

BET Budget Meeting
Major Projects Capital Day
February 9, 2023
(printed February 9, 2023)

Greenwich Board of Education Proposed Budget
Supporting Documents

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Status of School Contruction State Reimbursements

(as of January 30, 2023)

Project	Total project Cost	Reimbursed To Date	Reimbursement Outstanding
MISA	\$45,795,051	\$4,018,815	\$4,978,171.71
Hamilton Avenue	\$30,109,189	\$3,504,443	\$1,864,024
Glenville *	\$24,997,411	\$1,500,000	\$3,499,482
New Lebanon	\$36,240,167	\$17,702,359	\$5,465,395.08

* Awaiting confirmation from State of CT

School Construction Grant Program

<https://www.cga.ct.gov/2022/rpt/pdf/2022-R-0239.pdf>

This report explains the process that towns and regional school districts must follow when applying for school construction grants as required by state law and regulations. (The standards and guidelines established by the Department of Administrative Services' (DAS) School Building Projects Advisory Council are not summarized in this report.) Summaries of statutes and regulations are accurate as of this report's publication date. This report is not an all-inclusive set of instructions upon which school districts should rely when applying for these grants.

Central Middle School

Background Information - Why Are We Here?

- 2017: BOE Facilities Master Plan identifies CMS for replacement
- February 4, 2022: Building Department closes CMS due to structural issues
- February 22, 2022: CMS reopens, repairs are not intended to be permanent

Why was the CMS replacement \$67.5M in the FY23 Capital Budget?

GPS Administration contacted local architects to get square foot pricing estimates. The estimate at the time was about \$600 per square foot. The existing footprint is 110,000 square feet. $\$600 \times 110,000 = \$66\text{M}$.

Factors to consider:

- There were no educational specifications
- There were no drawings or designs, this is an estimate only
- This did NOT include an assumption for FF&E

Why was CMS replacement \$85.5M in the FY24 BOE proposed capital budget?

For the development of the BOE capital budget, which was assembled in September and approved in October 2022, the assumptions used were:

- \$698 per square foot, an estimate derived using the average of six architectural bids for the CMS project. The logic, at the time of submission, was coordinated with OFS.
- 115,311 square feet, based on the BOE approved Educational Specifications
- \$5M for complete FF&E
- $\$698 \times 115,311 \text{ sq. feet} = \$80,487,078 + \$5\text{M} = \$85,487,078$

The \$698 per square ft estimate was an all-in estimate, from design and demolition through construction, excluding FF&E.

Factors to consider:

- There are still no designs or floor plans
- No materials or design elements are reflected, it is strictly a square foot calculation
- The BOE approved a resolution at the October 20, 2022 Business Meeting recognizing the size of the request, the limited information at the time of approval, and a commitment to work with BET & RTM on the CMS budget as more information became available.

What about the \$2.5M for design appropriated in FY23?

To account for the design funds already appropriated in FY23 for CMS, GPS Administration contacted OFS to revise the submission from \$85.5M to \$83M. This would keep consistent with the logic used for budgeting at this stage.

The First Selectman's FY24 Capital Budget Proposal

The First Selectman's FY24 Capital Budget proposal included \$75.2M for CMS. This is the middle point between the FY24 BET Guidelines of \$67.5M and the BOE FY24 Proposal of \$85.5M, less the \$2.5M already appropriated for design.

It is important to note, the \$75.2M budget must include:

- All remaining architectural, engineering, and legal services throughout the life of the project
- Environmental testing
- Site work
- Demolition of the existing school, including hazardous materials abatement
- Construction of the new school
- All furnitures, fixtures, and equipment
- All technology and digital equipment

When comparing the cost of CMS to other school construction projects, it is important to compare the full scope of the budget. It is not \$75.2M to build a new school, it would be \$75.2M all in, including demolition of the existing school.

Can the First Selectman's Budget Proposal work with the BOE Ed Specs?

It may be able to and stay on-time. The Building Committee's architectural firm, SLAM, just started schematic design in January 2023. Because design is in its infancy, SLAM may be able to design to budget. This narrows the options of design to:

1. Educational Specifications
2. Total budget from start to finish of \$77.7M

Factors to consider using this approach:

- This is not based on any design, there are no known floor plans or materials
- Educational Specifications will be core focus
- Based on architectural estimates, a Net Zero building will likely not be possible
- This will be a challenge, any further budget alterations could fundamentally impact project progress and timeline

The project needs to be fully appropriated in FY24 and schematic design must be complete for CMS to apply to the State for reimbursement for the June 2023 deadline. The State allows one appropriation revision.

Central Middle School Major Space Comparison

Requirements for sizing of spaces have changed since the current Central Middle School building was built in 1957. The New CMS numbers adhere to current educational standards. These include:

- ADA compliance (primary)
- Fire, building, and life safety codes
- Additional work spaces needed for mandated special education (est. 1974) and English language learners
- Band and Orchestra program revised to align CMS to peer schools in town

While gross change in square footage is only 5,311 from the existing building, the total space will be used more efficiently, resulting in additional square feet in program spaces with comparable functional capacity. The chart below compares certain key spaces under the existing building versus the new.

Spaces	New CMS (sq. ft.)	Current CMS (sq. ft.) (est. 1957)	Difference
Gross Area	115,311	110,000	5,311
Enrollment Capacity	660	734	-74

Core Space Comparison*			
Academic Core Classroom	24,000 <i>30 classrooms at 800 sf</i>	22,390 <i>31 classrooms at 722 sf</i>	1,610 <i>-1 classroom</i>
Science Labs	6,600 <i>6 labs at 1,100 sf</i>	6,520 <i>6 labs at 1,087 sf</i>	80
Gymnasium	6,800	6,445	355
Music Programs	4,650	3,355	1,295
Media (with support space)	5,390	4,663	727
Cafeteria Student Dining	4,900 <i>235 students x 21 sf</i>	3,306 <i>2 cafeterias at 1,653 sf 158 students x 21 sf</i>	1,594
Auditorium Seating	5,700 <i>550 seats with ADA</i>	4,800 <i>550 seats lacking ADA</i>	900
Auditorium Stage	2,540 <i>150 students chairs/ music stands</i>	2,543 <i>150 students chairs/ music stands</i>	-3
Principal's Office	200	111	89

* Excludes building hallways, mechanicals, etc.



GREENWICH
Public Schools

Julian Curtiss School

To: Bill Kelly, Chairman of JC Building Committee
Joe Kelly, Board of Education Member
From: Blaize Levitan, Chief Operating Officer GPS
Date: 11/9/2022
Subject: Julian Curtiss Building Committee Kick-off Information

The purpose of this memo is to outline capital funds available to the Building Committee, provide initial direction on process, and clarify some roles and responsibilities. For background, capital fund requests are proposed by the BOE to the First Selectman, who then proposes capital to the BET. Through the annual budget process, the BET and RTM then appropriate approved funding via the capital budget. Capital funds have specific parameters regarding their use, as defined on their project sheets in the approved capital budget. Below is the breakdown of current and proposed capital funding, related to this Building Committee. Attached is the *approved* project sheet for each funding appropriation.

Appropriated Capital Managed by JC Building Committee

- Appropriated & Ready - Design funding remaining of \$160,000 (Project code 20162)
- Appropriated & Ready – Design for construction documents \$200,000 (22366)
- Appropriated & Ready - \$1.1M ADA funding, primarily for elevator, if any left over, can be used for ADA projects
- Appropriated & Ready - \$289,000 for Windows and Doors
- Appropriated & Ready - \$111,000 for "Other, Lighting, Paving, Painting" - can ONLY be used on the exterior of the building

Proposed FY24 Capital Managed by JC Building Committee

- Proposed FY24 - \$800,000 for Front Entrance (Must coordinate with Tom B on Security)
- Proposed FY24 - \$50,000 design for cafeteria
- Proposed FY24 - \$200,000 ADA Bathroom

Related JC Capital Managed by GPS Facilities

- \$2.5M for HVAC General Fund & \$619,000 ARP HVAC, includes gym HVAC
- Plumbing & electrical \$831,000 (Overlap - coordinate with Facilities)
- Ceilings & Lighting - \$670,000 (Overlap - coordinate with Facilities)

This is not a traditional Building Committee approach, and will therefore require some out-of-the-box thinking. Administration recommends that the Building Committee review the design that was originally for the major renovation, and then use design funding to engage an architect to do some preliminary design work to develop a comprehensive, multi-year approach to this capital investment. Existing capital appropriations will need to be strategically utilized. For example, "Other, Lighting Paving, Painting" could be used to leverage the new ADA front entrance project, providing new lighting along ADA ramps and the entrance. Coordination with GPS Facilities on plumbing, electrical, and lighting work will be essential to most effectively use resources.

The new cafeteria doesn't need to be replaced as is. It may be more cost effective to repurpose classrooms into a new cafeteria, and turn the existing cafeteria into classroom/academic space.

A procurement procedure cheat sheet has also been attached to aid the committee in following proper process. Board Member Joe Kelly and JC Principal Trish McGuire are GPS liaisons and can bring questions back to Administration, Facilities, and Purchasing. Dan Watson and Eugene Watts (Purchasing Director) cannot attend every meeting, so we ask the Chair to please schedule their time in advance if they are needed for the agenda. Questions can also be submitted in advance if they cannot attend. Please do not hesitate to reach out to me with any questions.

CC: Dr. Toni Jones, Superintendent
Dan Watson, Facilities Director

Building Committee Procurement Notes

Here are some general guidelines for the Building Committee to follow:

- Committees should vote on every expenditure
- Details for each approved committee expenditure should be promptly submitted by the Chair to GPS Accounts Payable and GPS Purchasing via email for an encumbrance & Purchase Order:
 - Accounts Payable: Angela_Vinci@greenwich.k12.ct.us
 - GPS Purchasing: Eugene_Watts@greenwich.k12.ct.us
- All purchases *require* an encumbrance (via a Purchase Order) before the goods or services are ordered
- All invoices must be signed and dated by the Chair and then promptly submitted to Accounts Payable and Purchasing for issuance of payment
 - Please note that the Town only issues payments once per week (Fridays)

For many general services, the Town has active service agreements for work under \$25,000 that can be utilized by the Building Committee. Services agreements include engineering, architectural design, general contracting, and more. For jobs under \$25,000, contact GPS Purchasing to access these service vendors.

TOWN OF GREENWICH

CAPITAL IMPROVEMENT PLAN 2020 - 2034

PART I - PROJECT INFORMATION SHEET

Project Name: DESIGN STUDY - Renovation/Expansion of Julian Curtiss

Department: Board Of Education

Account Code:

Start Year: 2019

End Year: 2020

☐ Maintenance

☐ Replacement

☐ Other:

☒ New Project

☐ Improvement/Upgrade

PROJECT DESCRIPTION: (clearly describe scope/schedule, identify approvals required, A&E, etc.)

This building was constructed in 1946 and has had no significant changes since. Key issues; lack of accessibility, poor overall organization, undersized cafeteria, lack of adequate classrooms and small group instruction space. The budget reflects cost efficiencies of combining design studies with OG & RV. This allows for the development of a single Ed Spec which in turn promotes; savings in A/E costs, savings in construction costs, parity, uniform approach to accessibility compliance, integrating program requirements with infrastructure improvements to keep costs down on future capital improvements.

STATEMENT OF NEED/ISSUES: (Provide metrics, when possible, for project need and connect with Dept. Capital Program)

The concept proposed will improve both the organization of the building and to provide additional capacity includes a one-story addition that connects the two wings of the building and provides a full-sized cafeteria and Library. This new addition will also tie in to the new elevator. Office space will be moved to the front of the building and grade level classrooms will be grouped together. The new space will allow areas to be converted back to their original use thus providing the needed additional instructional space.

Key infrastructure work includes, elevator access to all floors, installation of an emergency generator, lighting upgrades and a major upgrade to the heating, ventilation and air conditioning system. Other considerations include, but are not limited to: A single, secure and accessible entrance and interior accessible routes, re-paving, and playground updates including an accessible play structure.

Other Considerations:

☐ Reimbursement (grant, state, donation, etc.), describe:

☐ Public/Private Partnership, describe:

In FY19, project was reflected in FY _____ for \$ _____

FINANCIALS:

	<u>Fiscal Year</u>	<u>Project Costs</u>	<u>Incremental Operating Costs at Completion</u>
<u>Prior 3 Years Budgeted</u>	Total	0	
<u>Current Request</u>	2019/2020	212,000	0
<u>Projected</u>	2020/2021	603,000	0
	2021/2022	2,563,000	0
	2022/2023	32,437,000	0
	2023/2024	0	0
	Total	35,815,000	0

**TOWN OF GREENWICH
CAPITAL IMPROVEMENT PLAN 2020 - 2034
PART II - PROJECT COST WORKSHEET**

[illegible]

TOWN OF GREENWICH

CAPITAL IMPROVEMENT PLAN 2022 - 2036

PART I - PROJECT INFORMATION SHEET

Project Name: Julian Curtiss Expansion/Renovation

Department: Board Of Education

Account Code: 680

Start Year: 2019

End Year: 2024

☐ Maintenance

☐ Replacement

☐ Other:

☒ New Project

☐ Improvement/Upgrade

PROJECT DESCRIPTION: (clearly describe scope/schedule, identify approvals required, A&E, etc.)

The request is for funding to complete construction documents based on the BOE approved Ed Specs (Educational Specifications). A Building Committee will be established and will select a design firm to carry out the task of creating the Construction documents

STATEMENT OF NEED/ISSUES: (Provide metrics, when possible, for project need and connect with Dept. Capital Program)

Key infrastructure work to be included in the construction documents will include, but not limited too: elevator access to all floors, installation of an emergency generator, lighting upgrades and a major upgrade to the HVAC systems, additional program space as required, larger cafeteria space and modifications to media area, a single, secure and accessible entrance and interior accessible routes, re-paving, and playground updates including an accessible play structure.

Other Considerations:

☐ Reimbursement (grant, state, donation, etc.), describe:

☐ Public/Private Partnership, describe:

In FY21, project was reflected in FY22 for \$ 2,600,000

FINANCIALS:

	<u>Fiscal Year</u>	<u>Project Costs</u>	<u>Incremental Operating Costs at Completion</u>
<u>Prior 3 Years Budgeted</u>	Total	0	
<u>Current Request</u>	2021/2022	200,000	0
<u>Projected</u>	2022/2023	1,500,000	0
	2023/2024	25,031,000	0
	2024/2025	0	0
	2025/2026	0	0
	Total	26,731,000	0

TOWN OF GREENWICH

CAPITAL IMPROVEMENT PLAN 2023 - 2037

PART I - PROJECT INFORMATION SHEET

Project Name: ADA Compliance Projects

Department: Board Of Education

Account Code: 680

Start Year: 2023

End Year: ongoing

☐ Maintenance

☐ Replacement

☐ Other:

☒ New Project

☒ Improvement/Upgrade

PROJECT DESCRIPTION: (clearly describe scope/schedule, identify approvals required, A&E, etc.)

The request is for funding to complete work associated with a Districtwide program to achieve compliance with the Americans with Disabilities Act (ADA). Areas of concerns include, but are not limited to: parking, general access to buildings, signage, handrails, renovations to program spaces & restrooms and vertical transportation (elevators & lifts).

Professional Services are to be included as needed

STATEMENT OF NEED/ISSUES: (Provide metrics, when possible, for project need and connect with Dept. Capital Program)

The District has many identified issues and concerns that need to be addressed in order to achieve ADA Compliance. FY 2022 did not have a line item for ADA however funding from 22371 Vertical Transportation, 22373 Playground Replacement and 22374 Stairs & Ramps will be used for ADA upgrades.

Other Considerations:

Alignment to the POCD, Guiding Principle #: #3: Support top quality educational facilities

☐ Reimbursement (grant, state, etc.), describe:

☐ Public/Private Partnership, describe:

In FY22, project was reflected in FY23 for \$ n/a

FINANCIALS:

	<u>Fiscal Year</u>	<u>Project Costs</u>	<u>Incremental Operating Costs at Completion</u>
<u>Prior 3 Years Budgeted</u>	Total	0	
<u>Current Request</u>	2022/2023	4,262,000	0
<u>Projected</u>	2023/2024	2,576,000	0
	2024/2025	1,131,000	0
	2025/2026	0	0
	2026/2027	51,000	0
	Total	8,020,000	0

**TOWN OF GREENWICH
CAPITAL IMPROVEMENT PLAN 2023 - 2037
PART II - PROJECT COST WORKSHEET**

[illegible]

TOWN OF GREENWICH

CAPITAL IMPROVEMENT PLAN 2023 - 2037

PART I - PROJECT INFORMATION SHEET

Project Name: Other (lighting, paving, & painting)

Department: Board Of Education

Account Code: 608

Start Year: 2022

End Year: 2023

☐ Maintenance

☒ Replacement

☐ Other:

☒ New Project

☒ Improvement/Upgrade

PROJECT DESCRIPTION: (clearly describe scope/schedule, identify approvals required, A&E, etc.)

The request is for funding to complete work associated with exterior painting. Work is to include prepping and painting of exterior surfaces including but not limited to: concrete, wood, steel, brick and stucco.

Funds are also requested for similar work across the district on an as needed basis.

Professional Services are to be included as needed.

STATEMENT OF NEED/ISSUES: (Provide metrics, when possible, for project need and connect with Dept. Capital Program)

There are many locations across the district where the exterior facades/surfaces of the buildings are in need of painting. An exterior painting program will serve to assist in protecting the Districts assets. This will be a yearly and ongoing request.

The FY 22 budget did not have a specific line item for Exterior Other.

Other Considerations:

Alignment to the POCD, Guiding Principle: #3: Support top quality educational facilities

☐ Reimbursement (grant, state, etc.), describe:

☐ Public/Private Partnership, describe:

In FY22, project was reflected in FY for \$ 0

FINANCIALS:

	<u>Fiscal Year</u>	<u>Project Costs</u>	<u>Incremental Operating Costs at Completion</u>
<u>Prior 3 Years Budgeted</u>	Total	350,000	
<u>Current Request</u>	2022/2023	230,000	0
<u>Projected</u>	2023/2024	189,000	0
	2024/2025	304,000	0
	2025/2026	0	0
	2026/2027	257,000	0
	Total	1,330,000	0

**TOWN OF GREENWICH
CAPITAL IMPROVEMENT PLAN 2023 - 2037
PART II - PROJECT COST WORKSHEET**

[illegible]

TOWN OF GREENWICH

CAPITAL IMPROVEMENT PLAN 2023 - 2037

PART I - PROJECT INFORMATION SHEET

Project Name: Windows & Doors

Department: Board Of Education

Account Code: 680

Start Year: 2022

End Year: 2023

☐ Maintenance

☒ Replacement

☐ Other:

☐ New Project

☒ Improvement/Upgrade

PROJECT DESCRIPTION: (clearly describe scope/schedule, identify approvals required, A&E, etc.)

The request for funding is for projects that make up the envelope of a building, or the physical separator between the conditioned and unconditioned environment. Doors & windows are also an essential component of a buildings security.

Professional services are to be included.

STATEMENT OF NEED/ISSUES: (Provide metrics, when possible, for project need and connect with Dept. Capital Program)

A building envelope is the physical separator between the conditioned and unconditioned environment of a building including the resistance to air, water, heat, light, and noise transfer. Many of the window systems in the district are not energy efficient and are in need of replacement. The district also recognizes the need to update and upgrade the perimeter of the facilities in terms of security. Funding for new door hardware is requested.

Other Considerations:

Alignment to the POCD, Guiding Principle: #3: Support top quality educational facilities

☐ Reimbursement (grant, state, etc.), describe:

☐ Public/Private Partnership, describe:

In FY22, project was reflected in FY23 for \$ 535,000

FINANCIALS:

	<u>Fiscal Year</u>	<u>Project Costs</u>	<u>Incremental Operating Costs at Completion</u>
<u>Prior 3 Years Budgeted</u>	Total	2,764,000	
<u>Current Request</u>	2022/2023	450,000	0
<u>Projected</u>	2023/2024	8,858,000	0
	2024/2025	5,223,000	0
	2025/2026	3,151,000	0
	2026/2027	2,000,000	0
	Total	22,446,000	0

TOWN OF GREENWICH

CAPITAL IMPROVEMENT PLAN 2023 - 2037

PART II - PROJECT COST WORKSHEET

Project Name: Windows & Doors						
Description	2022 - 2023	2023 - 2024	2024 - 2025	2025 - 2026	2026 - 2027	Total
CC		114,000				114,000
CMS	50,000	100,000				150,000
GHS		2,000,000	4,841,000		2,000,000	8,841,000
HA	111,000		43,000			154,000
HAV/DIST			116,000			116,000
ISD			68,000			68,000
JC	289,000	91,000				380,000
NM				1,989,000		1,989,000
NS		109,000				109,000
OG				1,162,000		1,162,000
PW		5,649,000				5,649,000
RV			155,000			155,000
WMS		795,000				795,000
						0
						0
Total Project Costs	450,000	8,858,000	5,223,000	3,151,000	2,000,000	19,682,000
Contingencies						0
Total Project Costs	450,000	8,858,000	5,223,000	3,151,000	2,000,000	19,682,000

Purchase of Goods

The limits below are for annual purchases

- Under \$2,000 – 3 telephone quotes
- \$2,000 - \$14,999 – 3 written quotes (keep for your records!)
- \$15,000 and up:
 - GPS/Town Award, GPS/Town Contract or any other competitively bid contract (state, consortium, federal, etc.)
 - Issue RFB/RFP – “go out to bid”

Online quotes are acceptable

- Certain services such as rentals (cars, equipment) or shredding services are treated as commodities, however, insurance is required – please contact Purchasing

If you have questions about commodities (supplies & equipment), contact Purchasing prior to ordering.

Purchase of Services

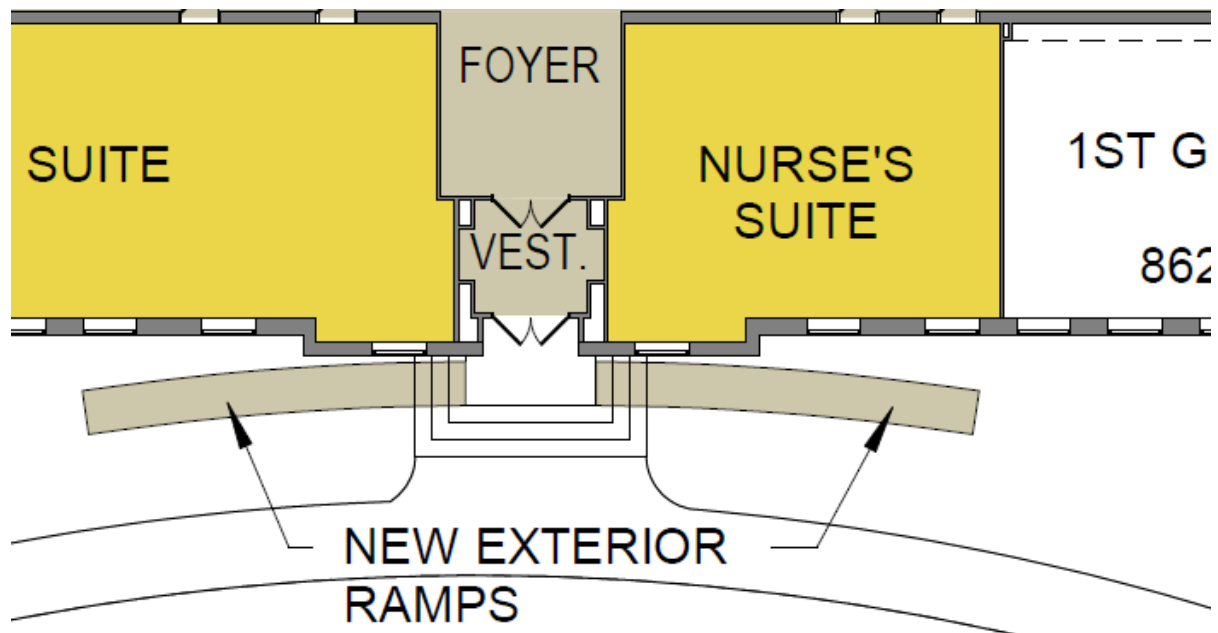
INSURANCE – for each service, the School or Department must obtain the required insurance documentation, as established by the Town’s Risk Manager

- Under \$2,000 – 3 telephone quotes
- \$2,000 - \$14,999 – 3 written quotes (keep for your records!)
- \$15,000 and up:
 - GPS/Town Award, GPS/Town Contract – Purchasing tracks insurance
 - Competitively bid contract (state, consortium, federal, etc.) needs to be awarded by Purchasing Department; Purchasing tracks the insurance
 - Issue RFB/RFP – “go out to bid”
- Consulting Agreement; under \$15,000, non-reoccurring service, Department may choose the Consultant, per the Standard Consulting Agreement Process described in the Purchasing Policy Manual Section 7.7.1 (utilize the Standard Consulting Agreement format).

Sole Source: A vendor is the only vendor that can provide a specific good or service (like a proprietary software or service) that is in excess of \$14,999. A letter explaining why the sole source is necessary must be submitted to Purchasing and approved by Purchasing & the Chief Operating Officer in advance of the order.

Single Source: Multiple vendors can provide a good or service in excess of \$14,999, but waiving the bid process and proceeding with one specific vendor. A letter explaining why a single source is necessary or beneficial to the district must be submitted to Purchasing and approved by Purchasing & the Chief Operating Officer in advance of the order. Single sources should be a last resort, with clear and justifiable logic.

FY24 Request - JC Accessible and Secure Front Entrance
Excerpt from Ed Specs (approved December 3, 2020; reaffirmed August 23, 2021)



FY24 Request - JC Cafeteria Design

Excerpt from Ed Specs (approved December 3, 2020; reaffirmed August 23, 2021)

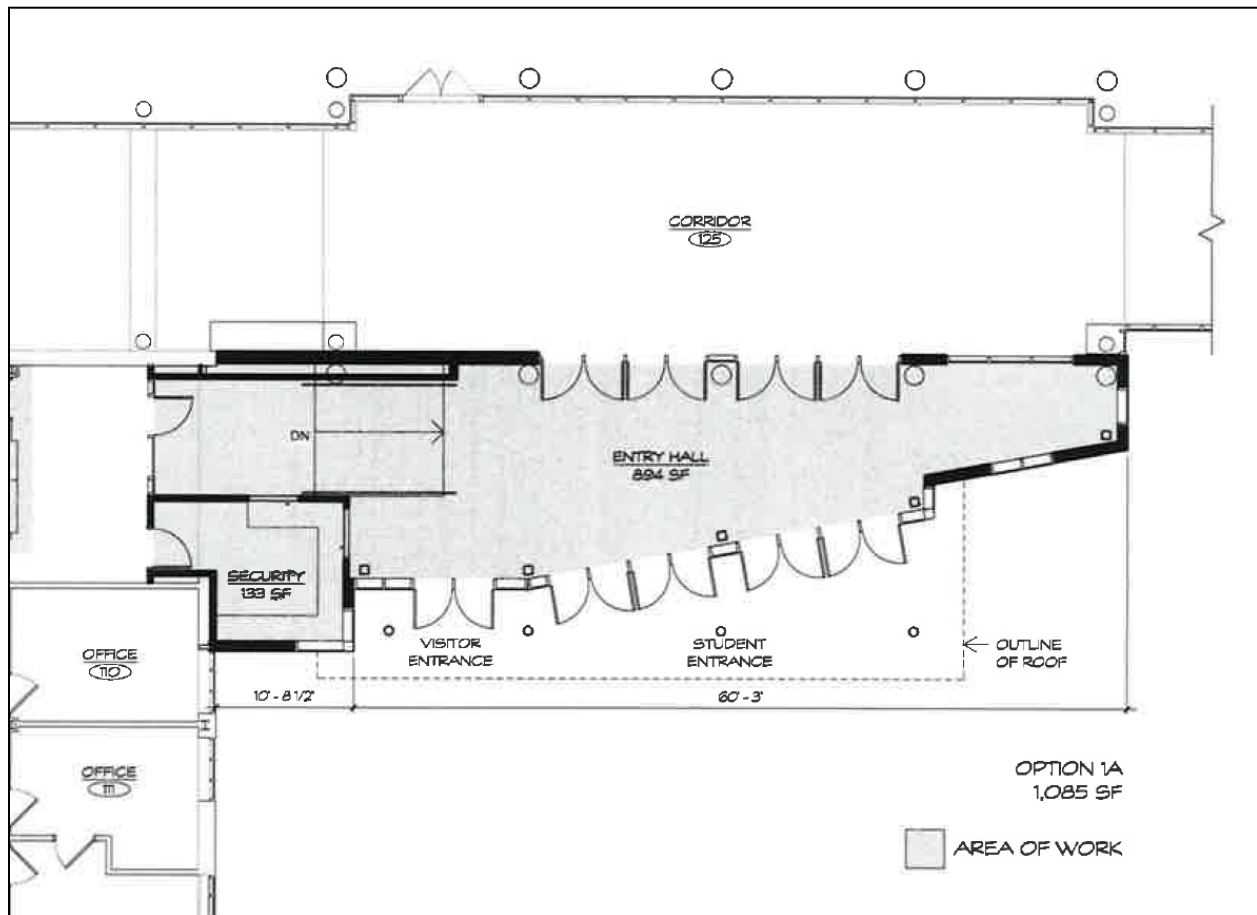
Identified undersized in ed specs

School Building	Dining (sq ft)	Kitchen (sq ft)
Cos Cob	3,310	348
Glenville	2,660	515
Hamilton Avenue	2,620	266
I.S. at Dundee	2,380	343
Julian Curtiss	1,065	285
New Lebanon	1,952	475
North Mianus	1,730	305
North Street	3,100	730
Old Greenwich	2,110	980
Parkway	1,910	835
Riverside	1,720	153

Old Greenwich School

For discussion: Revised proposal developed with the First Selectman.

GHS Vestibule - No FY24 Request



Western Middle School Soil Remediation Project Timeline

Once the Remedial Action Plan (RAP) is approved, we anticipate continued coordination efforts with the BOE as we progress through pre-construction documents and bidding coordination. The RAP and associated project specifications will be included in a contractor bid package.

WMS Preliminary Master Schedule (2022-2023)	2022												2023											
	Dec Wk3	Dec Wk4	Jan Wk1	Jan Wk2	Jan Wk3	Jan Wk4	Feb Wk1	Feb Wk2	Feb Wk3	Feb Wk4	Mar Wk1	Mar Wk2	Mar Wk3-4	April	May	June	July	Aug	Sept	Oct	Nov	Dec		
Town Provides Public Notice for RAP (December 15, 2022)																								
Public Meeting (January 11, 2023)																								
Public Comment Period (through January 17, 2023)																								
Comment Response Preparation and Submission																								
Agency RAP Approval Process																								
Local Permitting																								
Pre-Qualification of Remediation Contractors																								
Remediation Bid Process and Contractor Selection																								
Remediation Contracting																								
Remediation Contractor Mobilization																								
Remediation and Field Construction																								
Notes: Aspects of the schedule are dependent upon regulatory approvals, as well as access and discussions with third parties. Regulatory review and approval is a coordinated process between the Agencies and the Town. The bid process will be coordinated with the approval process, such that additional requirements																								

Appendix A
Remedial Alternative 2 Cost Estimate
Western Middle School
Greenwich, Connecticut
Langan Project No.: 140148201

Summary of Remedial Approach - Remedial Alternative 2 -		Summary of Estimated Quantities - Remedial Alternative 2 -	
The remedial approach for remediation of impacted soil at AOC-1 under Remedial Alternative 2 includes the excavation and off-site disposal of historic fill across AOC-1 to depths of two feet below ground surface, the excavation and off-site disposal of soil containing PCBs greater than 10 mg/kg regardless of depth, the placement of a minimum of two feet of clean soil over remaining impacted soil to raise grades back to existing conditions, the construction of engineered controls to render remaining impacted soil inaccessible and physically isolated from human contact, and the placement of an Environmental Use Restriction to prohibit actions that would disturb the engineered controls or expose the remaining impacted soil underlying the engineered controls.	Excavation Volume (CY)	PCBs <50 mg/kg	32,855
		PCBs ≥50 mg/kg	1,219
	Excavation Area (SF)		438,153
	Excavation Total (tons) [1.7 tons per CY]		57,926
	Excavation Rate (tons/day) [export]		660
	# of Days Required for Excavation		108
	# of Days Required for Backfill		36
Total # of Days Required for Construction			144
Approximate Cost			±\$19.2 MIL

Item No.	Description	Quantity	Unit Price	Total Cost
1	Remediation Facilities and Equipment			\$1,258,200
	Mobilization, Site Preparation, Management, and Demobilization	1 LS	\$750,000	\$750,000
	Site Clearing & Grubbing	1 LS	\$75,000	\$75,000
	Access Roads	1 LS	\$30,000	\$30,000
	Sediment and Erosion Control Supplies	1 LS	\$50,000	\$50,000
	Temporary Perimeter Fencing & Screening	3,200 LF	\$7 LF per Month	\$179,200
	Decontamination Equipment/Supplies	1 LS	\$100,000	\$100,000
	Stockpiling/Laydown Area and Equipment	1 LS	\$30,000	\$30,000
	Dust Control/Water Truck	22 Weeks	\$2,000 per Week	\$44,000
	Site Excavation			\$684,600
	Excavation of PCB-impacted soil < 50 mg/kg	32,855 CY	\$15 per CY	\$492,800
	Excavation of PCB-impacted soil ≥ 50 mg/kg	1,219 CY	\$25 per CY	\$30,500
	Excavation Shoring & Support	1 LS	\$25,000	\$25,000
	Handling & Loading of Soil	34,074 CY	\$4 per CY	\$136,300
3	Transport and Disposal of Contaminated Material			\$5,845,400
	Soils Impacted with PCBs < 50 mg/kg	55,854 Tons	\$90 per Ton	\$5,026,800
	Soils Impacted with PCBs ≥ 50 mg/kg	2,072 Tons	\$395 per Ton	\$818,600
4	Dewatering			\$125,000
	Collection & Storage	1 LS	\$50,000	\$50,000
5	Operation and Treatment	75,000 Gallons	\$1 per Gallon	\$75,000
	Environmental Sampling			\$312,000
	Waste Characterization Sampling (Langan Personnel and Sampling Equipment)	15 Days	\$3,000 per Day	\$45,000
	Waste Characterization Sampling (Laboratory Analysis; 1 sample per 500 CY & QA/QC samples)	72 Samples	\$720 per Sample	\$52,000
	TSCA/Hazardous Waste Profiling	1 LS	\$15,000	\$15,000
	AOC-1 Verification Sampling (PCBs; assumes 1 per 20 LF for sidewalls & 40 ft grid for bottom & QA/QC samples)	571 Samples	\$70 per Sample	\$40,000
	AOC-1 Verification Sampling (Additional COCs; assumes 1 per 80 LF for sidewalls & 80 ft grid for bottom & QA/QC samples)	147 Samples	\$490 per Sample	\$72,000
	AOC-2 Verification Sampling (Arsenic/Pesticides; assumes 1 per 20 LF for sidewalls & 1 per 400 SF for bottom & QA/QC samples)	33 Samples	\$90 per Sample	\$3,000
	Backfill Analytical Testing (Langan Personnel & Sampling Equipment)	15 Days	\$3,000 per Day	\$45,000
	Backfill Analytical Testing (Laboratory Analysis; 1 sample per 500 CY & QA/QC samples)	72 Samples	\$550 per Sample	\$40,000
6	Backfill			\$1,696,000
	Installation of Demarcation Barrier (Bottom of Engineered Controls)	438,153 SF	\$0.75 per SF	\$329,000
	Installation of Demarcation Barrier (Top of Engineered Controls)	438,153 SF	\$0.75 per SF	\$329,000
	Backfilling with Certified Clean Fill, Delivered, Placed, Spread and Compacted	23,074 CY	\$45 per CY	\$1,038,000
7	Remediation Oversight			\$306,000
	Field Engineer/Scientist	108 Days	\$1,000 per Day	\$108,000
	CAMP Equipment (assumes 7-week construction period for 3 seasons)	22 Weeks	\$5,000 per Week	\$110,000
	Construction Administration and Office Support	22 Weeks	\$4,000 per Week	\$88,000
8	Site Restoration			\$4,484,250
	Loam and Seed Natural Grass Landscaped Areas	145,000 SF	\$1.25 per SF	\$181,000
	Installation of Asphalt and Concrete Pavement Sidewalks and Driveways	17,000 SF	\$6.00 per SF	\$102,000
	Concrete Curbing	3,000 LF	\$60.00 per LF	\$180,000
	Artificial Turf	1 LS	\$1,000,000	\$1,000,000
	Artificial Turf Infill Material	1 LS	\$500,000	\$500,000
	Artificial Turf Shock Pad	250,000 SF	\$2.00 per SF	\$500,000
	Artificial Turf Paint Striping	1 LS	\$50,000	\$50,000
	Artificial Turf Finishing Stone	1,550 CY	\$75.00 per CY	\$116,250
	Artificial Turf Drainage Aggregate	11,000 CY	\$55.00 per CY	\$605,000
	Artificial Turf Stormwater Drain	250,000 SF	\$4.00 per SF	\$1,000,000
	Artificial Turf Geotextile Fabric	250,000 SF	\$1.00 per SF	\$250,000

9	Program Management & Post-Remediation Monitoring					\$600,000
	Program Management, Remedial Design, Construction Management, Community Relations, & Reporting					\$250,000
	Post-Remedy Groundwater Monitoring & Reporting					\$50,000
	Post-Remedy Engineered Control Inspection, Monitoring, & Reporting					\$300,000
			1	LS	\$250,000	
			1	LS	\$50,000	
			30	Years	\$10,000 per Year	
					SUBTOTAL	\$15,311,450
Additional Remedial Investigation/Design and Project Management (10%)						
					Contingency (15%)	\$1,531,145
					GRAND TOTAL	\$2,296,718
						\$19.14 MIL

General Assumptions and Conditions:

- The density used for conversion from cubic yards to tons was 1.7 tons per cubic yard.
- Cost estimate is based on Langan past experience and generalized vendor estimates using 2018 dollars.
- Transportation & Disposal pricing are subject to varying market conditions, and therefore, may be subject to cost increases at the time that work is to be conducted.
- Dewatering treatment equipment and quantities have been estimated without any detailed info and can vary dramatically based upon actual conditions during construction.
- Waste Characterization sampling and backfill analytical testing frequencies are based on 1 sample per 500 cubic yards.
- A 20 day contingency has been added to the number of days required for excavation in the event delays in excavation activities occur due to unforeseen conditions.
- Site restoration does not include any ancillary items (i.e. backstop, dug-out, bleachers, lighting etc.).
- Soil analytical sample totals include QA/QC samples at a rate of two QA/QC samples (field duplicate, matrix spike & matrix spike duplicate) per every 20 soil analytical samples collected.
- This estimate has been prepared for the purposes of preliminary budgeting to identify any significant cost differences between remedial alternatives. Changes in cost elements are likely to occur as a result of new information and data to be collected during engineering design and any potential pre-remedial supplemental investigations. Prior to and during remediation, there will likely be changes in the unit rates and costs for services, labor, materials and equipment that will lead to changes in the final cost of the project. Additional changes in costs may result from changes in quantities and unknowns that may be encountered during remediation. Utilization of this cost estimate information beyond the stated purpose is not recommended.

