



# TOWN of BROOKLINE

*Massachusetts*

## BUILDING DEPARTMENT

Daniel Bennett  
Building Commissioner

**TO:** Selectboard/ School Committee

**FROM:** Ray Masak, PE Project Manager

**SUBJECT:** Brookline High School- Amendment 18R1  
Design Services (FY 19)

**DATE:** June 9, 2020

On the Calendar this week, the Building Department is requesting the approval of an amendment for designer services for the subject project in the total amount of \$272,410.

The appropriation for this contract was approved by Town Meeting as part of the overall CIP for FY19. This amendment is for additional services involving geotechnical field services, traffic mitigation design services and Tappan redesign services. Refer to the Hill memo dated June 9, 2020 and the Rawn memo dated June 2, 2020 for further explanation of services.

The Building Department will be available on Tuesday evening to answer any questions. Thank you for your consideration.

TOWN OF BROOKLINE  
333 Washington Street, Brookline, Massachusetts 02445

PURCHASE ORDER CHANGE FORM

INVOICE DATE; 10-Jun-20

TO:	William Rawn Associates, Architects, Inc 10 Post Office Square, Suite 1010 Boston MA 02109
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Purchase Order Number  
21803108

Vendor Number  
53540

PAYMENT AMOUNT  
\$272,410.00

BUDGET 14,838,648.00  
BALANCE 9,310,309.22

FUND	ORGANIZATION	ACTIVITY	OBJECT
	2594C204		524003

FOR: Brookline High School Expansion

Amendment	Date	
18	6/8/2020	Geotech Eng. Services, Traffic Mitigation - Tappan Renovation

AMOUNT  
\$272,410.00

BUILDING COMMISSION

APPROVAL OF:

Janet Fierman, Chairman

George Cole

Kenneth Kaplan

Karen Breslawski

Nathan E. Peck

SELECT BOARD

APPROVAL OF:

Bernard W. Greene, Chairman

Benjamin J. Franco

Nancy S. Heller

Heather Hamilton

Raul Fernandez

SCHOOL COMMITTEE

APPROVAL OF:

Mary Ellen Normen, Assistant Superintendent For Administration and Finance

**HILL**  
**Hill International**

Hill International, Inc.  
75 Second Avenue, Suite 300  
Needham, MA 02494  
Tel: 617-778-0900  
Fax: 617-778-0999  
www.hillintl.com

June 9, 2020

Mr. Ray Masak, P.E.  
Project Manager  
Town of Brookline Building Department  
333 Washington Street  
Brookline, MA 02445

Re: William Rawn Associates Amendment 18r1 – Add Services

Dear Mr. Masak:

We have received and reviewed WRA's Amendment Request #18r1 for requested additional design services associated with extending duration of Geotechnical services, design solution for leaks at existing portal connector between main campus and STEM, completion of traffic mitigation design, and proceeding with re-design of Tappan Gym. The services proposed were previously reviewed and commented on by Hill, and the Amendment reflects revisions we support:

Scope #1 – Extend Geotechnical Engineering and Construction Administration Services for 22 Tappan and STEM projects – Add Service = \$18,150: As a follow-up to previously approved Amendment 14, Skanska's schedule have further extended for site activities requiring McPhail's soil management oversight for additional 6-weeks and 3-weeks of special inspections. Originally WRA/McPhail had asked for a \$36,800 Add Service, but pursuant to Hill's review and comments, it was reduced to \$18,150.

Scope #2 – Additional Design Services to address existing failing conditions/leaks inside the portal connector between Main BHS Campus and new STEM – Add Service = NTE \$20,000: The existing tunnel connector was discovered to have cracks in its ceiling that after initial exploratory work with Skanska's assistance have been determined to be compromised and this existing condition needs a long term fix. WRA, with design assistance from NV5/BEA, will complete a permanent design solution to this unforeseen existing condition and once complete, issue a Proposal Request Bulletin pricing from Skanska.

Scope #3 – Complete Traffic Mitigation design and construction administration services – Add Service = \$81,000 (or \$64,610 if Tasks 1A, 1B and 3 are omitted): WRA's previously approved Amendment 1 did not include fees for completing Traffic design beyond the original base contract fee only for Schematic Phase for a Traffic Study Report. After recent meetings with ToB to clarify traffic control requirements, this Add Service is for completing a design and providing construction administration services associated with the Traffic Mitigation scope. However, if ToB chooses to not include Tasks 1A, 1B & 3, then this Scope alternate would be reduced to \$64,610.

Scope #4 – Complete re-design of Tappan Gym from value-engineered Concept back up to 60% design level – Add Service = \$169,650: After the 60% estimate reconciliation around June 2019, it was determined that projected cost of Tappan Gym per the 60% CDs (\$10.7M), plus STEM, 22 Tappan, MBTA and other areas of the project, presented an overall project cost that far exceeded the approved budget. Therefore, Tappan Gym was placed on hold, pending additional funding availability. After consulting with co-Chairs, it was decided to change this project significantly by

eliminating the front addition, eliminate the major basement slab and underground plumbing rework, and several other scope items in favor of a "simplified" shared entrance lobby reconfiguration, re-configure renovation spaces in order to re-use as much of existing plumbing infrastructure as possible. WRA provided revised conceptual sketches to Skanska mid-November 2019 for VE pricing. On 12/20/19, a (\$4M) VE option was presented to the co-Chairs which could reduce the Tappan cost down to projected cost of \$6.6M. However, that pricing was not based on updated design drawings by WRA. To support this Add Service WRA submits that, although they would typically own designing to a budget in their base service, due to timing of decision for pursuing the \$4M target VE (a ~40% reduction in scope), they will now have to perform more detailed field survey of items to remain/reuse now as part of the VE vs the previously approved gut/renovation scope. This Add Service would bring the revised program/reduced scope back up to a 60% CD level; costs for advancing the design from 60%CD to 100%CD is excluded from this Add Service because that is still a deliverable owned from previous Amendment #1.

Hill recommends approval of the \$288,800.00 Amendment 18r1; if Scope #3 alternate is taken, then this overall Amendment would instead be \$272,410.

Very truly yours,

A handwritten signature in blue ink, appearing to read "Andy Felix".

Andy Felix  
Project Director



*The concrete slab is located behind the brick wall (through the stone archway) in this photo.*

**Scope #3: Additional Design and Engineering Services for documentation of vehicular and cyclist traffic mitigation measures (and construction administration services) \***

At the request of the Town of Brookline, the following additional service proposal is for design and engineering services for vehicular and bicycle transportation mitigation design and engineering services. WRA's original contract for Schematic Design included HSH's services for a traffic report. The Design Development to Construction Documents contract amendment did not include design and engineering services for traffic mitigation implementation.

The following is a menu of tasks and associated fees intended to allow the Town to confirm the scope of traffic mitigation work to be designed and documented by the design team. To date, the Transportation Board has not delivered (or posted to the Town website) the list of bicycle lane votes/decisions made during the January 2020 Transportation Board Meeting. Attached to this proposal is an order of magnitude estimate of the construction cost of each element.

<u>Howard Stein Hudson (HSH)</u>	<u>Fee</u>	<u>OOM Construction Cost*</u>
○ Task 1: Transportation Improvements Design		
– Task 1A: Davis Avenue Bike Lane	\$6,100	\$27,000
– Task 1B: Greenough Street Bike Lane	\$5,200	\$18,500
– Task 1C: Tappan Street Bike Lane	\$7,800	\$44,000
– Task 1D: Tappan Street Parking Striping	\$4,800	
○ Task 2: Traffic Signal Design	\$8,600	\$135,000
○ Task 3: Greenough Street Mill and Overlay Design	\$3,600	
○ Task 4: Construction Phase Services	\$8,800	
○ Task 5: Attendance / Agency Coordination	\$12,000	
○ Allowance #1: As-built traffic signal documentation	\$2,500	
○ Allowance #2: Additional Meetings with the Town of Brookline	\$5,100	
<b>Total</b>	<b>\$64,500</b>	<b>49,600</b>

*\*From HSH April 24, 2020 letter. Costs include contingency and markups*

**William Rawn Associates**

- Bicycle improvements preparation for January 13, 2020 Transportation Board Meeting
  - \$250 / hr. x 8 hrs. = \$2,000
- Traffic Mitigation Project Management
  - 10% of HSH fee = \$6,400

**Lemonbrooke**

- Pedestrian traffic signal and sidewalk accessibility coordination \$1,500

**Scope #3 Fee Summary**

HSH (Traffic Consultant):	\$64,500	49,600
William Rawn Associates:	\$8,400	
Lemonbrooke:	\$1,500	
William Rawn Associates Admin:	\$6,600	5,110

**Scope #3 Total:** **\$81,000\*** 64,610, Alternate scope

Ray Masak  
Project Manager  
Town of Brookline Building Department  
Brookline Town Hall  
333 Washington Street  
Brookline, MA 02445

June 2, 2020

Project Name: Brookline High School Expansion Project

**Re: Contract Amendment #18**

CC: Andy Felix, Sam Lasky

*Additional Service Proposal for:*

1. *Extension of earthwork site supervision time (McPhail)*
2. *Additional design and engineering services for unforeseen conditions at the portal concrete slab north of the STEM Wing (WRA, Lemessurier)*
3. *Traffic mitigation design and engineering services*
4. *Tappan Renovation project re-design*

Dear Ray,

We would like to present the following four additional service proposals to the Brookline Building Commission on June 9, 2020.

**Scope #1: Increased Time on Site for Continuous and Periodic Special Inspections by the Geotechnical Engineer at the Cypress Building (Project A) and STEM Wing (Project C)**

There are two State of Massachusetts requirements (IBC 2015) for on-site special inspections by a licensed geotechnical engineer: continuous special inspections and periodic special inspections. The following is an summary outlining outstanding tasks.

**Code Requirement #1: Continuous Special Inspections**

**Table 1705.6 Required Special inspections and Tests of Soils**

1. *Verify use of proper materials, densities, and lift thicknesses during placement and compaction of compacted fill. Ongoing in the "non-basement" portion of the STEM wing (southwest corner) as foundations are prepared and backfill to establish slab-on-grade subgrade. Backfill placement is also ongoing at Cypress below stairs/walkways and handicap ramps on east side of perimeter foundation wall and overtop culvert.*

**Table 1705.7 Required Special Inspections and test of Driven Deep Foundation Elements**

1. ~~*Verify element materials, sizes and lengths comply with the requirements. Installation complete. No further oversight required by McPhail.*~~

- ~~2. Determine capacities of test elements and conduct additional load tests, as required Complete. No further oversight required by McPhail.~~
- ~~3. Inspect driving operations and maintain complete and accurate records for each element. Complete. No further oversight required by McPhail.~~
- ~~4. Verify placement locations and plumbness, confirm type and size of hammer, record number of blows per foot of penetration, determine required penetrations to achieve design capacity, record tip and butt elevations and document any damage to foundation element. Complete. No further oversight required by McPhail.~~

Table 1705.8 Required Special Inspections and Tests of Cast-in-Place Deep Foundation Elements

- ~~1. Inspect drilling operations and maintain complete and accurate records for each element. Complete. No further oversight required by McPhail.~~
- ~~2. Verify placement locations and plumbness, confirm element diameters, bell diameters (if applicable), lengths, embedment into bedrock (if applicable), and adequate end bearing strata capacity. Record concrete grout volumes. Complete. No further oversight required by McPhail.~~

**Code Requirement #2: Periodic Special Inspections**

Table 1705.6 Required Special Inspections and Tests of Soils

1. Verify materials below shallow foundations are adequate to achieve the design bearing capacity Ongoing at STEM and for slabs at Cypress.
2. Verify excavations are extended to proper depth and have reached proper material Complete at Cypress, ongoing at STEM for foundation excavations.
5. Perform classification and testing of compacted fill materials. Ongoing at STEM (foundations and slabs) and for slabs at Cypress.
6. Prior to placement of compacted fill, inspect subgrade and verify that site has been prepared properly. Ongoing at STEM and for slabs at Cypress.

Table 1705.8 Required Special Inspections and Tests of Cast-in-Place Deep Foundation Elements

- ~~3. For concrete elements, perform tests and additional special inspection in accordance with Section 1705.3. Briggs is cover this. Not in McPhail's scope.~~

The Cypress Building and STEM Wing durations for sitework and foundations have been extended due to COVID-19 and unforeseen conditions associated with demolition and underpinning where the STEM Wing meets the existing building near the Cafeteria. The following is a summary showing how the durations for sitework and foundations have changed from schedule to schedule.

**PROJECT A CYPRESS BUILDING SITEWORK AND FOUNDATIONS**

**September 2018 Schedule**

September 30, 2019 to February 27, 2020

**Duration: 4.84 months (21 weeks)**

SUM-1100	Summary - Sitework & Foundations at MBTA D Line Area	95	30-Sep-19	19-Feb-20
SUM-1090	Summary - Sitework & Foundations at Cypress St Lot	51	13-Dec-19	27-Feb-20



### January 2020 Schedule

October 12, 2019 to March 31, 2020

Duration: 5.53 Months (24 weeks)

**Duration Increase Compared to 2018 Schedule: 3 weeks**

SUM-1100	Summary - Sitework & Foundations at MBTA D Line Area	38	12-Oct-19 A	09-Mar-20
SUM-1090	Summary - Sitework & Foundations at Cypress St Lot	44	25-Nov-19 A	17-Mar-20

### April 2020 Schedule (Some COVID-19 Schedule Impacts Shown)

October 12, 2019 to June 1, 2020

Duration: (33 weeks)

**Duration Increase Compared to 2018 Schedule: 9 weeks**

SUM-1100	Summary - Sitework & Foundations at MBTA D Line Area	39	12-Oct-19 A	01-Jun-20
SUM-1090	Summary - Sitework & Foundations at Cypress St Lot	0	25-Nov-19 A	01-Apr-20 A

### May 2020 Schedule (Some COVID-19 Schedule Impacts Shown)

October 12, 2019 to June 26, 2020

Duration: (35 weeks)

**Duration Increase Compared to 2018 Schedule: 12 weeks**

SUM-1100	Summary - Sitework & Foundations at MBTA D Line Area	37	12-Oct-19 A	26-Jun-20
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## PROJECT C STEM WING SITEWORK AND FOUNDATIONS

### September 2018 Schedule

November 1, 2019 to January 24, 2020

**Duration: 3 months (12 weeks)**

Project C - STEM Wing				
SUM-1030	Summary - Enabling & Abatement - Shore / Protect Existing Basement & Connector / Reloc	8	20-Jun-19 A	25-Sep-19
SUM-1070	Summary - Demo Roberts Wing	33	21-Aug-19 A	31-Oct-19
SUM-1090	Summary - Sitework & Foundations	55	01-Nov-19	24-Jan-20

### January 2020 Schedule

November 8, 2019 to February 5, 2020

Duration: 3.25 months (13 weeks)

**Duration Increase Compared to 2018 Schedule: 1 week**

Project C - STEM Wing				
SUM-1090	Summary - Sitework & Foundations	17	08-Nov-19 A	05-Feb-20

### April 2020 Schedule

November 8, 2019 to June 1, 2020

Duration: 7months (29 weeks)

**Duration Increase Compared to 2018 Schedule: 16 weeks**

Project C - STEM Wing				
SUM-1090	Summary - Sitework & Foundations	49	08-Nov-19 A	15-Jun-20

In February, the Building Commission approved 4 additional weeks of full time on site as part of Contract Amendment #14 (see Scope 3 for \$5,500/wk. for a total of \$22,000). McPhail was able to stretch this fee through May 5th due to only part time work on site.



This additional service proposal is for an additional 6 weeks of full-time observation and 3 weeks of special inspections. If additional time is required on site, WRA will present a future contract amendment to the Commission in August 2020.

#### Scope #1 Fee Summary

For the time between May 5, 2020 and June 26, 2020

5 weeks full time on-site presence @ \$5,500 / week = \$27,500\*

- McPhail \$27,500
- William Rawn 10% Administration Fee \$2,750
- Scope #1 Total: \$30,250**

*\*Note: Between 5/5 and 5/22 McPhail has only spent about \$5,000 on site due to Covid slow down.*

*\*\* At the request of Hill International, a summary of McPhail's original and add service fees is attached.*

#### Scope #1 from Contract Amendment #14 (CREDIT) Fee Summary

Reduce allowance for helical pile installation due to 2 week shut down in June.

- McPhail \$-11,000
- William Rawn 10% Administration Fee \$-1,100
- Scope #1 Total: -\$12,100**

*\*Note: Between 5/5 and 5/22 McPhail has only spent about \$5,000 on site due to the Covid slow down.*

*\*\* At the request of Hill International, a summary of McPhail's original and add service fees is attached.*

#### Scope #2: Additional Design and Engineering Services for the failing concrete at the concrete slab inside the portal (connector) between the main BHS building and the STEM Wing (Project C)

During demolition of the connection existing portal connection between the STEM Wing and the main BHS building, cracks and spalling concrete were found in the 1<sup>st</sup> floor exterior slab in the walkway under the "existing to remain" arch. Over time, the outdoor concrete slab was degraded due to de-icing salts. Upon chipping of the loose concrete, the slab was found to be compromised and requires additional field investigation, engineering, and remediation. The following tasks are associated with this unforeseen condition:

- Investigation of existing conditions
- Approach to waterproofing
- Potential to demolish and add new struct slab
- Re-instatement of finish work and documentation of same
- Coordination with NV5/BEA
- Walking surface and slab options (Lemonbrooke)

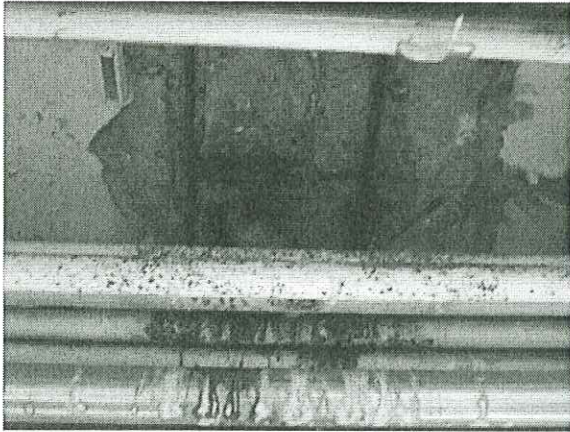
WRA will issue a "PR" field bulletin to Skanska for pricing. The Field Bulletin is based on a long-term solution to fixing the slab and the leaks that are entering the basement.

#### Scope #2 Fee Summary

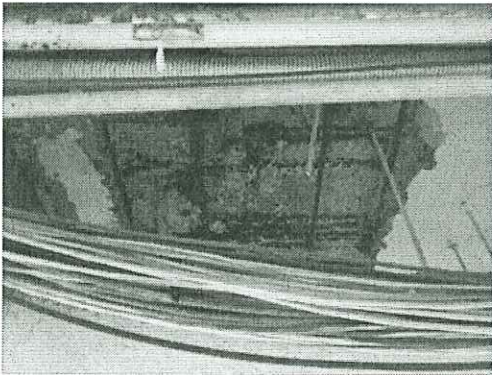
- William Rawn Associates: \$15,000
- LeMessurier: \$3,500

- Lemonbrooke: \$1,500K (paving options)  
**Scope #2 NTE Total: \$20,000**

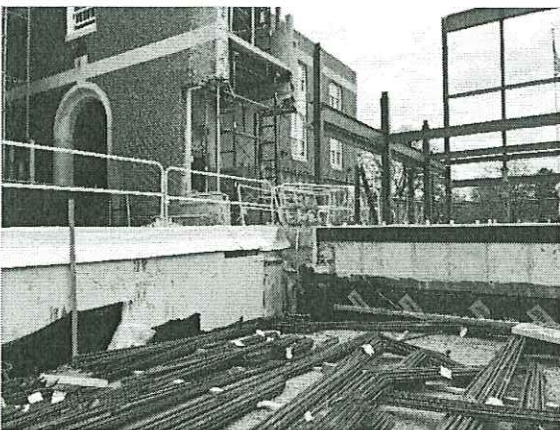
*Photos of the compromised existing concrete floor slab*



*View of concrete from basement below the walkway*



*View of concrete from basement below the walkway*



*The concrete slab is located behind the brick wall (through the stone archway) in this photo.*

**Scope #3: Additional Design and Engineering Services for documentation of vehicular and cyclist traffic mitigation measures (and construction administration services) \***

At the request of the Town of Brookline, the following additional service proposal is for design and engineering services for vehicular and bicycle transportation mitigation design and engineering services. WRA's original contract for Schematic Design included HSH's services for a traffic report. The Design Development to Construction Documents contract amendment did not include design and engineering services for traffic mitigation implementation.

The following is a menu of tasks and associated fees intended to allow the Town to confirm the scope of traffic mitigation work to be designed and documented by the design team. To date, the Transportation Board has not delivered (or posted to the Town website) the list of bicycle lane votes/decisions made during the January 2020 Transportation Board Meeting. Attached to this proposal is an order of magnitude estimate of the construction cost of each element.

<u>Howard Stein Hudson (HSH)</u>	<u>Fee</u>	<u>OOM Construction Cost*</u>
○ Task 1: Transportation Improvements Design		
– Task 1A: Davis Avenue Bike Lane	\$6,100	\$27,000
– Task 1B: Greenough Street Bike Lane	\$5,200	\$18,500
– Task 1C: Tappan Street Bike Lane	\$7,800	\$44,000
– Task 1D: Tappan Street Parking Striping	\$4,800	
○ Task 2: Traffic Signal Design	\$8,600	\$135,000
○ Task 3: Greenough Street Mill and Overlay Design	\$3,600	
○ Task 4: Construction Phase Services	\$8,800	
○ Task 5: Attendance / Agency Coordination	\$12,000	
○ Allowance #1: As-built traffic signal documentation	\$2,500	
○ Allowance #2: Additional Meetings with the Town of Brookline	\$5,100	
<b>Total</b>	<b>\$64,500</b>	

*\*From HSH April 24, 2020 letter. Costs include contingency and markups*

**William Rawn Associates**

- Bicycle improvements preparation for January 13, 2020 Transportation Board Meeting
  - \$250 / hr. x 8 hrs. = \$2,000
- Traffic Mitigation Project Management
  - 10% of HSH fee = \$6,400

**Lemonbrooke**

- Pedestrian traffic signal and sidewalk accessibility coordination \$1,500

**Scope #3 Fee Summary**

<i>HSH (Traffic Consultant):</i>	<b>\$64,500</b>
<i>William Rawn Associates:</i>	<b>\$8,400</b>
<i>Lemonbrooke:</i>	<b>\$1,500</b>
<i>William Rawn Associates Admin:</i>	<b>\$6,600</b>

**Scope #3 Total: \$81,000\***



*\*This proposal assumes Skanska will remain the CM at risk contractor for the traffic mitigation project. WRA will submit a separate additional service proposal should the Town seek bids from a General Contractor, 149 Design-bid-build procurement, or alternative project delivery method.*

**Scope #4A: Tappan (Project B) Substantially Revising Construction Drawings Due to Substantial Changes in Complexity After 60% Construction Documents were Issued**

The Select Board and subcommittees have decided to postpone the vote to increase the project budget to fund the Tappan Renovation, Deferred Maintenance, 3<sup>rd</sup> floor renovation, and Cypress Field. The Town has asked the design team to expedite the completion of bid documents to determine the hard construction costs of these projects prior to the November 2020 vote.

Upon receipt of Skanska's 60% CD cost estimate on April 26<sup>th</sup>, 2019 (4 weeks late) and subsequent cost reconciliation, it was determined that the High School Expansion Project was over budget. Tappan renovation and addition construction documentation progress stopped, and the Town asked the design team to study options to reduce the cost of the overall project.

The design team worked with the Co-chairs, High School, and Parks and Open Space to significantly reduce the scope of the renovation and eliminate the addition. The program was revised to allow for the removal of the addition and the gut renovation of the locker rooms on levels 1 and B were changed to a selective demolition and light touch renovation. Program and scope changes will require substantial revisions to the contract documents to bring them back to a 60% CD level. The design team will then complete the remaining 40% of construction documents, bid phase, and construction administration per the original contract.

Article 8.2.2 allows for additional service requests for substantially revising previously approved drawings due to substantial changes in complexity and bidding methods.

- 8.2.2 substantially revising previously approved reports, drawings, specifications or other documents to address changes authorized or requested by the Owner, including substantial changes in its size, quality, complexity, design, Budget, and/or bidding method or bid packages, and changes in Applicable Laws;
  - (a) Notwithstanding the provisions of 8.2.2, revisions prepared by the Designer to keep construction costs within the Project Budget that are required pursuant to Article 4.10 of this Contract to be without additional compensation, or to correct incorrect items for which the Designer has responsibility, shall not be Extra Services;

Although Section 8.2.2 (a) states the Designer is required to keep construction costs within the Project Budget, the change in renovation scope was made 4 weeks after the design team notified the Town and Hill International that WRA was proceeding with Construction Documents (See Sam Lasky's March 29, 2019 email). Additionally, the Tappan project itself was not significantly over budget and was reduced in scope and cost to eliminate increased cost in other aspects of the project.

Article 8.2.1 allows for additional service requests for preparing measure drawings and detailed construction investigations. Additional field investigations were required because the renovation scope changed from a gut renovation to selective demolition.



- 8.2.1 preparing measured drawings and detailed construction investigations documentation for existing buildings when such documentation does not exist;

**Scope 4a Tappan Construction Document Revisions\***

**Tasks:**

- Remove 60% CD gut renovation design and addition
- Remove previous scope from demolition drawings
- Add new demolition scope and keynotes
- Update Construction Documents: Floor Plans, Reflected Ceiling Plans, Interior Elevations, Finish Schedule, Finish Plans, Door Schedule
- New lighting layouts in gut renovation areas (RFS Engineering)
- Capping of existing gas turrets and plumbing (RFS Engineering)
- Revise MEP/FP layouts (RFS Engineering)
- Revise structural drawings (Lemessurier)

**Scope 4b Tappan Additional Existing Conditions Investigation and Documentation\***

**Tasks:**

- Site visits for field measurements and photo documentation
- Update the Revit model to reflect field conditions

**Scope 4c Tappan Renovation Design Revisions\***

**Tasks:**

- Attend additional design meetings with Health and Fitness, Athletics, and Parks and Open Space.
- Additional presentations to the Co-chairs and other committees

*\*See attached WRA work plan and additional fee spreadsheet*

***Scope #4 Fee Summary***

WRA:	\$95,950
RFS:	\$39,800
Lemessurier	\$7,500
Lemonbrooke	\$19,700*
WRA Admin	\$6,700
<b>Subtotal:</b>	<b>\$169,650**</b>

*\*Lemonbrooke's fee assumes the Town will move forward with the elimination of the brick retaining walls on either side of the existing granite stairs, ramp replacement, and re-design of the Tappan landscape (see attached site diagram outlining this area).*

*\*\*This proposal assumes Skanska will remain the CM at risk contractor for the Tappan project. WRA will submit a separate additional service proposal should the Town seek bids from a General Contractor, 149 Design-bid-build procurement, or alternative project delivery method.*

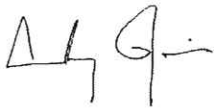
**Contract Amendment #18 Additional Service Fee Summary**

	<b>Fees</b>
Scope #1 Code Required Geotechnical Engineering Services	\$18,150
Scope #2 Unforeseen Conditions at STEM / Main High School Connector	\$20,000

Scope #3 Traffic Mitigation Measure design and engineering services	\$81,000
<u>Scope #4 Tappan Renovation – reduced scope documentation up to 60% CD</u>	<u>\$169,650</u>
<b>Grand Total:</b>	<b>\$288,800</b>

Please let us know if you have any questions or comments.

Regards,



Andy Jonic, AIA  
Senior Associate  
William Rawn Associates, Architects Inc.

*Attachments:*

- *Scope #1 Geotechnical Engineering Services*
  - *McPhail proposal*
  - *McPhail overall fee summary spreadsheet*
- *Scope #3 Traffic Mitigation*
  - *HSH proposal and order of magnitude cost estimate for mitigation measures*
  - *WRA letter outlining the status of each non-bicycle Transportation Board vote from the October 2019 Transportation Board Meeting*
  - *Campus map identifying limits of work and boundaries for each project.*
- *Scope #4 Tappan Renovation*
  - *WRA work plan / fee summary for Tappan Renovation*
  - *Lemonbrooke proposal*
  - *Lemessurier proposal*
  - *RFS proposal*
  - *Tappan reduced renovation first floor plan*

# ATTACHMENT F

## CONTRACT FOR DESIGNER SERVICES

### AMENDMENT NO. 18 \_\_\_\_\_

**WHEREAS**, the Town of Brookline \_\_\_\_\_ ("Owner") and William Rawn Associates, Architects Inc. \_\_\_\_\_, (the "Designer") (collectively, the "Parties") entered into a Contract for Designer Services for the Brookline High School Expansion \_\_\_\_\_ Project (Purchase Order # 21803108) at the Brookline High \_\_\_\_\_ School on July 6, 2018 \_\_\_\_\_  
"Contract"; and

**WHEREAS**, effective as of June 2, 2020 \_\_\_\_\_, 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\*

After this Amendment:

Amendment fee: ~~\$307,450~~

Feasibility Study Phase	\$ _____	\$ _____	\$288,800
Schematic Design Phase	\$ _____	\$ _____	
Design Development Phase	\$ _____	\$ _____	
Construction Document Phase	\$ _____	\$ _____	
Bidding Phase	\$ _____	\$ _____	
Construction Phase	\$ _____	\$ _____	
Completion Phase	\$ _____	\$ _____	

\*Includes previous Amendments

**Total Fee**

**\$13,990,177.00**

~~**\$14,297,627.00**~~

\$14,278,977

This Amendment is a result of: Additional services related to additional geotechnical engineering construction observation due to COVID-19 schedule delays and unforeseen conditions, and remediation of a degraded structural slab in the 1<sup>st</sup> floor connector between the main BHS high school building and the STEM Wing (unforeseen conditions), Traffic mitigation design and

engineering service, and Tappan Renovation (Project B) re-design and work required to return construction documents to 60% CDs.

3. The Construction Budget shall be as follows:

Original Budget: \$n/a\_\_\_\_\_

Amended Budget \$n/a\_\_\_\_\_

4. The Project Schedule shall be as follows:

Original Schedule: \$n/a\_\_\_\_\_

Amended Schedule \$n/a\_\_\_\_\_

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

\_\_\_\_\_  
(print name)

\_\_\_\_\_  
(print title)

By \_\_\_\_\_  
(signature )

Date \_\_\_\_\_

DESIGNER

Andrew Jonic  
(print name)

Senior Associate  
(print title)

By



(signature) \_\_\_\_\_

Date 06.02.20\_\_\_\_\_



**SCOPE #1**

**ATTACHMENTS**

**BHS Expansion**  
**McPhail Fee Summary**  
5/22/2020

Original Contract		Fee
SD		\$10,000
DD		\$72,328
CD		\$50,000
CA		\$113,280
		Subtotal
		<b>\$245,608</b>
Contract Amendment #		
CA #2	STEM Wing Test Pits	\$80,500
CA #3	Cypress Test Pits along Cypress St.	\$15,700
CA #4	N/A	\$0
CA #5 Scope 1	Geotech Borings on MBTA prop.	\$16,550
CA #5 Scope 2	Additional Soil Pre-character.	\$30,000
CA #5 Scope 3	STEM Wing LSP Services	\$47,000
CA #6	N/A	\$0
CA #7	N/A	\$0
CA #8	N/A	\$0
CA #9	N/A	\$0
CA #10	N/A	\$0
CA #11	Geotech Services for MBTA Project	\$32,585
CA #12	N/A	\$0
CA #13	N/A	\$0
CA #14 Scope #1	CA field support for OCS + MBTA Platform (10 weeks)	\$55,000
CA #14 Scope #2	Preparation of additional facility disposal profiles for off-site disposal	\$12,000
CA #14 Scope #3	Projects A and C Additional CA field support (4 weeks)	\$22,000
CA #15	N/A	\$0
CA #16	Additional Soil Pre-characterization Testing: 111 Cypress Site	\$12,600
		Subtotal
		<b>\$323,935</b>
		Grand Total
		<b>\$569,543</b>

*McPhail stretched duration to 8 weeks (1st week of May) due to activity on site*



June 5, 2020

William Rawn Associates, Architects, Inc.  
10 Post Office Square, Suite 1010  
Boston, MA 02109

Attention: Erik Tellander, AIA, LEED AP BD+C

Reference: Brookline High School Expansion Project; Brookline, MA  
Revised Proposal for Updated Construction Phase Services

Ladies and Gentlemen:

At the request of Mr. Andrew Jonic of William Rawn Associates, Architects, Inc. (Rawn), this proposal outlines updated construction phase services for the proposed Brookline High School Expansion project based on the most recent construction schedule that was provided by the Contractor. This proposal updates the approved construction phase services scope that was outlined in our proposal dated January 28, 2020.

Our January 28, 2020 proposal was partially approved for the following scope of services:

- \$12,000 for out-of-scope geoenvironmental engineering services for preparation of soil disposal packages;
- Four (4) weeks of full time monitoring of construction activities between Projects A and C;
- Two (2) weeks of out-of-scope monitoring of MBTA catenary pile supports;
- Eight (8) weeks of monitoring installation of helical piles for the MBTA platform supports (to-date unused, scope is understood to be completed in late 2020/early 2021).

Based on the approved scope outlined above and McPhail's ability to provide construction monitoring services on a part-time where applicable, McPhail has been able to extend our construction monitoring services into the first week of May 2020 under the approved budget authorization. However, ongoing construction monitoring services will be required beyond the authorized budget.

It is understood that schedule delays have occurred due to the ongoing COVID-19 pandemic. Geotechnical and geoenvironmental construction scope remaining on Project A includes off-site soil disposal for utility work located to the west of the existing building, backfill of utility trenches inside the building, and backfill of the perimeter foundation wall along Cypress Street. At Project C, foundation construction, backfill of foundations, slab preparation for outside of the basement, and off-site soil disposal remains to be completed. Construction on Project C has been further delayed due to the required underpinning scope identified at the proposed elevator pit which is currently ongoing. Based on the schedule provided to us by Rawn dated June 2, 2020, foundation installation at the STEM Wing and site backfill will occur until June 23, 2020. However, it is understood that the proposed duration for the helical pile installation proposed to start the week of June 9, 2020 has been shorted by two weeks.



William Rawn Associates  
June 5, 2020  
Page 2

As required by the Massachusetts State Building Code, periodic and continuous special inspection is required for both foundation construction and backfill placement. Specifically, Table 1705.6 (4) requires full time monitoring to verify use of proper materials, densities, and lift thicknesses during placement and compaction of compacted fill. Table 1705.6 also requires periodic special inspection for the following tasks:

1. Verify materials below shallow foundations are adequate to achieve the design bearing capacity
2. Verify excavations are extended to proper depth and have reached proper material
3. Perform classification and testing of compacted fill materials.
4. Prior to placement of compacted fill, inspect subgrade and verify that site has been prepared properly.

Therefore, based on code requirements for continuous and periodic special inspections, we request an additional four (4) weeks of full time monitoring (160 hours) and two (2) weeks of part-time monitoring (40 hours). Based on our previously approved rate of \$5,500 per week (40 hours per week) for construction observation and involvement of our project management staff, the requested additional fee would be **\$27,500**.

Budget authorized to monitor the installation of helical piles for the MBTA station platform under CA#14 for \$55,000 provided for 8 weeks of monitoring helical pile installation. As noted above the schedule has been revised to shorten the duration for pile installation to 6 weeks. Therefore, as requested the revised authorized budget would be reduced by \$5,500 per week and reduce the authorized budget in CA#14 to \$44,000.

As we have stated previously, the scope of monitoring depends upon the construction schedule, which is a function of the sequencing and phasing of the Contractors activities, which is outside of our control. If it becomes apparent that this budget increase request will be exhausted before the Contractor completes geotechnical construction work which is required or recommended to be monitored, a request for additional budget will be provided at that time.

### **Terms and Conditions**

Terms and Conditions of our March 23, 2018 and April 4, 2019 proposals are incorporated herein by reference.

### **Final Comments**

To authorize us to proceed with the services proposed herein, please sign and return a copy of this letter. We appreciate the opportunity to submit this proposal and look forward to our continued service to William Rawn Associates, Architects, Inc. on this project.





William Rawn Associates  
June 5, 2020  
Page 3

Should you have any questions or require additional information, please do not hesitate to contact us.

Very truly yours,

McPHAIL ASSOCIATES, LLC

A handwritten signature in black ink, appearing to read "Jason Huestis", written over a light gray background.

Jason S. Huestis

A handwritten signature in black ink, appearing to read "Tom J. Fennick", written over a light gray background.

Thomas J. Fennick, P.E., L.S.P.

WILLIAM RAWN ASSOCIATES, ARCHITECTS,  
INC.

BY \_\_\_\_\_

DATE \_\_\_\_\_

N:\Working Documents\Proposals\6324 BHS Revised Updated CPS Proposal\_Rawn Architects 060420.docx

JSH/tjf

**SCOPE #2**

**ATTACHMENTS  
(NONE)**

**SCOPE #3**

**ATTACHMENTS**





June 2, 2020

Mr. Andrew Jonic  
Senior Associate  
William Rawn Associates, Architects Inc.  
10 Post Office Square, Suite 1010  
Boston, MA 02109

**Re: Brookline High School Expansion, Brookline, Massachusetts  
Traffic Engineering and Design Consulting Services**

Dear Andrew:

*Howard Stein Hudson (HSH)* is pleased to provide this letter proposal for additional traffic engineering and design consulting services related to the new Brookline High School (BHS) expansion. As we understand it, the Project construction remains ongoing through the fall of 2021. As discussed, the school expansion will need to implement a series of transportation improvements as identified by HSH's transportation recommendations in the August 2019 *BHS Transportation Study* and other improvements requested by the Brookline Transportation Board and Bicycle Advisory Committee.

The design team has developed a series of comprehensive bicycle/pedestrian improvements to support the existing and future activity on and near the BHS campus and presented these improvements to the Brookline's Transportation Board on October 2, 2019 and further refined at the January 13, 2020 meeting.

Since that time, the Transportation Board and Bicycle Advisory Committee have continued to review and refine planned streetscape elements related to bicycle facilities, the pedestrian environment, and on-street parking. This proposal also requests additional scope and fee under Task 4 – Meetings (as described in our 2020 add-on proposal) to recover expenditures related to HSH's staff support at previous-attended public meetings.

## Scope of Services

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This proposal provides the scope of work and budget for civil and traffic design services related to the necessary transportation improvements related to the Brookline High School project. As requested, this scope is arranged by design service tasks and fee proposal is organized geographical for the various improvements.



## Task 1. Transportation Improvements Design

Under this task, HSH will prepare the plans, specifications, and construction estimates for various pavement markings and signage to support improvements of bicycle lanes and parking related to the BHS expansion. As we understand, the Bicycle Advisory Committee and Brookline Transportation Division of the Department of Public Works (DPW) have agreed upon basic street cross-section elements and bike lane treatments. HSH understands, civil and highway items will be designed by the project's civil lead including raised crossings, intersections, curb modifications and raised bicycle crossings.

HSH has assumed a four-submission process (25%, 75%, 100%, and PS&E) that will require the preparation of a design submission according to Brookline DPW and/or the Massachusetts Department of Transportation (MassDOT) requirements that will include the following:

- Cover sheet, Notes, and Legend;
- Pavement Marking and Signage Plans; and
- Specifications;
- Design Estimate.

HSH will incorporate and respond to Brookline DPW's comments from each submission for the subsequent design submissions. As part of Task 1, HSH has provided an allowance of up to 10 hours per location/subtask for responding to comments. Should the effort exceed the estimated hours, a revised scope and fee will be provided. The following subtasks detail the limits of pavement marking and signage design services and are separated for the fee proposal:

### TASK 1A. DAVIS AVENUE BIKE LANE

As we understand, the limits for the Davis Avenue bike lane are from Greenough Street to Cypress Street for a length of approximately 770 feet. The proposed conceptual bike facility is a one-way contraflow lane against the curb with a painted buffer and sharrows in the direction of traffic. Parking will be swapped from existing condition along the park edge to the north curb line. Under this subtask, HSH will prepare the design submission to support signage and pavement markings for the future bike lane and parking.

### TASK 1B. GREENOUGH STREET BIKE LANE

As we understand, the limits for the Greenough Street bike lane are from Tappan Street to Davis Avenue for a length of approximately 350 feet. The proposed conceptual bike facility is a parking-protected one-way contraflow lane and sharrows in the direction of traffic outside the Brookline High School. Under this subtask, HSH will prepare the design submission to support signage, and pavement markings for the future bike lane and parking.



### **TASK 1C. TAPPAN STREET BIKE LANE**

As we understand, the limits for the Tappan Street bike lane are from Greenough Street to Cypress Street for a length of approximately 900 feet. The proposed conceptual bike facility is a protected one-way contraflow lane up adjacent to angled parking and sharrows in the direction of traffic. Two midblock pedestrian crossing will also be added along Tappan Street. Under this subtask, HSH will prepare the design submission to support signage and pavement markings for the future bike lane.

### **TASK 1D. TAPPAN STREET PARKING STRIPING**

As we understand, the limits for the Tappan Street parking striping are from Greenough Street to Cypress Street for a length of approximately 620 feet. The proposed on-street parking includes one row of approximately 38 parking spaces on the one-way Tappan Street. Under this subtask, HSH will prepare the design submission to support signage and pavement markings for the angled parking.

### **TASK 1 ASSUMPTIONS**

- We have assumed up to two site visits for this task.
- HSH has assumed the survey will be furnished by others and provided.
- HSH has assumed no design report or technical memorandum for the development of bicycle improvements alternatives.
- HSH has assumed the bicycle treatments require no civil engineering services or are provided by the team's Civil lead.
- HSH has assumed no turning movement analysis will be needed for the bike and parking design.
- HSH has assumed no traffic management plan preparation.
- HSH will furnish the Town of Brookline with stamped and signed approved plans. We will provide one (1) electronic set of all drawings in AutoCAD format and PDF. Should the Client wish hard copy sets, those may be provided at additional cost.

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## **Task 2. Traffic Signal Design**

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Based on the August 2019 BHS Transportation Study and Brookline Transportation Board vote, this task will include design services related to field inventory and construction documentation preparation to support signal modifications. Specifically, the improvements include the signal improvements at the intersections of Tappan Street at Cypress Street and Davis Avenue at Cypress Street. The improvements proposed include signal plan and schedule changes to support leading pedestrian intervals, and improvements to pedestrian signal indications and pushbuttons to comply with ADA requirements. HSH has excluded all wheelchair ramp design, and relocation of signal





most arms and posts for this proposal. Signal analysis for retiming, and the collection of new traffic volume data has not been included. If needed, HSH will submit a Scope of Services Amendment for review to collect new traffic information and prepare signal timing calculations indicating the calculations of cycle lengths, clearances, and offsets.

HSH has assumed a four-submission process (25%, 75%, 100%, and PS&E) that will require the preparation of a design submission according to Brookline DPW and/or MassDOT requirements that will include the following:

- Cover sheet, Notes, and Legend;
- Traffic Signal Plans; and
- Traffic Signal Schedules;
- Specifications.
- Design Estimate;

HSH will incorporate and respond to Brookline DPW's comments from each submission for the subsequent design submissions. As part of Task 2, HSH has provided an allowance of up to 16 hours for responding to comments. Should the effort exceed the estimated hours, a revised scope and fee will be provided.

## TASK 2 ASSUMPTIONS

- We have assumed up to one site visit for this task.
- HSH has assumed signal as-builts will be provided. HSH has assumed the survey provided for the bike lane design will be provided with signal equipment located.
- HSH has assumed that no traffic signal design report or soil borings will be required for the development of signal improvements.
- HSH has assumed no bicycle traffic signal design and all bicycle movements will be managed through existing vehicular indications.
- HSH will furnish the Town of Brookline with stamped and signed approved plans. We will provide one (1) electronic set of all drawings in AutoCAD format and PDF. Should the Client wish hard copy sets, those may be provided at additional cost.

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## Task 3. Greenough Street Mill and Overlay Design

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As requested, HSH has included this task to support pavement resurfacing of Greenough Street abutting Brookline High School should the Project require it. HSH will provide design documents for the pavement resurfacing of Greenough Street from Davis Avenue to Tappan Street, approximately 350 feet. HSH will develop construction plans, specifications in compliance with Town DPW requirements, and an estimate for areas for mill and overlay.



### TASK 3 ASSUMPTIONS

- HSH has assumed base plans and utility plans will be developed by others identifying existing features and utility modifications.
- HSH has assumed an existing conditions survey will be furnished by others and provided in an AutoCAD-compatible format.
- HSH is assuming that a 2" mill and fill will apply to the entire work area. HSH has assumed no pavement cores or pavement design report.
- HSH has assumed raised crosswalks, raised intersections, and stamped asphalt are designed by others.
- HSH has assumed no traffic management plan preparation.

HSH has not included sidewalk, curb ramp, curb, or other civil design. Detailed pavement design is excluded from the scope of work. If further investigation or design of pavement structures is required, additional scope and fee is necessary.

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### Task 4. Construction Phase Services

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This task will include scope for HSH to monitor and support construction of the designed elements. Our engineers and inspectors will be on site periodically to ensure the design plans and project specifications are being adhered to. For the purposes of this Proposal we have allocated time for up to four (4) construction period field visits. Consistent inspection and frequent communication will ensure a quality project, reduce possible delays and schedule impacts, and streamline the Town inspection and acceptance process. Although we assume that there will be a Construction Manager for the Project including off-site improvements, HSH will assist with the administration of the contract for HSH design-related items only including field reports, change orders, Requests for Information (RFIs), contractor requisitions, and other administrative functions.

The costs for any testing of materials or construction methods are not included in the fee estimate. Although HSH's efforts will be directed to the tasks below, given the dynamic nature of construction projects, HSH can assist wherever needed.

*Agency coordination* – HSH will provide on-going coordination of design plans with the Town of Brookline. We will communicate with our counterparts within the Town responsible for construction and traffic.

*Shop drawing review* – HSH will review all submitted shop drawings and construction methodologies as they pertain to our design work.



*Inspections of the work* – HSH will inspect all work completed to assure compliance to contract specifications.

*Field changes/response to differing field conditions* – HSH can assist in providing direction to contractor for any field changes.

### **CONSTRUCTION ADMINISTRATION**

For this task, HSH will assist the Construction Manager as needed to manage the schedule of values, review invoices, and review and respond to RFI's, Change Orders, and Extra Work Orders.

### **PROJECT CLOSE-OUT**

As the project nears completion, HSH will assist with project closeout including punch list, final acceptance of work, and preparation of as-built drawings.

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## **Task 5. Meeting Attendance/Agency Coordination**

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In total, we have estimated attendance of the Project Manager and/or Principal in Charge at the following meetings. Meetings for construction services are included in their respective tasks.

- Up to four (4) coordination calls with the Project Team;
- Up to two (2) coordination meetings with the Town of Brookline and Project Team;
- Previously supported Public and Agency Meetings (including the January 13, 2020 Transportation Board meeting); and
- Up to two future (2) Brookline Transportation Board meetings.

**Additional Meetings** – Should the Project Team require additional meetings beyond those listed in the scope, HSH participation will be billed at the rates shown in the attached rate schedule.

## **Schedule**

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We can begin the design of the new traffic improvements upon receipt of notice to proceed and updated site plans. We anticipate the design development and review/approval process to take approximately six to eight months. We will work with you and the project team to meet your scheduling needs to the greatest extent possible.





## Fee for Services

Fees will be billed on a Time and Materials basis and in accordance with the attached fee schedule. A summary of fees for labor and direct costs are summarized by task in the table below. The total cost for the scope as described in this letter is estimated at an upset fee limit of \$36,100 for the traffic design services (including \$600 for direct expenses), \$8,800 for construction phase services, and \$9,000 in potential meeting time, \$3,000 for past meeting time, and \$7,600 in allowances for additional scope and meetings for a total fee of \$64,500 for transportation planning and traffic engineering services for the Project.

Task	Budget
<b>Task 1 – Transportation Improvement Design</b>	
1A. Davis Street Bike Lane	\$6,100
1B. Greenough Street Bike Lane	\$5,200
1C. Tappan Street Bike Lanes	\$7,800
1D. Tappan Street Parking Striping	\$4,800
<b>Task 2 – Traffic Signal Design</b>	\$8,600
<b>Task 3 – Greenough Street Pavement Design</b>	\$3,600
<b>DESIGN SUBTOTAL</b>	<b>\$36,100</b>
<b>Task 4 – Construction Phase Services</b>	\$8,800
<b>Task 5 – Meeting Attendance/Agency Coordination</b>	\$12,000
<b>TOTAL</b>	<b>\$56,900</b>
<b>Allowances for additional scope</b>	
Traffic Signal As-Builts	\$2,500
Additional Meetings (5 Meetings)	\$5,100
<b>TOTAL + ALLOWANCES</b>	<b>\$64,500</b>

Materials or reimbursable (direct) expenses will be billed at cost plus ten percent. Materials or reimbursable expenses are actual expenditures made by HSH in the interest of the project and include but are not limited to printing, photocopying, delivery charges, postage, research materials, local transportation, and any other expenses incurred in the interest of the project. Reimbursable expenses do not include permit filing fees.

Meetings are budgeted as outlined above; additional meetings, if required, will be billed at the hourly rates shown in the attached rate schedule. Additional team and agency meetings generally cost between \$400 and \$600 per meeting, depending on the duration of each meeting and the staffing



required. Additional community meetings range higher at up to \$1,000 per meeting depending on the need to provide supporting materials/graphics and the overall length of the meeting and any possible team preparation. All additional meetings will be invoiced on a time and materials basis based solely on hours expended as well as any travel costs.

While HSH feels the scope of work and associated fee provided in this proposal is appropriate for this type and size of development in this location and that it will be acceptable to reviewing agencies, should the scope of work change either by request of the Client, reviewing agencies, or the community, HSH will provide an additional services request for advance review and approval by the Client.

## Terms

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**Payment of Services:** The project work is billable monthly on a time and materials basis, such that if the hours are not spent, you will not be billed. Invoices are due within thirty (30) days of receipt, regardless of whether approvals are granted. Interest of one and one-half percent (1.5%) will be charged per month on unpaid bills after ninety (90) days. If the scope should significantly change or if the schedule is extended past December 31, 2020, we will revise the budget accordingly and resubmit it for your approval. HSH does not accept payment in cash. Payment by check or Automated Clearing House (ACH) is preferred.

**Termination:** Consultant services may be terminated by either party with or without cause upon 10 days advance written notice. Regardless of which party shall affect termination, Client shall, within 30 calendar days of termination, pay HSH for services rendered and all costs incurred up to the time of termination, as well as those costs associated with the termination itself, if any, in accordance with HSH's then-prevailing labor rates. Upon termination of services and full payment of consultant fees, HSH will release all work product related to this contract.

**Indemnification:** Client and HSH will indemnify and each hold harmless each other's employees, officers, directors, and subconsultants from and against all claims and actions, including reasonable attorney fees, arising out of or related to damages or injuries to persons or property related or connected to acts of each other or their employees, officers, directors, subconsultants or agents.

**Insurance:** During the period that services are performed under this Agreement, HSH will maintain the following insurance: (1) Workers Compensation coverage in accordance with the laws of the Commonwealth of Massachusetts; (2) Commercial General Liability with a limit of \$1,000,000 per occurrence and a \$2,000,000 general aggregate; (3) Non-owned and Hired Automobile Liability coverage with a combined single limit of \$1,000,000 and (4) Professional Liability coverage with a \$5,000,000 aggregate limit (claims made basis). Client agrees that HSH will not be liable for any



loss, damage, or liability arising out of this Agreement beyond the limits of available insurance coverage.

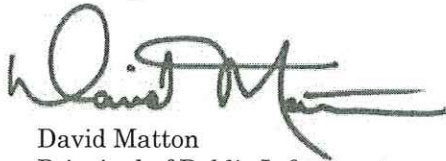
**Permits/Licenses:** HSH is committed to providing technical support to facilitate project progress and approval. However, there are often circumstances beyond HSH's control and responsibility that may affect a project's ability to obtain permits/licenses or necessary written approvals. Therefore, unless indicated within this proposal, HSH does not guarantee our ability to obtain any project permits or approvals from any agency having jurisdiction over the project.

## Approval

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Should this proposal be acceptable to you, this letter can serve as a contract by an authorized signature below and returning a copy to us. Should our understanding of the project be incorrect or incomplete, or should you have any revisions or changes, please contact me directly and we will incorporate them as directed. Thank you for contacting HSH; we look forward to working with you.

Sincerely,



David Matton  
Principal of Public Infrastructure

**Approved in the amount of \$64,500**  
**William Rawn Associates**

By: \_\_\_\_\_

Date: \_\_\_\_\_





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## Hourly Billing Rates through December 31, 2020 for Howard Stein Hudson

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Project Role	Hourly Rate
Principal/Senior Advisor	\$210 - \$350
Senior Engineer/Planner	\$155 - \$255
Engineer/Planner	\$130 - \$200
Junior Engineer/Planner	\$105 - \$170
Graphics/Production	\$100 - \$155
Co-op/Administrative Assistant	\$75 - \$140

*Rates subject to annual adjustment on December 31, 2020.*



## Additional Services

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The Scope of Services is based on our current understanding of the work effort requested at this time. All work not specifically described in the scope is excluded from this Agreement. The following services, should they be required, can be added to the scope of work if requested by the Client:

- 1) As-built drawings. HSH can arrange this service or work with the Contractor to produce this plan if requested. HSH's fee for this service is generally \$2,000 if we create an as-built plan based on the Contractor's field markups and coordinate with Brookline DPW.
- 2) Design of retaining walls.
- 3) Construction Management Plan. HSH is also able to prepare construction management plans (CMP) used for project coordination efforts between the Contractor, Town, and abutters.
- 4) Performing soil testing. HSH assumes that a geotechnical engineer will be engaged and that a geotechnical report will be generated that provides the data needed to complete the design of the stormwater management system.
- 5) Performing any revisions to the plans or submitted materials necessitated by decision of local, state, or federal authorities, or deviation from the original "street layout" and/or plans by the client after submission of PS&E drawings.
- 6) Design of off-site utility improvements.

Ray Masak  
Project Manager  
Town of Brookline Building Department  
Brookline Town Hall  
333 Washington Street  
Brookline, MA 02445

May 18, 2020

Project Name: Brookline High School Expansion Project

**Re: Traffic Mitigation – Scope Summary**

CC: Andy Felix (Hill International), Ian McKinnon, (HSH traffic consultant), Sam Lasky (WRA)

Dear Ray,

The following is a summary of Transportation board approvals outlined in a January 22, 2020 email provided by the Transportation Board. We have outlined whether each item is in the project scope or out of the current scope of the Brookline High School Expansion Project. Please see HSH's attached letter and order of magnitude costs for each item.

1. Alter the Traffic Rules & Regulations to create a Safety Zone with a 20-mph speed limit on Cypress Street from Boylston Street to Davis Avenue.
  - a. Out of scope – see HSH's letter (attached).
  - b. HSH to provide signage, town to handle Brookline regulations.
2. Alter the Traffic Rules & Regulations to create a Safety Zone with a 20-mph speed limit on Davis Avenue from Cypress Street to Greenough Street.
  - a. Out of scope– see HSH's letter (attached).
  - b. HSH to provide signage, town to handle Brookline regulations.
3. Alter the Traffic Rules & Regulations to create a Safety Zone with a 20-mph speed limit on Greenough Street (entire length).
  - a. Out of scope – see HSH's letter (attached).
  - b. HSH to provide signage, town to handle Brookline regulations.
4. Alter the Traffic Rules & Regulations to create a Safety Zone with a 20-mph speed limit on Lowell Road (entire length).
  - a. Out of scope – see HSH's letter (attached).
  - b. HSH to provide signage, town to handle Brookline regulations.



5. Alter the Traffic Rules & Regulations to create a Safety Zone with a 20-mph speed limit on Tappan Street (Blake to Cypress).
  - a. Out of scope – see HSH’s letter (attached).
  - b. HSH to provide signage, town to handle Brookline regulations.
6. Alter the Traffic Rules & Regulations to create a Safety Zone with a 20-mph speed limit on Welland Road (Stanton to Tappan).
  - a. Out of scope – see HSH’s letter (attached).
  - b. HSH to provide signage, town to handle Brookline regulations.
7. Construct an ADA compliant raised crosswalk meeting Town specifications and as approved by the Director of Engineering & Transportation on Tappan Street in the vicinity of the front stairway to the Unified Arts Building with the full cost to design and construct being covered by the School Project;
  - a. In Scope (not bid): Raised crossing and striping on the raised crossing are in the Tappan Streetscape Project (Project E).
  - b. Out of Scope: HSH to review and comment on pavement markings and signs.
8. Construct an ADA compliant raised crosswalk meeting Town specifications and as approved by the Director of Engineering & Transportation on Tappan Street in the vicinity of the Cypress Playground pathway with the full cost to design and construct being covered by the School Project;
  - a. In scope (not bid): Raised crossing and striping on the raised crossing are in the Tappan Streetscape Project (Project E).
  - b. Out of Scope: HSH to review and comment on pavement markings and signs.
9. Construct an ADA compliant raised intersection meeting Town specifications and as approved by the Director of Engineering & Transportation on Tappan St @ Sumner Road and Greenough Street with the full cost to purchase and install being covered by the School Project.
  - a. In scope (not bid): Raised crossing and striping on the raised crossing are in the Tappan Streetscape Project (Project E).
  - b. Out of scope: HSH to review and comment on pavement markings and signs.
10. Construct ADA compliant wheelchair ramps meeting Town specifications and as approved by the Director of Engineering & Transportation at the intersection of Cypress Street @ Tappan Street with the full cost to purchase and install being covered by the School Project.
  - a. In scope (Project A – Cypress Building): Sidewalk and apex accessible curb cut/ramp at southwest corner of the Tappan/Cypress Intersection on the 111 Cypress Site.
  - b. Out of Scope: HSH to cover pavement markings, signal posts - this now includes whole intersection (update post and pushbutton quantities to include 4 posts, 4 buttons).

- c. Not in Scope: Any changes to the curb cut along the sidewalk on the eastern side of Cypress Street
11. Construct ADA compliant wheelchair ramps meeting Town specifications and as approved by the Director of Engineering & Transportation at the intersection of Cypress Street @ Davis Avenue with the full cost to purchase and install being covered by the School Project.
- a. In scope / Out of scope? The Town to confirm the ramps at the corner of Davis and Cypress Street are covered by the Cypress Field Project team.
  - b. Out of Scope: LPI changes to signaling. HSH only had LPI here, assume new controller (update post and pushbutton quantities to include 8 posts, 8 buttons)
12. Construct a publicly accessible, ADA compliant informal pathway to the MBTA Brookline Hills station from Brington Road with the full cost to purchase and install being covered by the School Project; and Cypress building (Project A)
- a. In scope: Project A landscape
13. Alter the traffic signal timing at the signalized intersection of Cypress Street at Tappan Street to include a leading pedestrian interval and bring up to ADA standards meeting Town specifications and as approved by the Director of Engineering & Transportation with the full cost to implement, including traffic signal equipment, covered by the School Project;
- a. Out of scope: and HSH Included above
14. Alter the traffic signal timing at the signalized intersection of Cypress Street at Davis Avenue to include an exclusive pedestrian phase and bring up to ADA standards meeting Town specifications and as approved by the Director of Engineering & Transportation with the full cost to implement, including traffic signal equipment, covered by the School Project;
- a. Out of scope: HSH Included above
15. Reconstruct the 8-foot-wide sidewalks on Cypress Street meeting Town specifications and as approved by the Director of Engineering & Transportation with the full cost to purchase and install being covered by the School Project, and Project A Cypress Building
- a. In Scope: See Lemonbrooke landscape drawings (Project A)
16. Reconstruct the sidewalk on Tappan Street ensuring driveways aprons are at sidewalk level meeting Town specifications and as approved by the Director of Engineering & Transportation with the full cost to purchase and install being covered by the School Project.
- a. In scope (not bid): Project E Streetscape – Lemonbrooke / Nitsch
  - b. In scope (bid): Portion of Tappan Street immediately north of the Cypress building.

17. Install all NACTO compliant bike racks, street trees, and benches as shown on the attachments provided by staff meeting Town specifications and as approved by the Director of Engineering & Transportation with the full cost to purchase and install being covered by the School Project;

a. In scope: Project A (bid), C (not bid), E (not bid), and Cypress Field (not bid)


18. Alter the approved BHS Staff On-street parking program to be 232 total permits with locations to be determined at a later time closer to the issuance of a certificate of occupancy. Diagonal parking along Tappan Street –

a. Out of scope: HSH to cover pavement markings, include a nominal amount of extra parking signs (say 20 extra signs). The streets surrounding the school have these special parking signs to allow resident + school employees to park, change to the total number of permits, HSH may need to reassign some of the surrounding streets not included within the limited study area of Greenough, Davis, Tappan.

We would like to review the status of the bike lanes surrounding the high school to verify which bike lanes are in/out of the BHS Expansion Project scope.

Please let me know if you have any questions.

Regards,



Andy Jonic, AIA  
Senior Associate  
William Rawn Associates, Architects Inc.  
*Attachment: HSH letter*



# CAMPUS PLAN







April 24, 2020

Mr. Andrew Jonic  
William Rawn Associates, Architects Inc.  
10 Post Office Square, Suite 1010  
Boston, MA 02109

**Re: Brookline High School Expansion, Brookline, Massachusetts  
Traffic Engineering and Design Consulting Services**

Dear Andrew:

As requested, Howard Stein Hudson (HSH) has prepared this letter to outline proposed transportation mitigation related to the Brookline High School (BHS) Expansion Project. HSH has been pleased to provide continuing transportation support on this project starting with feasibility studies in 2016 through the current construction phase. During this process, the following transportation mitigation elements have evolved through a coordinated review by the design team, the BHS Building Committee, and Brookline Transportation Board.

- The August 2019 BHS Transportation Study, prepared by HSH for the Town, included recommendations for pedestrian signal improvements at the intersections of Cypress Street /Davis Avenue and Cypress Street /Tappan Street. The upgrades primarily include the addition of a “leading pedestrian interval”, or LPI, and minor pedestrian signal equipment adjacent to the site which will improve pedestrian safety. Also, The Brookline Transportation Board voted to also include ADA improvements as part of the mitigation work at Cypress Street/Davis Avenue and Cypress Street/Tappan Street. We have assumed new pedestrian signal posts associated would be installed with ADA compliant wheelchair ramps to bring this intersection into compliance.
- Additionally, we understand the Transportation Board, Bicycle Advocacy Commission and Department of Public Works have discussed creating several Safety Zones of reduced speed limits, and pedestrian and bicycle facility improvements. Bicycle improvements identified at the October 2, 2019 Transportation board meeting include improvements along Tappan Street and Greenough Street, which will serve bicyclists associated with the BHS, Cypress Field/Playground, Kirrane Aquatics Center, and the neighborhood in general. Based on these discussions we have preliminarily considered the following improvements:
  - Pavement markings associate with raised crossings and raised intersections across Tappan Street, and at Tappan Street at Sumner Road and Greenough Street,
  - Contraflow lane, sharrows, and parking along Tappan Street between Greenough and Cypress Street, and



- Contraflow lane, and parking along Greenough Street between Tappan Street and Davis Avenue.
- Safety Zones with new speed limit signage of 20 mph on the following streets:
  - Cypress Street from Boylston Street to Davis Street;
  - Davis Avenue from Cypress Street to Greenough Street;
  - Tappan Street from Blake Road to Cypress Street;
  - Greenough Street from Tappan Street to Washington Street;
  - Sumner Road from Blake Road to Tappan Street;
  - Lowell Road from Greenough Street to Stanton Road; and
  - Welland Road from Stanton Road to Tappan Street.

We estimate the probable total implementation costs for the traffic-related elements of these improvements to range between \$325,000 to \$400,000, including hard and soft costs. Hard costs for the associated pavement marking and signage to implement the proposed bicycle facilities, signal upgrades, and Safety Zones will range between \$250,000 to \$300,000. Note additional costs for the associated civil elements of raised crossings, and curb work have not been included. Soft costs range between \$75,000 to \$100,000 and include design and construction administration. An official proposal to follow and an Engineer's estimate would be developed during the design process.

We look forward to continuing to work with the Town on improving transportation infrastructure for the BHS and the surrounding neighborhood. Should you have any questions please contact me, Ian McKinnon, at (617) 348-3341 and [imckinnon@hshassoc.com](mailto:imckinnon@hshassoc.com).

Again, we thank you for this opportunity.

Sincerely,

*Ian McKinnon*

Ian McKinnon, P.E., PTOE, RSP

Associate, Institutional and Private Markets Leader





## Brookline High School Signage and Pavement Marking Offsite Improvements

May 1, 2020

Scope Originally Recommended	Budget
<b>Hard Costs</b>	
Davis Avenue	\$13,600
Greenough Street	\$8,900
Tappan Street (Section at Unified Arts Building)	\$17,300
Cypress St. at Tappan St. Signal Modifications	\$19,500
Cypress St. at Davis Ave. Signal Modifications	\$19,500
<b>Hard Costs Subtotal</b>	<u>\$78,800</u>
Contingencies/Markups (Police, CM, etc)	\$45,700
<b>Soft Costs (Design Preliminary)</b>	\$50,000
<b>TOTAL</b>	<b>\$174,500</b>

Transportation Board Recommendations	Budget
<b>Hard Costs</b>	
Davis Avenue	\$16,900
Greenough Street	\$11,700
Tappan Street (Section at Unified Arts Building)	\$27,700
Tappan Street (Section at STEM Wing)	\$4,600
Cypress St. at Tappan St. Signal Modifications	\$35,300
Cypress St. at Davis Ave. Signal Modifications	\$50,100
External Signage to Establish 20mph Safety Zone	\$4,000
<b>Hard Costs Subtotal</b>	<u>\$150,300</u>
Contingencies/Markups (Police, CM, etc)	\$87,200
<b>Soft Costs (Design Preliminary)</b>	\$75,000
<b>TOTAL</b>	<b>\$312,500</b>

**SCOPE #4**

**ATTACHMENTS**

**BHS EXPANSION****Contract Amendment #18 - Additional Services for Tappan Gymnasium (Project B)****WRA WORK PLAN**

2-Jun-20

*Please note the tasks outlined below are in above and beyond the remaining 40% CDs and Construction Administration tasks included in WRA's base contract*

**Scope #4a: Tappan Gymnasium Renovation Document Revisions****Tasks***Revise Demolition Drawings**Revise Construction Drawings**Revise front end specifications for new bid package*

Name	Hours	Rate	Total
Design Princ.	8	\$ 275	\$ 2,200
Project Mgr	40	\$ 250	\$ 10,000
Architect I	200	\$ 200	\$ 40,000
			\$ 52,200

**Scope #4b: Tappan Gymnasium Existing Conditions Analysis and Documentation****Tasks***4 full day site visits**Field Measurement**Photo Documentation of each existing spaces previously slated for gut renovation**Revit modelling*

Name	Hours	Rate	Total
Project Mgr	16	\$ 250	\$ 4,000
Architect I	60	\$ 200	\$ 12,000
			\$ 16,000

**Scope #4c: Tappan Re-design****Tasks***Revise design plans in response to Athletics and Health and Fitness Comments**Attend additional meetings**Mtg #1: Prepare for and present revised layout to BHS Athletics / Health & Fitness on 11/15/19**Mtg #2: Re-design meeting #2**Mtg #3: Re-design meeting #3**Mtg #4: Co-chairs Review**Mtg #5: BHS Advisory**Mtg #6: Parks + Open Space**Mtg #7: School Committee*

Name	Hours	Rate	Total
Design Princ.	10	\$ 275	\$ 2,750
Project Mgr	20	\$ 250	\$ 5,000
Architect I	100	\$ 200	\$ 20,000
			\$ 27,750

<b>Total (WRA Fee)</b>		<b>\$</b>	<b>95,950</b>
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# LEMON BROOKE

31 Oxbow Road Concord MA 01742  
T 978.222.3700

May 22, 2020  
Revised June 2, 2020

Mr. Andy Jonic  
Senior Associate  
William Rawn Associates, Architects Inc.  
10 Post Office Square, Suite 1010  
Boston, MA 02109

**RE: Brookline High School – Additional Service Request #4 (ASR #4) for Landscape Architectural Services Related to STEM Archway Renovation, Cypress St. Signal Coordination, Tappan Gym Renovation**

Dear Mr. Jonic:

Lemon Brooke LLC (LEMON BROOKE) appreciates the opportunity to submit this additional services request for landscape architectural services for the **Brookline High School Expansion Project in Brookline, MA**. This proposal sets forth the proposed limit of work, scope of services, deliverables and fees.

## Scope of Service

LEMON BROOKE will provide Landscape Architectural services for revising the construction documents and coordinating with other technical subconsultants for the areas known as STEM Archway, Cypress St. and Tappan St. Signal Renovation, and Tappan Gym Renovation as illustrated and described in **Attachment A "Limit of Work"**. This work is necessitated as follows:

- A) STEM Archway: Recently discovered waterproofing concerns within the STEM archway
- B) Cypress/Tappan Signal: Work to modernize, and make accessible, the signal at Cypress and Tappan Streets which may include replacing and relocating the existing signal.
- C) Tappan Gym Landscape: Redesign with a constrained project budget and need to rebid the work, for the Tappan Gym landscape from back of sidewalk to face of building with the following new conditions:
  - "facelift" existing, keeping existing stair/trellis while, at the same time, incorporating Parks and Open Space comments from 2018/2019.
  - This work entails schematic and design development level work with up to three meetings, including preparation/perspective sketches, illustrative plans and sections.
  - Up to 60% construction drawings and specifications (including design build irrigation as per original contract).
  - Cost Estimating Reconciliation review and meeting
  - 60%-100% CD's are not included as they are still owned by the original project.
  - Construction administration fees are not included, and will be proposed in the future, as phasing for the work is not yet determined.

#### Fees Terms & Schedule

To undertake the above scope of services, we recommend the following fee budgets to be established:

<i>Phase</i>	<i>Schedule</i>	<i>Professional Services</i>	<i>Estimated Reimbursables</i>
<b>A) Construction Documents Revisions and Coordination: STEM Archway</b>	1 Month	<b>\$1,500</b>	Included
<b>B) Construction Documents Revisions and Coordination: Cypress St. Signal</b>	2 Months	<b>\$1,500</b>	Included
<b>C1) Schematic Tappan St. Landscape at Tappan Gym and Kirrane Aquatics Center</b>	0.5 Months	<b>\$6,500</b>	Included
<b>C2) Design Development CDs Tappan St. Landscape at Tappan Gym and Kirrane Aquatics Center</b>	0.5 Months	<b>\$3,600</b>	Included
<b>C3) Up To 60% CDs Tappan St. Landscape at Tappan Gym and Kirrane Aquatics Center</b>	1 Months	<b>\$7,800</b>	Included
<b>C4) Cost Estimation Reconciliation Tappan St. Landscape at Tappan Gym and Kirrane Aquatics Center</b>	1 Months	<b>\$1,800</b>	Included

All terms shall be per the current terms of our contract.

#### IV. Authorization

We trust this proposal has provided you with sufficient information. If this proposal is agreeable then with your signature below, this will be our legal working contract. If another form of proposal or contract is necessary, please let us know. We look forward to discussing the project further with you and, if you need additional information or detail, please don't hesitate to contact me.

Sincerely,



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**Christian Lemon, Principal**

Accepted:

[www.lemonbrooke.com](http://www.lemonbrooke.com)

\_\_\_\_\_  
**Andy Jonic**  
**William Rawn Associates, Architects Inc.**

\_\_\_\_\_  
**Date**

Attachment: Appendix A (Terms & Conditions)


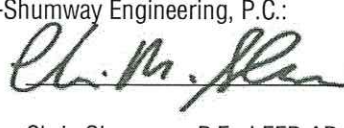
**ATTACHMENT A – LIMIT OF WORK (in highlighted area)**

- A) STEM Archway
- B) Cypress/Tappan Street Signal
- C) Tappan Street Gym / Kिरrane Aquatics Center Landscape Architecture (SD / DD / 60% CD / Cost Estimating Reconciliation)







<h2 style="text-align: center;">CONTRACT AMENDMENT</h2>		Date:	June 2, 2020
		Project No.:	R18-8405.001
		Amendment No.:	#4
		Billing Group:	BG 220
Client Name:	William Rawn Architects, Associates, Inc.		
Project Name:	Brookline High School Campus Expansion		
<p style="text-align: center;"><b>Change in Scope</b> (increased, unchanged, or decreased)</p> <p>Provide additional engineering services for the re-design of the renovations to the Tappan Street Gym. The revisions will be as shown on the documents provided by WRA dated 11/15/19 indicating revised scope. The design changes include updating the 60% design documents to reflect the proposed scope of the area.</p> <p>Mechanical (32hrs engineer @ \$155/hr and 88hrs designer @ \$125/hr) = \$15,960</p> <p>Electrical (24hrs engineer @ \$155/hr and 56hrs designer @ \$125/hr) = \$10,720</p> <p>Plumbing (16hrs engineer @ \$155/hr and 40hrs designer @ \$125/hr) = \$7,480</p> <p>Fire Protection (4hrs engineer @ \$155/hr and 12hrs designer @ \$125/hr) = \$2,120</p> <p>Telecommunications (4hrs engineer @ \$155/hr and 12hrs designer @ \$125/hr) = \$2,120</p> <p>Senior Project Manager (8hrs @ \$175/hr) = \$1,400</p>		<p style="text-align: center;"><b>Fee Adjustments</b> (lump sum or hourly/budget)</p> <p style="text-align: center;">\$39,800</p>	
<b>Total Amendment No. 4</b>		\$39,800	
<b>BASIS OF AUTHORIZATION TO AMEND CONTRACT</b> Andy Jonic email to RFS dated 6/1/20.			
<b>Last Agreed Upon</b> Date of Completion: N/A		<b>New Date of Completion:</b> N/A	
Client to sign and return one copy of this form:  For William Rawn Associates, Architects, Inc.:  Signature: _____ Date _____  Type or Print Name/Position: _____		Rist-Frost-Shumway Project Manager Approval:   For Rist-Frost-Shumway Engineering, P.C.:  Signature:  06/02/2020 Date _____  Type or Print Name/Position: Chris Shumway, P.E., LEED AP President	

October 17, 2019

Andrew Jonic  
William Rawn Associates, Architects  
10 Post Office Square, Suite 1010  
Boston, MA 02109

Project: Brookline High School – Tappan New Lobby Plan  
LeM File No. 37111.006

Dear Andy,

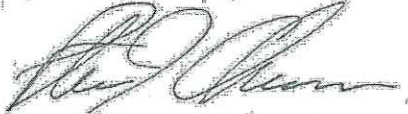
Thank you for requesting this fee proposal for structural engineering services associated with the scaled-down work for the Tappan Lobby at the Brookline High School project in Brookline, Massachusetts.

We understand the revised scope of work includes elimination of the lobby/community room addition; elimination of new HVAC equipment on the roof; and limited structural work for a renovated lobby space.

For these additional services, we propose a lump sum fee of \$7500 for preparation of the revised documents, specifications, review of bids, etc. Construction Administration will be performed under the new contract as long as it occurs in parallel with Cypress and STEM.

We trust this proposal is responsive to your request; however, if you have any questions or comments, please contact me directly.

Very truly yours,  
LeMessurier Consultants Inc.



Peter J. Cheever, P.E.  
President

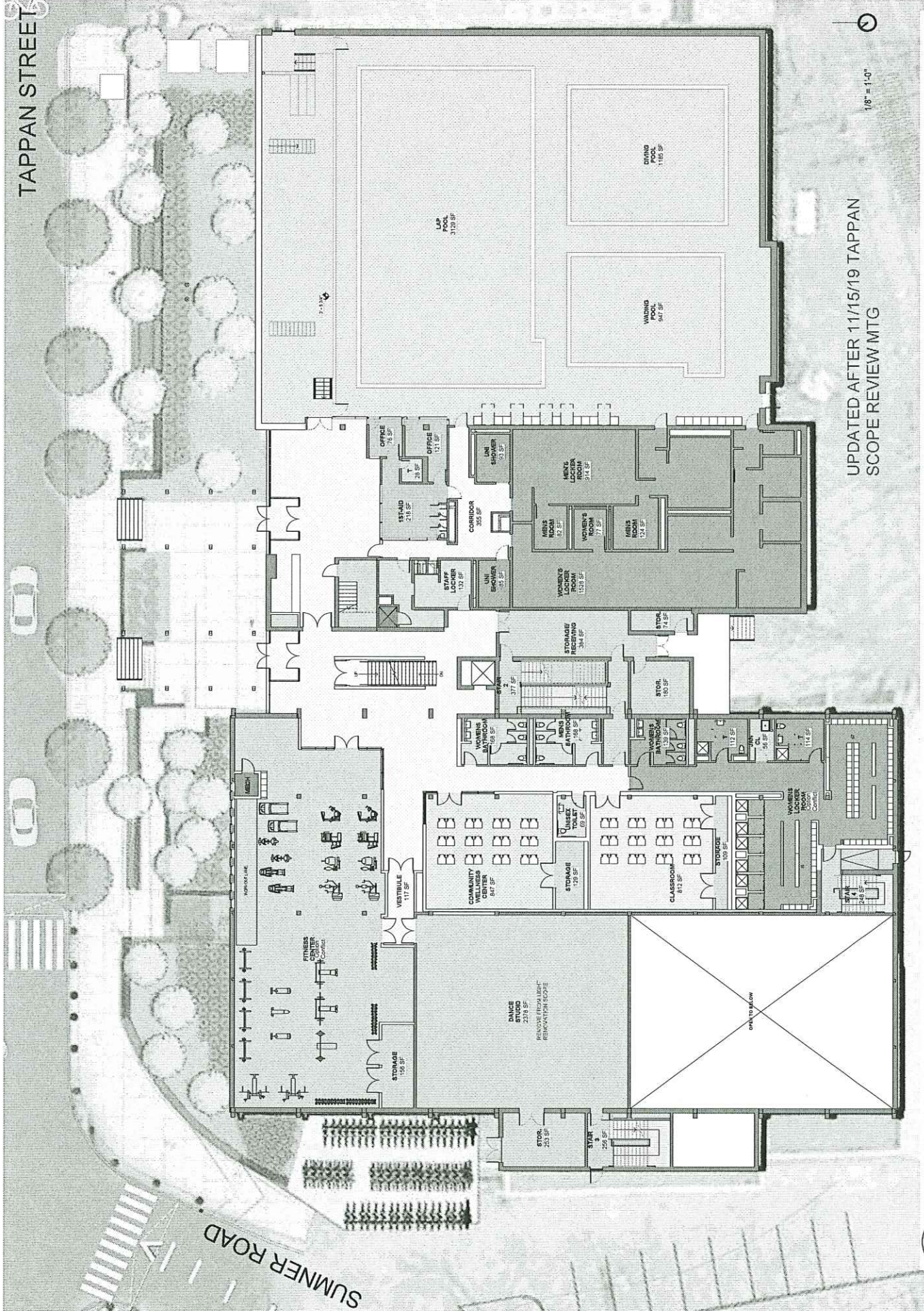
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xc: Sue Hulbert/LeM

LeMessurier.





UPDATED AFTER 11/15/19 TAPPAN  
SCOPE REVIEW MTG

LEVEL 1 FLOOR PLAN

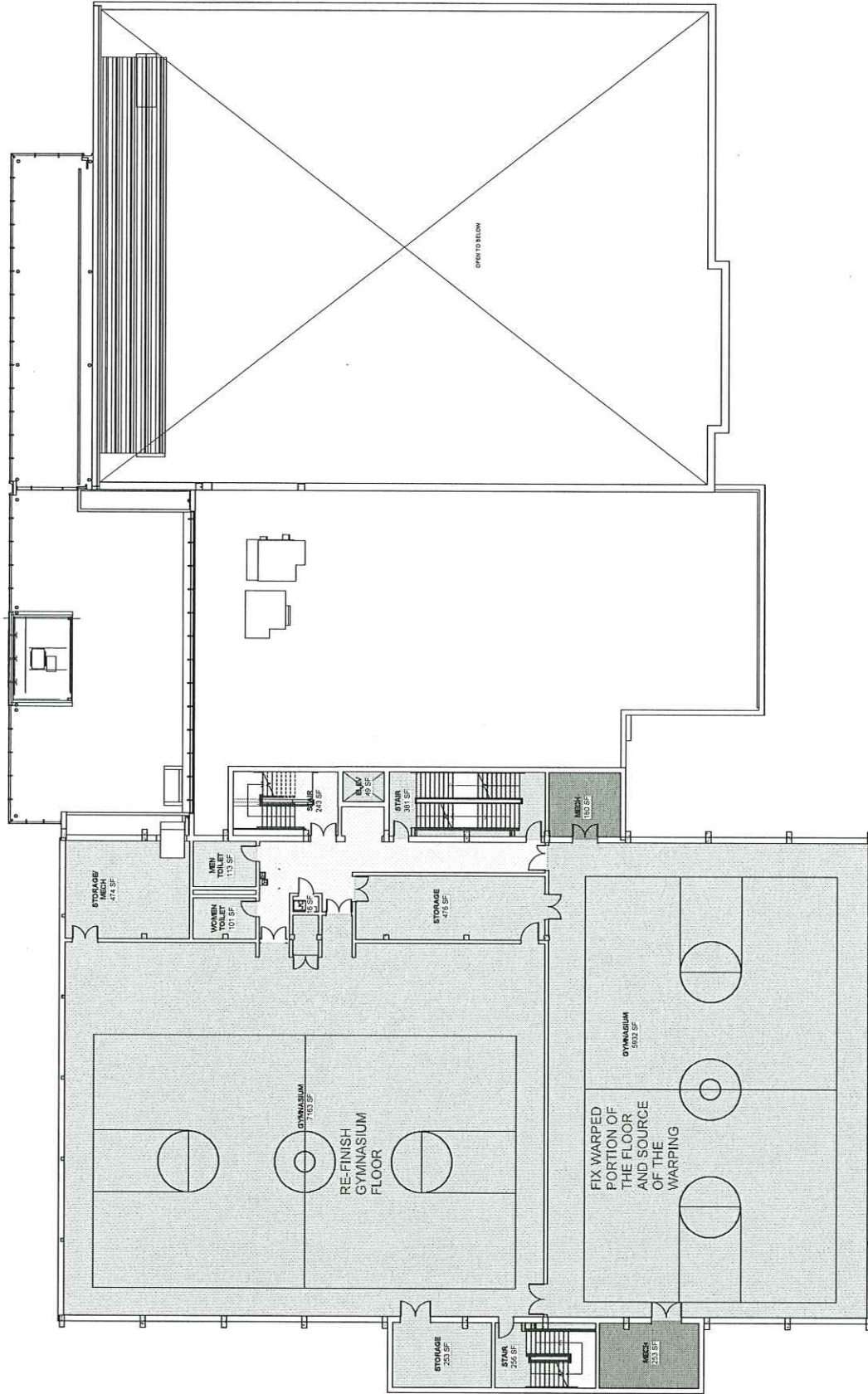
**BROOKLINE HIGH SCHOOL**  
BROOKLINE, MA

William Rawn Associates, Architects, Inc., Boston, MA

11/15/2019







1/8" = 1'-0"





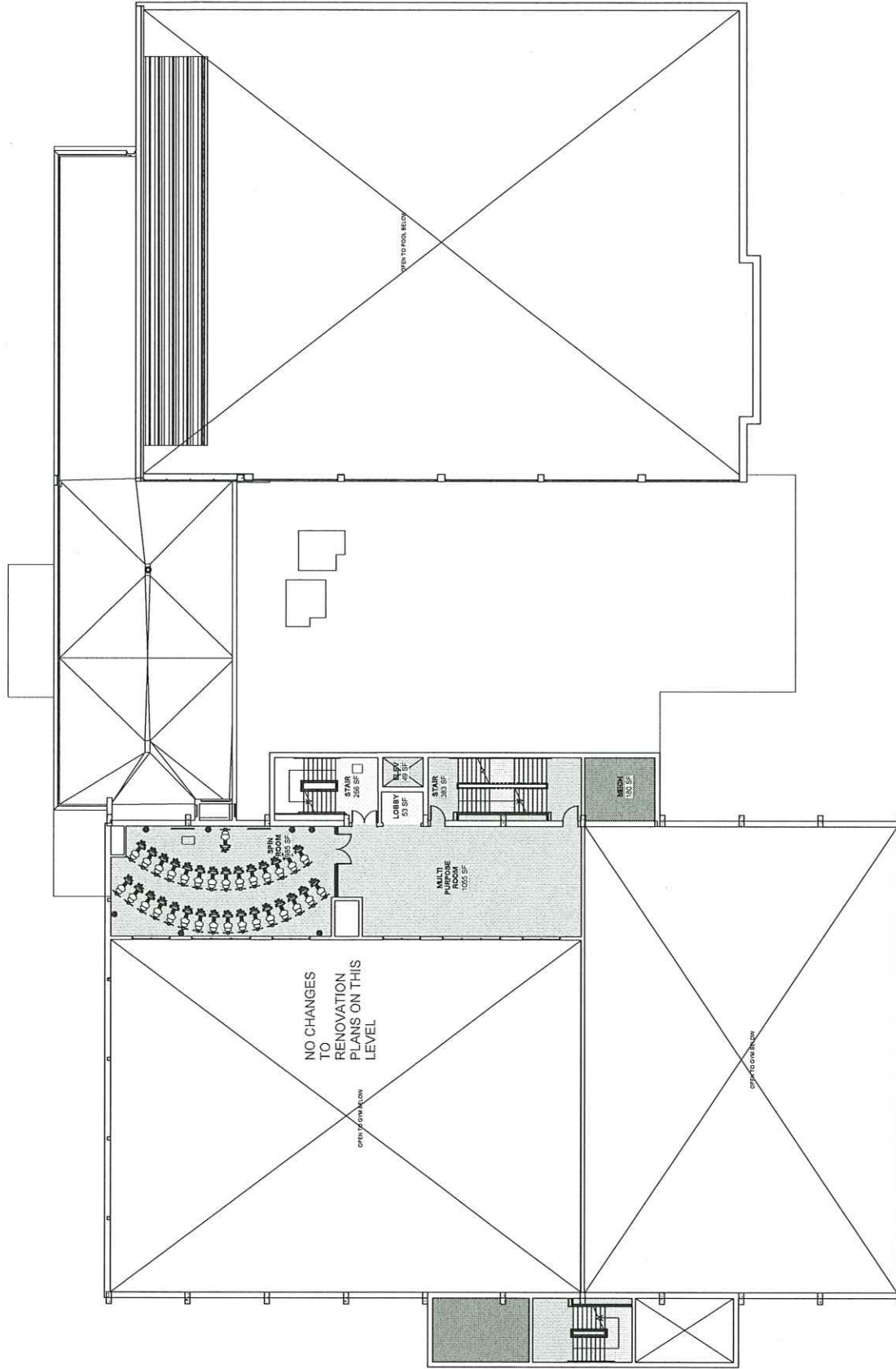


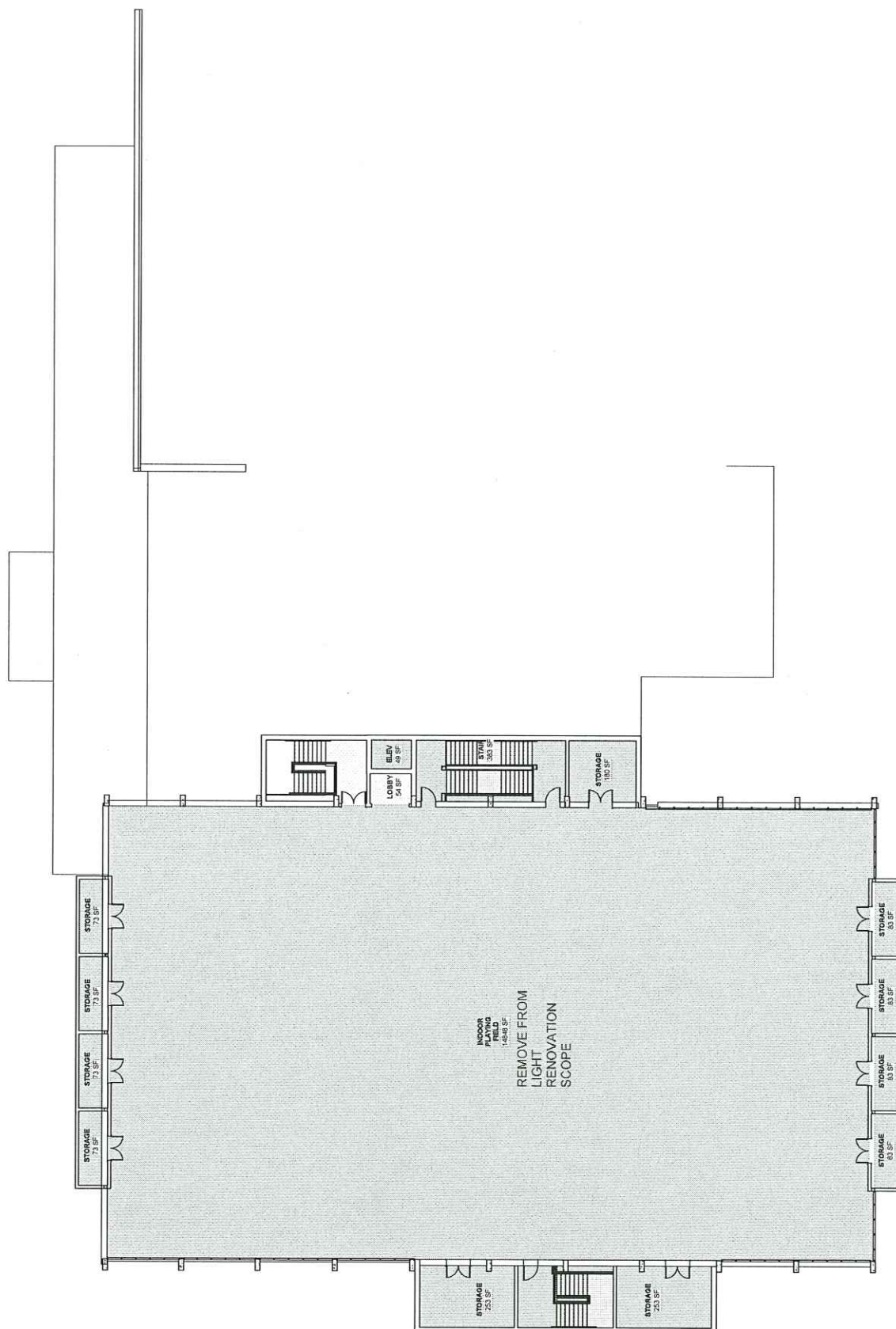
## BROOKLINE HIGH SCHOOL

BROOKLINE, MA

11/15/2019





 $1/8'' = 1'-0''$ 