Cotuit Fire District
Cotuit, Massachusetts

Feasibility Study

Cotuit Elementary School

140 Oyster Road

Cotuit, MA

May 5, 2025

ICON ARCHITECTURE

Tighe&Bond

Table of Contents

Acknowledgements

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Executive Summary

The Cotuit Fire District, acting through the Cotuit Prudential Committee, issued a request for quotes seeking design service proposals for a feasibility study to aid in determining the future of the Cotuit Elementary School, built in 1955, and located at 140 Oyster Rd. The Feasibility Study will include the development and evaluation of the potential rehabilitation or demolition alternatives identified by the Fire District. ICON Architecture submitted a response to the request for quotes and were awarded a contract in February 2025.

ICON and their consultant team, Tighe and Bond, visited the site in early March 2025. The purpose of the site visit was to assess the existing conditions. This report will provide brief descriptions of existing building conditions regarding site, architectural, structural, mechanical, electrical and plumbing systems.

Figure 1: Existing Cotuit Elementary School Floor Plan – Approximately 20,000 square feet

In summary, the existing building's structural framing and foundations are in relatively good condition and will be studied for reuse in the proposed development options. However, there are numerous building elements that would need to be upgraded because of their age or physical state such as windows and doors, roofing and interior finishes. The electrical, mechanical and plumbing systems are antiquated and not entirely functional. Also, the building does not have any fire protection systems, this will have to be added as part of any development option.

The future development options that are part of this study are as follows:

Option 1 – Building Demolition and Site Restoration

Option 2 – Building Renovation for Community Use

Option 3 – Partial Demolition and Renovation for Recreational Use

A detailed estimated construction cost (ECC) is provided for each development option and can be found in the attachments to this report. Below is a summary of cost by development option, for comparison purposes we have also included a square foot cost of new construction using the option 2 gross area. The estimated construction cost is represented as ECC and the total project cost is represented as TPC. Total project cost includes other costs that the town will incur during a construction project such as designer fees, contingencies, furniture and equipment, and administrative costs that total 30% of the ECC.

	Gross Area	Cost/sf	ECC	TPC
Option 1 - Demolition and Site Restoration	21,000	$70.91	$1,489,142	**$1,861,431**
Option 2 - Renovation	15,750	$697.92	$10,992,172	**$14,289,823**
Option 3 - Partial Demolition and Renovation	11,600	$738.15	$8,562,468	**$11,131,315**
New Construction	15,750	$850.00	$13,387,500	**$17,403,750**

These estimates include site costs, demolition and abatement of hazardous materials that will be required for all the development options. The costs listed have been escalated assuming a 2026 construction start.

I. Existing Conditions

A. Site and Utilities

The current site is accessible via a twelve-foot-wide one-way paved driveway and a twenty-four-foot-wide two-lane paved driveway, both located off Old Oyster Road. Additionally, there is a twenty-foot-wide paved driveway off Main Street providing access from the northerly side of the property. There is a large, paved parking lot to the west of the existing building. All existing paved parking areas and driveways are in poor condition, do not drain water properly and are not suitable for reuse. The site does not appear to have any existing stormwater conveyance or treatment infrastructure. Areas of standing water were observed in proximity of the building, to the east. All three Site Plan Options will need to be designed in compliance with the Town of Barnstable Stormwater Management Rules and Regulations as well as the Massachusetts DEP Stormwater Handbook.

The current sewer flows on the site are managed by an on-site septic system, which consists of three components connected to the existing facility: a septic tank, a distribution box, and eight (8) 500-gallon leach chambers that were installed in 1956. Considering the age of this system and the change in land use, it is assumed that the existing septic system will need to be removed for all site plan options. Our understanding is that the current facility is connected to an existing water main located within Old Oyster Road. A new water main will need to be installed from Old Oyster Road to the existing building to provide adequate flows for any domestic and fire protection systems that may be required as part of any development options.

The electrical utility services currently enter the site from the north through overhead lines, leading up to a utility pole with a pole-mounted transformer located near the northeastern corner of the existing facility. The overhead lines then extend to the west, where PVC risers were observed between the terminating utility pole and the ground surface, indicating that the secondary power supply to the site is likely underground. However, the exact routing of the secondary underground power remains unknown.

Figure 1: Existing paved surfaces in poor condition.

Figure 2: Areas of standing water at east side of building.

B. **Architectural**

The exterior building envelope wall system is comprised of brick masonry with a concrete masonry unit (CMU) backup wall. The CMU wall is fully visible on the interior side meaning there is likely no insulation present in the wall system. The brick masonry is in relatively good condition with isolated areas of damage requiring repair and repointing work. The roofing is asphalt shingles with aluminum gutters and downspouts in some locations. The shingles are discolored, worn and beyond their usable life. There are also areas of built-up moss and vegetation that hinder water drainage. The roof edges, wood facias and soffits are generally intact but in need of some repair and painting work. The wood-framed modular addition is in poor condition, rotted wood siding and trim was observed in many areas.

The windows are an aluminum-clad wood system with insulated glazing. There are numerous locations where glazing and screens are missing, others are boarded up entirely. The caulking around the window opening is aged and dried-out likely causing water and air infiltration. It's likely that this window system does not meet the standards of the latest energy codes. The egress and utility doors are flush metal with a metal frame. Many are rusted, damaged and have worn finishes. A few others have been recently replaced and are in good condition.

The interior finishes throughout the building are in poor condition. The vinyl tile flooring in the corridors and classrooms is badly worn, damaged and well past its useful life. The same can be said for the suspended acoustical ceiling tile systems which are badly stained and deteriorated from water infiltration. The restroom areas are undersized and do not meet the standards of present accessibility codes.

The existing gymnasium is in relatively good condition. The wood flooring is still intact, worn in some spots but not damaged. It should be noted that the gymnasium was designed for elementary school use and does not meet the size requirements for high school, college or adult-league basketball.

Figure 3: Typical brick masonry in good condition.

Figure 4: Worn asphalt shingles, damaged windows.

Figure 5: Worn and damaged flooring and ceilings corridor.

Figure 6: Existing Gymnasium

C. **Hazardous Materials**

Sampling for hazardous materials was not included in the scope of this feasibility study. The Prudential Committee provided ICON with the sampling results taken in December of 2019. These results were used to generate abatement costs associated with the development options. According to the 2019 sampling results, asbestos containing materials were found in the flooring and mastic, pipe insulation, interior and exterior caulking, roofing and boiler.

Prior to any type of building renovation or demolition, a thorough investigation is required to identify and quantify ACM which may be impacted by those types of activities. The survey is required by the United States Environmental Protection Agency (EPA) National Emissions Standard for Hazardous Air Pollutants (NESHAP) regulations (Title 40 CFR, Part 61, Subpart M); MassDEP regulations (310 CMR 7.15); Massachusetts Department of Labor Standards (MADLS) regulations, (454 CMR 28.00); as well as applicable portions of the Occupational Safety and Health Administration (OSHA) asbestos in construction regulations (CFR 1926.1101). It is understood that an assessment was performed in 2019; however, regardless of the option chosen, a supplemental pre-demolition assessment must be performed. See attachment 3 for the design narrative completed by Tighe & Bond which explains abatement requirements and costs.

Figure 7: Floor tiles containing asbestos.

Figure 8: Pipe insulation containing asbestos.

D. **Structural**

The existing foundations consist of Cast-in-place concrete exterior foundation walls on a continuous strip footing with interior concrete piers set on isolated concrete footings. The small basement space has a cast-in-place concrete floor slab where mechanical and electrical equipment are housed. The rest of the basement level is a crawl space with a natural sand floor. The first floor is a cast-in-place slab supported by the exterior foundation walls and interior concrete piers. The roof is framed with wood trusses, purlins and wood decking that is supported by the exterior CMU walls. The attic/first-floor ceiling is framed with wood members spanning between trusses. The structural systems are generally in good condition and still function as they were intended.

The gymnasium area is made up of wood glulam frames with wood purlins and wood roof panels along with CMU walls and brick façade. The area of the building is generally in good condition. The modular addition is conventionally wood framed with wood roof trusses on a cast-in-place concrete slab. This area of the building is in poor condition and well past its useful life.

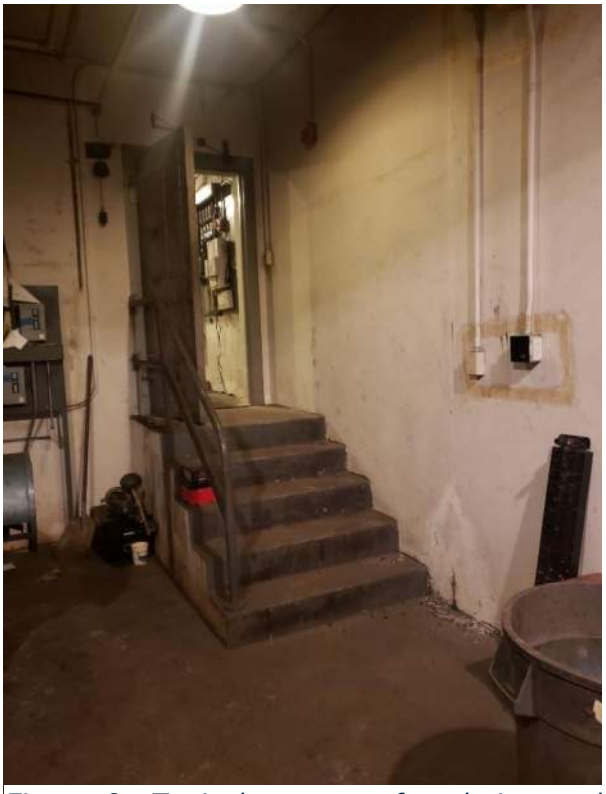


Figure 9: Typical concrete foundation and floor slab at basement area.

Figure 10: Interior concrete piers supporting first-floor slab.

Figure 11: Wood-framed roof trusses, purlins and roof decking.

E. **Mechanical, Electrical & Plumbing**

Given the building's age and that many of the systems are original, the mechanical, electrical and plumbing systems are antiquated, undersized and well past their useful life. These systems would need total replacement under any development option. New systems would have to comply with the tenth edition of the state building code as well as local and federal codes as required.

The facility was originally conditioned by an oil-fired, steam boiler system that is no longer operational. The 10,000-gallon exterior underground storage tank that served the boiler was demolished in 2023 and the existing facility has not been heated for the past several years. There is an abandoned dedicated septic tank and leach field system located at the rear of the building. It should also be noted that the building does not have a fire protection system, one would have to be installed complying with NFPA-13 regulations if this building were to be renovated under any development option.

Figure 22: Existing boiler, non-operational.

Figure 13: Mechanical and plumbing piping routed in crawlspace.

Figure 14: Existing electric service, undersized for development options.

II. Development Options

A. Option 1 – Demolition and Site Restoration

Figure 15: Development Option 1 - Site Plan

- Demolition of existing building including foundations and abatement of hazardous materials.
- Demolition of existing paved parking and driveway surfaces.
- Demolition and capping of water and electrical utilities.
- 2,100 linear feet of six-foot-wide stone dust walking path.
- 8,000 square feet of native deciduous and evergreen shrub plantings, soil and mulch.
- 42,000 square feet seeded area; low maintenance meadow seed mix.

B. Option 2 – Renovation – Community Use

Figure 15: Development Option 2 – Floor Plan

- Demolition of existing wood-framed modular addition and abatement of hazardous materials throughout the building.
- Full renovation of 18,000 square foot remaining building for community center and senior center program use with a common entrance vestibule, drop off and porte cochere.
- Reuse of existing gymnasium renovated for multi-purpose community use.
- Renovations for accessibility including restrooms, entrance/egress areas and program spaces.
- Full replacement of existing electrical, plumbing, heating, ventilating and air conditioning systems to meet the demands of the proposed program spaces and to comply with the state building codes.
- Addition of fire protection sprinkler system throughout the building to comply with the state building codes.
- See design narrative attachments for more detailed information of proposed systems.

Figure 16: Development Option 2 – Floor Plan

- Paved entrance road and parking area adjacent to the building's main entrance to accommodate drop-offs.
- Cast-in-place concrete patio areas shown on floor plan.
- Native deciduous and evergreen shrub and tree plantings including planting soils and mulch.
- Approximately 57,000 square foot area of seeded lawn areas.
- See design narrative attachments for more detailed information of proposed systems.

C. Option 3 – Partial Demolition – Recreation Use

Figure 17: Development Option 3 – Floor Plan

- Demolition of existing wood-framed modular addition, partial demolition masonry main building and abatement of hazardous materials throughout.
- Full renovation of 10,000 square foot remaining building for recreation program use with offices and restrooms.
- Expansion and renovation of the existing gymnasium to accommodate a full-sized basketball court.
- Renovations for accessibility including restrooms, entrance/egress areas and program spaces.
- Full replacement of existing electrical, plumbing, heating, ventilating and air conditioning systems to meet the demands of the proposed program spaces and to comply with the state building codes.
- Addition of fire protection sprinkler system throughout the building to comply with the state building codes.
- See design narrative attachments for more detailed information of proposed systems.

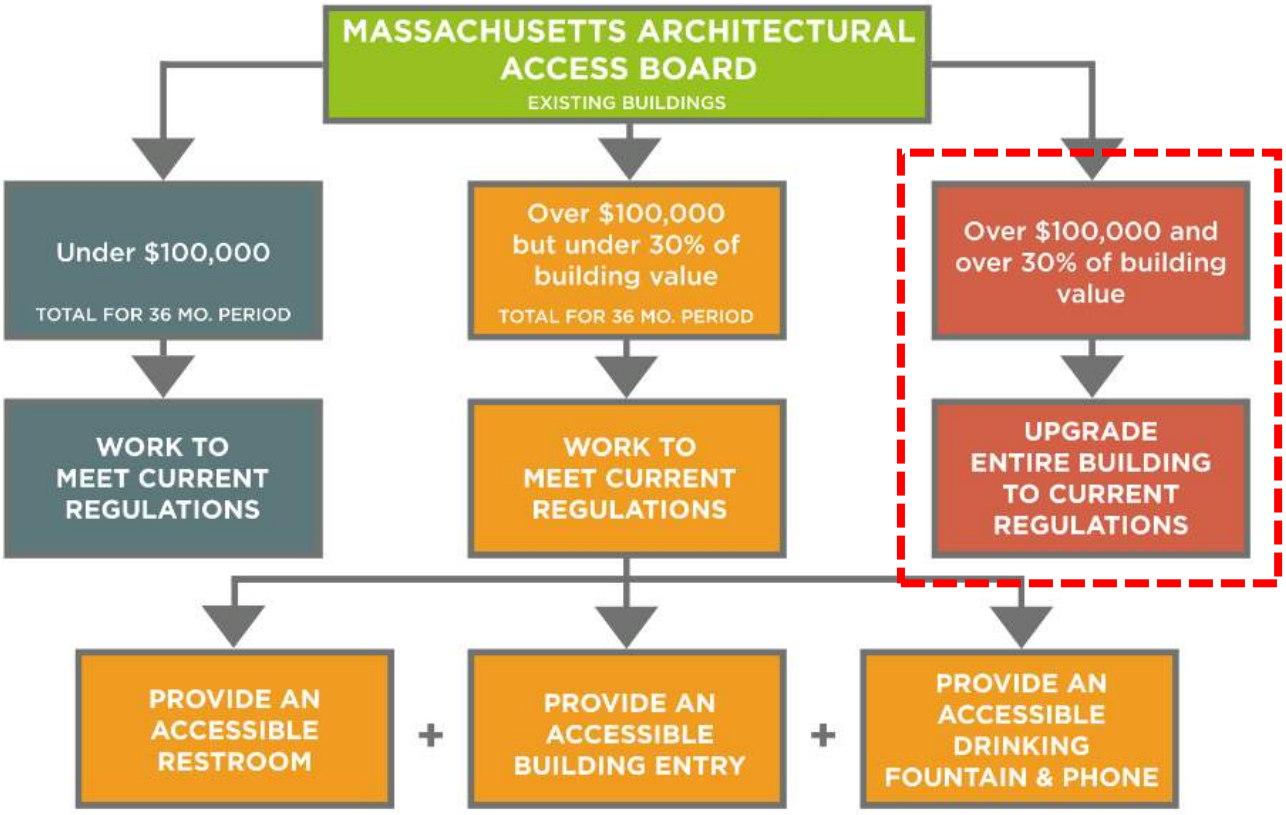
Figure 18: Development Option 3 – Site Plan

- Paved entrance road and parking area adjacent to the building's main entrance to accommodate drop-offs.
- Approximately 16,500 square feet of bituminous concrete paving for basketball and pickleball courts.
- Native deciduous and evergreen shrub and tree plantings including planting soils and mulch.
- Approximately 57,000 square foot area of seeded lawn areas.
- See design narrative attachments for more detailed information of proposed systems.

III. Cost Drivers

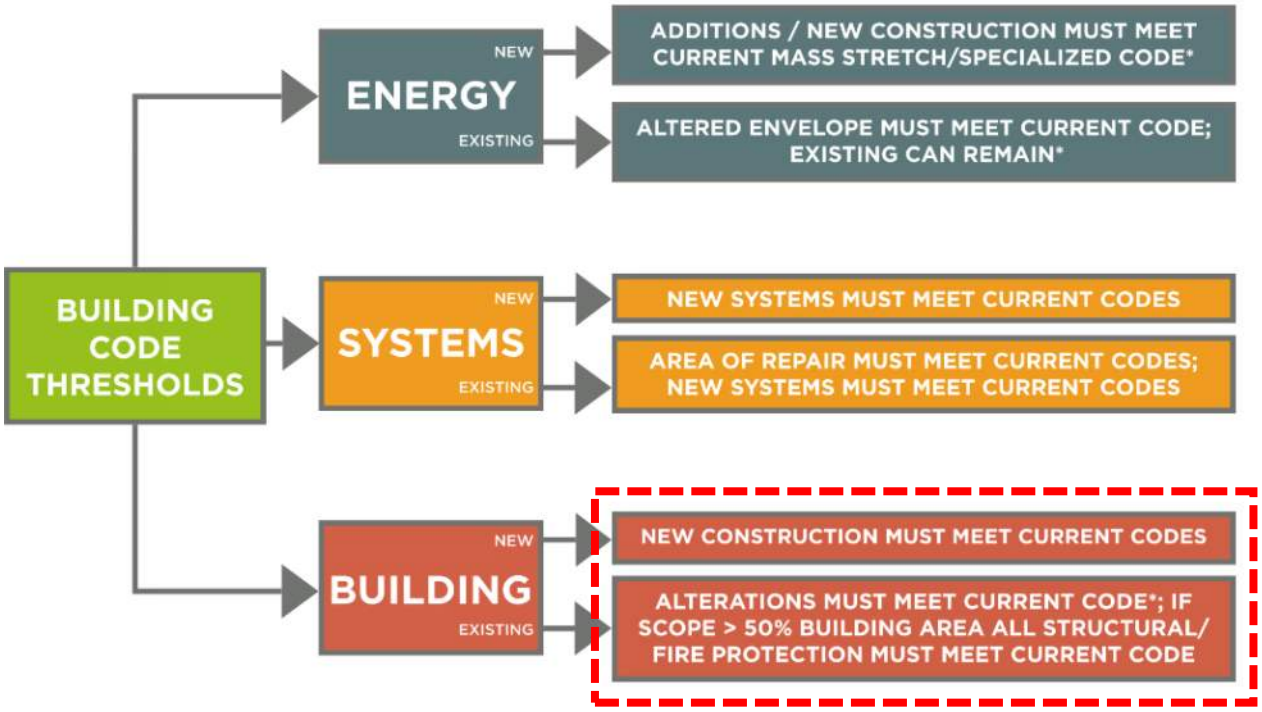
A. Accessibility Code Thresholds

There are three thresholds that can trigger varying levels of compliance with the state accessibility code based on estimated cost of construction and assessed value of the property. The assessed value of the Cotuit Elementary School property is approximately $4,000,000. 30% of the assessed value is $1,200,000. Estimated construction costs for both development options 2 and 3 would exceed 30% of the assessed value and would trigger full compliance for the entire building, as illustrated in the graphic below.



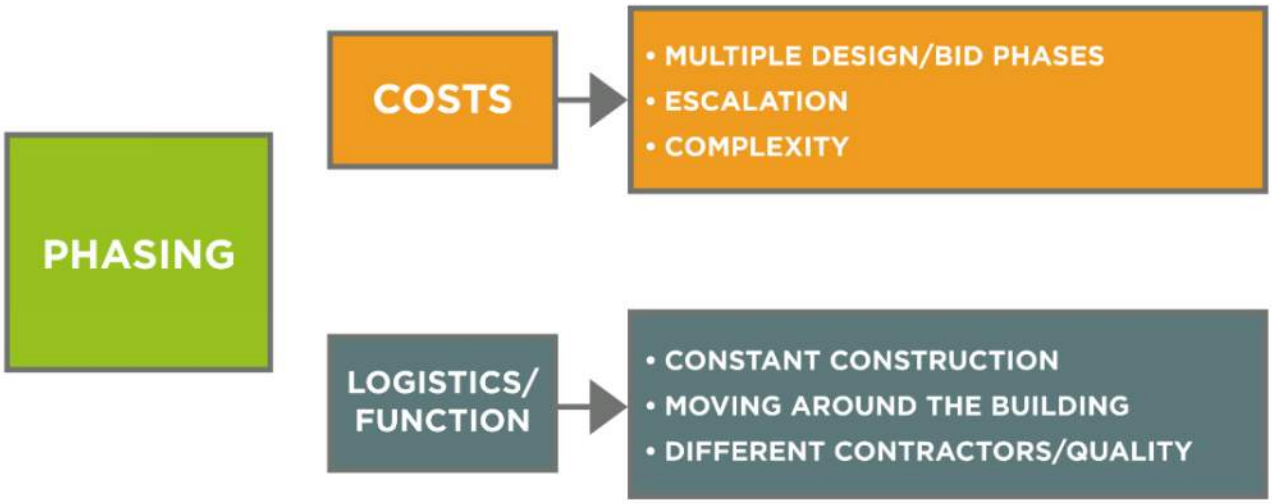
B. **Building Code Thresholds**

There are several factors that must be considered when determining state building code compliance regarding energy, systems and the building area itself. Any new work must comply with the current code. There are exceptions that do allow existing systems to remain without upgrades, however if the alterations exceed 50% of the floor area, structural, fire protection and life safety elements must upgrade and comply with the current code. Both development options 2 and 3 would exceed alterations to 50% of the floor area and would trigger upgrades to existing systems as illustrated in the graphic below.



C. **Phased Renovations**

Phasing multiple construction projects over a period of time is often studied as a means of reducing initial costs. Smaller phased projects will individually cost less than one large project covering a full renovation. However, the combined cost of each phase will exceed the cost of one larger project due to the cost escalation over a longer period. The quality of the work may also suffer due to multiple bid phases with the possibility of having different contractors due to the public procurement laws.



ATTACHMENT 1 – DETAILED COST ESTIMATE

Cotuit Elementary

Concept Study Options

Cotuit, Ma

Prepared by:

TCi Construction Cost Estimating

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Prepared for:

ICON Architecture

April 24, 2025

Cotuit Elementary
Concept Study Options
Cotuit, Ma

TCi Construction Cost Estimating

April 24, 2025

MAIN SUMMARY

Concept Options	GSF	$/SF	Estimated Cost (2026)
Optiom 1 - Full Building Demolition & Site Restoration	21,000	$70.91	**$1,489,142**
Option 2 - Full Building Renovation and Modular Demolition	15,750	$697.92	**$10,992,172**
Option 3 - Partial Renovation, Additions and Modular & Building Demolition	11,600	$738.15	**$8,562,500**

This cost estimate was produced from 4-11-25 documents based on previois architect received by ICON Architecture. Design and engineering changes occurring subsequent to the issue of these documents have not been incorporated in this estimate.

This estimate includes all direct construction costs, contractor make-ups and contingencies. Cost escalation per main summary.

Bidding conditions are expected to be Chapter 149 public bidding

The estimate is based on Massachusetts prevailing wage rates for construction in this market and represents a reasonable opinion of cost. It is not a prediction of the successful bid from a contractor as bids will vary due to fluctuating market conditions, errors and omissions, proprietary specifications, lack or surplus of bidders, perception of risk, etc. Consequently the estimate is expected to fall within the range of bids from a number of competitive contractors or subcontractors, however we do not warrant that bids or negotiated prices will not vary from the final construction cost estimate.

ITEMS NOT CONSIDERED IN THIS ESTIMATE

Land acquisition, feasibility, and financing costs
Items identified in the design as Not In Contract (NIC)
Items identified in the design as by others
Utility company back charges, including work required off-site
Work to City streets and sidewalks, (except as noted in this estimate)
Rock excavation; special foundations (unless indicated by design engineers)
Contaminated or unsuitable soils removal or replacement
Mold abatement
Temporary facilities
Occupied areas and phasing
Chapter 149A bidding
FFE, soft costs and A/E fees

Recommendations For Cost Control

TCI recommends that the Owner and Architect carefully review this document, including line item descriptions, unit prices, clarifications, exclusions, inclusions and assumptions, contingencies, escalation and mark-ups. Request for modifications of any apparent errors or omissions to this document must be made to TCI with in ten (10) days of receipt of this estimate. Otherwise, it will be understood that the contents have been concurred with and accepted.
It is recommended that TCI using bid documents produce a final update estimate, to determine overall costs changes which have occurred since the preparation of the estimate. The final update estimate will address changes and additions to the document, as well as addenda issued during bidding process. TCI cannot reconcile bid results to an estimate not produced from bid documents.

Statement Of Probable Cost

TCI has no control over the cost of labor and materials, the general contractor's or any subcontractor's method of determining prices, or competitive bidding and market conditions. The opinion of construction is made on the basis of the experience, qualifications, and best judgment of the professional estimator familiar with the industry. TCI does not guarantee that bids will not vary form this estimate.

TCI staff of professional cost estimators has prepared this estimate in accordance with generally accepted principles and practices.

Acceptance of Report

With acceptance of this report, the holder shall indemnify and hold harmless Tortora Consulting from and against all claims, damages, losses and expenses, including but not limited to attorney fees and court costs arising out of or as a result of the performance of this work, including third party claims.

Cotuit Elementary
Concept Study Options

Cotuit, Ma

April 24, 2025

			UNIFORMAT CONSTRUCTION COST					
			21,000	*sf*	***15,750***	*sf*	***11,600***	*sf*
BUILDING SYSTEM			**Optiom 1 - Full Building Demolition & Site Restoration**		**Option 2 - Full Building Renovation and Modular Demolition**		**Option 3 - Partial Renovation, Additions and Modular & Building Demolition**	
A10	FOUNDATIONS AND SLABS				$75,000	*$4.76*	$309,400	*$26.67*
B10	SUPERSTRUCTURE				$202,563	*$12.86*	$937,000	*$80.78*
B20	EXTERIOR CLOSURE				$1,015,792	*$64.49*	$242,604	*$20.91*
B30	ROOFING				$328,020	*$20.83*	$87,000	*$7.50*
C10	INTERIOR CONSTRUCTION				$542,075	*$34.42*	$310,450	*$26.76*
C20	STAIRCASES				$0	*$0.00*	$0	*$0.00*
C30	INTERIOR FINISHES				$457,008	*$29.02*	$269,640	*$23.24*
D20	PLUMBING		$10,500		$282,735	*$17.95*	$143,985	*$12.41*
D30	HVAC		$17,850		$835,446	*$53.04*	$592,105	*$51.04*
D40	FIRE PROTECTION		$13,650		$223,250	*$14.17*	$162,700	*$14.03*
D50	ELECTRICAL		$10,500		$883,468	*$56.09*	$602,324	*$51.92*
E10	EQUIPMENT				$150,000	*$9.52*	$8,500	*$0.73*
E20	FURNISHINGS				$46,800	*$2.97*	$4,000	*$0.34*
F20	DEMOLITION		$582,000	*$27.71*	$597,350	*$37.93*	$612,760	*$52.82*
G10	SITEWORK		$470,000	*$22.38*	$1,450,000	*$92.06*	$1,240,000	*$106.90*
TOTAL DIRECT COST (Trade Costs)			***$1,104,500***	*$52.60*	***$7,089,507***	*$450.13*	***$5,522,468***	*$476.07*
	GENERAL CONDITIONS & REQUIREMENTS	13%	$143,585		$921,636		$717,921	
	GL INSURANCE	1.3%	$14,359		$92,164		$71,792	
	BONDS	1.5%	$16,568		$106,343		$82,837	
	PERMIT		$7,732		$49,627		$38,657	
	OVERHEAD & PROFIT	5%	$63,951		$410,483		$319,751	
	DESIGN AND PRICING CONTINGENCY (5% on option 1)	15%	$67,535		$1,300,464		$1,013,014	
	ESCALATION & MARKET BIDDING CONTINGENCY (1 year)	5%	$70,912		$498,511		$388,322	
	TARIFF INCREASE ALLOWANCE	5%	-		$523,437		$407,738	
TOTAL CONSTRUCTION COST (2026 Dollars)			***$1,489,142***	*$70.91*	***$10,992,172***	*$697.92*	***$8,562,500***	*$738.15*

Cotuit Elementary
Concept Study Options

April 24, 2025

GSF 21,500

Optiom 1 - Full Building Demolition & Site Restoration

DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
AREA CALCULATIONS						
Basement			**1,000**			
Ground floor renovations			**20,000**			
TOTAL GROSS FLOOR AREA (GFA)			**21,000**	***GSF***		
D20 PLUMBING						
D20 PLUMBING						
Demo, cut and drain	**21,000**	sf	0.50	10,500		
SUBTOTAL					10,500	
TOTAL - PLUMBING						***$10,500***
D30 HVAC						
D30 HVAC						
Demo, decommision cut and drain systems	**21,000**	sf	$0.85	17,850		
SUBTOTAL					17,850	
TOTAL - HVAC						***$17,850***
D40 FIRE PROTECTION						
D40 FIRE PROTECTION						
Demo, decommision cut and drain systems	**21,000**	sf	0.65	13,650		
SUBTOTAL					13,650	
TOTAL - FIRE PROTECTION						***$13,650***
D50 ELECTRICAL						
Demo make-safe	**21,000**	sf	0.50	10,500		
SUBTOTAL					10,500	
TOTAL - ELECTRICAL						***$10,500***
F20 DEMOLITION						
F20 DEMOLITION						
Hazmat allowance provided	**1**	ls	330,000.00	330,000		
Demo building, modular and foundations	**21,000**	sf	12.00	252,000		
SUBTOTAL					582,000	
TOTAL - FURNISHINGS						***$582,000***
G10 SITEWORK						
G10 SITEWORK						
Sitework / Landscape allowance provided	**1**	ls	470,000.00	470,000		
SUBTOTAL					470,000	
TOTAL - SITEWORK						***470,000***

Cotuit Elementary
Concept Study Options

April 24, 2025

GSF 15,750

Option 2 - Full Building Renovation and Modular Demolition

DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
AREA CALCULATIONS						
Basement			**1,000**			
Ground floor renovations			**14,750**			
TOTAL GROSS FLOOR AREA (GFA)			**15,750**	***GSF***		
A10 BUILDING FOUNDATIONS						
A1030 BUILDING FOUNDATIONS						
Allow for foundation modifications at new and removed exterior walls	**1**	ls	50,000.00	50,000		
Equipment pads and curbs	**1**	ls	10,000.00	10,000		
Modify, cut and patch for plumbing changes	**1**	ls	15,000.00	15,000		
SUBTOTAL					75,000	
TOTAL - FOUNDATIONS						***$75,000***
B10 SUPERSTRUCTURE						
B1010 FLOOR & ROOF CONSTRUCTION						
Structure modifications/upgrades for new patio/entries	**1**	ls	75,000.00	75,000		
New porte cochere	**1**	ls	100,000.00	100,000		
Misc metals	**15,750**	sf	1.00	15,750		
Fire stopping floors	**15,750**	sf	0.75	11,813		
SUBTOTAL					202,563	
TOTAL - SUPERSTRUCTURE						***$202,563***
B20 EXTERIOR CLOSURE						
B2010 EXTERIOR WALLS						
<u>New exterior walls at new entry/patios</u>						
6" LGMF, sheathing, interior gwb	**1,960**	sf	22.00	43,120		
Air/Vapor barrier	**1,960**	sf	9.00	17,640		
Insulation	**1,960**	sf	8.00	15,680		
Brick veneer to match	**1,960**	sf	75.00	147,000		
<u>Existing exterior walls</u>						
Repair, repoint 15% of masonry	**1,439**	sf	50.00	71,950		
Cutting and patching at removals	**1**	ls	25,000.00	25,000		
Prep and paint cupola & wood trim	**1**	ls	50,000.00	50,000		
Caulking and sealants	**9,576**	sf	2.00	19,152		
SUBTOTAL					389,542	
B2020 WINDOWS						
Fiberglass window systems	**1,980**	sf	160.00	316,800		
Aluminum Storefront Window systems	**1,280**	sf	200.00	256,000		
Louvers	**1**	ls	10,000.00	10,000		
SUBTOTAL					582,800	
B2030 EXTERIOR DOORS						
Alum entry doors, frames and HW	**9**	lvs	3,850.00	34,650		
Egress doors, frame and HW	**4**	lvs	2,200.00	8,800		
SUBTOTAL					43,450	
TOTAL - EXTERIOR CLOSURE						***$1,015,792***

Cotuit Elementary
Concept Study Options

April 24, 2025

GSF 15,750

Option 2 - Full Building Renovation and Modular Demolition

DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
B30 ROOFING						
B3010 ROOF COVERINGS						
Asphalt roofing, flashing and trim	**17,390**	sf	18.00	313,020		
Gutters and downspouts	**300**	lf	50.00	15,000		
SUBTOTAL					328,020	
TOTAL - ROOFING						**$328,020**
C10 INTERIOR CONSTRUCTION						
C1010 PARTITIONS						
Interior partitions (CMU and GWB)	**8,540**	sf	25.00	213,500		
Sealants & caulking at partitions	**15,750**	sf	0.50	7,875		
Rough blocking	**15,750**	sf	2.00	31,500		
SUBTOTAL					252,875	
C1020 INTERIOR DOORS						
Interior doors, frames and HW	**26**	lvs	1,700.00	44,200		
Moveable partitions	**47**	lf	850.00	39,950		
SUBTOTAL					84,150	
C1030 SPECIALTIES / MILLWORK						
Restrooms - Toilet partitions and accessories	**4**	rms	7,500.00	30,000		
Finshing carpentry and millwork	**15,750**	sf	5.00	78,750		
Rough carpentry	**15,750**	sf	1.00	15,750		
Interior and Exterior Signage	**1**	ls	20,000.00	20,000		
Fire extinguisher cabinets	**12**	ea	275.00	3,300		
Misc glass and glazing	**1**	ls	10,000.00	10,000		
Miscellaneous metals throughout building	**15,750**	sf	2.00	31,500		
Miscellaneous sealants throughout building	**15,750**	sf	1.00	15,750		
SUBTOTAL					205,050	
TOTAL - INTERIOR CONSTRUCTION						***$542,075***
C30 INTERIOR FINISHES						
C3010 WALL FINISHES						
Paint to GWB	**19,440**	sf	2.00	38,880		
Tile to wet walls	**3,200**	sf	30.00	96,000		
SUBTOTAL					134,880	
C3020 FLOOR FINISHES						
Resinous flooring at restrooms	**1,100**	sf	16.00	17,600		
Resilient sheet flooring	**9,200**	sf	8.00	73,600		
Resilient athletic flooring	**3,200**	sf	18.00	57,600		
Rubber base	**1,620**	lf	6.00	9,720		
SUBTOTAL					158,520	
C3030 CEILING FINISHES						
ACT ceilings	**9,818**	sf	10.00	98,180		
GWB ceilings	**1,733**	sf	15.00	25,995		
GWB soffits	**300**	lf	75.00	22,500		
Prep and paint multi-purpose room exposed ceiling	**3,200**	sf	3.00	9,600		
Paint to GWB ceilings and soffits	**2,933**	sf	2.50	7,333		
SUBTOTAL					163,608	
TOTAL - INTERIOR FINISHES						***457,008***

Option 2 - Full Building Renovation and Modular Demolition

DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
D20 PLUMBING						
D20 PLUMBING						
Demolition						
Remove Existing Bathroom Fixtures	**16**	ea	850.00	13,600		
Remove Existing Kitchen Plumbing	**1**	ea	1,200.00	1,200		
New Work						
Heat Pump Water Heater	**1**	ea	8,580.00	8,580		
Recirc Pump	**1**	ea	2,210.00	2,210		
Grease Interceptor	**1**	ea	1,820.00	1,820		
Septic Tank	**1**	ea	12,610.00	12,610		
Plumbing Specialties	**1**	ls	1,495.00	1,495		
Equipment Connections	**1**	ls	2,340.00	2,340		
Water Closets	**8**	ea	1,625.00	13,000		
Lavatories	**8**	ea	1,560.00	12,480		
Bottle Fill Stations	**2**	ea	3,380.00	6,760		
Kitchen Sink	**1**	ea	2,340.00	2,340		
Floor Drains	**12**	ea	780.00	9,360		
Fixture Rough Ins	**19**	ea	975.00	18,525		
Connect to Existing	**1**	ls	1,365.00	1,365		
Water Piping	**800**	lf	45.00	36,000		
Sanitary Waste Piping	**800**	lf	65.00	52,000		
Sanitary Vent Piping	**800**	lf	50.00	40,000		
Kitchen Waste Piping	**100**	lf	75.00	7,500		
Kitchen Vent Piping	**100**	lf	62.50	6,250		
Piping Insulation	**800**	lf	13.25	10,600		
Tools & Equipment	**1**	ls	4,500.00	4,500		
Project Supervision	**80**	hrs	130.00	10,400		
Coordination	**60**	hrs	130.00	7,800		
SUBTOTAL					282,735	
TOTAL - PLUMBING						***$282,735***

Option 2 - Full Building Renovation and Modular Demolition

DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
D30 HVAC						
D30 HVAC						
Demolition						
Remove & Dispose Existing HVAC	**15,750**	sf	$1.00	15,750		
New Work						
(4) VRF Condensing Units	**41**	ton	$2,125.00	87,125		
Branch Controller	**4**	ea	$2,275.00	9,100		
VRF FCU - Cassette	**12**	ea	$2,405.00	28,860		
VRF FCU - Duct Mounted	**7**	ea	$5,070.00	35,490		
Energy Recovery Ventilator - 1,500 cfm	**1**	ea	$10,530.00	10,530		
Energy Recovery Ventilator - Dedicated Community and Sen	**1**	ea	$15,080.00	15,080		
Exhaust Fan - Kitchen Hood	**1**	ea	$5,590.00	5,590		
Make Up Air Unit - Kitchen	**1**	ea	$10,790.00	10,790		
Electric Unit Heaters	**4**	ea	$1,095.00	4,380		
Register Grilles and Diffusers	**75**	ea	$390.00	29,250		
Sheetmetal						
Galvanized	**15,000**	lbs	$17.35	260,250		
Grease Duct	**300**	lbs	$22.35	6,705		
Sheet Metal Specialties	**1**	ls	$21,356.40	21,356		
Equipment Connections	**1**	ls	$11,440.00	11,440		
Piping						
Refrigerant Suction	**200**	lf	$78.00	15,600		
Refrigerant Liquid	**200**	lf	$31.50	6,300		
Refrigerant Line Set	**19**	ea	$1,105.00	20,995		
Refrigerant Specialties	**1**	ls	$4,289.50	4,290		
Condensate Drain	**475**	lf	$45.50	21,613		
Equipment Connections	**1**	ls	$12,675.00	12,675		
Insulation						
Duct FSK Wrap	**10,200**	sf	$4.35	44,370		
Fire Wrap	**204**	sf	$20.65	4,213		
Refrigerant Piping	**400**	lf	$14.65	5,860		
Condensate Drain Piping	**475**	lf	$11.35	5,391		
Controls						
VRF Condensing Units	**4**	ea	$4,330.00	17,320		
Branch Selectors	**4**	ea	$1,245.00	4,980		
VRF FCUs	**19**	ea	$1,850.00	35,150		
Energy Recovery Ventilators	**2**	ea	$4,110.00	8,220		
Hitchen Exhaust Fan	**1**	ea	$2,640.00	2,640		
Make Up Air Unit - Kitchen	**1**	ea	$4,472.50	4,473		
Electric Unit Heaters	**4**	ea	$1,332.50	5,330		
BMS Network	**1**	ls	$6,920.00	6,920		
Commissioning						
Start Up	**40**	hr	$130.00	5,200		
Testing, Adjusting, and Balancing	**80**	hr	$130.00	10,400		
3rd Party Cx Assist	**16**	hr	$135.00	2,160		
Trade Requirements						
Crane	**1**	day	$7,540.00	7,540		
Rigging	**1**	ls	$6,110.00	6,110		
Project Supervision	**120**	hr	$130.00	15,600		
Coordination	**80**	hr	$130.00	10,400		
SUBTOTAL					835,446	
TOTAL - HVAC						***$835,446***

GSF 15,750

Option 2 - Full Building Renovation and Modular Demolition

DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
D40 FIRE PROTECTION						
D40 FIRE PROTECTION						
Service Equipment	**1**	ls	18,500.00	18,500		
Sprinkler system piping and heads	**15,750**	sf	12.00	189,000		
Demo	**15,750**	sf	1.00	15,750		
SUBTOTAL					223,250	
TOTAL - FIRE PROTECTION						***$223,250***
D50 ELECTRICAL						
D50 ELECTRICAL						
Light Fixtures						
Light Fixtures	**15,750**	sf	10.00	157,500		
Branch Circuitry						
Branch Circuitry	**15,750**	sf	5.00	78,750		
Light Control Devices	**15,750**	sf	1.50	23,625		
Wiring Devices	**15,750**	sf	2.50	39,375		
Power Circuitry			0.00			
3/4" Emt, 4#12	**1,040**	lf	20.04	20,842		
3/4" Emt, 4#10	**800**	lf	21.84	17,472		
1" Emt, 4#8	**300**	lf	29.50	8,850		
1 1/2" Emt, 4#1	**100**	lf	59.67	5,967		
2" Emt, 4 3/0	**600**	lf	83.79	50,274		
Electric Service:						
Utility Pole Riser	**1**	ls	4,549.60	4,550		
4" PVC (primary, empty) UG	**400**	lf	21.66	8,664		
Utility Transformer Pad, Ground	**1**	lf	4,549.60	4,550		
3" Pvc, 4 350MCM UG	**300**	lf	118.56	35,568		
Service Grounding	**1**	ls	5,082.00	5,082		
Power Equipment						
225 Amp Panel Board	**6**	ea	7,516.52	45,099		
1000 Amp Main Switchboard, 208v	**1**	ea	50,215.00	50,215		
Receptacle, Misc 120v conn	**10**	ea	104.06	1,041		
Manual Snap Switch Starter	**5**	ea	205.70	1,029		
Manual Snap Switch Starter 2P	**16**	ea	229.90	3,678		
30 Amp Disconnect	**8**	ea	1,021.24	8,170		
60 Amp Disconnect	**3**	ea	1,769.02	5,307		
200/120 Amp Disconnect	**1**	ea	2,734.60	2,735		
Systems						
Fire Alarm System	**15,750**	sf	4.00	63,000		
Telecommunications System, Wiring	**14,750**	sf	2.50	36,875		
Clock/PA System	**14,750**	sf	1.50	22,125		
Security Access Control	**14,750**	sf	1.50	22,125		
Security CCTV	**14,750**	sf	1.50	22,125		
A/V System Empty Conduit, Roughin	**14,750**	sf	0.50	7,375		
Theater Lighting and Controls (audit/MP room)	**1**	ls	50,000.00	50,000		
Theater Sound System (audit/MP room)	**1**	ls	50,000.00	50,000		
Misc						
Temp Power and Lighting	**15,750**	sf	1.00	15,750		
Misc Demo, Removals	**21,000**	sf	0.75	15,750		
SUBTOTAL					883,468	
TOTAL - ELECTRICAL						***$883,468***
E10 EQUIPMENT						
E10 EQUIPMENT						
Commerical kitchen equipment/service window allowance	**1**	ls	150,000.00	150,000		
SUBTOTAL					150,000	
TOTAL - EQUIPMENT						***$150,000***

Cotuit Elementary
Concept Study Options

April 24, 2025

GSF 15,750

Option 2 - Full Building Renovation and Modular Demolition

DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
E20 FURNISHINGS						
E2010 FIXED FURNISHINGS						
Modular stage system	**540**	sf	50.00	27,000		
Window Treatment	**1,980**	sf	10.00	19,800		
SUBTOTAL					46,800	
TOTAL - FURNISHINGS						***$46,800***
F20 DEMOLITION						
F2010 DEMOLITION						
Hazmat allowance provided	**1**	ls	330,000.00	330,000		
Modular building demo	**2,300**	sf	15.00	34,500		
Demo interior walls, ceilings and floors after Hazmat	**15,750**	sf	4.00	63,000		
Demo modular stage	**540**	sf	8.00	4,320		
Demo portions of exterior wall systems and slabs at gym	**1,638**	sf	25.00	40,950		
Demo shingle roofing, gutters and downspouts	**17,390**	sf	2.00	34,780		
Demo window, clerestory systems	**1,980**	sf	10.00	19,800		
Demo concrete slabs at underground plumbing work	**800**	sf	8.00	6,400		
Demo concrete slabs at new patio areas	**1,700**	sf	8.00	13,600		
Shoring and temp supports	**1**	ls	50,000.00	50,000		
SUBTOTAL					597,350	
TOTAL - DEMOLITION						***$597,350***
G10 SITEWORK						
G10 SITEWORK						
Sitework / Landscape allowance provided	**1**	ls	1,450,000.00	1,450,000		
SUBTOTAL					1,450,000	
TOTAL - SITEWORK						***1,450,000***

GSF 11,600

Option 3 - Partial Renovation, Additions and Modular & Building Demolition

DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
AREA CALCULATIONS						
Basement			**1,000**			
Ground floor renovations			**4,000**			
Ground floor addition			**6,600**			
TOTAL GROSS FLOOR AREA (GFA)			**11,600**	***GSF***		
A10 BUILDING FOUNDATIONS						
A1010 STANDARD FOUNDATIONS						
Addition - Footings and walls	**115**	cy	1,100.00	126,500		
End wall - Footings and walls	**27**	cy	1,100.00	29,700		
Modify, cut and patch	**1**	ls	30,000.00	30,000		
SUBTOTAL					186,200	
A1030 LOWEST FLOOR CONSTRUCTION						
Addition - slab on grade	**6,700**	sf	14.00	93,800		
Rigid insulation at foundation walls and underslab to 4'	**2,400**	sf	6.00	14,400		
Modify, cut and patch existing	**1**	ls	15,000.00	15,000		
SUBTOTAL					123,200	
TOTAL - FOUNDATIONS						***$309,400***
B10 SUPERSTRUCTURE						
B1010 FLOOR & ROOF CONSTRUCTION						
Gym addition - PEMB (includes framing, metal siding and roof)	**6,700**	sf	125.00	837,500		
Renovation - Structure allowance	**6,600**	sf	12.00	79,200		
Misc metals	**11,600**	sf	1.00	11,600		
Fire stopping floors	**11,600**	sf	0.75	8,700		
SUBTOTAL					937,000	
TOTAL - SUPERSTRUCTURE						***$937,000***
B20 EXTERIOR CLOSURE						
B2010 EXTERIOR WALLS						
<u>New exterior walls at addition and end wall</u>						
6" LGMF, sheathing, interior gwb	**714**	sf	22.00	15,708		
Air/Vapor barrier	**714**	sf	9.00	6,426		
Insulation	**714**	sf	8.00	5,712		
Brick veneer to match	**714**	sf	75.00	53,550		
<u>Existing exterior walls</u>						
Repair, repoint 15% of masonry	**576**	sf	50.00	28,800		
Cutting and patching at removals	**1**	ls	15,000.00	15,000		
Prep and paint wood trim	**1**	ls	25,000.00	25,000		
Caulking and sealants	**4,554**	sf	2.00	9,108		
SUBTOTAL					159,304	
B2020 WINDOWS						
Fiberglass window systems	**400**	sf	160.00	64,000		
Louvers	**1**	ls	5,000.00	5,000		
SUBTOTAL					69,000	
B2030 EXTERIOR DOORS						
Alum entry doors, frames and HW	**2**	lvs	3,850.00	7,700		
Egress doors, frame and HW	**3**	lvs	2,200.00	6,600		
SUBTOTAL					14,300	
TOTAL - EXTERIOR CLOSURE						***$242,604***

GSF 11,600

Option 3 - Partial Renovation, Additions and Modular & Building Demolition

DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
B30 ROOFING						
B3010 ROOF COVERINGS						
Asphalt roofing, flashing and trim at existing remaining building	**4,500**	sf	18.00	81,000		
Gutters and downspouts	**120**	lf	50.00	6,000		
SUBTOTAL					87,000	
TOTAL - ROOFING						***$87,000***
C10 INTERIOR CONSTRUCTION						
C1010 PARTITIONS						
Interior partitions (CMU and GWB)	**4,900**	sf	25.00	122,500		
Sealants & caulking at partitions	**11,600**	sf	0.50	5,800		
Rough blocking	**11,600**	sf	2.00	23,200		
SUBTOTAL					151,500	
C1020 INTERIOR DOORS						
Interior doors, frames and HW	**12**	lvs	1,700.00	20,400		
SUBTOTAL					20,400	
C1030 SPECIALTIES / MILLWORK						
Restrooms - Toilet partitions and accessories	**2**	rms	7,500.00	15,000		
Finshing carpentry and millwork	**11,600**	sf	5.00	58,000		
Rough carpentry	**11,600**	sf	1.00	11,600		
Interior and Exterior Signage	**1**	ls	10,000.00	10,000		
Fire extinguisher cabinets	**6**	ea	275.00	1,650		
Misc glass and glazing	**1**	ls	7,500.00	7,500		
Miscellaneous metals throughout building	**11,600**	sf	2.00	23,200		
Miscellaneous sealants throughout building	**11,600**	sf	1.00	11,600		
SUBTOTAL					138,550	
TOTAL - INTERIOR CONSTRUCTION						***$310,450***
C30 INTERIOR FINISHES						
C3010 WALL FINISHES						
Paint to GWB	**15,200**	sf	2.00	30,400		
Tile to wet walls	**640**	sf	30.00	19,200		
SUBTOTAL					49,600	
C3020 FLOOR FINISHES						
Resinous flooring at restrooms	**440**	sf	16.00	7,040		
Resilient sheet flooring	**2,900**	sf	8.00	23,200		
Resilient athletic flooring	**6,600**	sf	18.00	118,800		
Rubber base	**950**	lf	6.00	5,700		
SUBTOTAL					154,740	
C3030 CEILING FINISHES						
ACT ceilings	**3,000**	sf	10.00	30,000		
GWB ceilings	**400**	sf	15.00	6,000		
GWB soffits	**100**	lf	75.00	7,500		
Prep and paint Gym exposed ceiling	**6,600**	sf	3.00	19,800		
Paint to GWB ceilings and soffits	**800**	sf	2.50	2,000		
SUBTOTAL					65,300	
TOTAL - INTERIOR FINISHES						***269,640***

Option 3 - Partial Renovation, Additions and Modular & Building Demolition

DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
D20 PLUMBING						
D20 PLUMBING						
Demolition						
Remove Existing Bathroom Fixtures	**8**	ea	850.00	6,800		
New Work						
Heat Pump Water Heater	**1**	ea	4,290.00	4,290		
Recirc Pump	**1**	ea	2,210.00	2,210		
Plumbing Specialties	**1**	ls	1,495.00	1,495		
Equipment Connections	**1**	ls	910.00	910		
Water Closets	**4**	ea	1,625.00	6,500		
Lavatories	**4**	ea	1,560.00	6,240		
Bottle Fill Stations	**2**	ea	3,380.00	6,760		
Floor Drains	**3**	ea	780.00	2,340		
Fixture Rough Ins	**10**	ea	975.00	9,750		
Connect to Existing	**1**	ls	1,365.00	1,365		
Water Piping	**500**	lf	45.00	22,500		
Sanitary Waste Piping	**400**	lf	65.00	26,000		
Sanitary Vent Piping	**400**	lf	50.00	20,000		
Piping Insulation	**500**	lf	13.25	6,625		
Tools & Equipment	**1**	ls	2,000.00	2,000		
Project Supervision	**80**	hrs	130.00	10,400		
Coordination	**60**	hrs	130.00	7,800		
SUBTOTAL					143,985	
TOTAL - PLUMBING						***$143,985***
D30 HVAC						
D30 HVAC						
Demolition						
Remove & Dispose Existing HVAC	**11,600**	sf	$1.00	11,600		
New Work						
(1) Packaged Rooftop Unit	**20**	ton	$3,500.00	70,000		
(1) VRF Condensing Units	**12**	ton	$2,125.00	25,500		
Branch Controller	**1**	ea	$2,275.00	2,275		
VRF FCU - Cassette	**6**	ea	$2,405.00	14,430		
VRF FCU - Duct Mounted	**1**	ea	$3,770.00	3,770		
Energy Recovery Ventilator - Dedicated Community and Senior Center Spaces	**1**	ea	$15,080.00	15,080		
Electric Unit Heaters	**4**	ea	$1,095.00	4,380		
Register Grilles and Diffusers	**75**	ea	$390.00	29,250		
Sheetmetal						
Galvanized	**12,000**	lbs	$17.35	208,200		
Sheet Metal Specialties	**1**	ls	$27,760.00	27,760		
Equipment Connections	**1**	ls	$11,440.00	11,440		
Piping						
Refrigerant Suction	**50**	lf	$78.00	3,900		
Refrigerant Liquid	**50**	lf	$31.50	1,575		
Refrigerant Line Set	**7**	ea	$1,105.00	7,735		
Refrigerant Specialties	**1**	ls	$1,321.00	1,321		
Condensate Drain	**175**	lf	$45.50	7,963		
Equipment Connections	**1**	ls	$8,515.00	8,515		
Insulation						
Duct FSK Wrap	**6,500**	sf	$4.35	28,275		
Outdoor Duct	**400**	sf	$22.65	9,060		
Refrigerant Piping	**100**	lf	$14.65	1,465		
Condensate Drain Piping	**175**	lf	$11.35	1,986		

Option 3 - Partial Renovation, Additions and Modular & Building Demolition

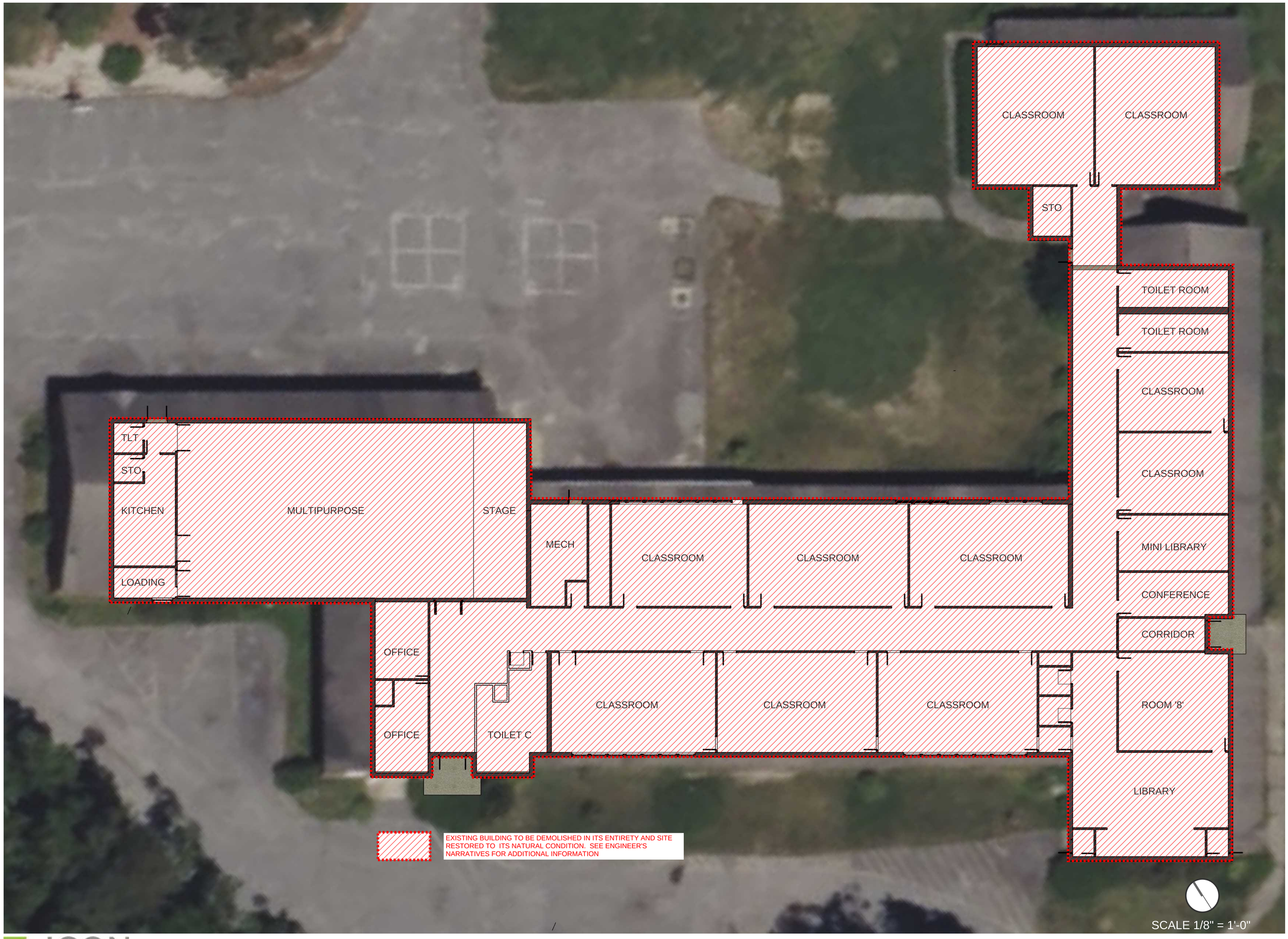
DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
Controls						
Packaged Rooftop Unit	**1**	ea	$4,330.00	4,330		
VRF Condensing Units	**1**	ea	$4,330.00	4,330		
Branch Selectors	**1**	ea	$1,245.00	1,245		
VRF FCUs	**7**	ea	$1,850.00	12,950		
Energy Recovery Ventilator	**1**	ea	$4,110.00	4,110		
Electric Unit Heaters	**4**	ea	$1,332.50	5,330		
BMS Network	**1**	ls	$6,920.00	6,920		
Commissioning						
Start Up	**40**	hr	$130.00	5,200		
Testing, Adjusting, and Balancing	**80**	hr	$130.00	10,400		
3rd Party Cx Assist	**16**	hr	$135.00	2,160		
Trade Requirements						
Crane	**1**	day	$7,540.00	7,540		
Rigging	**1**	ls	$6,110.00	6,110		
Project Supervision	**120**	hr	$130.00	15,600		
Coordination	**80**	hr	$130.00	10,400		
SUBTOTAL					592,105	
TOTAL - HVAC						***$592,105***
D40 FIRE PROTECTION						
D40 FIRE PROTECTION						
Service Equipment	**1**	ls	18,500.00	18,500		
Sprinkler system piping and heads	**11,600**	sf	12.00	139,200		
Demo	**5,000**	sf	1.00	5,000		
SUBTOTAL					162,700	
TOTAL - FIRE PROTECTION						***$162,700***
D50 ELECTRICAL						
D50 ELECTRICAL						
Light Fixtures						
Light Fixtures	**11,600**	sf	10.00	116,000		
Branch Circuitry						
Branch Circuitry	**11,600**	sf	5.00	58,000		
Light Control Devices	**11,600**	sf	1.50	17,400		
Wiring Devices	**11,600**	sf	2.50	29,000		
Power Circuitry						
3/4" Emt, 4#12	**600**	lf	20.04	12,024		
3/4" Emt, 4#10	**200**	lf	21.84	4,368		
1 1/4" Emt, 4#4	**100**	lf	42.65	4,265		
1 1/2" Emt, 4#1	**100**	lf	59.67	5,967		
2" Emt, 4 3/0	**600**	lf	83.79	50,274		
Electric Service:						
Utility Pole Riser	**1**	ls	4,549.60	4,550		
4" PVC (primary, empty) UG	**400**	lf	21.66	8,664		
Utility Transformer Pad, Ground	**1**	ls	4,549.60	4,550		
3" Pvc, 4 350MCM UG	**300**	lf	118.56	35,568		
Service Grounding	**1**	ls	5,082.00	5,082		
Power Equipment						
225 Amp Panel Board	**6**	ea	7,516.52	45,099		
1000 Amp Main Switchboard, 208v	**1**	ea	50,215.00	50,215		
Receptacle, Misc 120v conn	**6**	ea	104.06	624		
Manual Snap Switch Starter	**1**	ea	205.70	206		
Manual Snap Switch Starter 2P	**11**	ea	229.90	2,529		
30 Amp Disconnect	**2**	ea	1,021.24	2,042		
100 Amp Disconnect	**1**	ea	1,911.80	1,912		
200/120 Amp Disconnect	**1**	ea	2,734.60	2,735		

GSF 11,600

Option 3 - Partial Renovation, Additions and Modular & Building Demolition

DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
Systems						
Fire Alarm System	**11,600**	sf	4.00	46,400		
Telecommunications System, Wiring	**10,600**	sf	2.50	26,500		
Clock/PA System	**10,600**	sf	1.50	15,900		
Security Access Control	**10,600**	sf	1.50	15,900		
Security CCTV	**10,600**	sf	1.50	15,900		
A/V System Empty Conduit, Roughin	**10,600**	sf	0.50	5,300		
Misc						
Temp Power and Lighting	**11,600**	sf	1.00	11,600		
Misc Demo, Removals	**5,000**	sf	0.75	3,750		
SUBTOTAL					602,324	
TOTAL - ELECTRICAL						***$602,324***
E10 EQUIPMENT						
E10 EQUIPMENT						
Appliances allowance	**1**	ls	8,500.00	8,500		
SUBTOTAL					8,500	
TOTAL - EQUIPMENT						***$8,500***
E20 FURNISHINGS						
E2010 FIXED FURNISHINGS						
Window Treatment	**400**	sf	10.00	4,000		
SUBTOTAL					4,000	
TOTAL - FURNISHINGS						***$4,000***
F20 DEMOLITION						
F2010 DEMOLITION						
Hazmat allowance provided	**1**	ls	330,000.00	330,000		
Building and modular demo	**11,950**	sf	12.00	143,400		
Demo interior walls, ceilings and floors after Hazmat	**8,800**	sf	4.00	35,200		
Demo gym structure	**4,000**	sf	12.00	48,000		
Demo shingle roofing, gutters and downspouts	**9,680**	sf	2.00	19,360		
Demo window, clerestory systems	**780**	sf	10.00	7,800		
Demo concrete slabs at underground plumbing work	**500**	sf	8.00	4,000		
Shoring and temp supports	**1**	ls	25,000.00	25,000		
SUBTOTAL					612,760	
TOTAL - DEMOLITION						***$612,760***
G10 SITEWORK						
G10 SITEWORK						
Sitework / Landscape allowance provided	**1**	ls	1,240,000.00	1,240,000		
SUBTOTAL					1,240,000	
TOTAL - SITEWORK						***1,240,000***

ATTACHMENT 2 – CONCEPTUAL FLOOR PLANS AND SITE PLANS



ICON Architecture

ICON ARCHITECTURE

OPTION 1 - FULL BUILDING DEMOLITION

SCALE IN FEET
0 30 60 120

B0633-031_C-BASE (GIS)2.dwg

Tighe&Bond
Engineers | Environmental Specialists
177 Corporate Drive
Portsmouth, NH 03801
(603) 433-8818

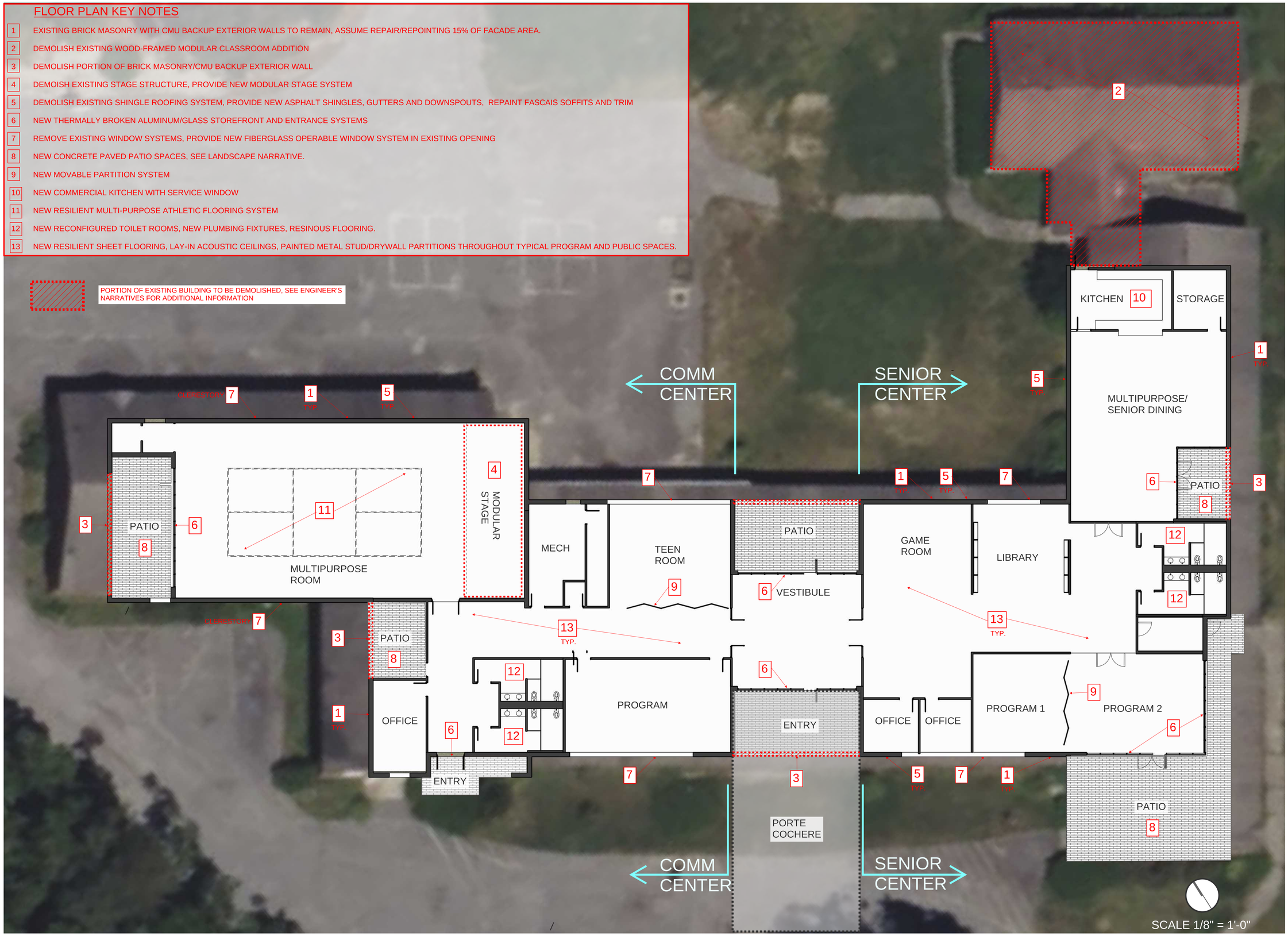
140 Old Oyster Road, Cotuit, MA - Concept Plan

OPTION 1 - FULL BUILDING DEMOLITION

FLOOR PLAN KEY NOTES

1. EXISTING BRICK MASONRY WITH CMU BACKUP EXTERIOR WALLS TO REMAIN, ASSUME REPAIR/REPOINTING 15% OF FACADE AREA.
2. DEMOLISH EXISTING WOOD-FRAMED MODULAR CLASSROOM ADDITION
3. DEMOLISH PORTION OF BRICK MASONRY/CMU BACKUP EXTERIOR WALL
4. DEMOISH EXISTING STAGE STRUCTURE, PROVIDE NEW MODULAR STAGE SYSTEM
5. DEMOLISH EXISTING SHINGLE ROOFING SYSTEM, PROVIDE NEW ASPHALT SHINGLES, GUTTERS AND DOWNSPOUTS, REPAINT FASCAIS SOFFITS AND TRIM
6. NEW THERMALLY BROKEN ALUMINUM/GLASS STOREFRONT AND ENTRANCE SYSTEMS
7. REMOVE EXISTING WINDOW SYSTEMS, PROVIDE NEW FIBERGLASS OPERABLE WINDOW SYSTEM IN EXISTING OPENING
8. NEW CONCRETE PAVED PATIO SPACES, SEE LANDSCAPE NARRATIVE.
9. NEW MOVABLE PARTITION SYSTEM
10. NEW COMMERCIAL KITCHEN WITH SERVICE WINDOW
11. NEW RESILIENT MULTI-PURPOSE ATHLETIC FLOORING SYSTEM
12. NEW RECONFIGURED TOILET ROOMS, NEW PLUMBING FIXTURES, RESINOUS FLOORING.
13. NEW RESILIENT SHEET FLOORING, LAY-IN ACOUSTIC CEILINGS, PAINTED METAL STUD/DRYWALL PARTITIONS THROUGHOUT TYPICAL PROGRAM AND PUBLIC SPACES.

PORTION OF EXISTING BUILDING TO BE DEMOLISHED, SEE ENGINEER'S NARRATIVES FOR ADDITIONAL INFORMATION



OPTION 2 - FULL BUILDING RENOVATION

Old Oyster Road

Main Street

SCALE IN FEET
0 30 60 120

B0633-031_C-BASE (GIS)2.dwg

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177 Corporate Drive
Portsmouth, NH 03801
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140 Old Oyster Road, Cotuit, MA - Concept Plan

OPTION 2 - FULL BUILDING RENOVATION

FLOOR PLAN KEY NOTES

1. EXISTING BRICK MASONRY WITH CMU BACKUP EXTERIOR WALLS TO REMAIN, ASSUME REPAIR/REPOINTING
2. DEMOLISH PORTION OF EXISTING MASONRY BUILDING INCLUDING ROOF, WALL AND FOUNDATION STRUCTURES
3. DEMOLISH PORTION OF BRICK MASONRY/CMU BACKUP EXTERIOR WALL, KITCHEN AREA AND STAGE AT GYMNASIUM.
4. NEW BRICK MASONRY WITH CMU BACKUP ENDWALL AND CONCRETE FOUNDATION
5. DEMOLISH EXISTING SHINGLE ROOFING SYSTEM, PROVIDE NEW ASPHALT SHINGLES, GUTTERS AND DOWNSPOUTS, REPAINT FASCAIS SOFFITS AND TRIM
6. NEW THERMALLY BROKEN ALUMINUM/GLASS STOREFRONT AND ENTRANCE SYSTEMS
7. REMOVE EXISTING WINDOW SYSTEMS, PROVIDE NEW FIBERGLASS OPERABLE WINDOW SYSTEM IN EXISTING OPENING
8. NEW EXPANDED GYMNASIUM FOOTPRINT, METAL-FRAMED BUILDING SYSTEM ON CONCRETE FOUNDATION, SEE STRUCTURAL NARRATIVE.
9. NEW BASKETBALL AND PICKLEBALL COURTS, SEE LANDSCAPE NARRATIVE
10. NEW RESILIENT SHEET FLOORING, LAY-IN ACOUSTIC CEILINGS, PAINT EXISTING PARTITIONS THROUGHOUT TYPICAL PROGRAM AND PUBLIC SPACES.
11. NEW RESILIENT MULTI-PURPOSE ATHLETIC FLOORING SYSTEM
12. NEW RECONFIGURED TOILET ROOMS, NEW PLUMBING FIXTURES, RESINOUS FLOORING.

PORTION OF EXISTING BUILDING TO BE DEMOLISHED, SEE ENGINEER'S NARRATIVES FOR ADDITIONAL INFORMATION

OPTION 3 - PARTIAL RENOVATION AND DEMOLITION

ICON ARCHITECTURE

SCALE IN FEET
0 30 60 120

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B0633-031_C-BASE (GIS)2.dwg

140 Old Oyster Road, Cotuit, MA - Concept Plan

OPTION 3 - PARTIAL RENOVATION AND DEMOLITION

ATTACHMENT 3 – DESIGN NARRATIVES

Concept Design Narrative – Site/Civil Improvements
Cotuit Elementary School
24 Old Oyster Road, Cotuit, Massachusetts

April 11, 2025

The intent of this memo is to provide a narrative describing site, stormwater, and utility design considerations and recommendations for the existing building and site improvements at the Cotuit Elementary School located at 24 Old Oyster Road in Cotuit, Massachusetts.

At the time of this narrative, Tighe&Bond, in partnership with ICON Architecture, has developed three (3) conceptual layouts that offer unique redevelopment uses for the existing parcel and building. Option 1 suggests the complete removal of the existing school building and the associated paved parking lot and restoration of the area to a meaningful recreation area. Option 2 proposes the demolition of the northeastern building addition, followed by the renovation of the existing structure into a community center. Option 3 envisions the demolition of select portions of the existing building to make way for the development of an athletic recreation center, featuring exterior basketball and pickleball courts.

Site Access & Parking

The current site is accessible via a 12-foot wide one-way paved driveway and a 24-foot wide two-lane paved driveway, both located off Old Oyster Road. Additionally, there is an 20-foot wide paved driveway off Main Street providing access from the northerly side of the property. There is a large paved parking lot to the west of the existing building. All existing paved parking areas and driveways are in poor condition and are not suitable for reuse.

In Option 1, there is a 10-space paved parking lot connected to a 24-foot wide driveway using one of the existing two curb cuts on Old Oyster Road. This parking area is linked to a network of approximately 2,100 linear feet of 6-foot-wide stabilized stone dust walking paths that wind through existing woodland and restored meadows.

Option 2 features a reconfigured 108-space paved parking lot designed to meet the Town of Barnstable Off-Street Parking requirements of 1 space per 3-person capacity. The two existing curb cuts on Old Oyster Road will be removed, and a new curb cut will be added approximately 75 feet south of the existing southernmost curb cut. Additionally, a 6-foot wide concrete sidewalk has been included along the front of the building and to the right-of-way for pedestrian access to the site.

Option 3 introduces a new 72-space parking lot to the northwest of the existing curb cut, complying with the Town of Barnstable Site Plan Regulations. The southeastern driveway will be removed and restored to a vegetated state. A network of 6-foot wide concrete sidewalks has been provided for pedestrian circulation between the renovated existing building and the exterior basketball and pickleball courts as well as to the right-of-way for pedestrian access to the site.

Concept Design Narrative – Landscape
Cotuit Elementary School
24 Old Oyster Road, Cotuit, Massachusetts

April 11, 2025

Option 1 – Full Building Removal and Site Restoration

Option 1 consists of the full removal of the existing Elementary School and restoration of the paved/disturbed areas.

The landscape work in this option includes:

- Path: Install approximately 2,100 LF of 6' wide path. Path material to be stabilized stone dust surfacing similar to Organic-Lock Stabilized Aggregate; manufactured by Organic-Lock: www.organic-lock.com; path to be 3" stabilized stone dust over 6" compacted base material.

- Clearing: Selective clearing and grubbing of approximately 36,000 SF of woodland for installation of path and parking.

- Tree Planting: Mix of deciduous and evergreen tree planting; deciduous trees to be 1-1/2" cal. and evergreen trees to be 8' to 10' HT; trees are triangular spaced 18' apart; total area of tree planting is approximately 26,000 SF; 70% to be deciduous and 30% to be evergreen; trees to be balled and burlapped.

- Shrub Planting: Mix of deciduous and evergreen shrub planting; mix of one and two gallon pots; shrubs are triangular spaced 36" apart; total area of shrub planting is approximately 8,000 SF; 40% to be deciduous and 60% to be evergreen.

- Meadow Seed Mix: Seed mix to be similar to New England Conservation/ Wildlife Mix supplied by New England Wetland Plants: www.newp.com; application rate to be 25 lbs/ acre; seed area is approximately 42,000 SF.

- Planting Soils: Planting Soils are composed of a blend of three base components: base loam, organic material and sand. Planting soils depth: tree planting to be equal to depth of rootball and tree times rootball width; in areas of shrub planting, depth of planting soil to be 18"; meadow seed areas to have a planting soils depth of 6".

- Organic Mulch: Dark Brown Compost-Shredded Bark Mulch combination; 2" depth at tree and shrub planting.
- Planting Additives and Post Plant Fertilizer: Plant trees with planting additives including liquid seaweed concentrate, plant growth biostimunlant and mycorrhizae granules. Apply uniform application of Post Planting Fertilizer (5-3-4) at rate of 5 lbs. per 1000 square feet, 30 days after planting.

- Planting Maintenance: Provide one year of watering, pruning and pest control and two year warranty period.

Option 2 – Full Building Remodel

Option 2 consists of the removal of the existing modular building section and a full building remodel of the remain portions of the structure. The remodeled building would include a senior center area and a community center area.

The landscape work in this option includes:

- Cast in Place Concrete Paving: Approximately 2,400 SF of reinforced 4" thick cast in place concrete paving over 8" compacted base material

- Clearing: Clearing and grubbing of approximately 21,000 SF of woodland for installation roadway and parking.

- Tree Planting: Mix of deciduous and evergreen tree planting; deciduous trees to be 2-1/2" cal. and evergreen trees to be 8' to 10' HT; 80% to be deciduous and 20% to be evergreen; trees to be balled and burlapped.

- Shrub Planting: Mix of deciduous and evergreen shrub planting; mix of one and two gallon pots; shrubs are triangular spaced 36" apart; total area of shrub planting is approximately 1,400 SF; 40% to be deciduous and 60% to be evergreen.

- Lawn Seed Mix: Seed mix to be a high fescue mix of fresh, clean, new crop seed. Seed can be mixed by an approved method on site or can be mixed by dealer. If seed is mixed on site, each variety shall be delivered in original containers bearing dealer's guaranteed analysis; seed area is approximately 57,400 SF.

- Planting Soils: Planting Soils are composed of a blend of three base components: base loam, organic material and sand. Planting soils depth: tree planting to be equal to depth of rootball and tree times rootball width; in areas of shrub planting, depth of planting soil to be 18"; meadow seed areas to have a planting soils depth of 6".

- Organic Mulch: Dark Brown Compost-Shredded Bark Mulch combination; 2" depth at tree and shrub planting.

- Planting Additives and Post Plant Fertilizer: Plant trees with planting additives including liquid seaweed concentrate, plant growth biostimunlant and mycorrhizae granules. Apply uniform application of Post Planting Fertilizer (5-3-4) at rate of 5 lbs. per 1000 square feet, 30 days after planting.

- Planting Maintenance: Provide one year of watering, pruning and pest control and two year warranty period.

Option 3 – Partial Building Remodel and Demolition

Option 3 consists of a partial building demolition and a remodel as well as an expanded gymnasium.

The landscape work in this option includes:

- Cast in Place Concrete Paving: Approximately 5,300 SF of reinforced 4" thick cast in place concrete paving over 8" compacted base material.

- Bituminous Concrete Paving at Courts: Approximately 16,500 SF of bituminous concrete placed in two 1-1/2" lifts (3" total) over 8" compacted base material.

- Clearing: Clearing and grubbing of approximately 33,000 SF of woodland for installation roadway and parking.

- Court Fencing: Fencing at basketball and pickleball courts to be vinyl coated 12' high chain link fence.

- Court Surfacing: Acrylic Filler Course – for use as a filler for new or existing asphalt surfaces. The acrylic filler shall be blended with approved silica sand at the job site. Acrylic Color Playing Surface – for use as the finish color and texture. Line Paint to be used as the line marking on the court/play surface.

- Tree Planting: Mix of deciduous and evergreen tree planting; deciduous trees to be 2-1/2" cal. and evergreen trees to be 8' to 10' HT; 80% to be deciduous and 20% to be evergreen; trees to be balled and burlapped.

- Shrub Planting: Mix of deciduous and evergreen shrub planting; mix of one and two gallon pots; shrubs are triangular spaced 36" apart; total area of shrub planting is approximately 1,400 SF; 40% to be deciduous and 60% to be evergreen.

- Lawn Seed Mix: Seed mix to be a high fescue mix of fresh, clean, new crop seed. Seed can be mixed by an approved method on site or can be mixed by dealer. If seed is mixed on site, each variety shall be delivered in original containers bearing dealer's guaranteed analysis; seed area is approximately 57,400 SF.

- Planting Soils: Planting Soils are composed of a blend of three base components: base loam, organic material and sand. Planting soils depth: tree planting to be equal to depth of rootball and tree times rootball width; in areas of shrub planting, depth of planting soil to be 18"; meadow seed areas to have a planting soils depth of 6".

- Organic Mulch: Dark Brown Compost-Shredded Bark Mulch combination; 2" depth at tree and shrub planting.

- Planting Additives and Post Plant Fertilizer: Plant trees with planting additives including liquid seaweed concentrate, plant growth biostimunlant and mycorrhizae granules. Apply uniform application of Post Planting Fertilizer (5-3-4) at rate of 5 lbs. per 1000 square feet, 30 days after planting.

- Planting Maintenance: Provide one year of watering, pruning and pest control and two year warranty period.

Stormwater

The site does not appear to have any existing stormwater conveyance or treatment infrastructure. All three Site Plan Options will need to be designed in compliance with the Town of Barnstable Stormwater Management Rules and Regulations as well as the Massachusetts DEP Stormwater Handbook.

Each of the three (3) site plan concepts is envisioned to include Bioretention Areas (Rain Gardens or similar) equipped with sediment forebays, which are designed to provide advanced stormwater treatment. Stormwater runoff from each parking lot will sheet flow to various catch basins connected by an underground drainage network that will ultimately discharge to the Rain Gardens. These Rain Gardens will be equipped with an outlet control structure that will meter the stormwater flows and discharge to the existing catchbasins at the existing curb cuts along Old Oyster Road.

Utilities

Sewer/Septic

The current sewer flows on the site are managed by an on-site septic system, which consists of three components connected to the existing facility: a septic tank, a distribution box, and eight (8) 500-gallon leach chambers that were installed in 1956. Considering the age of this system and the change in land use, it is assumed that the existing septic system will need to be removed for all site plan options.

Site Plan Option 1 does not include any recreational facilities that would necessitate a septic system, therefore a new leach field is not anticipated to be required.

Site Plan Option 2 proposes to demolish the existing septic system and construct a new effluent disposal area (EDA, otherwise commonly referred to as a leach field) to the north of the existing facility. A new septic tank should be constructed under this approach to support new underground conveyance pipes to the EDA in addition to a new concrete grease interceptor to service the kitchen waste. The location of the EDA must ultimately be vetted by completion of test pits to determine suitability of receiving soils and the elevation of the estimated seasonal high water table (ESHWT). However, the location of the EDA must also maintain specific setbacks to various other "receptors", such as wetlands, wells, and other domestic water services, buildings, property lines, and drainage systems.

Site Plan Option 3 similarly involves the removal of the existing septic system and the construction of a new EDA to the north of the existing facility, mirroring Option 2. In this scenario, since there is no kitchen component in the proposed building renovations, a grease interceptor is not required. As with Option 2, the location of the EDA must be determined through test pits to assess soil suitability and the elevation of the ESHWT, while also maintaining specific setbacks from various other features on the site.

Water

Our understanding is that the current facility is connected to an existing water main located within Old Oyster Road. For Site Plan Option 1, it has been assumed that no water service connection is required, and therefore no improvements to the water services have been incorporated. We have assumed that a new 6-inch Concrete Lined Ductile Iron (CLDI) water main will be installed from the main on Old Oyster Road to the existing building in order to provide adequate flows for any domestic and fire protection systems that may be required.

Electric & Telecommunications

The electrical utility services currently enter the site from the north through overhead lines, leading up to a utility pole with a pole-mounted transformer located near the northeastern corner of the existing facility. The overhead lines then extend to the west, where PVC risers were observed between the terminating utility pole and the ground surface, indicating that the secondary power supply to the site is likely underground. However, the exact routing of the underground secondary power remains unknown.

For Site Plan Option 1, the proposal involves the complete removal of the existing utility poles within the project limits. The boundaries for removal would need to be coordinated with the utility provider and the neighboring property owners to the northeast.

We have assumed that a new pad-mounted transformer will be necessary adjacent to the existing terminating utility pole, with new underground service connections to the building for both Site Plan Option 2 and 3.

Any upgrades to telecommunication services will need to be coordinated with the associated utility provider if necessary.

Gas/Propane

There are no anticipated upgrades to the gas/propane service at this time, as the renovations to the existing MEP systems are expected to include electrical heating components. It is assumed that all existing propone tanks and underground services will be removed in all three concepts.

Opinion of Probable Construction Cost (OPCC)

We are pleased to provide the opinion of probable construction costs (OPCC) under separate cover for the Civil and Landscape components outlined for each of the three Site Plan Options. These estimates are based on preliminary assumptions, including no ledge removal during construction and the absence of contaminated soils. For Options 2 and 3, it is assumed that there is adequate capacity in the water main along Old Oyster Road to support the proposed redevelopment plans. The estimates do not include costs for engineering services, landscape architecture services, permitting services, or application fees. Additionally, costs for building demolition and renovations are not included in these estimates, as they will be provided separately by the project architect.

Concept Design Narrative – HBMA
Cotuit Elementary School
24 Old Oyster Road, Cotuit, Massachusetts

April 11, 2025

Prior to any type of building renovation or demolition, a thorough investigation is required to identify and quantify ACM which may be impacted by those types of activities. The survey is required by the United States Environmental Protection Agency (EPA) National Emissions Standard for Hazardous Air Pollutants (NESHAP) regulations (Title 40 CFR, Part 61, Subpart M); MassDEP regulations (310 CMR 7.15); Massachusetts Department of Labor Standards (MADLS) regulations, (454 CMR 28.00); as well as applicable portions of the Occupational Safety and Health Administration (OSHA) asbestos in construction regulations (CFR 1926.1101).

It is understood that a historical assessment was performed in 2019; however, regardless of the option chosen, a supplemental pre-demolition assessment must be performed.

The following scope for Hazardous Building Materials Abatement (HMBA) is necessary regardless of the option chosen by the client.

- Data Review: Review existing HBMA data as provided by the Client. Verify previous results and identify potential data gaps.
- Asbestos Investigation: Utilizing a team of two asbestos inspectors, perform an inspection of accessible interior and exterior areas (including the roof) of the targeted building. The assessment shall be conducted to determine the presence or absence of suspect asbestos-containing materials (ACM). Bulk samples of suspect ACM shall be collected for laboratory analysis. A description of those suspect ACMs, including quantity, condition and location shall be documented.
- Roof Sampling: A cursory review of the Site indicates the wood roof is protected by a three-tabbed asphalt shingle system which is considered suspect for asbestos content. Samples from the shingled roof sections were collected during a previous assessment; however, the building's flat roof and areas not accessible from the edge of the roof were not. It will be necessary to assess the roof and collect additional roof samples without penetrating the wood roof deck.
- Exploratory Demolition: Perform exploratory demolition as necessary to access areas such as pipe chases, areas above or behind hard enclosures, or underneath flooring applications to determine if suspect ACM exists. Examples include coring of floors, if necessary, to determine if various layers of concealed flooring materials are present; or selective demolition of interior walls and ceilings to determine if suspect insulating materials are present, and exterior walls to determine if waterproofing materials are present. Exploratory demolition of exterior walls or building foundations which is not performed, shall be noted in the report.
- Bulk Sample Analysis: Prepare and submit up to 75 bulk material samples to a Massachusetts certified laboratory for analysis via Polarized Light Microscopy with Dispersion Staining (PLM/DS). A representative number of bulk samples of suspect homogeneous materials from the Site shall be collected and submitted for analysis. Homogenous materials are materials that appear similar in terms of color, texture, and

date of material application. Analysis, via five-day laboratory turnaround, will confirm the presence or absence of asbestos content from the suspect ACM encountered.

- Hazardous Materials Investigation: Inventory other environmental concerns and potential hazardous building materials that would require segregation and special disposal during the demolition process. Examples of these are mercury containing sources, oil containing equipment, containerized paints, cleaning agents, pesticides, refrigeration/cooling systems and above or below ground storage tanks. For characterization of universal wastes such as these, sampling is neither necessary nor warranted. In the event certain unknown containers, components or materials are identified (e.g., unknown drums, certain oils, liquids, solids, etc.), sampling may be recommended during the demolition design stage.
- PCB-Containing Building Materials: Perform a limited investigation within the Site for the presence of suspect PCB building materials/sources which are governed under the Toxic Substance Control Act (TSCA) for disposal. The assessment shall be limited to caulking, sealants, and paints. Sampling is not recommended because if PCBs are discovered in building materials through analysis, those positive results may trigger the need for immediate compliance with certain TSCA reporting requirements. If suspect building materials are encountered and are suspected to potentially contain PCBs, we will identify options that may exist for the proper management of PCBs prior to demolition.
- Paint Determination: Collect up to five paint chip samples. The samples shall be submitted to an accredited environmental laboratory for lead analyses using Atomic Absorption Spectrophotometry Analysis (AAS) via a five-day turnaround time. The lead paint chip sampling may not be comprehensive in nature but shall be used as a guide to aid in contractor compliance with the OSHA Lead in Construction Standard (Title 29 CFR, Part 1926.62) during paint disturbance activities. The results of this determination are also intended to provide insight into painted waste disposal requirements. The paint chip sample findings shall be limited to those materials tested.
- Toxicity Characteristic Leaching Procedure (TCLP) Testing: To assist in disposal characterization of painted building materials, collect up to four composite samples from select interior and exterior building components that may represent a larger percentage of the painted demolition waste stream and submit them for both Metals and PCB TCLP analysis. TCLP analysis, via one-week laboratory turnaround, will help evaluate the potential need to segregate certain painted building materials from the demolition waste stream and manage as a hazardous waste in the event of a TCLP exceedance.
- Technical Report: Incorporate the information gathered from the survey into an HBMA technical report. The report shall include a description of activities and shall include asbestos and hazardous material inventory tables. The tables shall identify the description, location, condition and quantity of suspect and confirmed ACM, as well as lead paint, TCLP-Lead, PCB-containing building materials, and hazardous materials encountered. The report shall also include laboratory results, sample identification numbers, and recommendations for the abatement or mitigation of ACM and other hazardous building materials identified. The inventory tables are designed to be easily incorporated into future technical abatement specifications if necessary.
- Technical Specifications: Prepare technical specification sections for the abatement of ACM and removal of hazardous/universal waste materials. The specification sections shall be made part of the Contract Documents to be prepared by the Owner or Owner's Representative. It is our understanding that "front end" contract documents, including general conditions, supplementary conditions, insurance requirements, measurement and payment, agreement form, etc. shall be the responsibility of the Owner or Owner's

Representative. Also, selective demolition, site restoration, excavation & backfill and other post demolition site work shall be specified and managed by others. The following technical specifications are anticipated under this task:

- Asbestos Abatement
- Hazardous Materials Removal
- Paint Management

The technical specifications shall include the results of the Pre-Demolition HBMA survey.

Concept Design Narrative – Structural
Cotuit Elementary School
24 Old Oyster Road, Cotuit, Massachusetts

April 11, 2025

Existing Conditions Description

- Foundation
  - Cast-in-place concrete exterior foundation walls on a continuous strip footing with interior concrete piers set on isolated concrete footings.
  - Crawlspace throughout the majority of the structure with natural sand floor.
  - Areas of basement for mechanical areas with concrete slab-on-grade floor.
  - Modular system area set on cast-in-place concrete slab.

- First Floor
  - Cast-in-place concrete slab supported by the interior concrete piers and the exterior foundation walls.
  - Modular system area as wood framing set on cast-in-place concrete slab.

- Framing
  - Concrete masonry unit (CMU) walls with exterior brick façade.
  - CMU partition walls throughout.
  - Wood framed trusses supported by the exterior CMU walls with wood roof purlins and tongue & groove roof decking.
  - Attic/first-floor ceiling framed with wood members spanning between trusses.
  - The gym area is glulam frames with wood purlins and wood roof panels with CMU walls and brick façade.
  - Modular area is conventionally wood framed walls with wood roof trusses.

Option 1 – Full Building Removal and Site Restoration

Option 1 consists of the full removal of the existing Elementary School.

The structural work in this option includes:

- Demolition
  - Full demolition of the concrete foundation, concrete masonry unit (CMU) walls, and wood roof trusses.

- New Construction
  - No new building structure in this option.

Option 2 – Full Building Remodel

Option 2 consists of the removal of the existing modular building section and a full building remodel of the remain portions of the structure. The remodeled building would include a senior center area and a community center area.

The structural work in this option includes:

- Demolition:
  - Full demolition of the foundation and wood framing systems comprising the existing modular building sections.
  - Select demolition of the existing library space including a portion of the foundation.
  - Select demolition of the center of the structure at the new entry ways (foundation system to remain).
  - Select demolition of Toilet C to form the entry patio (foundation system to remain).
  - Select demolition of an existing office to form a patio (foundation system to remain).
  - Select demolition of the existing kitchen in the gym area (foundation system to remain).
  - Demolition of the majority of the interior CMU partition walls.

- New Construction
  - Provide new 12” thick reinforced concrete foundation walls on new 3’-0” wide by 12” thick reinforced concrete footing to support the existing slab and new exterior wall at the extent of demolition of the existing concrete slab at the existing library and Room 8.
  - New roof framed trusses supported by wood framed breams and posts set on the existing foundation to form the new vestibule roof (to be set on the existing concrete slab and foundation).
  - Provide new structural steel framing support for the wall openings at the new patio adjacent to the new Multipurpose Room. Framing to set on the existing foundation system.
  - Provide new structural steel framing support for the wall openings at the new patio adjacent to the Office. Framing to set on the existing foundation system.
  - New main entry and patio outside of the vestibule to be set on the existing concrete slab and foundation system.
  - New wood framed (or CMU) interior partition walls.
  - New porte cochere to be wood framed, set on new cast-in-place concrete piers and footings.

Option 3 – Partial Building Remodel and Demolition

Option 3 consists of a partial building demolition and a remodel of the existing spaces. A new expanded gymnasium will be constructed attached to the portion of the existing framing to remain.

- The structural work in this option includes:
- Demolition:
    - Full demolition of the foundation and wood framing systems comprising the existing modular building sections.
    - Demolition of the gymnasium area and approximately 70% of the existing school section (foundation framing systems)
    - Select demolition of the remaining of the interior CMU partition walls.

- New Construction
    - Provide new 12” thick reinforced concrete foundation walls on new 3’-0” wide by 12” thick reinforced concrete footings at the demolition lines (main building and gymnasium sides) to support the remaining concrete slab and framing systems above.
    - New wood framed (or CMU) interior partition walls.
    - New cast-in-place concrete foundation system with a concrete slab-on grade for the new gymnasium.
    - New pre-engineered metal building for the new gymnasium area to be set on the new foundation system.

Concept Design Narrative – MEPFP

24 Old Oyster Road, Cotuit, Massachusetts

April 11, 2025

The following system outlines the Mechanical, Electrical, Plumbing and Fire Protection MEPFP scope of work associated with the existing building located at 140 Old Oyster Rd, Cotuit, MA.

The existing building was constructed in 1955 and is approximately 20,000 square feet (SF) on the first floor, in addition to a partial basement area of approximately 1,000 SF. The first floor consists of a concrete slab supported by piers, allowing for the majority of the mechanical and plumbing systems to be routed throughout the crawlspace. The facility was originally conditioned by an oil-fired, steam boiler system that is no longer operational. The exterior 10,000 gallon underground storage tank that served the boiler was demolished in 2023 and the existing facility has not been heated for the past several years. There is an abandoned dedicated septic tank and leach field system located at the rear of the building.

All Mechanical, Electrical, Plumbing and Fire Protection systems shall comply with the 10th Edition 780 CMR, Local and Federal codes as required. The following outline is provided as a high-level overview based on anticipated envelope improvements to meet code minimum performance requirements. System sizes and capacities are subject to change based on final program layouts, occupancy rates and R-Value assemblies.

Option 1:

Option-1 consists of the demolition and removal of the existing building, as well as the removal of associated systems and site utility connections.

Mechanical
The existing mechanical systems shall be demolished throughout the building. All oil-fire boiler burner assemblies and existing interior oil piping shall be legally disposed of per local, state and federal regulations. Existing steam, condensate and distribution piping that has been insulated with asbestos containing materials shall be legally abated and disposed of per local, state and federal regulations.

Electrical
The existing electrical systems shall be cut, cap and made safe for removal and legal disposal throughout the building. The EC shall coordinate with the Utility and Owner's representative to coordinate the utility disconnect and removal of buried power from the utility pole to the building's existing service. All existing electrical, fire alarm, security, tel-data and AV systems are to be demolished and legally disposed.

Plumbing
The existing plumbing systems shall be demolished throughout the building. The existing 2" cold water service shall be shut-off and disconnected the street. All interior cold water and hot water distribution piping that has been insulated with asbestos containing materials shall be legally abated and disposed of per local, state and federal regulations.

Fire Protection
There is no fire protection scope associated with Option-1.

Option 2:

Option-2 consists of the demolition and removal of the existing modular addition building, and the renovation of approximately 14,750SF of the existing structure to repurpose the facility into a Community Center and Senior Center. The community center includes modifications to the existing gymnasium to provide a new multi-purpose room, modifications to the existing bathrooms as well as supporting program and office spaces. The senior center consists of a multi-purpose/dining area with a commercial kitchen, renovated bathrooms, as well as library, office and support program spaces. The proposed building would include a common vestibule to serve both the community and senior center.

Mechanical
The existing mechanical systems shall be demolished throughout the building. All oil-fire boiler burner assemblies and existing interior oil piping shall be legally disposed of per local, state and federal regulations. Existing steam, condensate and distribution piping that has been insulated with asbestos containing materials shall be legally abated and disposed of per local, state and federal regulations.

The renovated spaces shall be provided with new mechanical systems throughout the building. with all new, electrically operated Air Source Heat Pump systems to serve approximately 14,750SF of conditioned space.

Gymnasium/Multipurpose Room: Community Center
- (1) 10 Ton VRF Heat Pump system to serve the Gym/Multi-purpose Room.
- (2) 5 Ton Ducted Fan Coil Units with exposed, double-wall, spiral ductwork to serve the gym/multipurpose room.
- Provide 1,500 CFM Energy Recovery Ventilator (ERV) to serve Gymnasium. System size to be confirmed based on final occupancy loads.

Dining/Multipurpose Room: Senior Center
- (1) 8 Ton VRF Heat Pump system to serve the Dining/Multi-purpose Room.
- (2) 4 Ton Ducted Fan Coil Units with concealed rectangular ductwork to serve the dining/multipurpose room.
- Kitchen shall be provided with dedicated hood and makeup air systems based on final appliance selections and code requirements.

Kitchen: Senior Center
- (1) 3 Ton VRF Heat Pump system to serve the Dining/Multi-purpose Room.
- (1) 3 Ton Ducted Fan Coil Unit with concealed rectangular ductwork to serve the dining/multipurpose room.

Community and Senior Center Spaces:
- (1) 20 Ton VRF Heat Pump System to serve offices, common corridors, vestibule, restrooms, library and supporting program spaces.
- (4) 1/2 Ton Ceiling Cassette Fan Coil Units to serve office spaces.
- (2) 1 Ton Ducted Fan Coil Units to serve bathroom spaces.
- (8) 2-Ton Ceiling Cassette Fan Coil Units to serve program, game, library, teen, vestibule and remaining common spaces.
- Dedicated ERV system to provide ventilation throughout all occupied spaces. Bathrooms and mechanical rooms shall be continuously exhausted, occupied spaces shall be provided with ventilation air per 2021 IMC.

Crawlspace:
- (4) 3kW Electric unit heaters to partial condition the basement mechanical rooms and adjacent crawl spaces for freeze protection of domestic systems.

General system and scope requirements:
- All mechanical refrigerant and condensate piping shall be continuously insulated per 2021 IECC. Condensate piping shall be copper with ½" minimum insulation.
- Provide dedicated ERV system supply and return ductwork to all spaces, ductwork

- All new mechanical equipment, including exterior heat pumps, interior fan coil units, ERV systems shall be provided with new system controls and building central controller.

Electrical

The existing electrical service is a 208V, 3phase, 4 Wire service with a main switchboard rating of 600A. The existing service is not likely to be sufficient to power the new mechanical and plumbing systems, further evaluation is needed to determine the final new service requirements. The following summary outline is based on the requirement for a new service to be provided to the facility.

The proposed building is to be provided with all new electrical power wiring, conduit, boxes, devices, breakers, disconnects and associated system appurtenances to power new mechanical and plumbing equipment connections as required. All existing receptacle boxes and wiring are to be demolished and replaced with new based on the new partition layouts. Electrical receptacles shall be provided every 6'-0" minimum, all receptacle placement shall comply with the Massachusetts Electric Code for quantity and location. All receptacles shall be the tamper-resistant type. Ground-fault protected receptacles will be placed at all sinks, bathrooms, kitchens, indoor wet and damp locations, basements, crawlspaces, and outdoor locations. Provide (2) tel-data connections at each office, entry/vestibules, multi-purpose and program space, all other rooms shall be provided with a minimum of (1) tel-data connection.

In kitchens, electrical outlets will be placed at all kitchen equipment. Kitchen countertop receptacles will be placed no farther than 48 inches apart, so that no point on the countertop is more than 24 inches away from a receptacle. Any countertop 12 inches wide or more will have an outlet on the wall behind the countertop. New appliance locations will receive dedicated circuits for safety and to meet power requirements. All new receptacle locations will be served with new branch circuit wiring to suit power requirements.

The building shall be provided with all new LED lighting systems throughout the facility as well as exterior side-wall or ceiling mounted lighting at the exterior patios and entry areas. New lighting controls shall be provided to meet 2021 IECC, state and federal energy standards as required.

Fire Alarm systems are to be fully demolished and replaced with a system throughout the facility as required. All spaces throughout the crawl-space, first floor and attic shall be provided with coverage per NFPA-72, local and State regulations.

The fire alarm system for the facility shall be an addressable microprocessor-based fire alarm system networked to the campus fire alarm system with system cabinets, power supplies, micro-controller, keyboard display, LED display, batteries, and peripheral devices etc. and monitored by the local fire department and a UL listed Central Station.

The main control panel shall be a solid-state, addressable, microprocessor-based, modular fire alarm control panel. The control panel shall communicate with all peripheral initiating devices and each initiating device shall report to the control panel with an individual device point number and message.

Plumbing

The existing plumbing systems shall be demolished throughout the building as outlined within option-1. Based on the age and condition and proposed layouts, it is assumed that the facility will be provided with all new plumbing systems including; plumbing fixtures, sanitary waste and vent piping, domestic cold, hot and recirculation distribution piping, grease waste interceptor to serve the kitchen fixtures, new domestic hot water heating systems as well as new dedicated septic system on site.

Plumbing system summary:

- (8) Wall-mounted, ADA/MAAB compliant water-closets with sensor flush-valves.
- (8) Lavatory sinks
- (12) Floor Drains, 2/bathroom, 1 Mechanical, 3 Kitchen
- (1) 120 Gallon Heat Pump Hot water heater (sizing to vary based on kitchen requirements)
- (1) Domestic hot water recirculation pump
- (2) Bottle Fill / Fountain fixtures
- All Cold/Hot/Recirculation piping is to be copper piping per MA 248 and shall be continuously insulated per 2021 IECC.
- All sanitary waste and vent shall be cast-iron and copper as required. All plumbing systems and supports shall be installed per MA 248.
- Kitchen fixtures shall be provided with a dedicated above-floor grease interceptor, provide new dedicated secondary waste exit from kitchen to septic tank.

Fire Protection
The building shall be provided with a NFPA-13 compliant sprinkler system throughout the lower crawl-space, first floor and attic spaces. A new 6" service from the street shall be provided, with a double-check valve, drains and fire department connections per local regulations and in accordance with NFPA-13 and NFPA-14.

The lower level crawl space spaces shall be provided with dedicated dry-system and zone control valve assembly. The system shall be provided with the associated air compressor, control wiring and system assemblies as required and shall be located within a new fire service room. A dedicated dry-system valve shall be provided to serve the attic spaces.

The fire protection system coverage shall be based on Light Hazard, 0.10 gpm/SF coverage for all program, restroom, and common public spaces. Mechanical rooms and the commercial kitchen space shall be based on Ordinary Hazard 1, 0.15gpm/SF.

Sprinklers within common spaces, corridors, office and supporting program spaces with 2x2 Act ceilings shall be based on concealed pendant sprinkler head with 5.6 K-Factor. Crawlspace sprinkler shall be based on 8.0 K-Factor dry heads and shall be provided with cages. Sprinklers within crawlspace and attic spaces shall be fast-response 8.0 K-factor, shields/deflectors shall be provided based on orientation and location.

Option 3:

Option-3 consists of the demolition and removal of the existing modular addition building, as well as partial demolition and renovation of the original structure to provide approximately 10,750SF. In this option the gymnasium would be renovated and increased to approximately 6,500 SF. The remaining existing structure would be renovated to accommodate offices, bathrooms as well as supporting program spaces. Based on the attic and crawlspace spaces, we have assumed that this option will be required to be provided with Fire Suppression sprinkler coverage throughout the facility.

Mechanical
The existing mechanical systems shall be demolished throughout the building. All oil-fire boiler burner assemblies and existing interior oil piping shall be legally disposed of per local, state and federal regulations. Existing steam, condensate and distribution piping that has been insulated with asbestos containing materials shall be legally abated and disposed of per local, state and federal regulations.

The renovated spaces shall be provided with new mechanical systems throughout the building. with all new, electrically operated Air Source Heat Pump systems to serve approximately 10,500SF of conditioned space.

Gymnasium:
- (1) 20 Ton packaged RTU mounted at grade.
- RTU system to be provided with exposed, double-wall, spiral ductwork

Common and Office Spaces:
- (1) 12 Ton VRF Heat Pump System to serve offices, common corridors, restrooms, library and supporting program spaces.
- (1) 1 Ton Ducted Fan Coil Units to serve bathroom spaces.
- (3) 1 Ton Ceiling Cassette Fan Coil Units to serve common corridors.
- (3) 2 Ton Ceiling Cassette Fan Coil Units to serve program, game, library, teen, vestibule and remaining common spaces.
- Dedicated ERV system to provide ventilation throughout all occupied spaces. Bathrooms and mechanical rooms shall be continuously exhausted, occupied spaces shall be provided with ventilation air per 2021 IMC.

Crawlspace:
- (4) 3kW Electric unit heaters to partial condition the basement mechanical rooms and adjacent crawl spaces for freeze protection of domestic systems.

General system and scope requirements:
- All mechanical refrigerant and condensate piping shall be continuously insulated per 2021 IECC. Condensate piping shall be copper with ½" minimum insulation.
- Provide dedicated ERV system supply and return ductwork to all spaces, ductwork
- All new mechanical equipment, including exterior heat pumps, interior fan coil units, ERV systems shall be provided with new system controls and building central controller.

Electrical

The existing electrical service is a 208V, 3phase, 4 Wire service with a main switchboard rating of 600A. The existing service is not likely to be sufficient to power the new mechanical and plumbing systems. Further evaluation is needed to determine the final new service requirements. The following summary outline is based on the requirement for a new service to be provided to the facility.

The proposed building is to be provided with all new electrical power wiring, conduit, boxes, devices, breakers, disconnects and associated system appurtenances to power new mechanical and plumbing equipment connections as required. All existing receptacle boxes and wiring are to be demolished and replaced with new based on the new partition layouts. Electrical receptacles shall be provided every 6'-0" minimum, all receptacle placement shall comply with the Massachusetts Electric Code for quantity and location. All receptacles shall be the tamper-resistant type. Ground-fault protected receptacles will be placed at all sinks, bathrooms, kitchens, indoor wet and damp locations, basements, crawlspaces, and outdoor locations. Provide (2) tel-data connections at each office, entry/vestibules, multi-purpose and program space, all other rooms shall be provided with a minimum of (1) tel-data connection.

The building shall be provided with all new LED lighting systems throughout the facility as well as exterior side-wall or ceiling mounted lighting at the exterior patios and entry areas. New lighting controls shall be provided to meet 2021 IECC, state and federal energy standards as required.

Fire Alarm systems are to be fully demolished and replaced with a system throughout the facility as required. All spaces throughout the crawl-space, first floor and attic shall be provided with coverage per NFPA-72, local and State regulations.

The fire alarm system for the facility shall be an addressable microprocessor-based fire alarm system networked to the campus fire alarm system with system cabinets, power supplies, micro-controller, keyboard display, LED display, batteries, and peripheral devices etc. and monitored by the local fire department and a UL listed Central Station.

The main control panel shall be a solid-state, addressable, microprocessor-based, modular fire alarm control panel. The control panel shall communicate with all peripheral initiating devices and each initiating device shall report to the control panel with an individual device point number and message.

Plumbing
The existing plumbing systems shall be demolished throughout the building as outlined within option-1. Based on the age and condition and proposed layouts, it is assumed that the facility will be provided with all new plumbing systems including; plumbing fixtures, sanitary waste and vent piping, domestic cold, hot and recirculation distribution piping, grease waste interceptor to serve the kitchen fixtures, new domestic hot water heating systems as well as new dedicated septic system on site.

Plumbing scope to include;

- (4) Wall-mounted, ADA/MAAB compliant water-closets with sensor flush-valves.
- (4) Lavatory sinks
- (3) Floor Drains, 2/bathroom, 1 Mechanical
- (1) 40 Gallon Heat Pump Hot water heater
- (1) Domestic hot water recirculation pump
- (2) Bottle Fill / Fountain fixtures
- All Cold/Hot/Recirculation piping is to be copper piping per MA 248 and shall be continuously insulated per 2021 IECC.
- All sanitary waste and vent shall be cast-iron and copper as required. All plumbing systems and supports shall be installed per MA 248.

Fire Protection
The building shall be provided with a NFPA-13 compliant sprinkler system throughout the lower crawl-space, first floor and attic spaces. A new 6" service from the street shall be provided, with a double-check valve, drains and fire department connections per local regulations and in accordance with NFPA-13 and NFPA-24.

The lower level crawl space spaces shall be provided with dedicated dry-system control valve assembly. The system shall be provided with the associated air compressor, control wiring and system assemblies as required and shall be located within a new fire service room. A dedicated dry-system control valve shall be provided to serve the attic spaces.

The fire protection system coverage shall be based on Light Hazard, 0.10 gpm/SF coverage for all program, restroom, and common public spaces. Mechanical rooms and the commercial kitchen space shall be based on Ordinary Hazard 1, 0.15gpm/SF.

Sprinklers within common spaces, corridors, office and supporting program spaces with 2x2 Act ceilings shall be based on concealed pendant sprinkler head with 5.6 K-Factor. Crawlspace sprinkler shall be based on 8.0 K-Factor dry heads and shall be provided with cages. Sprinklers within crawlspace and attic spaces shall be fast-response 8.0 K-factor, shields/deflectors shall be provided based on orientation and location.