM Prequalification Committee will be interviewing the three CM firms on 2/10/21.
19.17	Record	Committee Questions - none
19.18	J. Seeley	<p>Old or New Business</p> <ol style="list-style-type: none"> J. Macero would like to schedule a presentation of the project to the high school faculty. J. Seeley to follow-up. J. Macero would like to schedule a presentation of the project to the Capital Improvement Advisory Committee. J. Seeley to follow-up.
19.19	Record	Public Comment – none
19.20	Record	Next SSBC Meeting: February 22, 2021 at 7:00 pm.
19.21	Record	A Motion was made by R. Parker and seconded by S. Iovanni to adjourn the meeting. No discussion, motion passed unanimous by roll call vote.

Project: Stoneham High School Feasibility Study

Meeting Date: 2/8/2021

Meeting No.: 19

Page No.: 6

Attachments: Agenda, Budget Status Report, Warrant No. 8, Designer Amendment No. 7, Schematic Design Project Schedule, District Response to MSBA PSR Submission Review Comments, Press Release for the 2/24/21 Community Forum No. 5, Powerpoint

The information herein reflects the understanding reached. Please contact the author if you have any questions or are not in agreement with these Project Minutes

1000 Massachusetts Avenue
Cambridge, MA 02138
617.547.5400

www.smma.com

Agenda

Project: Stoneham High School Feasibility Study
Re: School Building Committee Meeting
Prepared by: Joel Seeley
Location: Remote Participation
Distribution: Attendees (MF)

Project No.: 20033
Meeting Date: 2/8/2021
Meeting Time: 7:00 PM

1. Call to Order
2. Approval of Minutes
3. Approval of Invoices and Commitments
4. Schedule and Budget Update
5. Review Progress Site and Floor Plans
6. Review Traffic Report
7. Building Envelope Criteria Review
8. Prepare for MSBA Board Meeting
9. Subcommittee Updates
10. New or Old Business
11. Committee Questions
12. Public Comments
13. Next Meeting: February 22, 2021
14. Adjourn

Join GoToMeeting:

<https://global.gotomeeting.com/join/900096957>

Dial in: [+1 \(571\) 317-3122](tel:+15713173122)

Access Code: [900-096-957](tel:900096957)

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**Stoneham High School Feasibility Study
Stoneham, Massachusetts**

1/30/2021

FEASIBILITY STUDY BUDGET STATUS REPORT

ProPay Code	Description	Total Project Budget	Authorized Changes	Revised Total Budget	Total Committed	% Comtd to Date	Budget Balance	Actual Spent to Date	% Spent to Date	Projected Expenditure/ Commitments	Balance to Spend
FEASIBILITY STUDY AGREEMENT											
0001-0000	OPM Feasibility Study/Schematic Design	\$ 187,500.00	\$ (57,500.00)	\$ 130,000.00	\$ 130,000.00	100%	\$ -	\$ 49,000.00	38%	\$ 81,000.00	\$ 81,000.00
0002-0000	A/E Feasibility Study/Schematic Design	\$ 465,000.00	\$ (45,000.00)	\$ 420,000.00	\$ 420,000.00	100%	\$ -	\$ 150,000.00	36%	\$ 270,000.00	\$ 270,000.00
0003-0000	Environmental & Site	\$ 60,000.00	\$ 100,000.00	\$ 160,000.00	\$ 95,433.14	60%	\$ 64,566.86	\$ 53,033.64	56%	\$ 42,399.50	\$ 106,966.36
0004-0000	Other	\$ 37,500.00	\$ 2,500.00	\$ 40,000.00	\$ 8,312.36	21%	\$ 31,687.64	\$ 812.34	10%	\$ 7,500.02	\$ 39,187.66
	SUBTOTAL	\$ 750,000.00		\$ 750,000.00	\$ 653,745.50		\$ 96,254.50	\$ 252,845.98	39%	\$ 400,899.52	\$ 497,154.02

**** Committed from Other**

	e	Amount	
Stoneham Independent	\$	230.81	Advertisement in Stoneham Independent for Designer Procurement
Andrew T. Johnson / SMMA	\$	383.27	Designer Proposal Production for Designer Procurement
MassSave ZNE Expert ESA	\$	7,500.00	Cost Share for Thornton Tomasetti
Stoneham Independent	\$	198.28	Advertisement in Stoneham Independent for CM-R Procurement - RFQ
	\$	8,312.36	

Project Budget Status

Updated: 2/5/2021

Feasibility and Schematic Design Phase	MSBA ProPay Code	FSA Agreement 2/25/2020	Budget Revision 7/9/2020	Current Budget	Vendor	Committed	Balance
OPM	0001-0000	\$ 187,500.00	\$ (57,500.00)	\$ 130,000.00	SMMA	\$ 130,000.00	\$ -
DESIGNER	0002-0000	\$ 465,000.00	\$ (45,000.00)	\$ 420,000.00	P&W	\$ 420,000.00	\$ -
Environmental and Site	0003-0000	\$ 60,000.00	\$ 100,000.00	\$ 160,000.00	P&W	\$ 95,433.14	\$ 64,566.86
Other	0004-0000	\$ 37,500.00	\$ 2,500.00	\$ 40,000.00		\$ 8,312.36	\$ 31,687.64
Total Budget		\$ 750,000.00		\$ 750,000.00		\$ 653,745.50	\$ 96,254.50

**** Committed from Other**

Date Amount

Stoneham Independent	\$ 230.81	Advertisement in Stoneham Independent for Designer Procurement
Andrew T. Johnson / SMMA	\$ 383.27	Designer Proposal Production for Designer Procurement
MassSave ZNE Expert ESA	\$ 7,500.00	Cost Share for Thornton Tomasetti
Stoneham Independent	\$ 198.28	Advertisement in Stoneham Independent for CM-R Procurement - RFQ
	\$ 8,312.36	

Environmental & Site Project Budget Status

Updated: 2/5/2021

Feasibility and Schematic Design Phase	Vendor	Amendment No.	Current Budget	Consultant Fee	Designer Markup	Total Fee	Balance
Environmental and Site							
Topographical Survey, Wetlands Flagging and ANRAD	Nitsch	1	\$43,000	\$ 25,000.00	\$ 2,500.00	\$ 27,500.00	\$ 15,500.00
GeoEnvironmental Phase I Investigation	FS Engineers	1	\$10,000	\$ 2,700.00	\$ 270.00	\$ 2,970.00	\$ 7,030.00
Geotechnical Investigation - Prelim	LGCI	1	\$16,418	\$ 14,925.00	\$ 1,492.50	\$ 16,417.50	\$ -
Hazardous Materials Investigation	UEC	1	\$15,000	\$ 4,500.00	\$ 450.00	\$ 4,950.00	\$ 10,050.00
Traffic Assessment and Study	Nelson Nygaard	2	\$30,000	\$ 16,500.00	\$ 1,650.00	\$ 18,150.00	\$ 11,850.00
Fire Hydrant Flow Test	Architectural Engineers	3	\$2,000	\$ 1,600.00	\$ 160.00	\$ 1,760.00	\$ 240.00
Voids Designer Amendment No. 2 - Traffic Assessment ar	Nelson Nygaard	4		\$ (16,500.00)	\$ (1,650.00)	\$ (18,150.00)	\$ 18,150.00
Traffic Assessment and Study	Nelson Nygaard	5		\$ 3,787.40	\$ 378.74	\$ 4,166.14	\$ (4,166.14)
Traffic Assessment and Study	Vanasse & Associates	6		\$ 12,700.00	\$ 1,270.00	\$ 13,970.00	\$ (13,970.00)
Geotechnical Investigation - SD	LGCI	7	\$23,700	\$ 21,545.00	\$ 2,154.50	\$ 23,699.50	\$ -
Geothermal Test Well			\$19,883	\$ -	\$ -	\$ -	\$ 19,883.00
TOTAL			\$160,000			\$95,433.14	\$64,566.86

Memorandum

To: Stoneham School Building Committee
From: Joel G. Seeley
Project: Stoneham High School Feasibility Study
Re: Designer Amendment No. 7: Geotechnical Services during SD Phase
Distribution: Stoneham School Building Committee (MF)

Date: 2/8/2021
Project No.: 20033

DESIGNER AMENDMENT NO. 7: GEOTECHNICAL SERVICES FOR SCHEMATIC DESIGN PHASE

FEE: \$23,699.50

REASON: This Amendment is for the Schematic Design Phase Geotechnical Consulting to be performed by Lahlaf Geotechnical Consulting, Inc.

BUDGET AVAILABILITY: This Amendment would be funded out of the Environmental & Site Survey Budget, ProPay Code 0003-0000, which has the current balance of \$88,266.36.

ATTACHMENT F

CONTRACT FOR DESIGNER SERVICES

AMENDMENT NO. 7

WHEREAS, the Town of Stoneham (“Owner”) and Perkins & Will, (the “Designer”) (collectively, the “Parties”) entered into a Contract for Designer Services for the Stoneham High School Project (Project Number 201802840505) at the Stoneham High School on July 10, 2020 “Contract”; and

WHEREAS, effective as of February 8, 2021, the Parties wish to amend the Contract:

NOW, THEREFORE, in consideration of the promises and the mutual covenants contained in this Amendment, and other good and valuable consideration, the receipt and legal sufficiency of which are hereby acknowledged, the Parties, intending to be legally bound, hereby agree as follows:

1. The Owner hereby authorizes the Designer to perform services for the Design Development Phase, the Construction Phases, and the Final Completion Phase of the Project, pursuant to the terms and conditions set forth in the Contract, as amended.
2. For the performance of services required under the Contract, as amended, the Designer shall be compensated by the Owner in accordance with the following Fee for Basic Services:

Fee for Basic Services:

	Original Contract	Prior Amendments	This Amendment	After this Amendment
Feasibility Study Phase	\$ 175,000.00	\$ 71,733.64	\$ 0.00	\$ 246,733.64
Schematic Design Phase	\$ 245,000.00	\$ 0.00	\$ 23,699.50	\$ 268,699.50
Design Development Phase	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00
Construction Document Phase	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00
Bidding Phase	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00
Construction Phase	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00
Completion Phase	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00
Total Fee	\$420,000.00	\$ 71,733.64	\$ 23,699.50	\$ 515,433.14

This Amendment is a result of: Providing Geotechnical Consulting Services during Schematic Design phase to be funded out of MSBA ProPay 0003-0000.

3. The Construction Budget shall be as follows:

Original Budget: \$ NA

Amended Budget \$ NA

4. The Project Schedule shall be as follows:

Original Schedule: NA

Amended Schedule NA

5. This Amendment contains all of the terms and conditions agreed upon by the Parties as amendments to the original Contract. No other understandings or representations, oral or otherwise, regarding amendments to the original Contract shall be deemed to exist or bind the Parties, and all other terms and conditions of the Contract remain in full force and effect.

IN WITNESS WHEREOF, the Owner, with the prior approval of the Authority, and the Designer have caused this Amendment to be executed by their respective authorized officers.

OWNER

Dennis J. Sheehan
(print name)

Town Administrator, Town of Stoneham
(print title)

By _____
(signature)

Date _____

DESIGNER

Robert Brown, AIA, IIDA, LEED AP
(print name)

Managing Director, Principal, Perkins & Will
(print title)

By _____
(signature)

Date _____

Perkins&Will

02.02.2021

Mr. Dennis J. Sheehan, Town Administrator
Stoneham Town Hall
35 Central Street, Second Floor
Stoneham, MA 02180

Re: Stoneham High School / Additional Services #7 Attachment F

Dear Mr. Sheehan,

As requested, and required, attached, and noted herein, are the additional services for the geotechnical scope of work required in this phase of the project. We have attached the proposal, for your reference, from LGCI for Geotechnical work for the Schematic Phase of the project.

Project Overview

The additional service request is for the Geotechnical work Modular 4/ SD Phase of the Stoneham Project. We understand that you reviewed and approved the scope of services as outlined in the proposal attached to this letter and noted above.

Schedule

The work will commence when the scope and location of study are approved by the Town and School and under the guidelines of the COVID-19 requirements within the most expedient deadline.

Compensation

Based on the scope and schedule outlined herein and attached we propose a lump sum fee with a 10% mark up as allowed per contract. The following outlines the total compensation per additional service request which includes the 10% mark up: Any deviations to the attached will be at an additional charge to the below fee.

Geotechnical Work (+10% mark-up)	\$ 23,700
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Thank you,



Brooke Trivas

Principal, Practice Leader for Perkins&Will

cc; Perkins&Will Team, Joel Seely – SMMA, file



LGCI

Lahlaf Geotechnical Consulting, Inc.

January 14, 2021

Mr. Liu Xi, AIA
Perkins & Will Architects, Inc.
225 Franklin Street, Suite 1100
Boston, MA 02110
Phone: (617) 406-3440
Mobile: (617) 953-3812
E-mail: xi.liu@perkinswill.com

**Re. Proposal for SD Phase Geotechnical Services
Proposed Stoneham High School
Stoneham, Massachusetts
LGCI Proposal No. 20094**

Dear Mr. Liu:

Lahlaf Geotechnical Consulting, Inc. (LGCI) appreciates the opportunity to submit this proposal to provide Schematic Design (SD) Phase geotechnical services for the proposed Stoneham High School in Stoneham, Massachusetts. This proposal is based on information in your request for proposal (RFP) dated December 21, 2020, and in our subsequent phone and e-mail communications.

LGCI proposes performing subsurface explorations within the footprint of the proposed building for the recently selected option for a new building on the eastern side of the existing building. These explorations are needed for the purpose of identifying issues that might affect the cost of foundations. Additional explorations will be performed at the site, including within proposed paved areas, and along site retaining walls, after the proposed grading is established.

Project Description and Background

We understand that Perkins & Will Architects, Inc. (Perkins & Will) has been selected by the Town of Stoneham to design the proposed Stoneham High School. We understand that the proposed high school will be located at the site of the existing high school located at 149 Franklin St, Stoneham, Massachusetts. The existing high school site is occupied by the existing high school building, parking lots, driveways, tennis courts, and athletic fields. The site is bordered by Franklin Street on the northern side and by residential properties on the other three sides. The site topography is variable with the grades generally rising from Franklin Street to toward the rear (southern side) of the site. A large rock cut is visible near the southwestern corner of the site. What appears to be rock outcrops are also visible near the tennis courts.

We understand that the Town selected Option 4B which consists of a new building mostly on the eastern side of the existing building with a portion of the proposed building extending just north of the northeastern corner of the existing building. The proposed building will be located in

currently paved and grass areas. We understand that at this time the proposed grading is not established.

Technical Approach

LGCI recently completed soil borings at the site and submitted a preliminary geotechnical report dated October 1, 2020. Our preliminary borings indicated the presence of 2 to 12 feet of fill that contained cobbles and boulders consistent with blasted rock. We believe that at this time, an explorations program consisting of test pits is better suited for the site as test pits will expose large boulders, and in general more test pits can be completed in a day than borings.

In consideration of the above, we proposed engaging an excavation subcontractor to excavate up to fourteen (14) test pits extending to depths of about 12 feet or to refusal whichever occurs first.

At your request, we have included separate cost line items for restoring the ground surface at the test pit locations in grass areas and in paved areas.

Proposed Scope of Work

1. Utility Clearance – LGCI will provide a field representative to stake the test pit locations in the field. We request that you provide us with a plan showing existing utilities at the site. We will contact Dig Safe and the Town of Stoneham to assist the owner in locating underground utilities at the site. We request that a representative of the owner observe our boring locations to clear them of private utilities. LGCI will not assume responsibility for damage to unmarked or mismarked underground features.
2. Test Pits – We will engage an excavation subcontractor to advance the test pits described in the Technical Approach above.

The asphalt in paved areas will be saw cut before proceeding with the test pit excavation.

The excavation subcontractor will backfill the test pits with the excavated material which will be placed and compacted in lifts using a vibratory compactor. The ground surface in grass areas will be raked, loamed, and seeded, and the ground surface in paved areas will be restored with hot mix. We anticipate that the test pit excavations will take two (2) days and that the restoration will require a third day. If we observe an environmental condition in the borings, we will halt the drilling and notify you. Excess drill cuttings will be left on site.

3. Field Engineer – LGCI will provide a field engineer at the site to coordinate and observe the test pits, collect soil samples, and prepare field logs.
4. Laboratory Testing – We will perform two (2) grain-size analyses on soil samples obtained from the explorations to assess the suitability of reusing the onsite materials as backfill.



**Proposal for SD Phase Geotechnical Services
Proposed Stoneham High School
Stoneham, Massachusetts
LGCI Proposal No. 20094**

5. Interim Geotechnical Report – We will prepare and submit our interim geotechnical report electronically. Our preliminary report will include:

- Summary of the subsurface investigation methods used;
- LGCI’s test pit logs;
- Plan showing approximate test pit locations;
- Depth to groundwater, if encountered;
- Depth to refusal, if encountered;
- Description of the subsurface conditions;
- Laboratory test results;
- LGCI’s opinion about the feasibility of shallow foundations;
- Preliminary recommendation for net allowable bearing pressure;
- Preliminary settlement estimate;
- Construction considerations, including removal of unsuitable soils, groundwater control, suitability of reusing onsite materials as backfill, processing of existing fill for reuse onsite, and rock removal, if needed.

Please note that we have not included in this proposal a scope or budget for attending meetings, preparing specifications, reviewing drawings, reviewing contractor submittals, or providing construction services. Recommendations for unsupported slopes, stormwater management, erosion control, pavement design, slope stability analyses, and cost or quantity estimates are not included in our scope of work.

LGCI’s scope of services does not include an environmental assessment for the presence or absence of wetlands or analytical testing for hazardous or toxic materials in the soil, surface water, groundwater, or air, on or below or around this site, or mold in the soil or in any structure at the site. Any statements regarding odors, colors, or unusual or suspicious items or conditions are strictly for the information of the client.

Proposed Schedule

Assuming that there are no delays with site access or other factors such as permitting, LGCI will begin scheduling the work upon receiving authorization in the form of a signed copy of this proposal. We have tentatively scheduled the test pits to occur during the week of February 15, 2021. Please sign and return our proposal so that we can confirm the exploration dates and proceed with marking the test pit locations and performing the utility clearance. LGCI can provide you with preliminary test pit logs and preliminary geotechnical recommendations within one week of completing the explorations. We will provide our geotechnical reports about two to three weeks after the end of our explorations.

Project Fee

LGCI will perform the scope of services described above for a lump sum fee of **\$21,545** as follows:



**Proposal for SD Phase Geotechnical Services
Proposed Stoneham High School
Stoneham, Massachusetts
LGCI Proposal No. 20094**

1a	Prepare Test Pit Location Plan for Review	\$160
1b	Mark Test Pit Locations in the Field	\$700
1c	Utility Clearance	\$175
2z	Coordinate with and Engage Subcontractor to Perform Test Pits	\$5,460
2b	Prevailing Wages for Subcontractor	\$1,050
2c	Crew to Rake, Loam, and Seed, and Cost of Loam and Seed	\$3,490
2d	Crew to Pave and cost of Asphalt	\$4,750
2e	Dispose of Excavated Asphalt	\$450
3	LGCI Engineer to Observe Test Pits	\$2,440
4	Laboratory Testing	\$370
5	Test Pit Logs and Interim Geo. Report	<u>\$2,500</u>
		\$21,545

Our scope and fee for the DD Phase services will be submitted separately at the start of the DD Phase.

Additional consultation during the feasibility study phase will be performed on a time-and-expenses basis using the following rates: \$99/hour for a field engineer, \$107 for junior geotechnical engineer, \$115/hour for a geotechnical engineer, and \$150/hour for a senior geotechnical engineer. LGCI will provide a proposal for design geotechnical services when the site is selected and after the proposed building layout is finalized.

No services beyond those described above would be provided without your prior knowledge and approval. If site conditions or your needs require a change in the scope of work, we will prepare for your approval a change order request that summarizes the changes to the project scope and fee. The fee is based on the following additional conditions:

- **Our costs and fees indicated in this proposal are valid for a period of six months from the date of the proposal. Our unit rates will be increased by 4 percent per year after the first 6 months following the date of this proposal.**
- LGCI will coordinate access to the site with you and with the property owner.
- We have assumed that the exploration locations will be cleared for private utilities by a representative of the property owner. Explorations not cleared by the owner, will require vacuum explorations at an additional fee, or will have to be abandoned.
- Other than the site visit to mark the exploration locations, our scope does not include meetings with the property owner.
- We have assumed that coordination required to secure authorization for access to the site from the owner will be performed by Perkins & Will.



**Proposal for SD Phase Geotechnical Services
Proposed Stoneham High School
Stoneham, Massachusetts
LGCI Proposal No. 20094**

Terms and Conditions

We propose to perform our work in accordance with LGCI's Standard Conditions for Engagement (attached). Your acceptance of this proposal by signing and returning one complete copy will form our agreement for these services and will serve as written authorization to proceed with the described scope of work.

LGCI trusts that the above proposal will be sufficient to meet your needs. If this proposal is acceptable, please sign and return a complete copy to LGCI. If you have any questions, please call us at (978) 330-5912.

Sincerely,

LAHLAF GEOTECHNICAL CONSULTING, INC.



Abdelmadjid M. Lahlaf, Ph.D., P.E.
Principal Engineer

Attachment – Standard Conditions of Engagement

Agreed to by (please type name): _____ **on (date):** _____

Company Name: _____

Signature: _____



1. CONTRACT. The Contract is the Agreement that is signed and dated by Lahlaf Geotechnical Consulting, Inc. (LGCI) and is signed and dated or accepted in writing by the Client, and that includes by reference these **General Conditions.** These Conditions shall apply to any and all subsequent amendments, additions, or modifications to the scope of work performed under this Contract unless specifically agreed in writing by both parties.

2. PAYMENT. Client agrees to pay LGCI in accordance with the fee schedule and payment terms provided in the Contract. All payments will be made by either check or electronic transfer to the address specified by LGCI and will include reference to LGCI's invoice number. LGCI will submit invoices monthly for work completed during the preceding period or upon completion of a specified scope of service, as described in the Contract. Client agrees to pay each invoice within thirty (30) days of its receipt. Client agrees to pay LGCI's cost of collection of all amounts due and unpaid after 60 days, including court costs and reasonable attorney's fees. These general conditions are notice, where required, that LGCI shall file a lien whenever necessary to collect past due amounts. Failure to make payment within 60 days of invoice shall constitute a release of LGCI from any and all claims that client may have whether in tort, contract or otherwise, and whether known or unknown at the time.

3. STANDARD OF CARE. LGCI will perform its services, obtain its findings and prepare its reports in accordance with our proposal, client's acceptance thereof, these general conditions, and with generally accepted principles and practices. LGCI will perform its professional services in a manner consistent with that degree of skill and care ordinarily exercised by members of LGCI's profession currently practicing in the same locality under similar conditions and on similar projects. LGCI makes no warranties or representations, either expressed or implied, regarding the quality of services provided hereunder. Statements made in LGCI's report are opinions based on engineering judgment and are not to be construed as representations of fact. Nothing in this Contract shall be construed as establishing a fiduciary relationship between Client and LGCI.

4. RIGHT OF ENTRY. Client agrees to furnish LGCI with the right-of-entry and a plan of boundaries of the site where LGCI will perform its services. If Client does not own the site, Client represents and warrants that it will obtain permission for LGCI's access to the site to conduct site reconnaissance, surveys, borings, and other explorations of the site pursuant to the scope of services in the Contract. LGCI will take reasonable precautions to minimize damage to the site from use of equipment, but LGCI is not responsible for damage to the site caused by normal and customary use of equipment. The cost for restoration of damage that may result from LGCI's operations has not been included in its fee. LGCI will perform such additional work upon written request and client agrees to pay LGCI for the restoration costs.

5. CLIENT'S DUTY TO NOTIFY ENGINEER. Client represents and warrants that it has advised LGCI of any known or suspected hazardous materials, utility lines or pollutants. Unless otherwise agreed upon, Client will identify locations of buried utilities and other underground structures in areas of subsurface exploration. LGCI will take reasonable precautions to avoid damage to the buried utilities and other underground structures noted. Unless LGCI has assumed in writing the responsibility of locating subsurface objects, structures, lines or conduits, Client agrees to accept risk of and defend, indemnify and save LGCI harmless from all claims, losses, costs and expenses, including reasonable attorney's fees resulting from the exploration work.

6. CONSTRUCTION SERVICES. If included in the scope of services in the Contract, LGCI will provide personnel to observe the specific aspects of construction stated in the Contract and to ascertain that construction is being performed, in general, in accordance with the plans, specifications and LGCI's recommendations.

a. LGCI cannot provide its opinion on the suitability of any part of the work performed unless LGCI's personnel make measurements and observations of that part of the construction. By performing construction observation services, LGCI does not guarantee or assume any responsibility for the contractor's work. The contractor will remain solely responsible for the accuracy and adequacy of all construction or other activities performed by the contractor, including the methods of construction; supervision of personnel and construction; control of machinery; false work, scaffolding, or other temporary construction aids; safety in, on, or about the job site; and

compliance with OSHA and construction safety regulations and any other applicable federal, state and/or local laws or regulations.

b. No claims for loss, damage or injury shall be brought against LGCI by client or any third party unless all tests and inspections have been performed in accordance with the contract documents and unless LGCI's recommendations have been followed. Client agrees to indemnify, defend and hold LGCI, its officers, employees and agents harmless from any and all claims, suits, losses, costs, expert fees, and expenses, including, but not limited to court costs and reasonable attorney's fees in the event that all such tests and inspections are not performed or LGCI's recommendations are not followed except to the extent that such failure is the result of negligence, willful or wanton act or omission of LGCI subject to the limitation in Paragraph 12.

7. RENEGOTIATION OF CONTRACT FOR PRESENCE OF HAZARDOUS MATERIALS. If hazardous waste, oil, asbestos, or other hazardous materials, as defined by federal, state and/or local laws or regulations are discovered during LGCI's work, Client agrees to negotiate appropriate revisions to the scope of services, the budget estimate, and the terms and conditions of the Contract. When such hazardous materials are suspected, LGCI will have the option to stop work until a new Contract is reached without financial penalty. If a mutually satisfactory Contract cannot be reached between both parties, the Contract will be terminated. Client agrees to pay LGCI for all services rendered, including any costs associated with termination.

8. DISPOSAL OF SAMPLES AND WASTES CONTAINING REGULATED CONTAMINANTS. Unless agreed in writing, test specimens or samples will be disposed of immediately upon completion of the test. All other samples or specimens will be disposed ninety days after submission of LGCI's report.

Nothing within this Contract shall be construed or interpreted as requiring LGCI to assume the status of an owner, operator, generator, storer, transporter, treater or disposal facility. In the event that samples collected by LGCI or provided by Client or wastes generated as a result of site investigation activities contain or potentially contain substances or constituents which are or may be regulated contaminants as defined by federal, state, or local statutes, regulations, or ordinances, including but not limited to samples or wastes containing hazardous materials, said samples or wastes remain the property of the Client and the Client will have responsibility for them as a generator. If set forth in the Contract, LGCI will, at Client's expense, perform necessary testing, and return said samples and wastes to Client.

9. INSURANCE. LGCI has Worker's Compensation Insurance in at least the minimum amount required for each state in which it does business, Employer's Liability Insurance, Public Liability Insurance and Professional Liability Insurance. LGCI will furnish insurance certificates upon written request.

10. INDEMNIFICATION. Subject to the foregoing limitation, LGCI agrees to indemnify and hold Client harmless from and against any liabilities, claims, damages and costs (including reimbursement of reasonable attorneys' fees and court costs) to the extent caused by the negligence or willful misconduct of LGCI in the performance of services under this Contract. LGCI's defense obligation under this indemnity paragraph means only the reimbursement of reasonable defense costs to the proportional extent of LGCI's indemnity obligation hereunder. Client shall provide the same protection to the extent of its negligence. In the event that the client shall bring any suit, cause of action, claim or counterclaim against LGCI, Client shall pay to LGCI the cost and expenses incurred by LGCI to investigate, answer and defend it, including reasonable attorney's fees and court costs to the extent that LGCI shall prevail in such suit.

11. Client agrees to defend, indemnify and hold harmless LGCI, its subconsultants, subcontractors, agents, and employees from and against all claims, damages, losses, and costs (including reasonable attorneys' fees) that result from the detection, failure to detect or from the actual, alleged, or threatened discharge, dispersal, release, escape or exposure to any solid, liquid, gaseous or thermal irritant, asbestos in any form, or contaminants including smoke, vapor, soot, fumes, acids, alkalis, chemicals, waste, oil, hazardous materials, or biological pollutants. Client's obligations under this



paragraph apply except to the extent such claims, damages, losses, and expenses are caused by LGCI's sole negligence or willful misconduct.

12. LIMITATION OF LIABILITY. To the fullest extent permitted by law, the total liability, in the aggregate, of LGCI and its officers, directors, employees, agents, and independent professional associates and consultants, and any of them, to Client and any one claiming by, through or under Client, for any and all injuries, claims, losses, expenses, or damages whatsoever arising out of or in any way related to LGCI's services, the project or this Contract, will not exceed the total compensation received by LGCI under this Contract, or \$5,000, whichever is greater. This limitation will apply regardless of legal theory, and includes but is not limited to claims or actions alleging negligence, errors, omissions, strict liability, breach of contract, breach of warranty of LGCI or its officers, directors, employees, agents or independent professional associates or consultants, or any of them. CLIENT further agrees to require that all contractors and subcontractors agree that this limitation of LGCI's liability extends to include any claims or actions that they might bring in any forum.

13. CONFIDENTIALITY. Unless compelled by law, a governmental agency or authority, or an order of a court of competent jurisdiction, or unless required pursuant to a subpoena deemed by LGCI to be duly issued, or unless requested to do so by Client pursuant to the Proposal or otherwise, LGCI agrees it will not convey to others any proprietary non-public information, knowledge, data or property relating to the business or affairs of the Client or of any of its affiliates, which is in any way obtained by LGCI during its association with the Client. LGCI further agrees to strive to limit, to a "need to know" basis, access by its employees to all information referred to above. Any concepts, materials, or procedures of LGCI deemed by LGCI to be proprietary and so explained to Client will not be released by Client or its employees to any other parties under any circumstances.

14. OWNERSHIP OF DOCUMENTS. Drawings, diagrams, specifications, calculations, reports, processes, computer processes and software, operational and design data, and all other documents and information produced in connection with the project as instruments of service, regardless of form, will be confidential and the proprietary information of LGCI, and will remain the sole and exclusive property of LGCI whether the project for which they are made is executed or not. Client will not have or acquire any title to or have any rights in any of the documents or information prepared by LGCI. Client will be permitted to retain printed copies of such documents or information for information and reference only in connection with Client's use and occupancy of the project. The documents and/or information will not be used or reused or modified by Client on other projects, for additions to this project, for completion of this project by others, or for any other purpose for which the documents were not specifically prepared, provided LGCI is not in default under this Contract, except with the express written consent of LGCI and with appropriate compensation to LGCI. Client will defend, indemnify and hold LGCI harmless from and against any claims, losses, liabilities and damages, including all reasonable attorney's fees, expert fees, and other costs of defense

arising out of or resulting from or in any way related to the unauthorized use of the documents.

15. ELECTRONIC FILES. All documents including drawings, data, plans, specifications, reports or other information recorded on or transmitted as Electronic Files are subject to undetectable alteration, either intentional or unintentional, due to transmission, conversion, media degradation, software error, human alteration or other causes.

a. Electronic Files are provided for convenience and informational purposes only and are not a finished product or Contract Document. The actual signed and sealed hard copy Contract Documents including stamped drawings, together with any addenda or revisions, are and will remain the official copies of all documents. LGCI makes no representation regarding the accuracy or completeness of any accompanying Electronic Files. LGCI may, at its sole discretion, add wording to this effect on electronic file submissions.

b. Client waives any and all claims against LGCI that may result in any way from the use or misuse, unauthorized reuse, alteration, addition to or transfer of the Electronic Files. Client agrees to defend, indemnify and hold harmless LGCI, its officers, directors, employees, agents or subconsultants, from any claims, losses, damages or costs, and costs of defense, which may arise out of the use or misuse, unauthorized reuse, alteration, addition to or transfer of these Electronic Files by client or anyone obtaining them through client.

16. SUSPENSION OF WORK. Client may, at any time, by a 10-day written notice, suspend further work by LGCI.

a. Client will remain fully liable for and will promptly pay LGCI the full amount for all services rendered by LGCI to the date of suspension of services, including all retained billings, if applicable, plus suspension charges. Suspension charges will include the cost of putting documents and analyses in order, personnel and equipment rescheduling, or reassignment adjustments, and all other related costs and charges directly attributable to suspension.

b. If Client fails to pay undisputed invoice amounts within 30 days following invoice date, LGCI may suspend further services, by providing a 10-day written notice to Client until payments are restored to a current basis. In the event LGCI engages counsel to enforce overdue payments, Client will reimburse LGCI for all reasonable attorney's fees and court costs related to enforcement of overdue payments, provided that Client does not have a good faith dispute with the invoice. Client will indemnify and save harmless LGCI from any claim or liability resulting from suspension of the work due to non-current, non-disputed payments.

17. DISPUTE RESOLUTION. Both parties agree to submit any claims, disputes, or controversies arising out of or in relation to the interpretation, application, or enforcement of this Contract to non-binding mediation pursuant to the Rules for Commercial Mediation of the American Arbitration Association, as a condition precedent to litigation or any other form of dispute resolution.



Warrant No. 8

Project: Stoneham High School, Stoneham, Massachusetts
 Prepared by: Joel G. Seeley, AIA

Project No.: 20033
 Date: 2/8/2021

School Building Committee for the Stoneham High School hereby authorizes to draw against funds for the obligations incurred for value received in services and for materials shown below:

<u>Vendor</u>	<u>Invoice No.</u>	<u>Invoice Date</u>	<u>Invoice Amount</u>	<u>ProPay Code</u>	<u>Balance After Invoice</u>
SMMA	54349	2/2/2021	\$ 7,000.00	0001-0000	\$ 74,000.00
Perkins & Will	0180631	1/29/2021	\$ 25,000.00	0002-0000	\$ 245,000.00
Perkins & Will	0180631 AM#6	1/29/2021	\$ 8,635.00	0002-0000	\$ 5,335.00
Total			\$ 40,635.00		

 Marie Christie

 David Bois

 Nicole Nial

 Raymie Parker

 Douglas Gove

 Stephen O'Neill

 Josephine Thomson

 Jeanne Craigie

 Lisa Gallagher

 Sharon Iovanni

 Cory Mashburn

 Paul Ryder

 David Pignone

Approved on _____

Perkins&Will

Invoice

January 29, 2021

Project No: 153010.000

Invoice No: 0180631

Dennis Sheehan
 Town of Stoneham
 Town Hall
 35 Central St
 Stoneham, MA 02180

Stoneham High School - FS-SD

Professional Services: through January 29, 2021

Fee

Billing Phase	Fee	Percent Complete	Earned	Previous Fee Billing	Current Fee Billing
Feasibility Phase	175,000.00	100.00	175,000.00	150,000.00	25,000.00
Schematic Design	245,000.00	0.00	0.00	0.00	0.00
Amendment #1	0.00	0.00	0.00	0.00	0.00
Survey/Wetlands-Nitsch	27,500.00	100.00	27,500.00	27,500.00	0.00
Phase 1 ESA	2,970.00	0.00	0.00	0.00	0.00
Geotechnical Services-Lahlaf	16,417.50	100.00	16,417.50	16,417.50	0.00
Hazardous Materials-UEC	4,950.00	100.00	4,950.00	4,950.00	0.00
Amendment #2	0.00	0.00	0.00	0.00	0.00
Traffic Analysis-Nelson Nygaard	18,150.00	0.00	0.00	0.00	0.00
Amendment #3	0.00	0.00	0.00	0.00	0.00
Hydrant Flow Testing-AE	1,760.00	0.00	0.00	0.00	0.00
Amendment #4	0.00	0.00	0.00	0.00	0.00
Traffic Analysis-Nelson Nygaard	-18,150.00	0.00	0.00	0.00	0.00
Amendment #5	0.00	0.00	0.00	0.00	0.00
Traffic Analysis-Nelson Nygaard	4,166.14	100.00	4,166.14	4,166.14	0.00
Amendment #6	0.00	0.00	0.00	0.00	0.00
Tarffic Analysis - Vanasse	13,970.00	61.811	8,635.00	0.00	8,635.00
Total Fee	491,733.64		236,668.64	203,033.64	33,635.00
			Total Fee		33,635.00

REMIT PAYMENTS TO Perkins&Will, Inc.
 PO Box 71181
 Chicago, IL 60694-1181

WIRE/ACH TO BMO Harris Bank
 ABA# 071000288, Acct# 3769601
 SWIFT HATRUS44

TERMS Net 30 Days

Project	153010.000	Stoneham High School - FS/SD	Invoice	0180631
			Total this Invoice	\$33,635.00

REMIT PAYMENTS TO Perkins&Will, Inc.
PO Box 71181
Chicago, IL 60694-1181

WIRE/ACH TO BMO Harris Bank
ABA# 071000288, Acct# 3769601
SWIFT HATRUS44

TERMS Net 30 Days

Ref: 8793

December 11, 2020

Ms. Brooke Trivas
Practice Leader, Principal
Perkins & Will
225 Franklin Street, Suite 1100
Boston, MA 02110

Re: Stoneham High School – Basic Services
153010.000

Dear Brooke:

Enclosed please find an invoice for the period November 1, 2020 through November 28, 2020 for providing Traffic Engineering and Transportation Planning Services in support of the proposed new Stoneham High School to be located at 149 Franklin Street in Stoneham, Massachusetts. Services performed during this invoice period consisted of coordination with the project team and the Town in support of the Feasibility Study, including the scope of the transportation analysis and reviewing the alternative school layouts with regard to access, internal circulation and parking.

We appreciate the opportunity to assist you with this project. If you should have any questions regarding the enclosed invoice or the associated work effort, please feel free to contact me.

Sincerely,

VANASSE & ASSOCIATES, INC.

Jeffrey S. Dirk

Jeffrey S. Dirk, P.E., PTOE, FITE
Managing Partner

Enclosure

cc: File

Invoice

Vanasse & Associates, Inc.
TRANSPORTATION ENGINEERS AND PLANNERS
35 New England Business Center Drive
Suite 140
Andover, MA 01810
978.474.8800

Brooke Trivas
Perkins & Will
225 Franklin Street, Suite 1100
Boston, MA 02110

December 11, 2020
Project No: 8793
Invoice No: 38492
Invoice Total: \$1,605.00

Stoneham High School - Basic Services
153010.000
bos.ap@perkinswill.com

Professional Services from November 1, 2020 to November 28, 2020

Fee

Billing Phase	Fee	Percent Complete	Total Billed	Previously Billed	Current Billing
Feasibility Study	1,700.00	85.5882	1,455.00	0.00	1,455.00
Schematic Design	6,000.00	0.00	0.00	0.00	0.00
Meetings	5,000.00	3.00	150.00	0.00	150.00
Total Fee	12,700.00		1,605.00	0.00	1,605.00
		Total Fee			1,605.00
			Phase Total		\$1,605.00
			Invoice Total		\$1,605.00



Ref: 8793

January 15, 2021

Ms. Brooke Trivas
Practice Leader, Principal
Perkins & Will
225 Franklin Street, Suite 1100
Boston, MA 02110

Re: Stoneham High School – Basic Services
153010.000

Dear Brooke:

Enclosed please find an invoice for the period November 29, 2020 through December 26, 2020 for providing Traffic Engineering and Transportation Planning Services in support of the proposed new Stoneham High School to be located at 149 Franklin Street in Stoneham, Massachusetts. Services performed during this invoice period consisted of the completion of the Feasibility Study and the transportation analyses in support of the Schematic Design phase.

We appreciate the opportunity to assist you with this project. If you should have any questions regarding the enclosed invoice or the associated work effort, please feel free to contact me.

Sincerely,

VANASSE & ASSOCIATES, INC.

Jeffrey S. Dirk

Jeffrey S. Dirk, P.E., PTOE, FITE
Managing Partner

Enclosure

cc: File

Invoice

Vanasse & Associates, Inc.
TRANSPORTATION ENGINEERS AND PLANNERS
35 New England Business Center Drive
Suite 140
Andover, MA 01810
978.474.8800

Brooke Trivas
Perkins & Will
225 Franklin Street, Suite 1100
Boston, MA 02110

January 11, 2021
Project No: 8793
Invoice No: 38618
Invoice Total: \$6,245.00

Stoneham High School - Basic Services
153010.000
bos.ap@perkinswill.com

Professional Services from November 29, 2020 to December 26, 2020

Phase 010 Feasibility Study - Traffic (Module 3)
Fee

Billing Phase	Fee	Percent Complete	Total Billed	Previously Billed	Current Billing
Feasibility Study	1,700.00	100.00	1,700.00	1,455.00	245.00
Schematic Design	6,000.00	100.00	6,000.00	0.00	6,000.00
Meetings	5,000.00	3.00	150.00	150.00	0.00
Total Fee	12,700.00		7,850.00	1,605.00	6,245.00
Total Fee					6,245.00
Phase Total					\$6,245.00
Invoice Total					\$6,245.00

Outstanding Invoices

Number	Date	Balance
38492	12/11/2020	1,605.00
Total		1,605.00





Mr. Dennis Sheehan
Town Administrator
Town of Stoneham
35 Central St
Stoneham, MA 02180

February 2, 2021
Project No: 20033.00
Invoice No: 0054349

Project 20033.00 Stoneham High School OPM Services
Professional Services from December 26, 2020 to January 22, 2021

Fee

Billing Phase	Fee	Percent Complete	Earned	Previous Fee Billing	Current Fee Billing
Feasibility Study	56,000.00	100.00	56,000.00	49,000.00	7,000.00
Schematic Design	49,000.00	0.00	0.00	0.00	0.00
Total Fee	105,000.00		56,000.00	49,000.00	7,000.00
		Total Fee			7,000.00
			Total this Invoice		\$7,000.00

Billings to Date

	Current	Prior	Total
Fee	7,000.00	49,000.00	56,000.00
Expense	0.00	614.08	614.08
Totals	7,000.00	49,614.08	56,614.08

Authorized By: Joel Seeley

FOR IMMEDIATE RELEASE

Contact: Sharon Iovanni

siovanni01@gmail.com

781-248-9754

WHAT'S NEXT IN PLANNING FOR THE NEW HIGH SCHOOL COMPLEX?

Attend the SHS Feasibility Study Community Forum #5 February 24th to find out!

Stoneham, MA – The Stoneham School Building Committee (SSBC) will host the fifth in a series of Community Forums led by Perkins&Will to update the community on the Stoneham High School project.

The Forum is planned for Wednesday, February 24, 2021 at 6:30 p.m. and will include a brief recap of Committee activity to date, a presentation on the preferred option site planning, building design and Zero Net Energy Systems and projected costs and project schedule.

There will also be a review of the educational needs and vision as documented in the Educational Plan prepared by the SHS staff. Forum participants will be encouraged to share questions they may have regarding the building and to share refinements that can help us to meet the educational goals defined in the plan, as well as community needs as expressed by the Committee and obtained via the community surveys.

The Forum will be held virtually using the GoToMeeting app and can be accessed on a laptop, mobile device by using this link -

<https://global.gotomeeting.com/join/157059869>

You can also access the meeting by phone by calling in to 1-872-240-3311 and using the Access Code: 175-059-869 . The Forum can viewed on Stoneham TV OnDemand at

<https://www.stonehamtv.org/ondemand>

For more detailed information about the SSBC including meeting minutes, presentations and upcoming meetings, visit <http://www.stoneham-ma.gov/627/hsbc>

February 2, 2021

Jennifer Flynn
Project Coordinator
Massachusetts School Building Authority
40 Broad Street, Fifth Floor
Boston, Massachusetts 02109

Re: Stoneham High School

Stoneham, Massachusetts

*District's Response to the
Preferred Schematic Report Review Comments*

SMMA No. 20033

Dear Jennifer:

Please find the District's Response to the MSBA's Preferred Schematic Report Review Comments of January 19, 2021.

Very truly yours,

SMMA



Joel G. Seeley
Principal

cc: SSBC (MF)

enclosures: District's Response to the Preferred Schematic Report Review Comments

ATTACHMENT A
MODULE 3 – PREFERRED SCHEMATIC REPORT REVIEW COMMENTS

District: Town of Stoneham
School: Stoneham High School
Owner’s Project Manager: SMMA
Designer Firm: Perkins + Will Architects
Submittal Due Date: December 29, 2020
Submittal Received Date: December 23, 2020
Review Date: December 23, 2020 – January 17, 2021
Reviewed by: Gienapp Architects, C. Forde, C. Alles, J. Jumpe

MSBA REVIEW COMMENTS

The following comments¹ on the Preferred Schematic Report (“PSR”) submittal are issued pursuant to a review of the project submittal document for the proposed project presented as a part of the Feasibility Study submission in accordance with the MSBA Module 3 Guidelines.

3.3 PREFERRED SCHEMATIC REPORT

Overview of Preferred Schematic Submittal	Complete	Provided; <i>Refer to comments following each section</i>	Not Provided; <i>Refer to comments following each section</i>	Receipt of District’s Response; <i>To be filled out by MSBA Staff</i>
OPM Certification of Completeness and Conformity	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Table of Contents	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.3.1 Introduction	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.3.2 Evaluation of Existing Conditions	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.3.3 Final Evaluation of Alternatives	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.3.4 Preferred Solution	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.3.5 Local Actions and Approval Certification	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

¹ The written comments provided by the MSBA are solely for purposes of determining whether the submittal documents, analysis process, proposed planning concept and any other design documents submitted for MSBA review appear consistent with the MSBA’s guidelines and requirements, and are not for the purpose of determining whether the proposed design and its process may meet any legal requirements imposed by federal, state or local law, including, but not limited to, zoning ordinances and by-laws, environmental regulations, building codes, sanitary codes, safety codes and public procurement laws or for the purpose of determining whether the proposed design and process meet any applicable professional standard of care or any other standard of care. Project designers are obligated to implement detailed planning and technical review procedures to effect coordination of design criteria, buildability, and technical adequacy of project concepts. Each city, town and regional school district shall be solely responsible for ensuring that its project development concepts comply with all applicable provisions of federal, state, and local law. The MSBA recommends that each city, town and regional school district have its legal counsel review its development process and subsequent bid documents to ensure that it is in compliance with all provisions of federal, state and local law, prior to bidding. The MSBA shall not be responsible for any legal fees or costs of any kind that may be incurred by a city, town or regional school district in relation to MSBA requirements or the preparation and review of the project’s planning process or plans and specifications.

3.3.1 INTRODUCTION

Provide the following Items		Complete; <i>No response required</i>	Provided; <i>District's response required</i>	Not Provided; <i>District's response required</i>	Receipt of District's Response; <i>To be filled out by MSBA Staff</i>
1	Overview of the process undertaken since submittal of the Preliminary Design Program that concludes with submittal of the Preferred Schematic Report, including any new information and changes to previously submitted information	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2	Summary of updated project schedule, including				
	a) Projected MSBA Board of Directors Meeting for approval of Project Scope and Budget Agreement	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	b) Projected Town/City vote for Project Scope and Budget Agreement	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	c) Anticipated start of construction	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	d) Target move in date	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3	Summary of the final evaluation of existing conditions	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4	Summary of final evaluation of alternatives	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5	Summary of District's preferred solution	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6	A copy of the MSBA Preliminary Design Program project review and corresponding District response	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

MSBA Review Comments:

No review comments for this section.

3.3.2 EVALUATION OF EXISTING CONDITIONS

Provide the following Items		Complete; <i>No response required</i>	Provided; <i>District's response required</i>	Not Provided; <i>District's response required</i>	Receipt of District's Response; <i>To be filled out by MSBA Staff</i>
1	A narrative of any changes resulting from new information that informs the conclusions of the evaluation of the existing conditions and its impact on the final evaluation of alternatives	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2	If changes are substantive, provide an updated Evaluation of Existing Conditions and identify as final. Identify additional testing that is recommended during future phases of the proposed project and indicate when the investigations and analysis will be completed	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

MSBA Review Comments:

No review comments for this section.

3.3.3 FINAL EVALUATION OF ALTERNATIVES

Include at least three potential alternatives, with at least one renovation and/or addition option. Include the following for each alternative where appropriate:

Provide the following Items		Complete; <i>No response required</i>	Provided; <i>District's response required</i>	Not Provided; <i>District's response required</i>	Receipt of District's Response; <i>To be filled out by MSBA Staff</i>
1	An analysis of each prospective site including:				
	a) Natural site limitations	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	b) Building footprint(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	c) Athletic fields	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	d) Parking areas and drives	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	e) Bus and parent drop-off areas	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	f) Site access and surrounding site features.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2	Evaluation of the potential impact that construction of each option will have on students and measures recommended to mitigate impact	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3	Conceptual architectural and site drawings that satisfy the requirements of the education program	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4	An outline of the major building structural systems	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5	The source, capacities, and method of obtaining all utilities	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6	A narrative of the major building systems	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7	A proposed total project budget and a construction cost estimate using the Unifomat II Elemental Classification format (to as much detail as the drawings and descriptions permit, but no less than Level 2)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8	Permitting requirements and associated approval schedule	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9	Proposed project design and construction schedule including consideration of phasing	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10	Completed Table 1 – MSBA Summary of Preliminary Design Pricing spreadsheet	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

MSBA Review Comments:

6) The information provided references a Building Management System (“BMS”). In response to these review comments, confirm that building and District maintenance personnel have been included in discussions regarding the selection and long-term operational and maintenance costs of the BMS and mechanical systems and that the training program will be coordinated with the District’s facility staff

and will include sufficient training hours to learn how to operate the building before the opening of the proposed project as well as hours post turnover.

Response: Confirmed that the Facilities Director and Maintenance Department have participated in discussions to date.

8) As part of the District’s schematic design submittal, provide the estimated time to acquire each of the required permits.

Response: Confirmed and will provide estimated time for each permit in Schematic Design submission.

10) The information provided indicates the District’s preferred schematic has an estimated total construction cost of \$677/sf and an estimated total project cost of \$176.2 million. Please provide information that clearly describes the cost drivers that contribute to an estimated square foot cost of \$677 and describe opportunities that could adjust the proposed design to reduce the cost per square foot heading into schematic design. The MSBA encourages the District and its consultants to further evaluate the proposed design and describe the underlying factors leading to the estimated costs.

Response: The construction cost drivers contributing to the \$677/sf are the normal and customary costs associated with high school construction on an occupied site with significant grade changes and underlying ledge conditions, escalated to a 2023 mid-point of construction. Cost drivers specific to the preferred option include a robust exterior building envelope and geothermal exchange system to achieve the targeted EUI of 25, rejuvenation of the high school campus grounds for community and athletic use including three lighted synthetic turf playfields, natural baseball and softball fields and tennis courts and off-site synchronized traffic signals at two intersections to alleviate the long-standing vehicular congestion on Franklin Street.

The District is retaining a Construction Manager at Risk firm to provide scheduling, logistics planning and cost estimating services and to assist in identifying cost savings opportunities during the Schematic Design phase. A geothermal test well will be performed in the Schematic Design phase to refine the cost estimate for the geothermal exchange system and the off-site signalization and improvements will be further evaluated for cost savings.

No further review comments for this section.

3.3.4 PREFERRED SOLUTION

Provide the following Items		Complete; <i>No response required</i>	Provided; <i>District's response required</i>	Not Provided; <i>District's response required</i>	Receipt of District's Response; <i>To be filled out by MSBA Staff</i>
1	Educational Program				
	a) Summary of key components and how the preferred solution fulfills the educational program	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	b) Design responses including desired features and/or layout considerations	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Provide the following Items		Complete; <i>No response required</i>	Provided; <i>District's response required</i>	Not Provided; <i>District's response required</i>	Receipt of District's Response; <i>To be filled out by MSBA Staff</i>
	c) Proposed variances to, and benefits of, any changes to the current grade configuration (if any) and a related transition plan	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2	Preferred Solution Space Summary				
	a) Updated MSBA Space Summary spreadsheet	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	b) Itemization and explanation of variations from the initial space summary (and MSBA review) included in the Preliminary Design Program	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3	Preliminary NE-CHPS or LEED-S scorecard	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4	Conceptual floor plans of the preferred solution, in color that are clearly labeled to identify educational spaces	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5	Clearly labeled site plans of the preferred solution including, but not limited to:				
	a) Structures and boundaries	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	b) Site access and circulation	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	c) Parking and paving	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	d) Zoning setbacks and limitations	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	e) Easements and environmental buffers	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	f) Emergency vehicle access	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	g) Safety and security features	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	h) Utilities	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	i) Athletic fields and outdoor educational spaces (existing and proposed)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	j) Site orientation	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6	An overview of the Total Project Budget and local funding including the following:				
	a) Estimated total construction cost	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	b) Estimated total project cost	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	c) Estimated funding capacity	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	d) List of other municipal projects currently planned or in progress	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	e) District's not-to-exceed Total Project Budget	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	f) Brief description of the local process for authorization and funding of the proposed project	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	g) Estimated impact to local property tax, if applicable	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Provide the following Items		Complete; <i>No response required</i>	Provided; <i>District's response required</i>	Not Provided; <i>District's response required</i>	Receipt of District's Response; <i>To be filled out by MSBA Staff</i>
	h) Completed MSBA Budget Statement	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7	Updated Project Schedule including the following projected dates:				
	a) Massachusetts Historical Commission Project Notification Form	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	b) MSBA Board of Directors meeting for approval to proceed into Schematic Design	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	c) MSBA Board of Directors meeting for approval of project scope and budget agreement and project funding agreement	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	d) Town/City vote for project scope and budget agreement	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	e) Design Development submittal date	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	f) MSBA Design Development Submittal Review (include required 21-day duration)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	g) 60% Construction Documents submittal date	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	h) MSBA 60% Construction Documents Submittal Review (include required 21-day duration)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	i) 90% Construction Documents submittal date	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	j) MSBA 90% Construction Documents Submittal Review (include required 21-day duration)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	k) Anticipated bid date/GMP execution date	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	l) Construction start	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	m) Move-in date	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
n) Substantial completion	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

MSBA Review Comments:

2a) *The space summary provided was not signed by the Designer. Please submit a signed version of the space summary.*

Response: Signed space summary attached.

2b) *Please refer to "Attachment B" for detailed review comments.*

3) *The information provided on page 370 indicates "The Belmont School Building Committee has chosen to move forward with LEED-S Version 4.1 and intends to achieve 2% additional reimbursement by achieving a min. of 'certified' within that rating system and by exceeding the level of energy efficiency required in the current Massachusetts (base) energy code by 20%." This appears to be a typographical error, however, in response to these review comments, confirm that the Stoneham School Building Committee has chosen to move forward with LEED-S Version 4.1. Provide a corrected page for record.*

Response: Confirmed that the Stoneham School Building Committee has chosen to move forward with LEED-S Version 4. Corrected page attached.

Additionally, it is stated in the Sustainability Narrative provided by the Designer that the Stoneham High School is pursuing certification under LEED V4.1, and that the District intends to achieve the 2% additional reimbursement with the MSBA Green Schools Program. The MSBA notes that designers can “mix and match” points between LEED V4 and V4.1. Please clarify in the District’s response which version is being used for the LEED-S EA Credit “Optimize Energy Performance”.

Response: After evaluating LEED V4 and V4.1 credit systems with consultants, the team has decided to move forward with V4. The project goals of ZNE and EUI of 25 remain unchanged regardless of which systems is used to measure the sustainability features. Under LEED V4, project will need 14 LEED points in the Optimized Energy category to qualify for the 2% MSBA reimbursement.

If LEED V4 is being used for the LEED V4 EA Credit “Optimize Energy Performance”, to be in compliance with the MSBA Green School Program, the project must achieve a minimum of 10% above the 2018 IECC for no additional reimbursement (i.e., 12 points in the LEED V4 EA Credit “Optimize Energy Performance”) or exceed the energy code by 20% with at least 14 points in the LEED V4 EA Credit “Optimize Energy Performance” to achieve the 2% additional reimbursement. If the submittal is using LEED V4 in that category, the scorecard does not meet the minimum 20% above energy code and would not provide the District with 2% additional reimbursement. In response to this review describe the District's intent and provide a revised LEED scorecard.

Response: See previous response. With the current targeted EUI, the Stoneham project is on track to achieve 14 LEED V4 points. Revised LEED scorecard is attached.

The information provided in the letter provided by the Designer indicates that the scorecard shows a minimum of 40 points; however, the score card indicates the project will attempt to achieve 44 points with an additional 30 points. Please clarify in response to these review comments.

Response: At this point in the project, based on the project budget and client goals, the team is looking to achieve 45 credits. A number of credits are in the 'Maybe' category and will continue to be explored as the project develops.

4) As part of the schematic design documents, provide the following information:

- Provide location of doors on the floor plans in order to further understand the connections and access of the proposed space;
- Illustrate ‘Special Education’ spaces with different color-shading in order to distinguish these spaces from proposed ‘Core Academic’ spaces; and
- Identify and clearly label spaces specifically associated with in Pre-School program, District Offices, etc.

Response: Confirmed and will provide required drawings in Schematic Design submission.

5d) In response to these review comments, provide site plan diagrams that clearly identify zoning setbacks and limitations.

Response: Zoning diagram attached.

District Response

2/2/2021

5e) *The information provided discusses environmental concerns within the narratives. In response to these review comments, provide site plan diagrams that identify any easements and/or environmental buffers.*

Response: Environmental buffer diagram attached.

5g, h) *In response to these review comments, provide site plan diagrams that identify safety and security features and utilities.*

Response: Safety and security features and utilities diagrams attached.

6a, b) *The information provided in this submittal indicates that the estimated total project cost for the District's Preferred Schematic is \$176.2 million. However, the information provided in the previous PDP submittal indicated that the estimated total project cost for Option 4B was \$172.9 million. Additionally, for reference the OPM Request for Services indicated an estimated total project cost range of \$120-\$160 million, and the Designer Request for Services indicated an estimated construction cost range of \$95-\$125 million. In response to these review comments, describe this variation and provide information that indicates that the District has discussed and acknowledged the increase in estimated costs. Also, please indicate how the District and design team intend to maintain the District's project budget through schematic design.*

Response: The estimated total project cost for Option 4B is largely consistent between the PDP phase and the PSR phase, except for the increase associated with the addition of the District Offices to the project, made during the PSR Phase. The OPM RFS and Designer RFS cost ranges were developed prior to the project scope development during the PDP phase. The District has discussed the project costs at their SSBC meetings, Community Forums and Tri-Board (Select Board, Finance and Advisory Board and School Committee) meetings during both the PDP Phase and the PSR Phase.

6d) *The information provided indicates municipal projects previously completed or currently in progress. In response to these review comments, provide a description of any future municipal projects planned for the District, if any.*

Response: Future projects are listed in the 5 -Year Capital Summary found on page 495 of the PSR Submission. An additional copy has been provided with this Response Document.

6e) *The information provided on page 497 indicates the District's not to exceed budget is \$125,289,311; however, the District's preferred schematic has an estimated total project cost of \$176,208,977. In response to these review comments, please clarify the discrepancy between these figures. Please note that the MSBA has not performed a detailed review of the total project budget spreadsheet provided in this submittal. This spreadsheet will be reviewed during the schematic design phase to assist the MSBA in calculating a potential grant.*

Response: The District's not to exceed budget is \$176,208,977.

Additionally, the District's reimbursement rate for calendar year 2021 is unknown at this time. The MSBA will forward the reimbursement rate to the District when this information is available. Please note that the MSBA updates district reimbursement rates annually and applies the reimbursement in effect at the time the MSBA Board of Directors approves a district's proposed project scope and budget. Please acknowledge.

Response: District acknowledges.

7a,m,n) In response to these review comments, provide an updated project schedule that includes the following information:

- The information provided in the PDP submittal indicated Massachusetts Historical Commission (“MHC”) approval was obtained on September 15, 2020. However, this date has not been included in the project schedule. Please incorporate the dates associated with submitting a Project Notification Form to MHC and obtaining MHC approval into the updated project schedule;
- The targeted move-in date; and
- The targeted substantial completion date. The information provided on page 10 indicates a substantial completion date in April 2025.

Response: The updated Project Schedule is provided with this Response Document.

No further review comments for this section.

3.3.5 LOCAL ACTIONS AND APPROVALS

Provide the following Items		Complete; No response required	Provided; District's response required	Not Provided; District's response required	Receipt of District's Response; To be filled out by MSBA Staff
1	Certified copies of the School Building Committee meeting notes showing specific submittal approval vote language and voting results, and a list of associated School Building Committee meeting dates, agenda, attendees and description of the presentation materials.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2	Signed Local Actions and Approvals Certification(s):				
	a) Submittal approval certificate	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	b) Grade reconfiguration and/or redistricting approval certificate (if applicable)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

MSBA Review Comments:

No review comments for this section.

Additional Comments:

- The MSBA issues project advisories from time to time, as informational updates for Districts, Owner's Project Managers (“OPM”), and Designers in an effort to facilitate the efficient and effective administration of proposed projects currently pending review by the MSBA. The advisories can be found on the MSBA’s website. In response to these review comments, please confirm that the District’s consultants have reviewed all project advisories and they have been incorporated into the proposed project as applicable.

Response: The Designer and OPM have reviewed the project advisories and have incorporated them in the proposed project as applicable.

- *The MSBA offers the following information to assist the District and its Owner's Project Manager in completing the total project budget template that is required as part of its Schematic Design Submittal.*
 - *The District must include negotiated costs for OPM and Designer fees for the remainder of the project as part of their Total Project Budget. The fees must be listed separately by the applicable line items that are included in the MSBA's Total Project Budget Template. In response to these review comments, please confirm that the District and its consultants will negotiate fees for the remainder of the project that are to be included in the District's Schematic Design documents to the MSBA.*

Response: The Designer and OPM fees for the remainder of the project will be negotiated and included in the Schematic Design Submission.

- *The PSR indicates District is targeting MSBA approval of its proposed project scope and budget at the August 25, 2021 board meeting. The District's reimbursement rate for calendar year 2021 is unknown at this time. The MSBA will forward the reimbursement rate to the District when this information is available. Please note that the MSBA updates district reimbursement rates annually and applies the reimbursement in effect at the time the MSBA Board of Directors approves a district's proposed project scope and budget. The reimbursement rate is established based on statutory requirements and information provided by the Departments of Revenue and Elementary and Secondary Education.*
- **Maintenance (0-2) – 1.04%.** *This value is based on MSBA review of district provided materials regarding routine and capital maintenance programs during Eligibility Period at which time the value is finalized.*
- **Overlay Zoning 40R & 40S (0 or 1) –** *Refer to Module 4, appendix 4E to review documentation requirements and to determine if this incentive point may be applicable. Please note that the proposed project must be located within the smart growth zoning district to comply with this additional incentive and required authorizations must be documented prior to MSBA approval of the District's proposed project scope and budget to be eligible to receive this incentive point.*
- **Overlay Zoning 100 units or 50% of units for 1, 2 or 3 family structures (0 or 0.5) –** *Refer to Module 4, appendix 4E to review documentation requirements and to determine if this incentive point may be applicable. Please note that required authorizations must be documented prior to MSBA approval of the District's proposed project scope and budget to be eligible to receive this incentive point.*
- **Energy Efficiency – "Green Schools" (0 or 2) –** *The PSR indicates the District's intent to achieve the 2% additional reimbursement through the MSBA Green School Program. Please note, subject to the District's intention to meet certain energy efficiency sustainability requirements for the Proposed Project, the MSBA will provisionally include two (2) incentive points, however if the District does not*

District Response
2/2/2021

ultimately qualify for some or all of these incentive points the MSBA will adjust the District's reimbursement rate, accordingly.

End

ATTACHMENT B
MODULE 3 – PREFERRED SCHEMATIC SPACE SUMMARY REVIEW

District: Town of Stoneham
School: Stoneham High School
Owner’s Project Manager: SMMA
Designer Firm: Perkins + Will Architects
Submittal Due Date: December 29, 2020
Submittal Received Date: December 23, 2020
Review Date: December 23, 2020 – January 17, 2021
Reviewed by: M. Esdale, C. Forde, C. Alles, J. Jumpe

The Massachusetts School Building Authority (the “MSBA”) has completed its review of the proposed space summary of the preferred alternative as produced by Perkins + Will Architects and its consultants. This review involved evaluating the extent to which the Stoneham High School’s proposed space summary conforms to the MSBA guidelines and regulations.

The MSBA considers it critical that the Districts and their Designers aggressively pursue design strategies to achieve compliance with the MSBA guidelines for all proposed projects in the new program and strive to meet the gross square footage allowed per student and the core classroom space standards, as outlined in the guidelines. The MSBA also considers its stance on core classroom space critical to its mission of supporting the construction of successful school projects throughout the Commonwealth that meet current and future educational demands. The MSBA does not want to see this critical component of education suffer at the expense of larger or grander spaces that are not directly involved in the education of students.

The following review is based on the submitted new construction project option with an agreed upon design enrollment of 695 students in grades 9-12.

The MSBA review comments are as follows:

- **Core Academic** – The District is proposing a total of 38,790 net square feet (“nsf”) which exceeds the MSBA guidelines by 5,900 nsf. The proposed area in this category has decreased by 2,600 nsf since the Preliminary Design Program (“PDP”) submittal as a result of certain relocation of spaces per MSBA’s PDP Review Comments. The MSBA notes the following spaces are proposed:
 - **General Classrooms** – The District is proposing (23) 900 nsf General Classrooms totaling 20,700 nsf, which exceeds the MSBA guidelines by 1,150 nsf. As noted in MSBA’s PDP Review Comments, the MSBA accepts this variation to the guidelines. No further action required.
 - **Collaboration Space per Neighborhood** – The District is proposing (6) 500 nsf Collaboration Space per Neighborhood totaling 3,000 nsf in excess of the MSBA guidelines. Based on the information provided in response to MSBA’s PDP Review Comments and the proposed size of the

General Classrooms compared to the square foot range allowed in the MSBA guidelines, the MSBA will participate in up to 1,150 nsf of the overall proposed square footage associated with the Collaboration Space per Neighborhood, and 1,850 nsf will be considered ineligible for reimbursement.

- **Teacher Planning** – The District is proposing (23) 100 nsf spaces, totaling 2,300 nsf, which meets the MSBA guidelines. No further action required.
- **Small Group Seminar (20-30 seats)** – The District is proposing (2) 500 nsf spaces, totaling 1,000 nsf, which meets the MSBA guidelines. No further action required.
- **Science Classroom/Lab** – The District is proposing (6) 1,440 nsf spaces, totaling 8,640 nsf, which meets the MSBA guidelines. No further action required.
- **Prep Room** – The District is proposing (6) 200 nsf spaces, totaling 1,200 nsf, which meets the MSBA guidelines. No further action required.
- **Central Chemical Storage Room** – The District is proposing (1) 200 nsf space which meets the MSBA guidelines. No further action required.
- **Health Classroom** – The District is proposing (1) 850 nsf space which is in excess of the MSBA guidelines. As noted in MSBA’s PDP Review Comments, the MSBA accepts this variation to the guidelines. No further action required.
- **English as a Second Language (“ESL”) Services** – The District is proposing (1) 900 nsf space which is in excess of the MSBA guidelines. As noted in MSBA’s PDP Review Comments, the MSBA accepts this variation to the guidelines. No further action required.
- **Special Education** – The District is proposing a total of 7,250 nsf which is 800 nsf below the MSBA guidelines. The proposed area in this category has decreased by 1,500 nsf since the PDP submittal as a result of certain relocation of spaces per MSBA’s PDP Review Comments. Please note that the Special Education program is subject to approval by the Department of Elementary and Secondary Education (“DESE”). The District should provide the required information for this submittal with the Schematic Design Submittal. Formal approval of the District’s proposed Special Education program by the DESE is a prerequisite for executing a Project Funding Agreement with the MSBA. Please acknowledge.

Response: District acknowledges.

- **Art and Music / Vocations and Technology** – The District is proposing a combined total of 16,479 nsf, which exceeds the MSBA guidelines by 2,645 nsf. The proposed area has increased by 2,000 nsf since the PDP submittal. Note square footage exceeding MSBA guidelines will be considered ineligible for reimbursement. Please acknowledge.

Response: District acknowledges.

- **Health and Physical Education** – The District is proposing a total of 28,100 nsf which exceeds the MSBA guidelines by 8,008 nsf. The proposed area in this category has not changed since the PDP submittal. As noted in MSBA’s PDP Review Comments, the MSBA encourages the District and its consultants to continue to seek opportunities to increase efficiencies and align with MSBA guidelines. Note square footage exceeding MSBA guidelines will be considered ineligible for reimbursement. Please acknowledge.

Response: District acknowledges.

Refer to the attached memo regarding the MSBA’s policy on physical education square footage in excess of the MSBA guidelines. The policy states: “The district may choose to build a gymnasium and related spaces in excess of MSBA guidelines, but in no event shall the gymnasium exceed 18,000 nsf. The MSBA will participate in a gymnasium of up to 12,000 nsf unless adjusted by the MSBA to increase teaching stations for enrollment and/or the educational plan.” Additionally, areas in excess of the MSBA guidelines will be at the sole expense of the district; and the MSBA will exclude from its grant the cost of the total gross square foot (“gsf”) in excess of the guidelines for these areas.

- **Media Center** – The District is proposing a total of 4,644 nsf which exceeds the MSBA guidelines by 400 nsf. The proposed area in this category has not changed since the PDP submittal. As noted in MSBA’s PDP Review Comments, the MSBA encourages the District and its consultants to continue to seek opportunities to increase efficiencies and align with MSBA guidelines. Please note that square footage exceeding MSBA guidelines will be considered ineligible for reimbursement. Please acknowledge.

Response: District acknowledges.

- **Auditorium/ Drama** – The District is proposing a total of 9,850 nsf which exceeds the MSBA guidelines by 2,393 nsf. The proposed area in this category has not changed since the PDP submittal. As noted in MSBA’s PDP Review Comments, the MSBA encourages the District and its consultants to continue to seek opportunities to increase efficiencies and align with MSBA guidelines. Please note that square footage exceeding MSBA guidelines will be considered ineligible for reimbursement. Please acknowledge.

Response: District acknowledges.

Please refer to the attached memo regarding the MSBA’s policy on auditorium square footage in excess of the MSBA guidelines. The policy states: “The district may choose to build an auditorium in excess of MSBA guidelines, but no more than 13,300 net square foot (“nsf”) (based upon an upper limit of 1,000 seats). The MSBA funding limit will vary depending on the agreed-upon design enrollment but will not exceed 10,400 nsf.” Additionally, areas in excess of the MSBA guidelines will be at the sole expense of the district; and the MSBA will

exclude from its grant the cost of the total gross square foot (“gsf”) in excess of the guidelines for these areas.

- **Dining and Food Service** – The District is proposing a total of 7,103 nsf which exceeds the MSBA guidelines by 285 nsf. The proposed area in this category has not changed since the PDP submittal. As noted in MSBA’s PDP Review Comments, the MSBA encourages the District and its consultants to continue to seek opportunities to increase efficiencies and align with MSBA guidelines. Please note that square footage exceeding MSBA guidelines will be considered ineligible for reimbursement. Please acknowledge.

Response: District acknowledges.

- **Medical** – The District is proposing a total of 770 nsf which exceeds the MSBA guidelines by 60 nsf. The proposed area in this category has decreased by 60 nsf since the PDP submittal. As noted in MSBA’s PDP Review Comments, the MSBA encourages the District and its consultants to continue to seek opportunities to increase efficiencies and align with MSBA guidelines. Please note that square footage exceeding MSBA guidelines will be considered ineligible for reimbursement. Please acknowledge.

Response: District acknowledges.

- **Administration and Guidance** – The District is proposing a total of 5,757 nsf which exceeds the MSBA guidelines by 2,100 nsf. The proposed area in this category has increased by 2,100 nsf since the PDP submittal as a result of certain relocation of spaces per MSBA’s PDP Review Comments. The MSBA encourages the District and its consultants to continue to seek opportunities to increase efficiencies and align with MSBA guidelines. Please note that square footage exceeding MSBA guidelines will be considered ineligible for reimbursement. Please acknowledge.

Response: District acknowledges.

- **Custodial and Maintenance** – The District is proposing a total of 2,647 nsf which exceeds the MSBA guidelines by 500 nsf. The proposed area in this category has not changed since the PDP submittal. As noted in MSBA’s PDP Review Comments, the MSBA encourages the District and its consultants to continue to seek opportunities to increase efficiencies and align with MSBA guidelines. Please note that square footage exceeding MSBA guidelines will be considered ineligible for reimbursement. Please acknowledge.

Response: District acknowledges.

- **Other** – The District is proposing a total of 17,175 nsf which is in excess of the MSBA guidelines. The proposed area in this category has increased by 2,600 nsf since the PDP submittal. The MSBA notes the following spaces are proposed:
 - **District Offices** – A total of 2,600 nsf is proposed. Please note that this square footage will be considered ineligible for reimbursement. Please acknowledge.

Response: District acknowledges.

- **School Store** – (1) 600 nsf School Store is proposed. As noted in MSBA’s PDP Review Comments, this square footage will be considered ineligible for reimbursement. Please acknowledge.

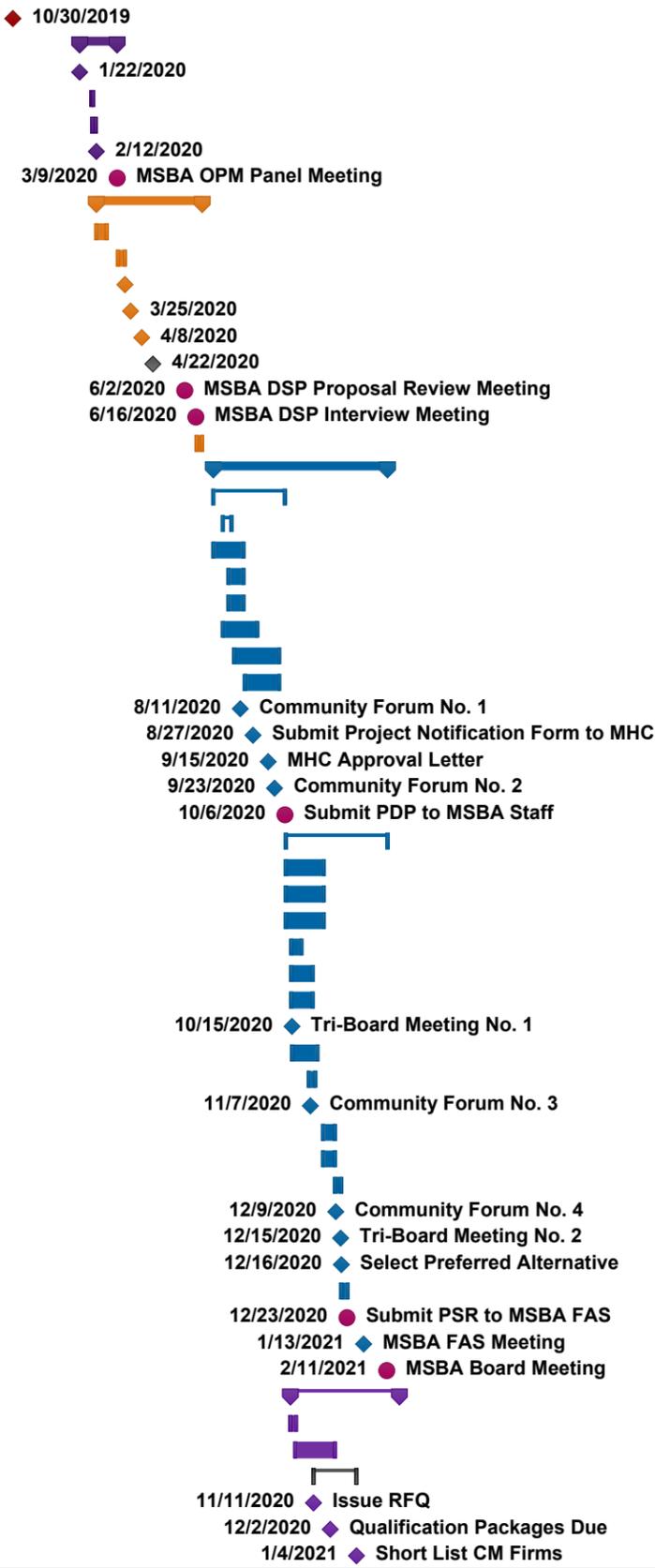
Response: District acknowledges.

- **Pre-School Program** – A total of 13,975 nsf is proposed. As noted in MSBA’s PDP Review Comments, the MSBA’s participation will be limited to Pre-School classrooms only, and potentially Pre-School spaces dedicated for special education.
 - The following spaces totaling 11,300 nsf will be considered eligible for reimbursement:
 - (8) 1,200 nsf (totaling 9,600 nsf) Pre-School Classrooms with toilets/changing (15 students)
 - (2) 175 nsf (totaling 350 nsf) Observation Areas: Childcare Development Pathway
 - (1) 400 nsf Pre-School OT/PT
 - (2) 250 nsf (totaling 500 nsf) Pre-School Speech/Language
 - (1) 450 nsf Sensory Room
 - The following spaces totaling 2,675 nsf will be considered ineligible for reimbursement:
 - (1) 150 nsf Pre-School Director Office
 - (1) 350 nsf Pre-School Conference Room
 - (1) 275 nsf Reception Area with Secretary
 - (1) 300 nsf Teacher Work Room/ Collaboration
 - (1) 600 nsf Student Lunch Room
 - (1) 150 nsf Social Worker Office
 - (1) 150 nsf Board Certified Behavior Analyst (“BCBA”) Office
 - (1) 350 nsf Nurse
 - (1) 350 nsf Conference Room
- **Total Building Net Floor Area** – The District is proposing a total of 138,551 nsf which exceeds the MSBA guidelines by 38,669 nsf. The proposed area has increased by 2,480 nsf since the PDP submittal. Please address the comments provided in the categories above as part of the District’s response to these comments in order for the MSBA to establish an allowable net square footage.

- **Total Building Gross Floor Area** – The District is proposing a total of 207,827 gsf which exceeds the MSBA guidelines by 57,707 gsf. The proposed area has increased by 3,720 gsf since the PDP submittal. Please address the comments provided in the categories above as part of the District’s response to these comments in order for the MSBA to establish an allowable gross square footage.

Please note that upon moving forward into subsequent phases of the proposed project, the Designer will be required to provide, with each submission, a signed, updated space summary that reflects the design and demonstrates that the design remains, except as agreed to in writing by the MSBA, in accordance with the guidelines, rules, regulations and policies of the MSBA. Should the updated space summary demonstrate changes to the previous space summary include a narrative description of the change(s) and the reason for the proposed changes to the project.

ID	Task Name	Duration	Start	Finish	2020-2026																											
					Q4	2020 Q1	Q2	Q3	Q4	2021 Q1	Q2	Q3	Q4	2022 Q1	Q2	Q3	Q4	2023 Q1	Q2	Q3	Q4	2024 Q1	Q2	Q3	Q4	2025 Q1	Q2	Q3	Q4	2026 Q1	Q2	
1	MSBA PREREQUISITES	158 days	3/22/2019	10/30/2019																												
2	Statement of Interest (SOI) Submission	0 days	3/22/2019	3/22/2019																												
3	MSBA Invite into Eligibility	0 days	10/30/2019	10/30/2019	◆																											
4	RETAIN OPM	33 days	1/22/2020	3/9/2020																												
5	Submit OPM Proposals	0 days	1/22/2020	1/22/2020		◆																										
6	OPM Interview	2 days	2/6/2020	2/7/2020																												
7	Negotiate OPM Contract	2 days	2/7/2020	2/10/2020																												
8	Submit Documents to MSBA OPM Panel	0 days	2/12/2020	2/12/2020																												
9	MSBA OPM Panel Meeting	0 days	3/9/2020	3/9/2020																												
10	RETAIN DESIGNER	95 days	2/12/2020	6/23/2020																												
11	Draft Designer RFS and Submit to MSBA	9 days	2/12/2020	2/24/2020																												
12	MSBA Approve Draft RFS	7 days	3/10/2020	3/18/2020																												
13	Submit to Central Register	0 days	3/19/2020	3/19/2020																												
14	Notice in Central Register	0 days	3/25/2020	3/25/2020																												
15	Briefing Session	0 days	4/8/2020	4/8/2020																												
16	Submit Designer Proposals	0 days	4/22/2020	4/22/2020																												
17	MSBA DSP Proposal Review Meeting	0 days	6/2/2020	6/2/2020																												
18	MSBA DSP Interview Meeting	0 days	6/16/2020	6/16/2020																												
19	Negotiate Designer Contract	5 days	6/17/2020	6/23/2020																												
20	FEASIBILITY STUDY (FS)	157 days	7/8/2020	2/11/2021																												
21	Develop Preliminary Design Program (PDP)	64 days	7/8/2020	10/6/2020																												
22	Visioning Workshops	9 days	7/20/2020	7/31/2020																												
31	Existing Conditions Analysis	28 days	7/8/2020	8/14/2020																												
32	Educational Program Development	15 days	7/27/2020	8/14/2020																												
33	Space Template Development	15 days	7/27/2020	8/14/2020																												
34	Sustainable Design	31 days	7/20/2020	8/31/2020																												
35	Design Alternatives	41 days	8/3/2020	9/28/2020																												
36	Cost Models	31 days	8/17/2020	9/28/2020																												
37	Community Forum No. 1	0 days	8/11/2020	8/11/2020																												
38	Submit Project Notification Form to MHC	0 days	8/27/2020	8/27/2020																												
39	MHC Approval Letter	0 days	9/15/2020	9/15/2020																												
40	Community Forum No. 2	0 days	9/23/2020	9/23/2020																												
41	Submit PDP to MSBA Staff	0 days	10/6/2020	10/6/2020																												
42	Develop Preferred Schematic Report (PSR)	92 days	10/7/2020	2/11/2021																												
43	Refine Site Plans	34 days	10/7/2020	11/23/2020																												
44	Refine Construction Phasing Plans	34 days	10/7/2020	11/23/2020																												
45	Develop Floor Plans	34 days	10/7/2020	11/23/2020																												
46	Develop Structural Systems Narrative	9 days	10/14/2020	10/26/2020																												
47	Develop MEP Systems Narrative	19 days	10/14/2020	11/9/2020																												
48	Develop ZNE Systems	19 days	10/14/2020	11/9/2020																												
49	Tri-Board Meeting No. 1	0 days	10/15/2020	10/15/2020																												
50	PTO Meetings	23 days	10/15/2020	11/15/2020																												
51	Community Survey No. 1	6 days	11/5/2020	11/12/2020																												
52	Community Forum No. 3	0 days	11/7/2020	11/7/2020																												
53	Develop Cost Models	11 days	11/23/2020	12/7/2020																												
54	Update Site Plans and Floor Plans	11 days	11/23/2020	12/7/2020																												
55	Community Survey No. 2	6 days	12/8/2020	12/15/2020																												
56	Community Forum No. 4	0 days	12/9/2020	12/9/2020																												
57	Tri-Board Meeting No. 2	0 days	12/15/2020	12/15/2020																												
58	Select Preferred Alternative	0 days	12/16/2020	12/16/2020																												
59	Assemble PSR Documents	6 days	12/16/2020	12/23/2020																												
60	Submit PSR to MSBA FAS	0 days	12/23/2020	12/23/2020																												
61	MSBA FAS Meeting	0 days	1/13/2021	1/13/2021																												
62	MSBA Board Meeting	0 days	2/11/2021	2/11/2021																												
63	CONSTRUCTION MANAGER (CM)	99 days	10/13/2020	2/26/2021																												
64	Develop and Submit IG Application	5 days	10/13/2020	10/19/2020																												
65	IG Application and Approval	36 days	10/19/2020	12/7/2020																												
66	RFQ Process	38 days	11/11/2020	1/4/2021																												
67	Issue RFQ	0 days	11/11/2020	11/11/2020																												
68	Qualification Packages Due	0 days	12/2/2020	12/2/2020																												
69	Short List CM Firms	0 days	1/4/2021	1/4/2021																												



Capital Improvement Program, Departmental Project Summary

‡ Equipment purchase proposed on a standard replacement cycle. Vehicle condition will be reassessed each year.
 †† Item requires a policy discussion before expenditure

Department	Department #	Title	FY2021	FY2022	FY2023	FY2024	FY2025	Five Year Total
GENERAL FUND								
Information Technology								
GIS/MIS/Assessing	141/155	AssessPro 5.0 Software Upgrade	40,500	-	-	-	-	40,500
GIS/MIS	155	Town wide security & software upgrades	-	50,000	50,000	50,000	50,000	200,000
Total Information Technology			-	40,500	50,000	50,000	50,000	240,500
Town Clerk								
Town Clerk	161	Voting Equipment Replacement/ Voting Booths	-	-	-	75,000	-	75,000
Total Elections & Registration			-	-	-	75,000	-	75,000
Planning & Community Development								
Community Development	185	Green Communities Energy Updates	-	20,000	20,000	20,000	-	60,000
Community Development	185	Downtown Stoneham Configuration Complete Streets Improvement Program, Design Study	-	100,000	-	-	-	100,000
Total Community Development			-	120,000	20,000	20,000	-	160,000
Public Property/Facilities								
Public Property Maintenance	192	ADA Building Compliance Town Wide	-	-	-	5,000,000	-	5,000,000
Public Property Maintenance	192	Town Hall Exterior Painting	-	-	-	-	-	-
Public Property Maintenance	192	New Roof for Auditorium & Town Hall	-	200,000	-	-	-	200,000
Public Property Maintenance	192	Town Hall Boiler Redundancy	-	-	40,000	-	-	40,000
Public Property Maintenance	192	Town Hall Auditorium Interior Painting	-	-	-	30,000	-	30,000
Public Property Maintenance	192	Auditorium A/C Installation (Heating & Cooling)	-	-	-	-	-	-
Fire	192	Fire Station Kitchen	-	-	-	-	-	-
Fire	192	Fire Station Brick Repointing	-	-	1,100,000	-	-	1,100,000
Fire	192	Fire Station Windows	-	-	100,000	-	-	100,000
Fire	192	Garage Roof Repair	-	-	20,000	-	-	20,000
Fire	192	Emergency Back Up Generator	-	-	-	50,000	-	50,000
Fire	192	Cascade Air System	-	-	-	45,000	-	45,000
Police	192	Window Upgrades	-	-	50,000	-	-	50,000
Library	192	Security Gate Replacement	-	-	-	-	-	-
Library	192	Interior Painting	-	-	-	-	-	-
Arena	192	Little Roof & Ventilation Replacement	-	-	-	-	-	-
Public Property Maintenance	192	Town Wide Improvements	200,000	-	-	-	-	-
Arena	192	Generator	-	-	-	-	-	-
Arena	192	ADA Accessible Inside and Out	-	-	-	-	-	-
Arena	192	Updating Security Cameras	-	-	-	-	-	-
Arena	192	Upper Level Bathroom Storage	-	-	-	-	-	-
Subtotal Town			200,000	200,000	1,310,000	5,125,000	-	6,635,000
Schools	192	South School Site Study (Playground, Parking Lot, Traffic Pattern)	-	-	-	-	-	-
Schools	192	South School Site Rehab -Playground, Park Lot	-	500,000	-	-	-	500,000
Schools	192	Roof Repair/Replacement - Colonial Park	-	-	-	350,000	-	350,000
Schools	192	Roof Repair/Replacement - South School	-	-	-	-	350,000	350,000
Schools	192	Roof Repair/Replacement - Robin Hood	-	-	350,000	-	-	350,000
Schools	192	Roof Repair/Replacement for D Building CMS	-	-	-	-	350,000	350,000
Schools	192	Transit Van/Facilities Vehicle	-	-	-	-	-	-
Schools	192	Motorized Shades for Central Gym	-	-	90,000	-	-	90,000
Schools	192	Truck Vehicle w/plow	-	-	-	-	-	-
Subtotal School			-	500,000	440,000	350,000	700,000	1,990,000
Total Public Property/Facilities			-	200,000	700,000	1,750,000	5,475,000	700,000
Police Department								
‡	Police	210	Marked Police Vehicles	-	147,000	150,000	75,000	154,000
‡	Police	210	Unmarked Police Vehicles	35,000	50,000	-	38,000	123,000
Total Police Department			-	35,000	197,000	150,000	113,000	649,000
Dispatch Department								
Dispatch	212	Public Safety Dispatch Console	-	-	896,000	-	-	896,000
Total Police Department			-	-	896,000	-	-	896,000
Fire Department								
‡	Fire	220	Portable Radios	-	40,000	-	-	40,000
‡	Fire	220	Fire Engine	-	730,000	-	-	730,000
‡†	Fire	220	Fire Facility	-	-	8,000,000	-	8,000,000
‡	Fire	220	Pick-up Brush Truck	-	50,000	-	-	50,000
‡	Fire	220	Vehicle Replacement	-	50,000	-	-	50,000
Total Fire Department			-	870,000	8,000,000	-	-	8,870,000
School Department								
Schools	300	School Technology Capital Replacement Program	-	-	100,000	100,000	-	200,000
Schools	300	Ford Transit Van (Food Deliveries etc.)	36,000	-	-	-	-	36,000
Schools	300	Elementary Furniture Upgrade - All Schools	-	-	-	100,000	-	100,000
Schools	300	Robin Hood School Playground Upgrade	-	-	-	-	-	-
Schools	300	High School Marching Band Uniforms	-	-	50,000	-	-	50,000
Schools	300	Colonial Park School Playground Upgrade	-	200,000	-	-	-	200,000
Total School Department			-	36,000	200,000	150,000	200,000	586,000
Department of Public Works								
Public Works	400	Front End Loader	225,000	-	-	-	-	225,000
Public Works	400	Fueling Station Placeholder	-	95,000	-	-	-	95,000
Public Works	400/491	#53 Excavator	-	-	-	-	-	-
Public Works	400	Drainage	-	100,000	-	-	-	100,000
Public Works	400	#12 6 Wheel Dump Truck VW Grant Match	80,000	-	-	-	-	80,000
Public Works	400	Snow Blower Attachment for Front End Loader	-	-	-	-	-	-
Public Works	400	Compressor	-	-	-	-	-	-
Public Works	400	Ford Explorer SUV	-	-	-	-	-	-
Public Works	400	One Ton Dump Truck	-	55,000	-	-	-	55,000
Public Works	400	Utility Truck w/plow	-	55,000	-	-	-	55,000

Public Works	400	Mower		20,000				20,000	
Public Works	400	Sweeper		240,000				240,000	
Public Works	400	One Ton Dump Truck			55,000			55,000	
Public Works	400	3/4 Ton Pickup w/plow			40,000			40,000	
Public Works	400	Sidewalk Plow			150,000			150,000	
Public Works	400	Mower			20,000			20,000	
Public Works	400	3/4 Ton Pickup w/plow				45,000		45,000	
Public Works	400	One Ton Dump Truck w/plow				55,000		55,000	
Public Works	400	Loader					260,000	260,000	
Public Works	400	Bobcat					45,000	45,000	
Public Works	400	Streets & Sidewalks Capital Plan						5,000,000	
Total Department of Public Works				200,000	1,200,000	1,200,000	1,200,000	1,505,000	6,540,000

Total Non-Departmental								
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Council on Aging								
COA	541	COA Van Request		68,000				68,000
Total Recreation Department				68,000				68,000

Recreation Department								
Recreation	542	Playground Improvements		176,000	(98,500)			77,500
Total Recreation Department				176,000	(98,500)			77,500

Library								
Total Library								

Golf Course								
Golf	630	Rebuild Hole 4		26,950	18,700			45,650
Golf	630	Rebuild Hole 9						-
Golf	630	Install Net at 3rd hole						-
Golf	630	Tree Work		10,000	10,000	10,000	10,000	40,000
Golf	630	Rebuild Hole 8			23,700			23,700
Golf	630	Rebuild Hole 2				23,650		23,650
Golf	630	Rebuild Hole 6				23,650	20,900	44,550
Golf	630	Rebuild Hole 1				18,700		18,700
Golf	630	Rebuild Hole 7				9,350		9,350
Golf	630	Rebuild Hole 5				9,350		9,350
Golf	630	Install Drainage on 7th Fairway		33,000				33,000
Golf	630	Install Drainage on 5th Fairway			28,600			28,600
Golf	630	Install 2-Bay Hitting Cage						-
Golf	630	Install kitchen, exhaust hood, grill, fryer in Clubhouse					42,000	42,000
Golf	630	Renovation of maintenance building staff lunch/break room						-
Golf	630	New Carpet in Clubhouse						-
Golf	630	Replacement and Upgrade of Clubhouse Exterior					40,000	40,000
Golf	630	Renovate Clubhouse Basement		16,500				16,500
Golf	630	Golf Course Improvements						-
Total Golf Course				86,450	81,000	94,700	112,900	375,050

Arena								
Arena	631	Ice Resurfacer						
Arena	631	Skate Sharpening Machine					15,000	15,000
Total Arena							15,000	15,000

Non-Departmental								
ND	920	Old Burying Ground Master Preservation Plan		15,000	34,000	145,000	100,000	294,000
Total Non-Departmental				15,000	34,000	145,000	100,000	294,000

GENERAL FUND TOTAL				884,500	4,179,450	12,497,500	7,472,700	2,636,900	27,471,050
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ENTERPRISE FUNDS

Sewer Enterprise								
Sewer	440	Sewer/Drain line Video Inspection Camera		45,000				45,000
Sewer	440	MWRA Projects (Town Portion)						
Sewer	440	#7 Pump/Vac Truck		425,000				425,000
Total Sewer Enterprise				470,000				470,000

Water Enterprise								
Water	450	Gate Replacement on Main Street						
Water	450	Cleaning & Lining of 20" water main on Main Street.						
Water	450	LWSAP (0% Loan)		2,000,000				2,000,000
Water	450	Water Main Replacement (Downtown)			2,000,000			2,000,000
Total Water Enterprise				2,000,000	2,000,000			4,000,000

ENTERPRISE FUNDS TOTAL				2,470,000	2,000,000			4,470,000
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GRAND TOTAL: 5-YEAR CAPITAL PLAN				3,354,500	6,179,450	12,497,500	7,472,700	2,636,900	31,941,050
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FUNDING SUMMARY	FY2021	FY2022	FY2023	FY2024	FY2025	Five Year Total
Free Cash (FR)	-	-	-	-	-	-
Operating Budget (OB)	-	-	-	-	-	-
Debt (D)	844,000	-	-	-	-	844,000
Enterprise Receipts (ER)	2,470,000	-	-	-	-	2,470,000
Capital Stabilization (CS)	-	-	-	-	-	-
Overlay (O)	40,500	-	-	-	-	40,500
Budget Surplus (BS)	-	-	-	-	-	-
Revolving Fund (RF)	-	-	-	-	-	-
Chapter 90 (C90)	-	-	-	-	-	-
TOTAL	3,354,500	-	-	-	-	-

Unfunded	-	6,179,450	12,497,500	7,472,700	2,636,900	31,941,050
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E. SUSTAINABILITY DOCUMENTS

Per Project Advisory #41, all MSBA Core Program projects must be registered with USGBC LEED-S Version 4 or MA CHPS. The Stoneham School Building Committee has chosen to move forward with LEED-S Version 4 and intends to achieve 2% additional reimbursement by achieving a min. of “certified” within that rating system and by exceeding the level of energy efficiency required in the current Massachusetts (base) energy code by 20%

The Design Team advanced the sustainability goals in the Feasibility Stage in order to allow it equal emphasis with the many other design challenges and embed the chosen strategies into the overall design to create a more unified whole.

The Design Team needed to first understand where the Town’s priorities lay. To better understand this, a meeting was arranged with members of the Building Committee with sustainable expertise and interest in the sustainability component of the high school design.

Over a series of meetings the Design Team introduced the core concepts of sustainability and discussed how they might become integral to student life at the high school, as well as providing long term benefits to the district, defining sustainability as a concept supported by a triad of concerns: the social, the environmental, and the economic. During these meetings it became clear that the goal of zero net energy (ZNE) was a priority for the community and thus the high school project. The district has engaged MassSave to explore their ZNE incentives program and partnered with them for additional engineering support during the feasibility phase. This has led to a robust energy modeling study that has paralleled scheme development for the town’s evaluation.

The idea of sustainability having a social component aligns with the educational programming vision established by the District, whereby creating a shared sense of community and opportunity for curriculum integration parallel the interdisciplinary, shared learning environment the District is creating for the new high school.

The environmental aspects of sustainability are perhaps self-evident, addressing CO2 emissions, natural habitat, responsible resource use, safe materials, and watershed

impact. The school being adjacent to the Middlesex Fells highlights these issues as not just global but specific site related concerns,

Economically, sustainability presents a multitude of issues. The upfront capital costs of implementing sustainable strategies can add significantly to project budgets while simultaneously providing long term payback in the form of energy and/or water savings. Other issues to be addressed include maintenance costs, space requirements, adaptability, and ease of maintenance.

The Design Team prioritized energy and water use as those likely to have the most potential payback and relevance to the community, respectively. Material health, ecosystem health, sustainable infrastructure and building resilience were also presented and discussed as project priorities. Ultimately the preferred scheme was selected because while it support the district’s educational goals it also support its goals vis-à-vis environmental stewardship:

- Further integrating the site with its natural edges through the development of a functional “green walking path”
- Supporting on-site energy generation through simplified solar focused roof and parking design layouts
- Facilitating phasing of geo exchange well field construction
- Minimizing excess building envelope
- Massing that prioritizes daylit space requirements

NEXT STEPS

A pricing narrative will be formed for each major conservation strategy and the evaluation matrix illustrated in the presentation will be filled in to help the design team and client make decisions based on the overall sustainable goals. The matrix will be updated as energy models and strategies are refined so that sustainable energy and water strategies are executed efficiently. Non-energy and water related sustainable measures will be a focus of early SD conversations.

TABLE OF CONTENTS	
INTRODUCTION	3.3.1
EVALUATION OF EXISTING CONDITIONS	3.3.2
FINAL EVALUATION OF ALTERNATIVES	3.3.3
PREFERRED SOLUTION	3.3.4
LOCAL ACTIONS & APPROVALS	3.3.5
APPENDICES	



LEED v4.0 for BD+C: Schools

Project Checklist: Stoneham High School

Y	?	N	C#	Credit Name	points
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1	0	0	Integrative Process		Possible Points: 1
1	0	0	Credit 1	Integrative Process	1

0	4	11	Location and Transportation		Possible Points: 15
		15	Credit 1	LEED for Neighborhood Development Location	15
	1		Credit 2	Sensitive Land Protection	1
		2	Credit 3	High Priority Site	2
		5	Credit 4	Surrounding Density and Diverse Uses	5
		4	Credit 5	Access to Quality Transit	4
	1		Credit 6	Bicycle Facilities	1
	4		Credit 7	Reduced Parking Footprint	1
	4		Credit 8	Green Vehicles	1

3	3	6	Sustainable Sites		Possible Points: 12
Y			Prereq 1	Construction Activity Pollution Prevention	Required
Y			Prereq 2	Environmental Site Assessment	Required
1			Credit 1	Site Assessment	1
		2	Credit 2	Site Development--Protect or Restore Habitat	2
	1		Credit 3	Open Space	1
	2	1	Credit 4	Rainwater Management	3
		2	Credit 5	Heat Island Reduction	2
1			Credit 6	Light Pollution Reduction	1
		1	Credit 7	Site Master Plan	1
1			Credit 8	Joint Use of Facilities	1



LEED v4.0 for BD+C: Schools

Project Checklist: Stoneham High School

6	1	5	Water Efficiency		Possible Points:	12
Y			Prereq 1	Outdoor Water Use Reduction		Required
Y			Prereq 2	Indoor Water Use Reduction		Required
Y			Prereq 3	Building-Level Water Metering		Required
1		1	Credit 1	Outdoor Water Use Reduction		2
3		4	Credit 2	Indoor Water Use Reduction		7
2			Credit 3	Cooling Tower Water Use		2
	1		Credit 4	Water Metering		1

21	8	0	Energy and Atmosphere		Possible Points:	31
Y			Prereq 1	Fundamental Commissioning and Verification		Required
Y			Prereq 2	Minimum Energy Performance		Required
Y			Prereq 3	Building-Level Energy Metering		Required
Y			Prereq 4	Fundamental Refrigerant Management		Required
6			Credit 1	Enhanced Commissioning		6
14	2		Credit 2	Optimize Energy Performance		16
1			Credit 3	Advanced Energy Metering		1
	2		Credit 4	Demand Response		2
	3		Credit 5	Renewable Energy Production		3
	1		Credit 6	Enhanced Refrigerant Management		1
	2		Credit 6	Green Power and Carbon Offsets		2

3	2	8	Materials and Resources		Possible Points:	13
Y			Prereq 1	Storage and Collection of Recyclables		Required
Y			Prereq 2	Construction and Demolition Waste Management Planning		Required



LEED v4.0 for BD+C: Schools

Project Checklist: Stoneham High School

1	4	Credit 1	Building Life-Cycle Impact Reduction	5
1	1	Credit 2	Building Product Disclosure and Optimization - Environmental Product Declarations	2
	2	Credit 3	Building Product Disclosure and Optimization - Sourcing of Raw Materials	2
1	1	Credit 4	Building Product Disclosure and Optimization - Material Ingredients	2
2		Credit 5	Construction and Demolition Waste Management	2

7	5	4	Indoor Environmental Quality	Possible Points: 16
Y		Prereq 1	Minimum Indoor Air Quality Performance	Required
Y		Prereq 2	Environmental Tobacco Smoke Control	Required
Y		Prereq 3	Minimum Acoustic Performance	Required
2		Credit 1	Enhanced Indoor Air Quality Strategies	2
2	1	Credit 2	Low-Emitting Materials	3
1		Credit 3	Construction Indoor Air Quality Management Plan	1
	2	Credit 4	Indoor Air Quality Assessment	2
1		Credit 5	Thermal Comfort	1
2		Credit 6	Interior Lighting	2



LEED v4.0 for BD+C: Schools

Project Checklist: Stoneham High School

		3	Credit 7	Daylight	3
1			Credit 8	Quality Views	1
		1	Credit 9	Acoustic Performance	1

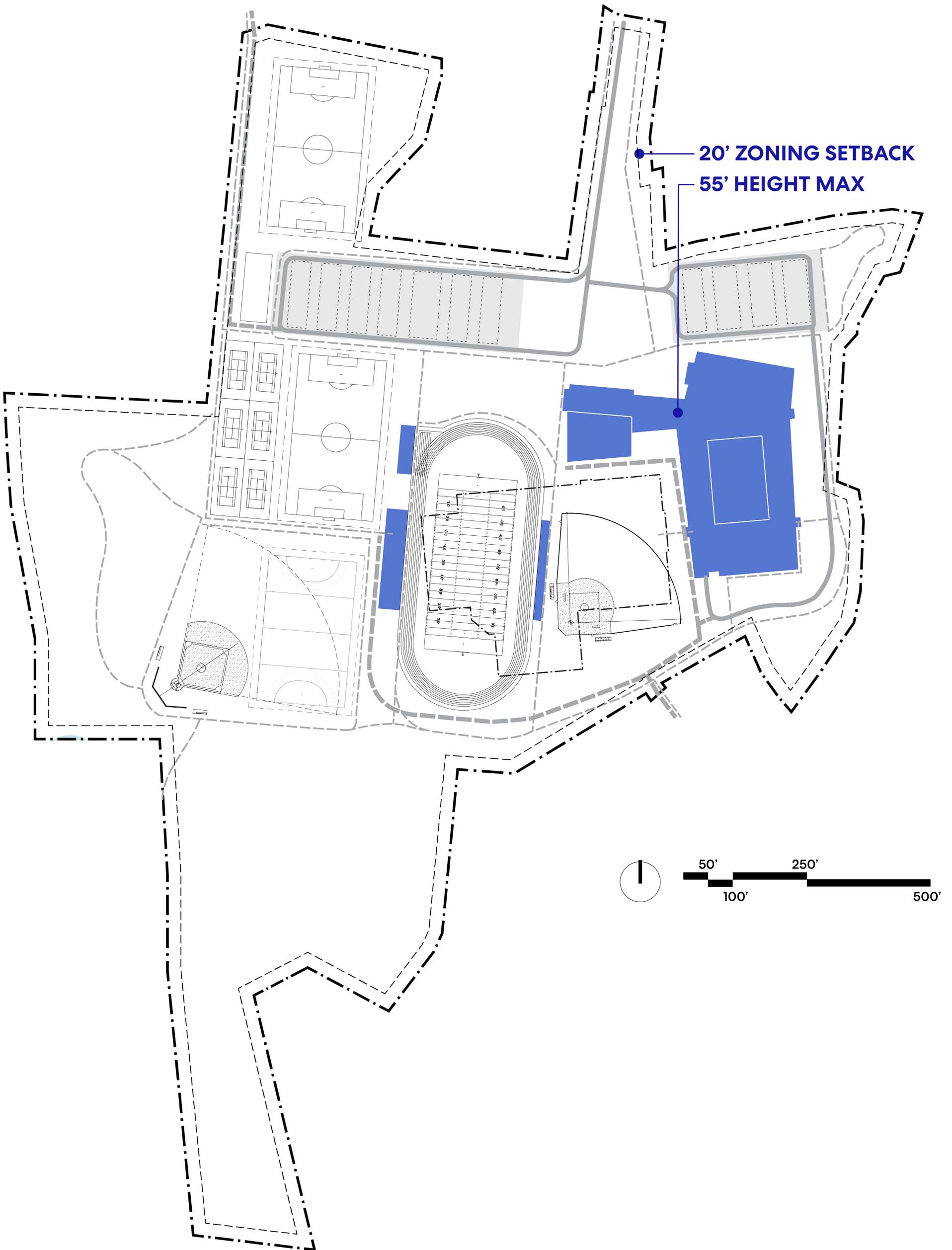
1	5	2	Innovation		Possible Points: 6
	1		Credit 1	Innovation	1
	1		Credit 2	Innovation	1
	1		Credit 3	Innovation	1
	1		Credit 4	Innovation	1
	1		Credit 5	Innovation	1
		1	Option	Innovation	1
		1	Option	Innovation	1
1			Credit 6	LEED Accredited Professional	1

3	0	3	Regional Priority		Possible Points: 4	
1			Credit 1	Regional Priority: Specific Credit	Optimized Energy (8 points)	1
		1	Credit 2	Regional Priority: Specific Credit	Building Life-cycle Impact (2 points)	1
		1	Credit 3	Regional Priority: Specific Credit	Site Development-protect and restore (2 points)	1
		1	Credit 4	Regional Priority: Specific Credit	Access to Quality Transit	1
1			Credit 5	Regional Priority: Specific Credit	Renewable Energy Production	1
1			Credit 6	Regional Priority: Specific Credit	Cooling Tower Water Use	1

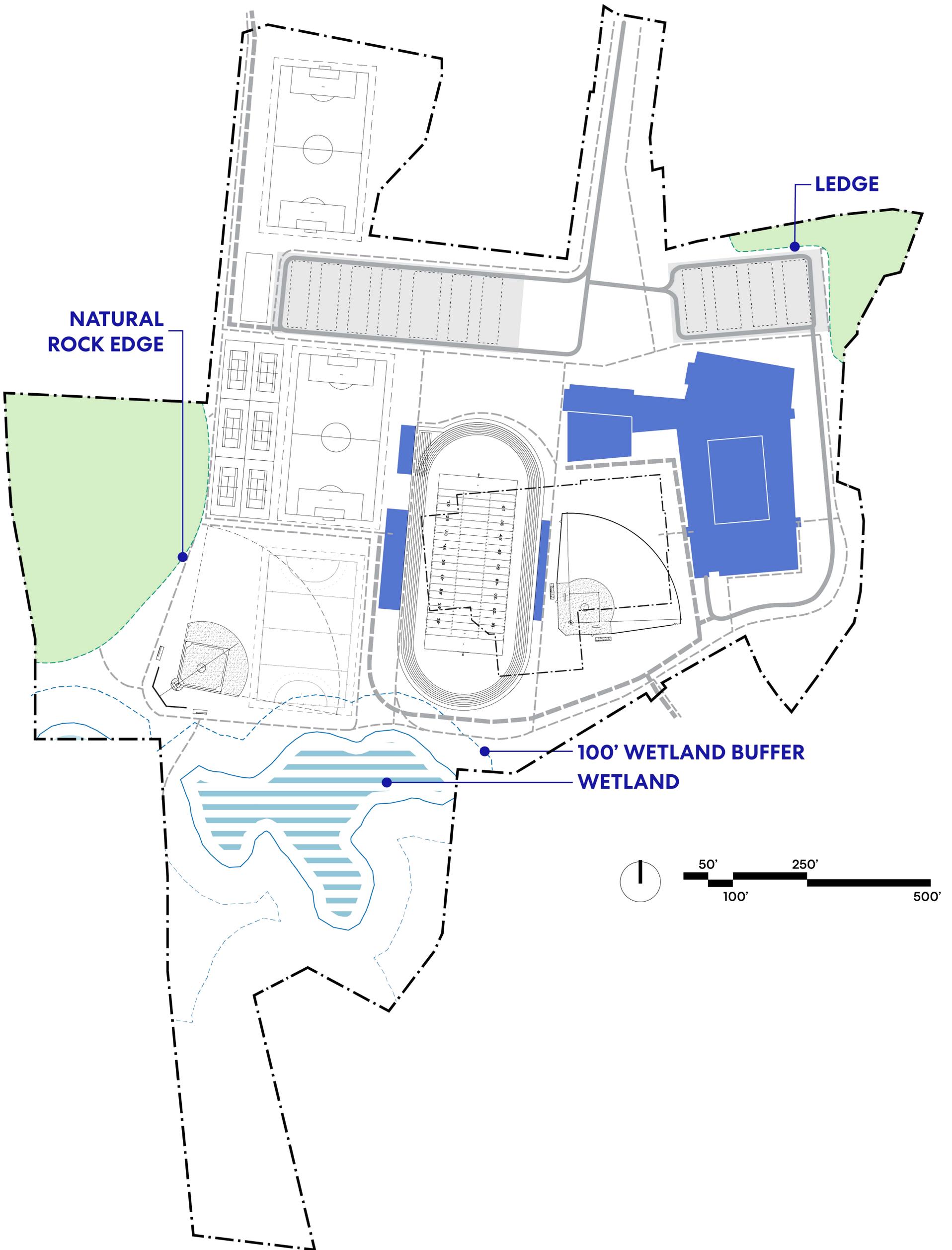
45	27	39	Total		Possible Points: 110
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Certified 40 to 49 points Silver 50 to 59 points Gold 60 to 79 points Platinum 80 to 110

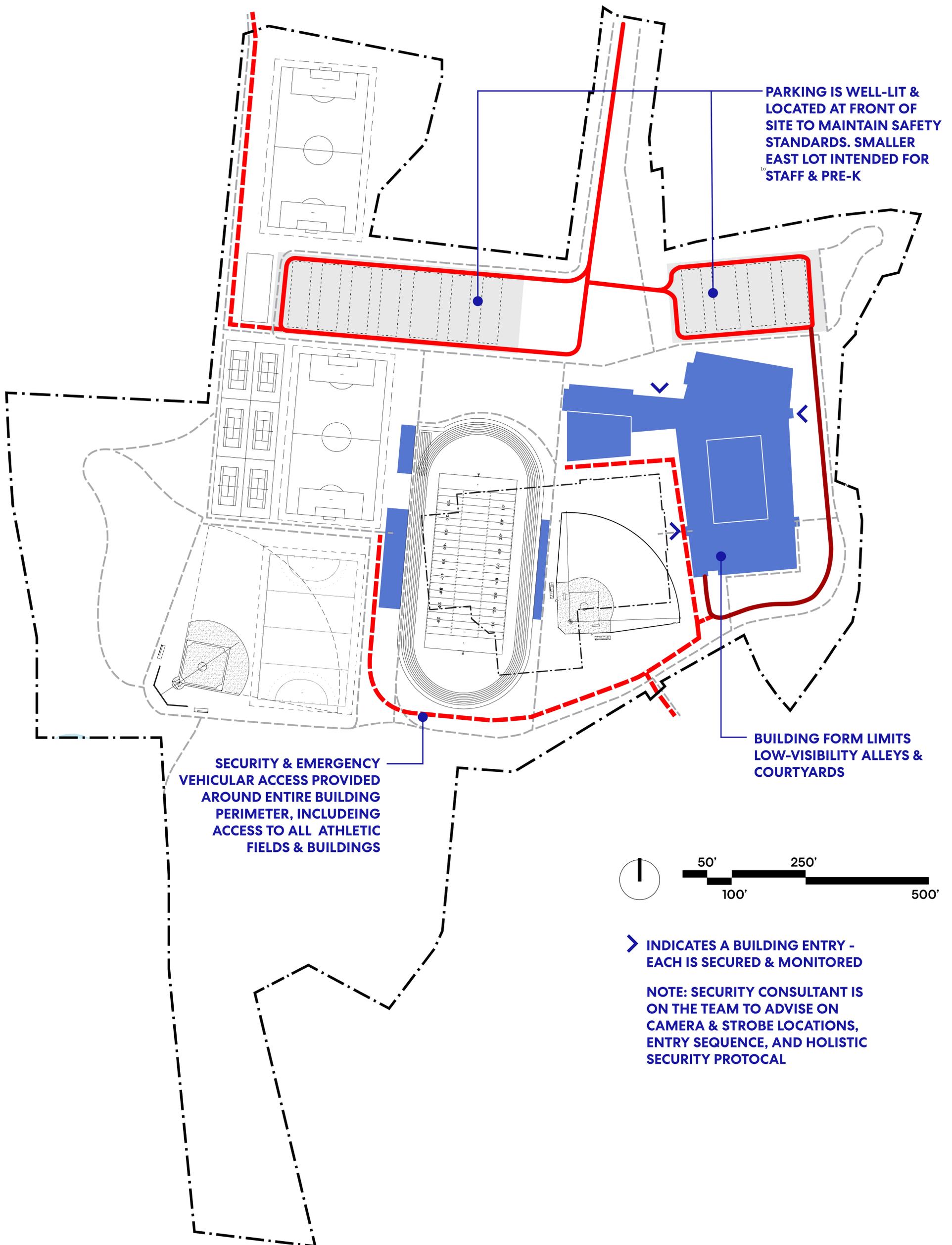
ZONING REQUIREMENTS



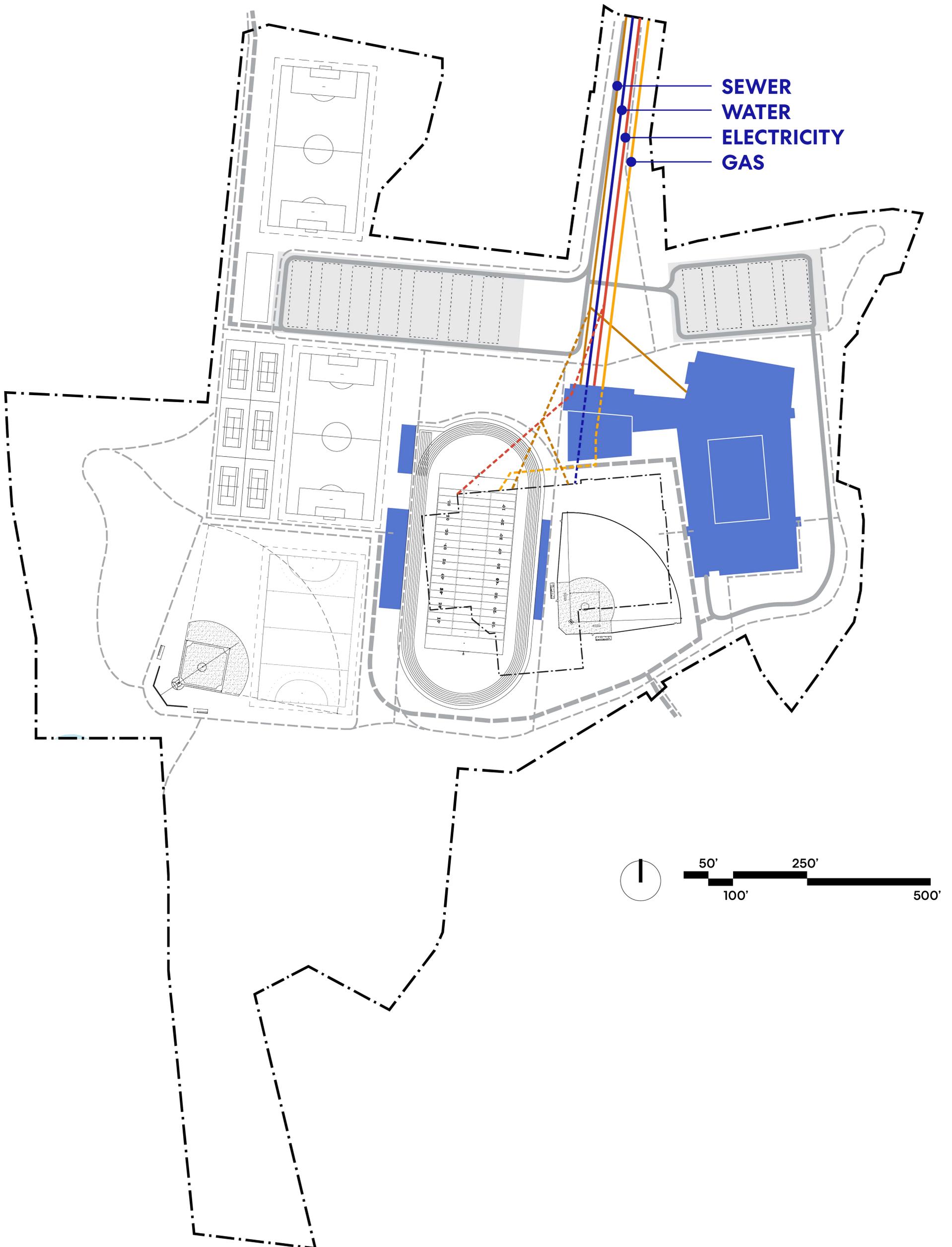
ENVIRONMENTAL BUFFERS



SAFETY & SECURITY



UTILITIES



Perkins&Will

STONEHAM HIGH SCHOOL Building Committee Meeting

02.08.2021

AGENDA

Design Update

Building Concepts

Building Form (massing)

Building Planning Update

Energy Optimization



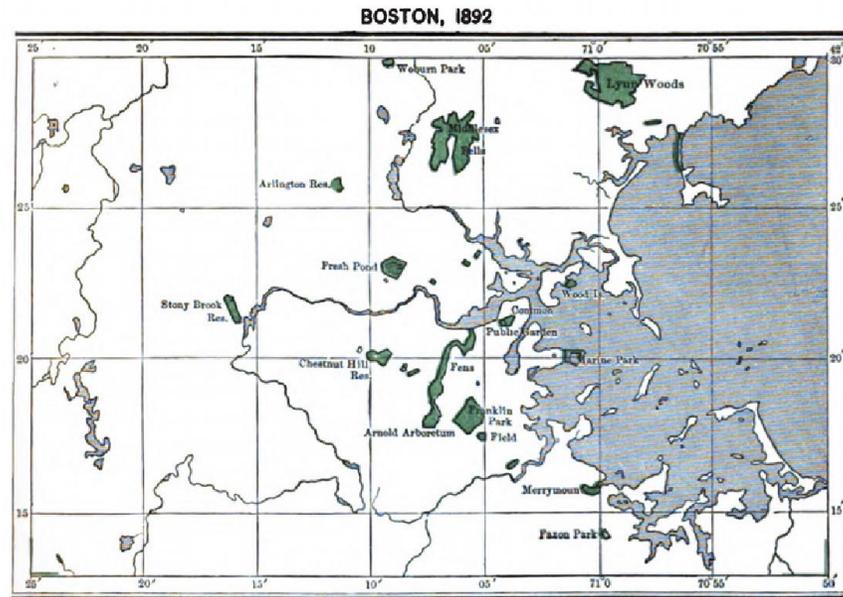
Aerial View of
Existing High School

Perkins&Will

Design Update

Building Committee Meeting

Stoneham's Roots



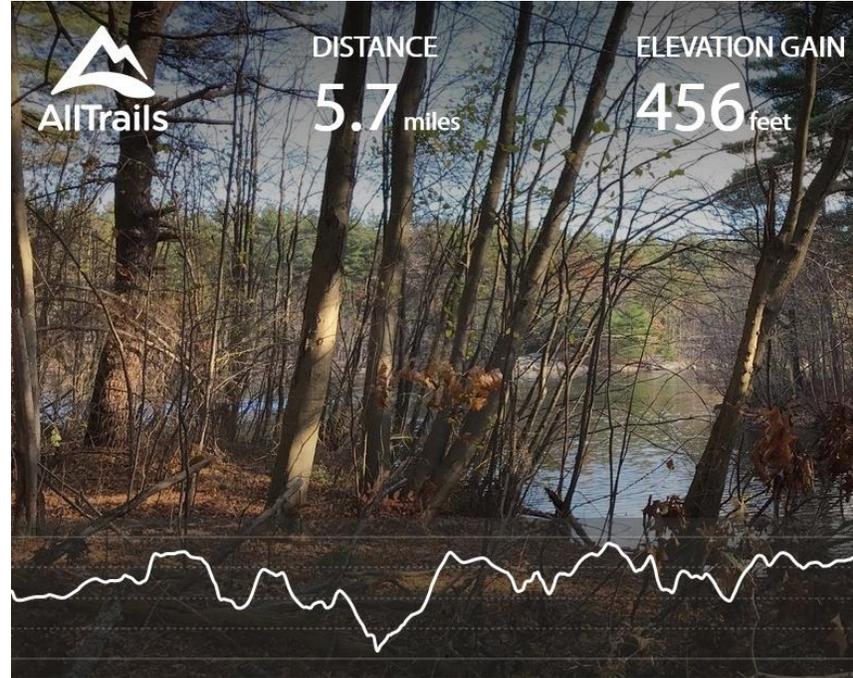
Stoneham's history is intertwined with stories of industry, invention, community and conservation. These stories all share a common thread: the area's unique geology and natural resource.



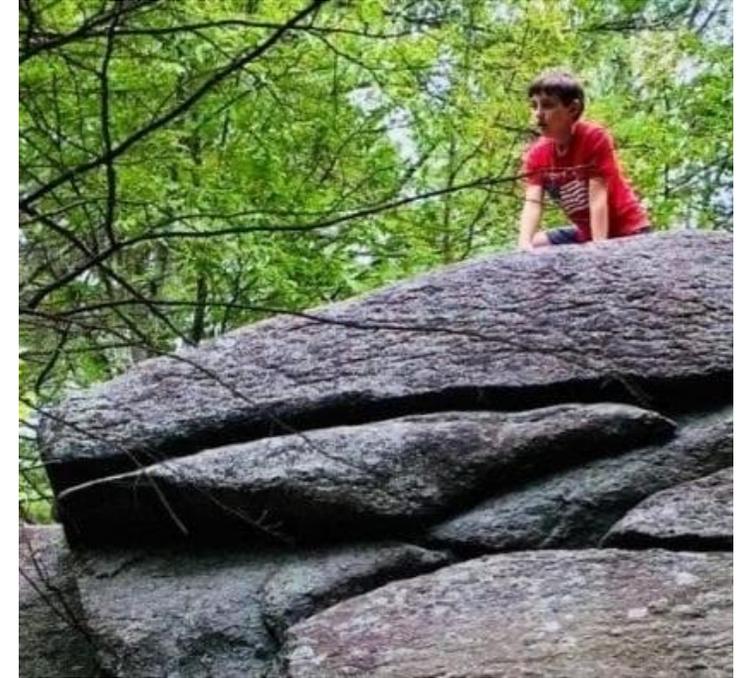
Stoneham's Promontories



Places to seek a broader view



Places to elevate themselves



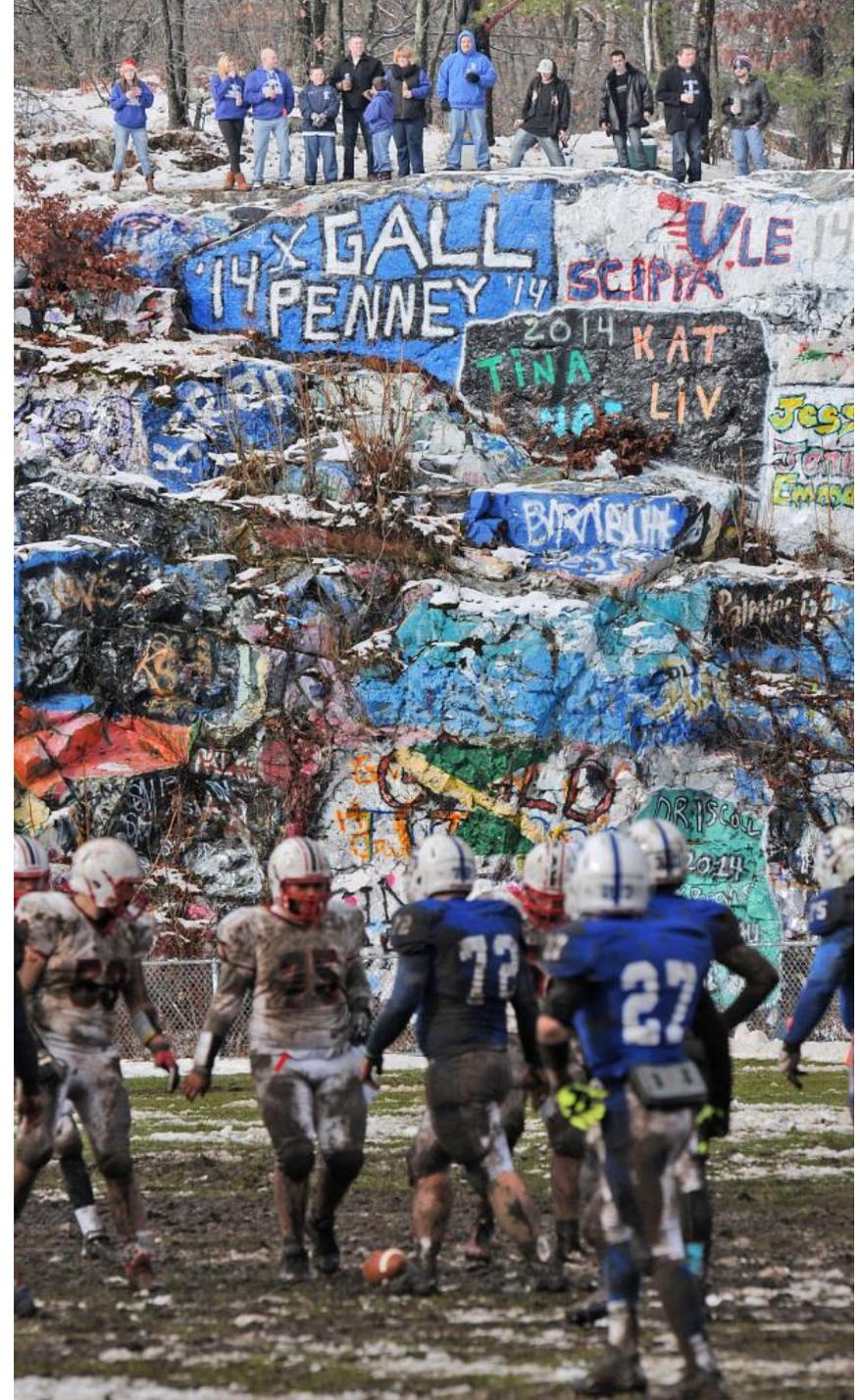
Places to find to perspective

Stoneham's Promontories

At the High School

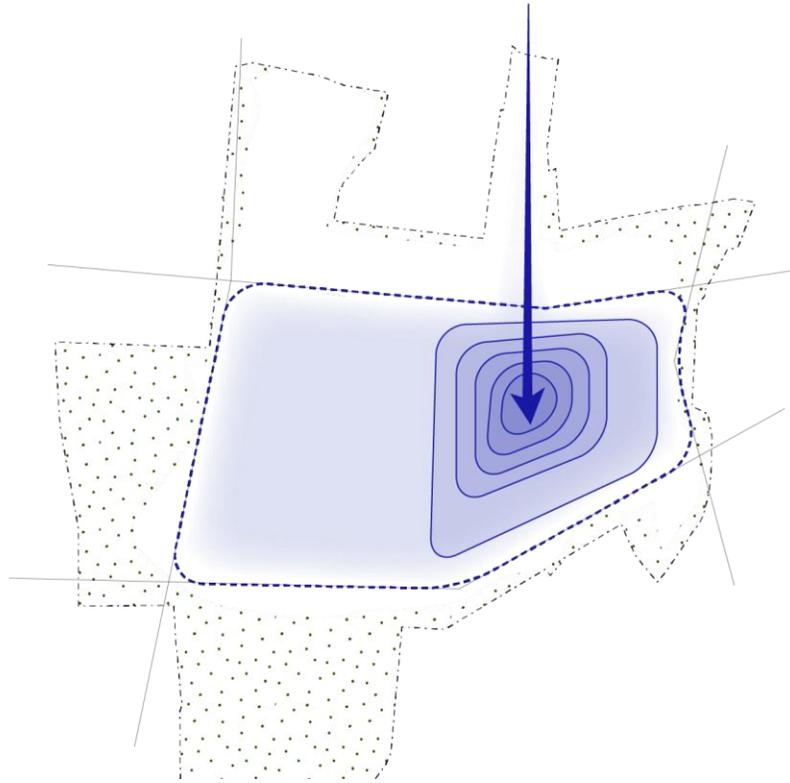


A place for self expression...a place of pride and a place to build tradition

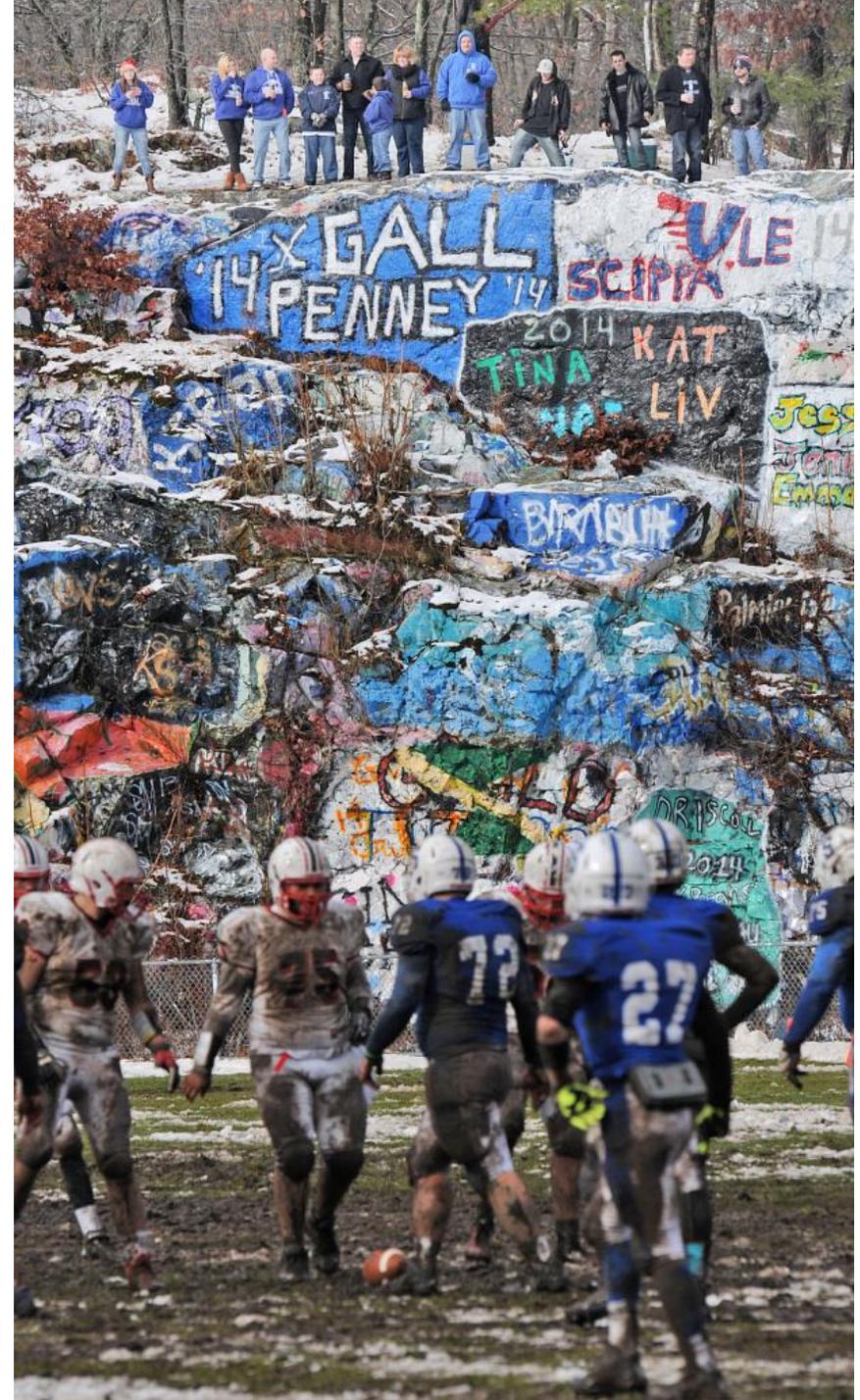


A New Promontory

Spartan Plaza



A place for self expression...a place of pride and a place to build tradition



Stoneham's Paths



Places to explore

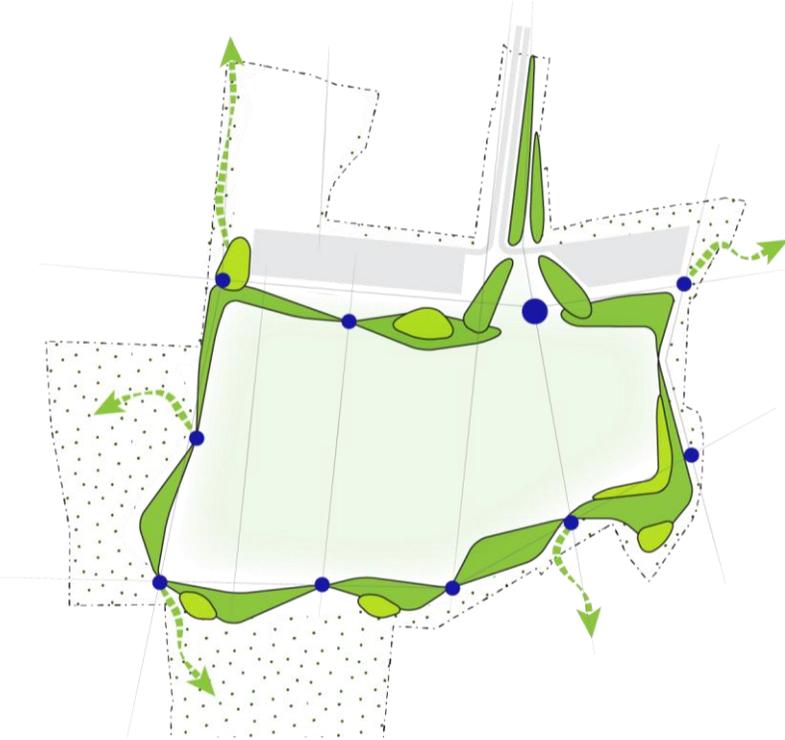


Places to come together



Places that energize

Stoneham's Paths

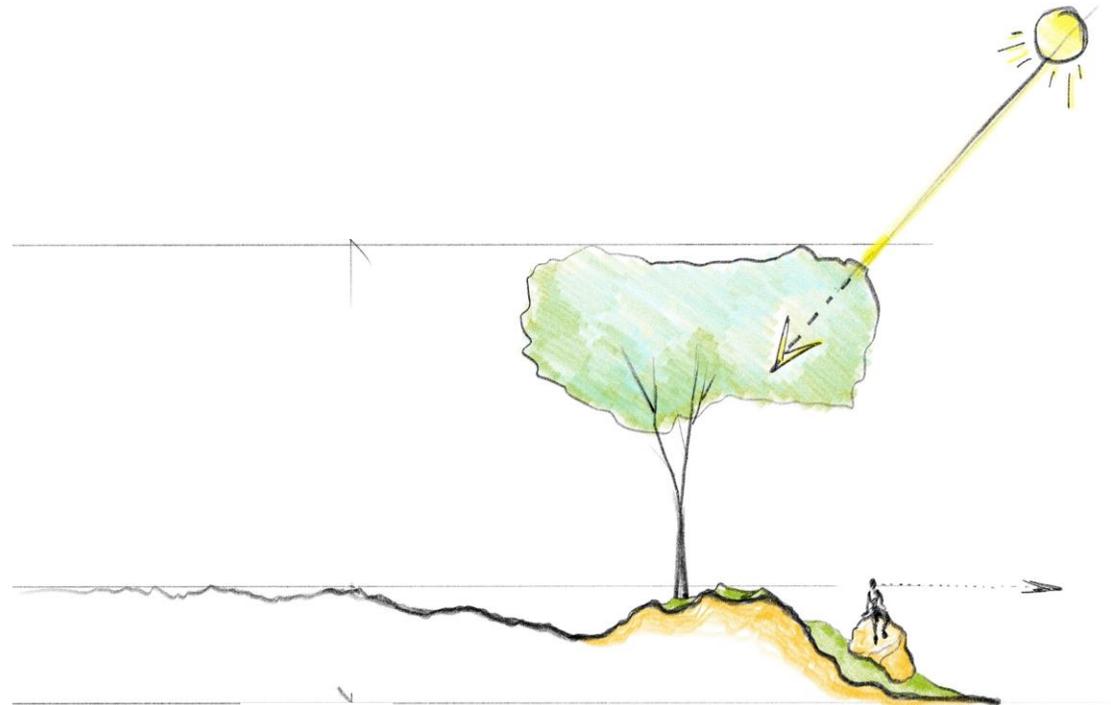


A Place for educational exploration, a place for discovery, places to connect.

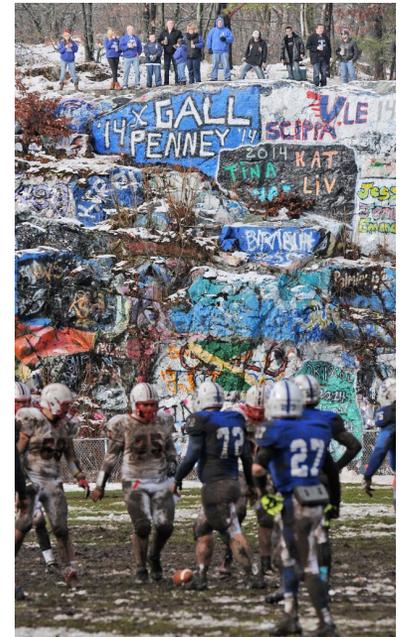


Building / Site Concept

Path (Exploration)



Promontory (Identity)



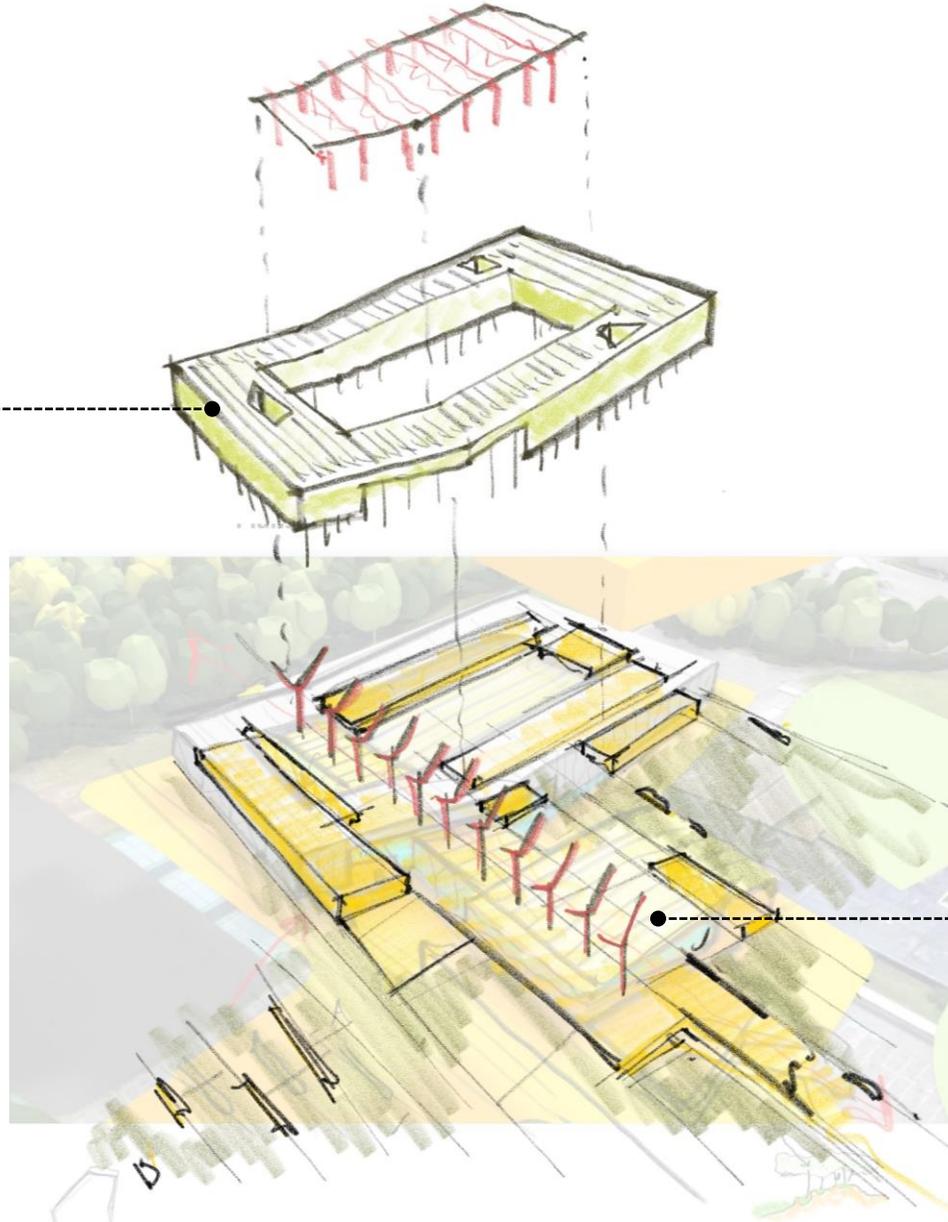
Building Concept

Path

Exploration
Energizing
Connection



Solar Harvesting
Filtering Light
Open, Layered



Promontory

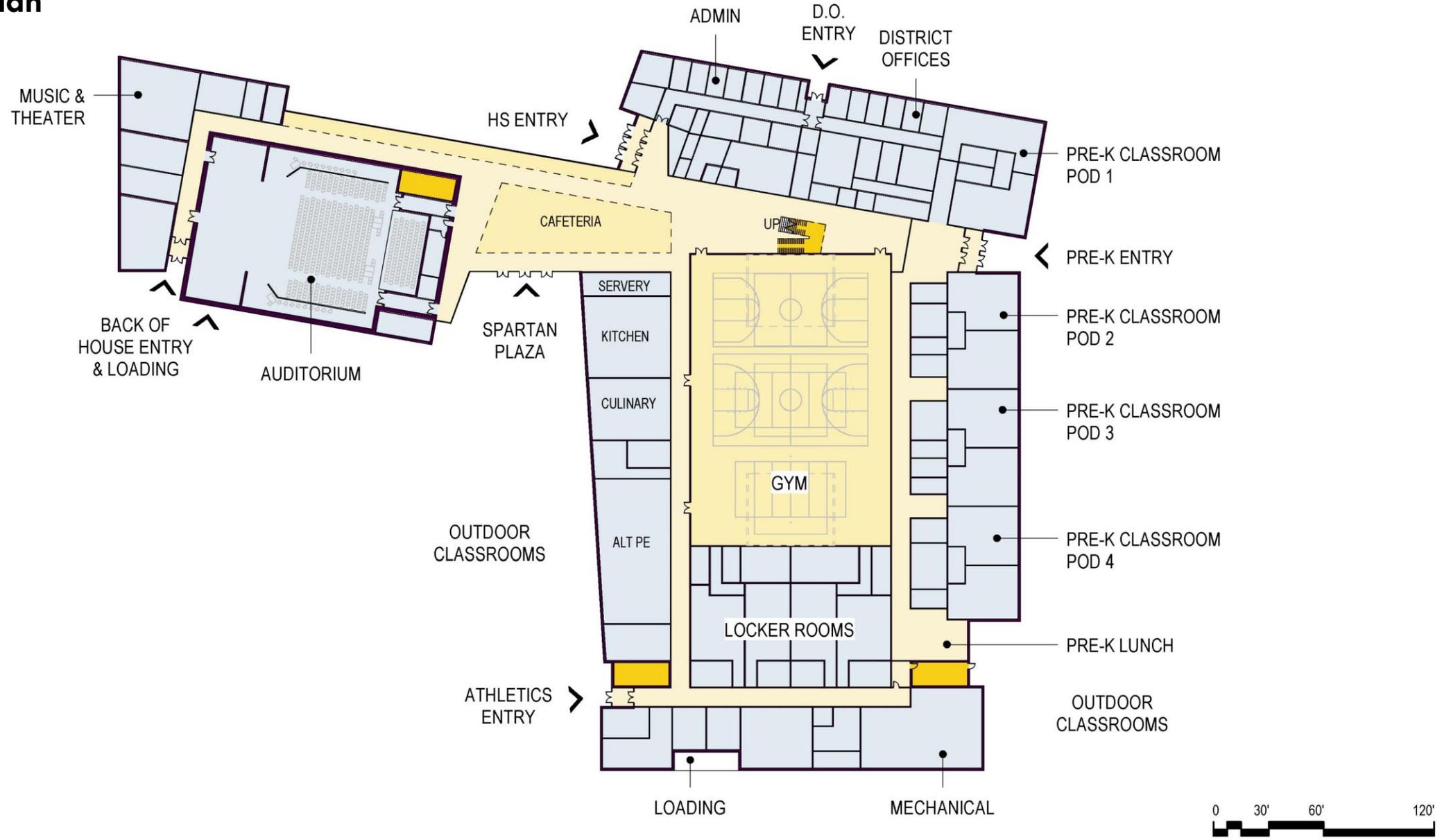
Identity
Student expression
inclusion



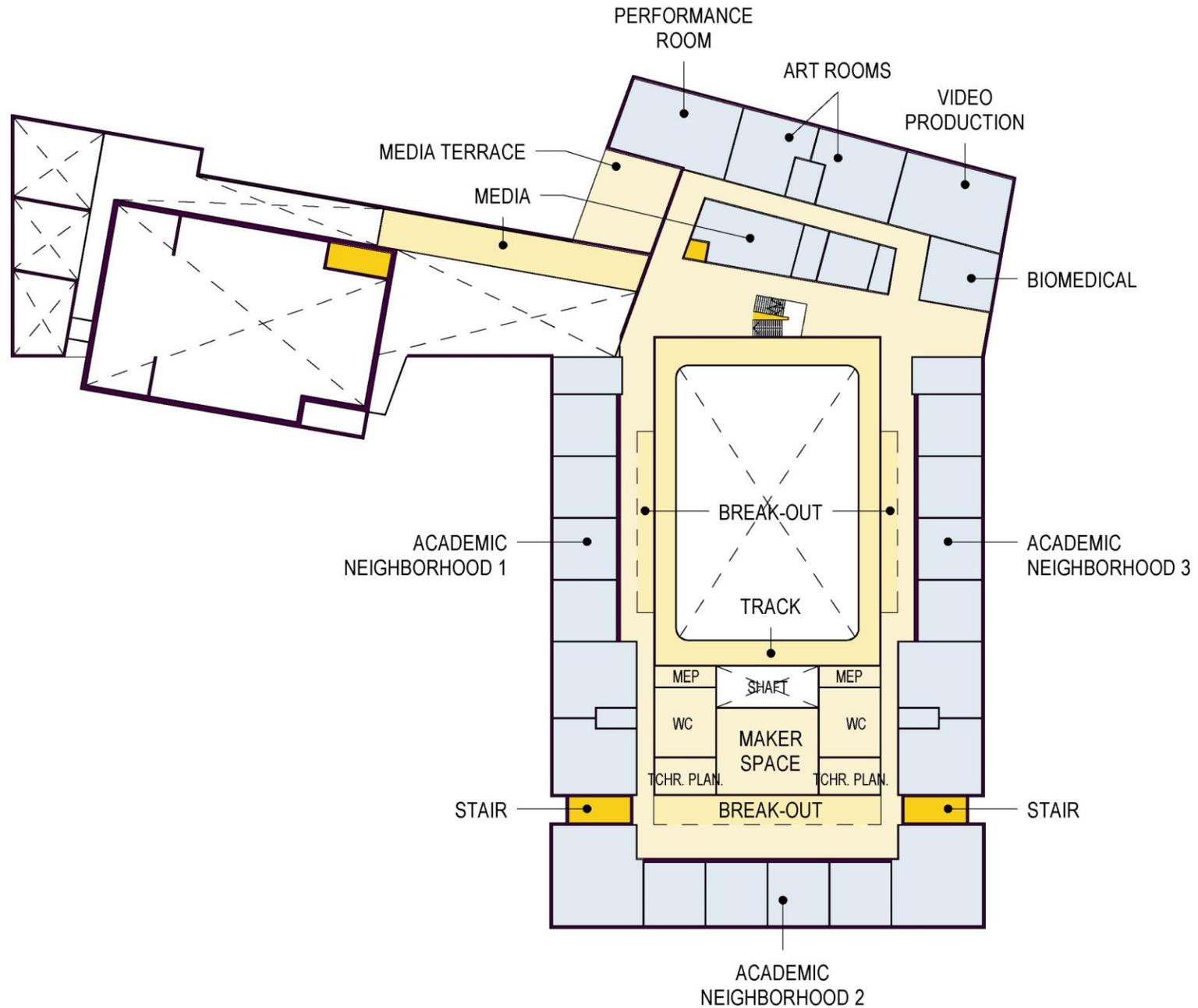
Durable
Elevated Views
Landscape Connected

Building Model Live Fly-Through

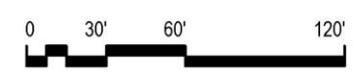
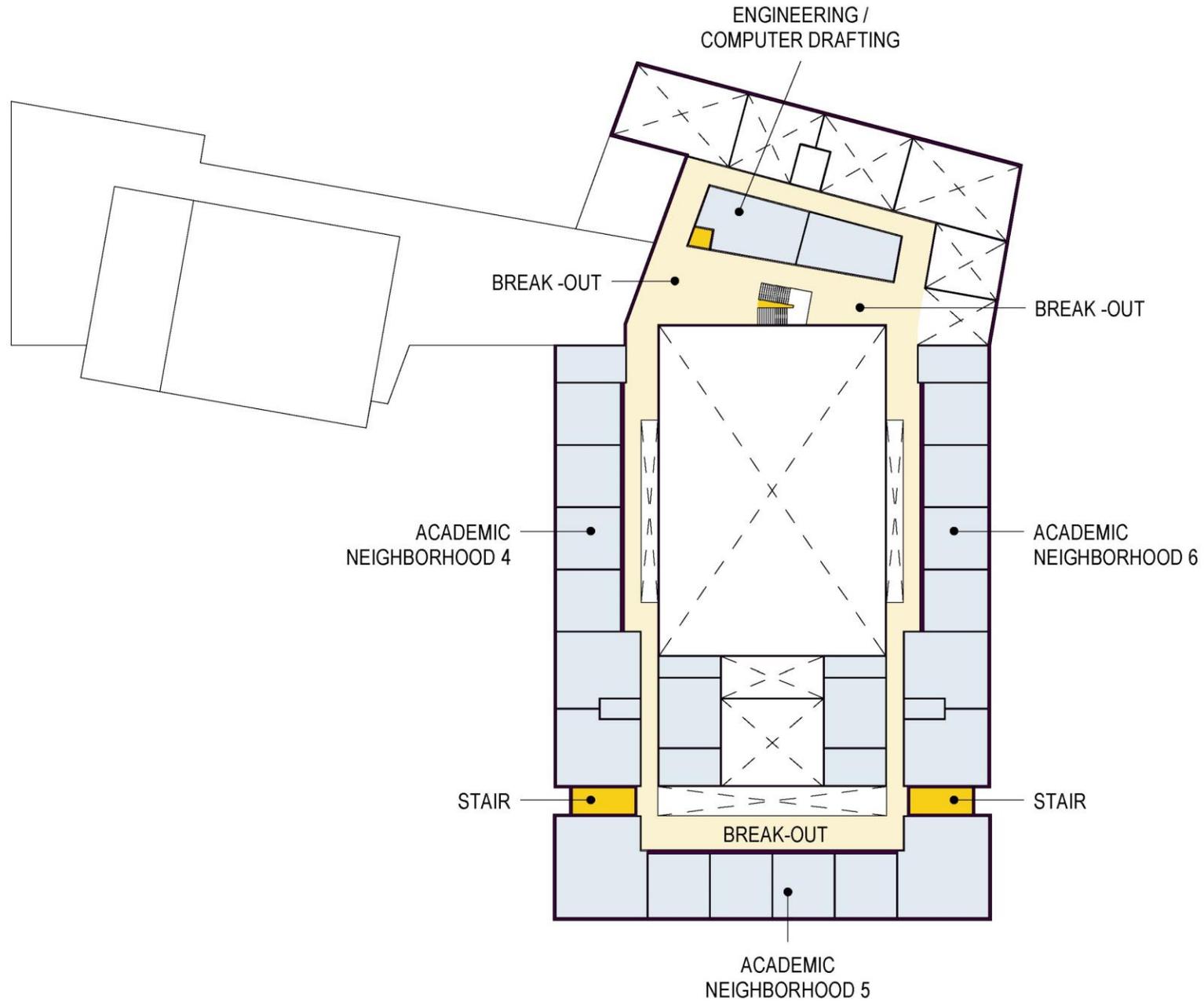
Level 1 Plan



Level 2 Plan



Level 3 Plan



Perkins&Will

Energy Optimization

Building Committee Meeting

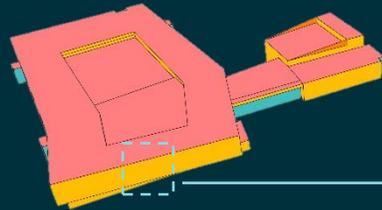
JAN 25, 2021

STONEHAM HIGH SCHOOL Envelope Study

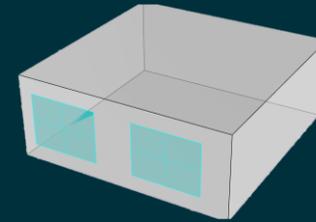
Thornton Tomasetti

APPROACH

WHOLE BUILDING ENVELOPE



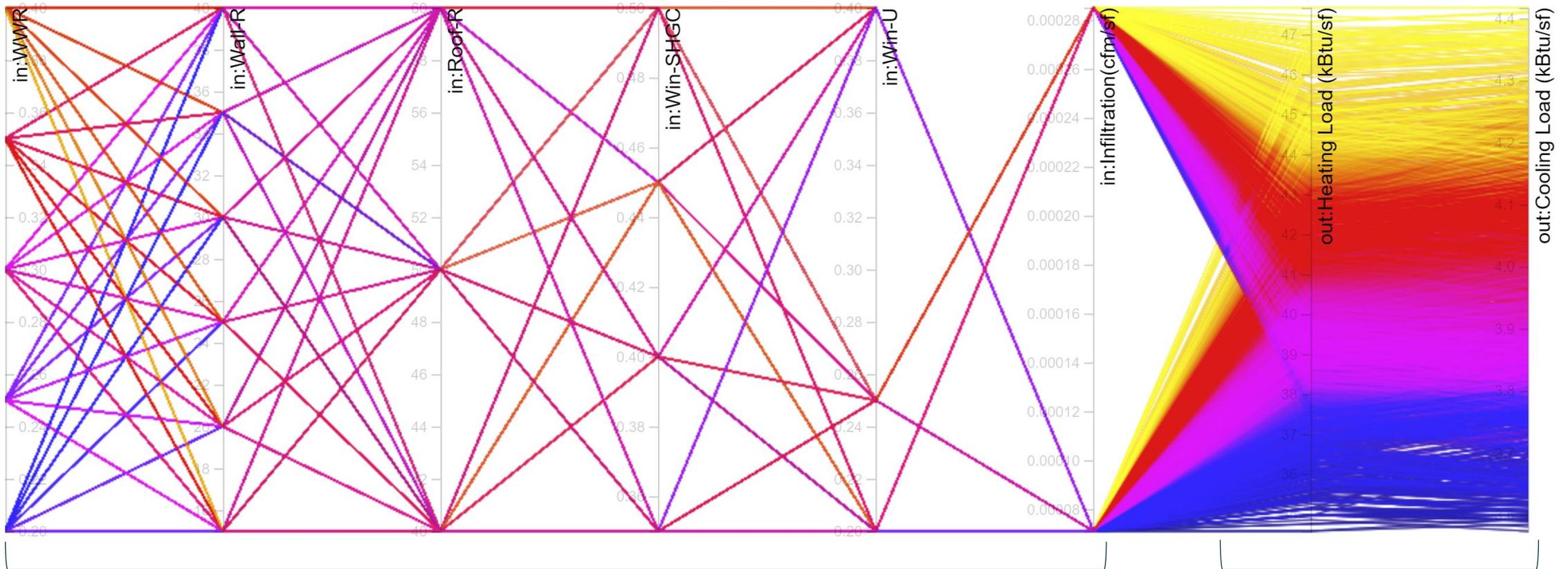
CLASSROOM ENVELOPE



- Whole building Analysis
- Not by orientation
- Annual energy demand

- A typical classroom
- By orientation
- Daylight + peak demand

PARAMETERS



Highest ~ 48 kBtu/sf
Lowest ~ 34 kBtu/sf

Highest ~ 4.4 kBtu/sf
Lowest ~ 3.5 kBtu/sf

Inputs

- Window-to-wall ratio: 20% to 40%
- Wall R-value: R-15 to R-40
- Roof R-value: R-40 to R60
- Window-SHGC: 0.3 to 0.5
- Window-U value: 0.2 to 0.4
- Infiltration rate: 0.1 cfm/sf@75Pa vs 0.4 cfm/sf@75Pa

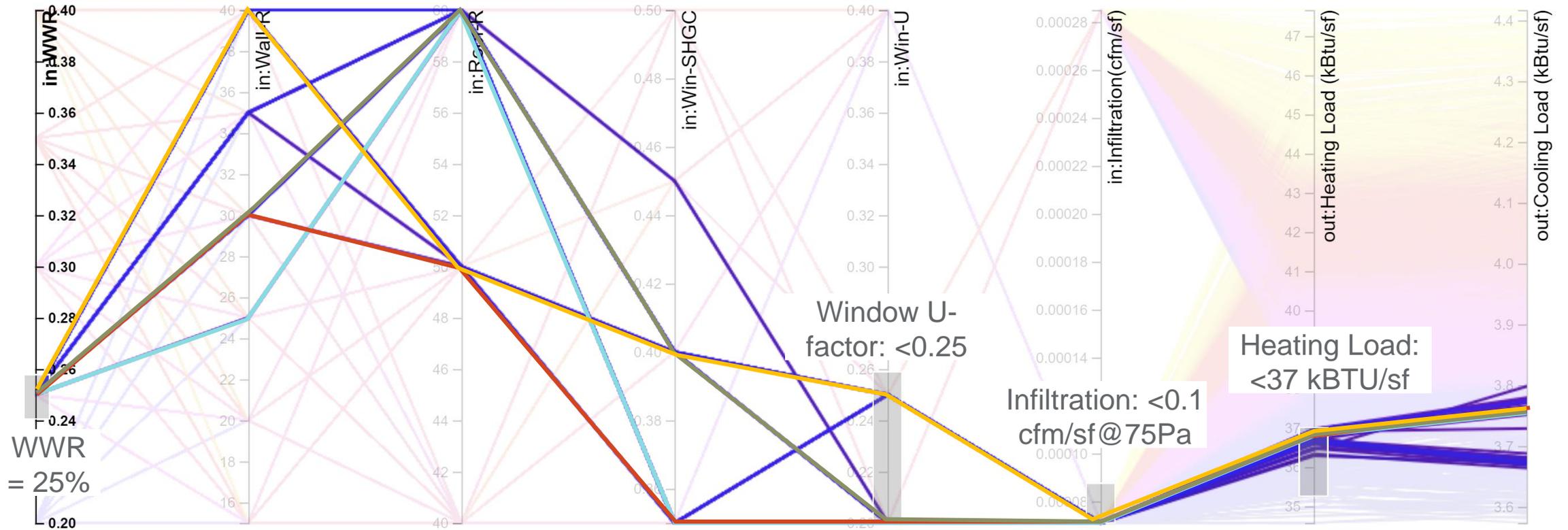
More than 2,000 combinations:

Outputs

Annual Heating Load (kBtu/sf):
main energy load of the building.
Annual Cooling Load (kBtu/sf)

Heating and cooling loads
do NOT include system
efficiencies

RECOMMENDED DESIGN COMBINATIONS



Design constants:

WWR 25%
 Low Infiltration
 Triple-pane glazing

Combination 1:

Wall R-25
 Roof R-60
 Window U-0.2
 SHGC 0.35-0.4

Combination 2:

Wall R-30
 Roof R-50
 Window U-0.2
 SHGC 0.35-0.4

Combination 3:

Wall R-30
 Roof R-60
 Window U-0.25
 SHGC 0.35-0.4

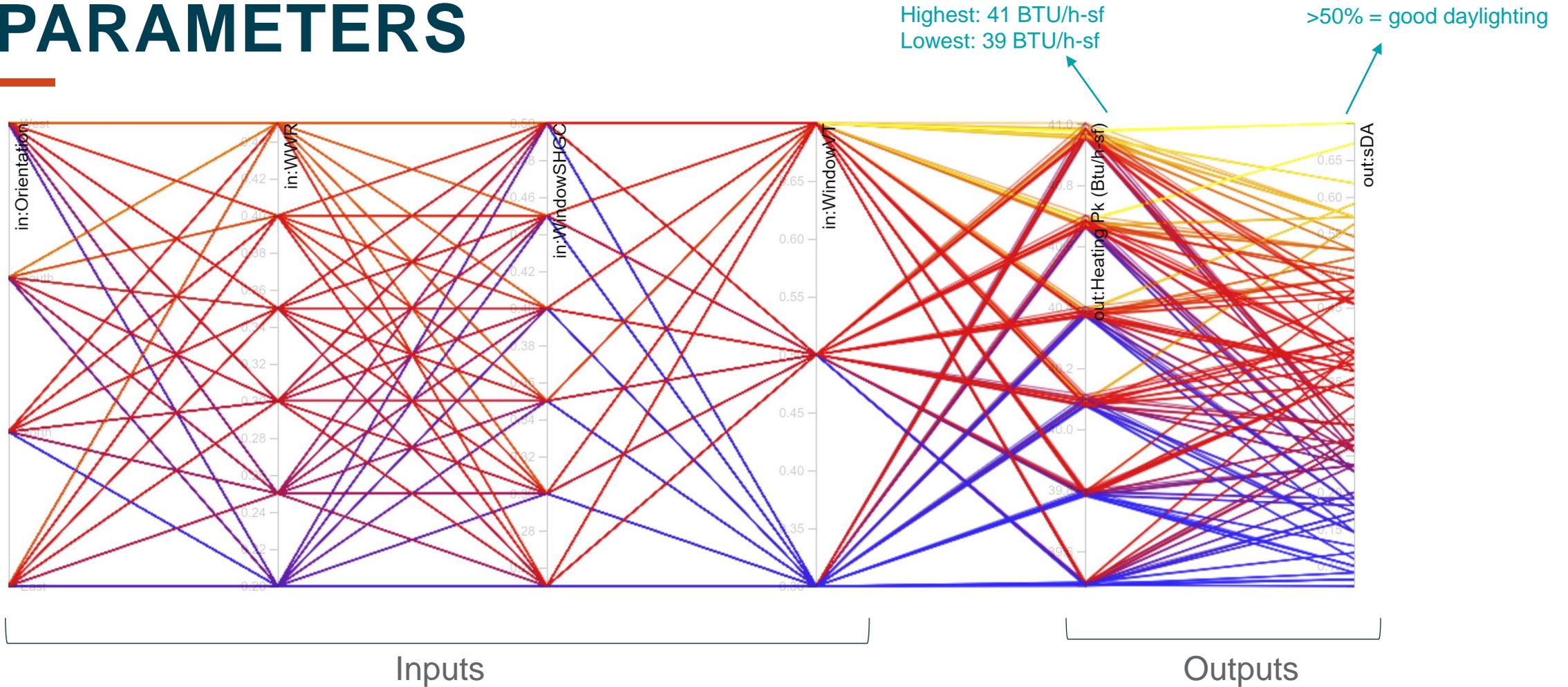
CLASSROOM ENVELOPE

Identify optimized combination of the classroom window properties by orientation to minimize heating peak and maximize daylighting:

- WWR by orientation
- Window-SHGC
- Window Tvis

Only a 30'x30' classroom zone is modeled for this study.

PARAMETERS



More than 430 combinations:

- Window-to-wall ratio: 20% to 45%
- Window-SHGC: 0.25 to 0.5
- Window-Tvis: 0.3 to 0.7

- **Heating Peak (BTU/h-sf):** Affect energy use & equipment sizing
- **Spatial Daylight Autonomy 300lux/50%:** >50% good daylighting

Prefer low heating peak but high SDA

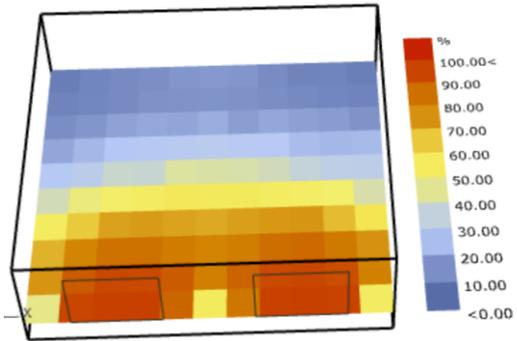
CLASSROOM ENVELOPE

The following parameters will result in low heating peak demand and good daylighting (SDA 30%-40%). Although higher SDA levels will reduce artificial lighting energy use, with LED technology the energy penalty is insignificant. This penalty will be compensated by lower heat losses from lower WWR.

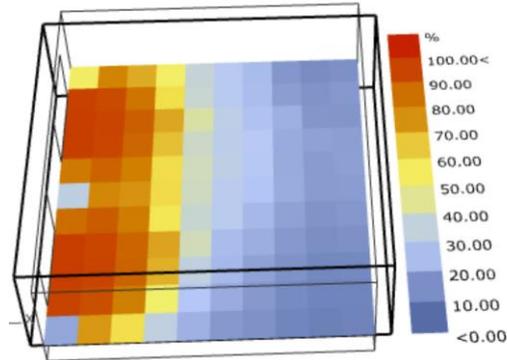
- Window VT: 50% or higher
- Window SHGC: 0.3 to 0.4
- WWR for classrooms:
 - North: 45%
 - South, West, East: 28%

SDA

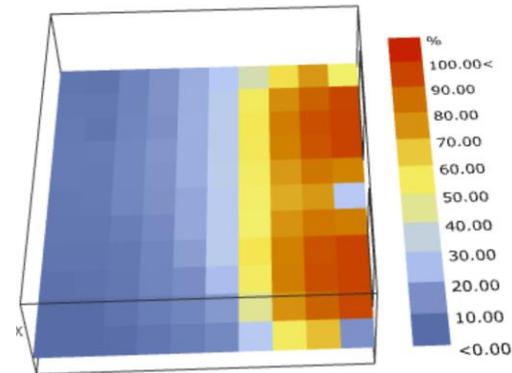
SOUTH
SDA: 40%



WEST
SDA: 35%



EAST
SDA: 30%



NORTH
SDA: 45%

