

# Fire Station Needs Committee Report & Recommendation

Presentation to the  
Prudential Committee  
February 13, 2024

Prepared By: S Rizzo

2/2/24 Revision 2.0 Master



# Needs Committee Members

The Needs Committee Participants Are:

- *William A. Jones, III, Chair of the Prudential Committee*
- *Christopher A. Beal, Fire Chief*
- *Kevin Brailey, Deputy Fire Chief*
- *Ryan Jones, Union Representative*
- *Five Voter/Volunteers from the District*
  - *Peggy Bernard*
  - *Peter Bergin*
  - *Bill Quinn*
  - *Brian Hickey*
  - *Steve Rizzo*

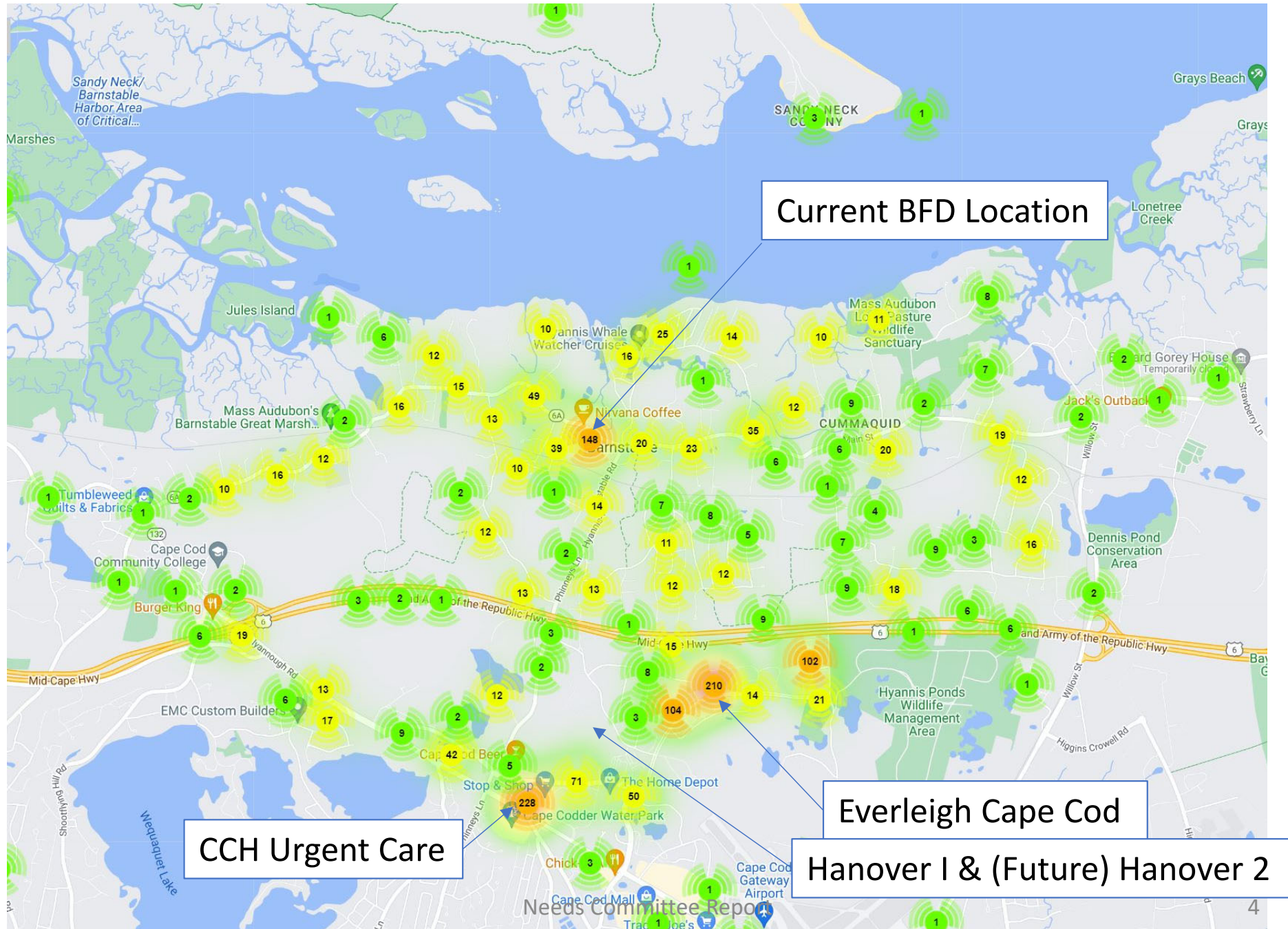
# Needs Committee Purpose

The Needs Committee was formed and tasked by the Prudential Committee for the purpose of evaluating the current Fire Station Facility. This was undertaken based on recommendations of an outside consultant Municipal Resources Inc., in a study conducted in **2021**, which concluded in part:

***“As is the case with many communities, the Barnstable Fire Department's operations have evolved over the past several decades, and as a result, so has its facility and support needs. Looking ahead, consideration should be given to making a capital investment in a new fire department facility. ... MRI believes that this investment will be necessary for the department to undertake within the next five to ten years.”***

In addition to this, call volumes have been increasing and the density of calls has been shifting. Call response standards for **EMS** and **Fire Service** are less than **6 minutes** and **8 minutes**, respectively. With the current multiple apartment buildings in the industrial park and the construction of the new Hanover Hyannis I apartments the call demand in the area south of Route 6 will continue this growth and shift. Further development in the Wilkins Road area will compound this demand pushing a move of the station.

# Demand Map Call Incidents by Location 2023





# The Needs Committee Evaluated 4 Options

1. Renovate the Existing Fire Station
2. Build and staff a Satellite fire station within the district
3. Create Municipal Building combining Fire Department, Water Department and District Offices into One Building
4. Build a New Fire Station and then Renovate the current Fire Station for Water Department and District Offices, including a Community/Hearing Room.

# Option 1 – Renovate The Existing Fire Station

1. The fire station currently lacks sufficient space for vehicle maintenance.
2. The apparatus bays are too narrow with insufficient overhead. Adaptations add approximately \$60,000 to the cost of new apparatus to make the equipment fit.
3. The current facility does not have sufficient bunk space, lockers, training, fitness, or storage. Expanding call demand will increase staffing requirements.
4. The upper floors of the building are not ADA compliant.
5. There is insufficient space to accommodate all the Fire Apparatus. The fleet needs to be rotated inside and outside depending on the weather. Vehicles left outside year-round are deteriorating at a faster rate and keeping batteries charged is a problem.
6. There is no shop space for equipment maintenance, turnout gear is stored in the apparatus bay, and storage space scattered through the building is inadequate.
7. The spaces in the station are not arranged based on hazard risk to the health of the Firefighters.
8. Decontamination facilities are too small.
9. The current station is in a flood zone.

**The current site is too small to accommodate a structure large enough to house the station now. With expected call volume increases over the next few years the demand for space and new equipment will only grow.**

## Option 2 - Build and staff a second “satellite” fire station within the district

1. A second station would satisfy the increasing call demand.
2. A second station will require 12-14 additional Firefighter/EMT’s for proper staffing.
3. The construction cost of the new satellite station is estimated to be approximately \$12.4M, plus fees and escalation.
4. Renovations to the existing station to correct deficiencies would be approximately \$3.0M and would still not solve all the problems (i.e., modifications to apparatus to fit the height, health & safety, etc.)
5. The increase in staffing adds \$1.5 M in annual operating cost. Over 20 years this amounts to \$30 M (in today’s dollars)
6. Requires land to be purchased. We estimate the cost of land to be \$600,000.

**Adding a Satellite facility would be a great burden on the taxpayers of the District that is continuing. The Construction Cost savings by building a smaller building would not offset the added continuing staffing burden.**

# Option 3 - Build a new Combined Municipal Building Housing the Fire Dept., Water Dept. & District Offices

1. Staffing remains the same as current with growth as per demand
2. Consolidates the District Functions in one location.
3. Estimated Project Cost would be **\$23.6M** in 2024 dollars, plus fees and escalation.
4. Requires land to be purchased. The combined building size makes it too big to fit on existing BFD owned land because of the amount of parking such a building would require.
5. Makes the existing Fire Station available for sale.

**Properties Studied.** These properties located such that the call distances within the district were maintained as close as possible to the existing call response times

- A. 1660 Phinney's Lane - Not willing to donate or sell
- B. 1841 Phinney's Lane – BFD Owned, but available area too small for **Option 3**
- C. 1865 Phinney's Lane - Thinking about selling but unsure

**Other Properties were discussed. Each would not be within call response distance and time standards and therefore were considered non-viable.**

**The purchase and development of land, particularly in locations within the call time response standard, is difficult in the current real estate market.**



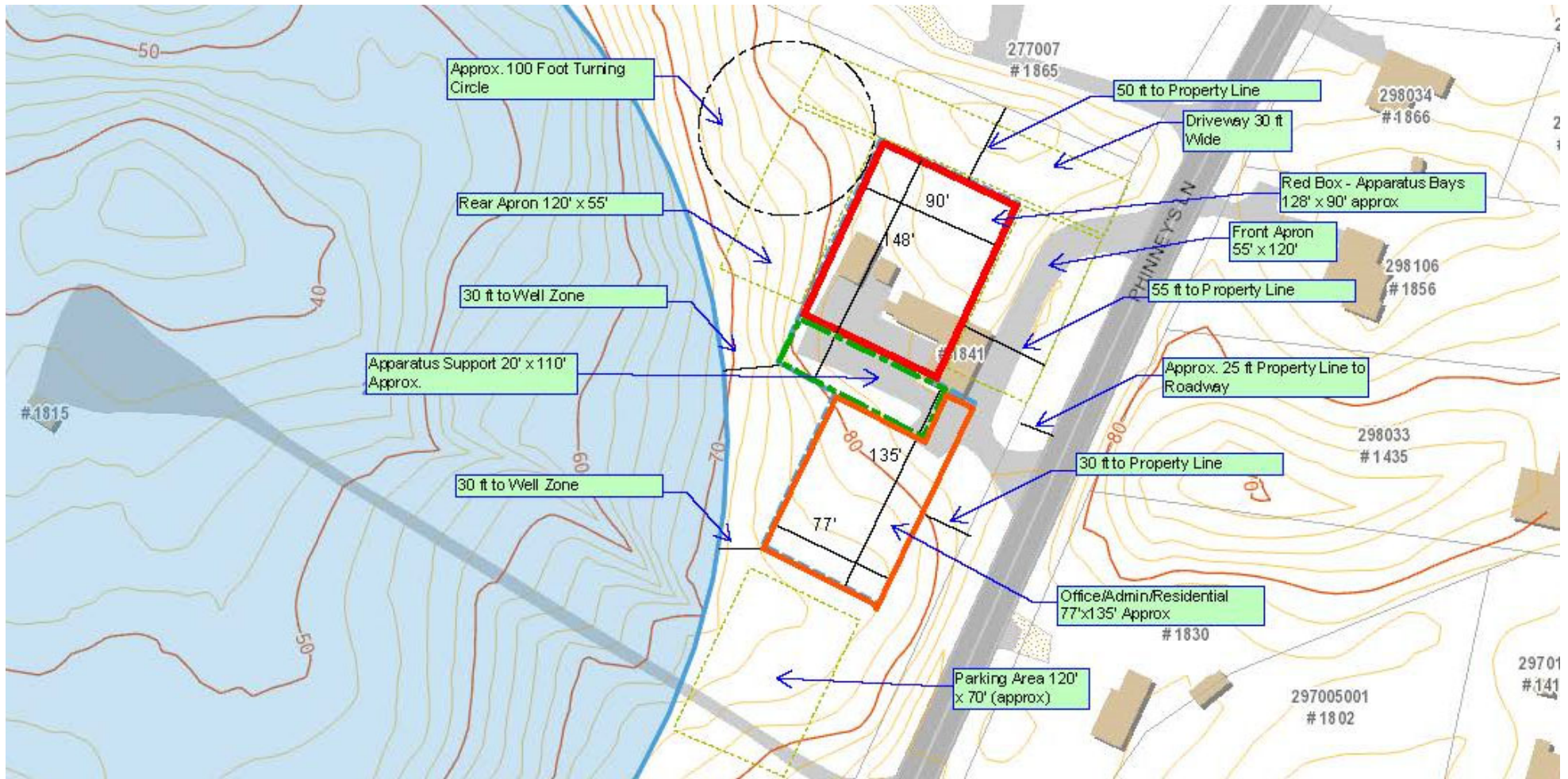
## Option 4 - Build a new Fire Station. Relocate Water Dept. & District Offices to the Existing Building & Renovate

1. Staffing remains the same as current with growth as per demand
2. Maintains a District presence in Barnstable Village.
3. Estimated Project Cost (not including renovation to existing fire station) would be **\$18.6M** in 2024 dollars, plus fees and escalation.
4. Renovations to the existing fire station for the District Office are estimated at **\$2.1M** in 2024 dollars, plus fees and escalation.
5. The smaller fire station footprint will fit on existing Water Department Land at 1841 Phinney's Lane.
6. Space in the Existing Fire Station is such that a Community Room can be added for public hearings and rental.
7. Requires a temporary move of the Water Department to construct the new Fire Station. Possibly temporary office trailers or rental space.
8. Requires DEP approval due to proximity to Well #1.
9. Requires approval of construction on "Protected Land" (Article 97)

**No new land purchase required. Overall, \$4.0M less in cost.**

## Option 4 - Build a new Fire Station. Relocate Water Dept. & District Offices to the Existing Fire Station & Renovate

Test fit of New Fire Station on Existing Phinney's Lane Property  
Approximately 22,675 Square Feet Footprint Area



*Might be possible to move the District Offices into the “old” Fire Station and renovate around them in Phases.*

# Needs Committee Recommendation

Needs Committee Recommends that **Option 4** be adopted. That is the Barnstable Fire District to pursue the Construction of a New Fire Station at 1841 Phinney's Lane, and once constructed, relocate the current Water Department and District Offices to the existing building at 3249 Main Street.

1. The recommendation is based on the committee's research, interviews with the parties involved, site visits to newly constructed fire stations and projections of future requirements.
2. The proposed site is central to the district and adjusts the station location for anticipated growth in call volumes & response times
3. The new facility will allow for growth in required staff space, indoor apparatus storage, training area and achieve ADA compliance.
4. The new facility will allow for enhanced Fire Fighter safety by arranging spaces and processes according to the latest standards.
5. The Water Department & District Offices move into the Village maintains a presence in the heart of the community.
6. The space available in the "old" fire station allows for the creation of a Community/Hearing Room for District meetings and elections.

## The remaining pages are backup data containing:

1. The Preliminary Space Program use to determine the space requirements of each District Department. These were created with multiple interviews of the current staff of each department and modified based on tours of recently built fire stations.
2. Cost Estimate Tables for Options 3, New Municipal Building and Option 4, New Fire Station with relocation of Water Department and District Offices to the Village.
3. Data Base of Recent Fire Station and Combined Municipal Building costs in New York, Connecticut and Massachusetts. The Information is from Tables created by Mitchell Associates Architects and Johnson Roberts Associates Architects acquired via Internet search of actual Project Costs at Completion. All cost data was then escalated to 2024 dollars at the rate of 8% per year for 2020 through 2022 and 5% per year for each year after.

# Analysis of Space Needs and Estimated Costs

Preliminary Space Program - Barnstable Fire Department & District Offices

Barnstable Fire District, Barnstable Village,  
Massachusetts

1/17/2024

Module		# Occupants	# Rooms Required	Multiplier	Required	Comments
				SF	SF	
<b>Maintenance &amp; Apparatus Areas</b>				<b>12320</b>	<b>12320</b>	<b>Includes Clearance around Equipment</b>
Apparatus Bays	A203 ALS Ambulance			600		
	A204 ALS Ambulance			600		
	L206 Ladder			1200		
	E202 Engine			1000		
	E205 Engine			1000		
	Future Engine			1000		
	Antique Fire Truck			600		
	C212 Ford Explorer			400		
	P200 Ford F250			400		
	F211 High Water Vehicle			740		
	M217 11' RIB			300		
	M219 Fire Boat			640		
	M218 18' Boston Whaler			440		
	SN Trailer (Sandy Neck)			0		Located on Sandy Neck in event of fire
	Training Bay			1300		
Apparatus Maintenance Bay			1500			
Future ALS Ambulance			600			



# Analysis of Space Needs and Estimated Costs

Preliminary Space Program - Barnstable Fire Department & District Offices

Barnstable Fire District, Barnstable Village,  
Massachusetts

1/17/2024 Page 2

Module		# Occupants	# Rooms Required	Multiplier	Required SF	Comments
				SF	SF	
Apparatus Support	PPE Gear Storage	32	32	10	320	
	Spare PPE gear Storage		1	200	200	
	Hose Storage		1	100	100	
	SCBA Maintenance Room		1	200	200	Includes Compressor
	Work Room / Equipment Maintenance		1	120	120	
	Equipemnt Wash / Disinfection		1	150	150	
	Infectious Control		1	160	160	
	Protective Clothing Laundry		1	300	300	
	EMT Storage		1	150	150	
	HAZMAT / CBRNE Equipment Storage		1	120	120	
	Vehicle Maintenance / Storage		1	200	200	
	Vehicle Maintenance Office		1	100	100	
	Vehicle Maintenance Equipment Storage		1	100	100	
<b>Subtotal Maintenance &amp; Apparatus Area:</b>					<b>14,540</b>	

# Analysis of Space Needs and Estimated Costs

Preliminary Space Program - Barnstable Fire Department & District Offices

Barnstable Fire District, Barnstable Village,  
Massachusetts

1/17/2024 Page 3

Module		# Occupants	# Rooms Required	Multiplier	Required SF	Comments
				SF	SF	
<b>Day Room and Residential Area</b>						
Day Spaces	Storage		1	150	150	
	Hotelling Stations (Cubicles)		5	40	200	
	Kitchen		1	300	300	
Dorm Spaces	Dorm Rooms		7	140	980	
Restrooms	Bathrooms / Showers / Changing - Female		1	160	160	
	Lavatories					
	Water Closets					
	Showers					
	Lockers		8			
	Bathrooms / Showers / Changing - Male		1	300	300	
	Lavatories					
	Water Closets					
	Showers					
Lockers		32				
Laundry	Laundry Room		1	300	300	
	Custodial Closet		1	40	40	
Fitness Room	Fitness Room		1	900	900	
Recreation	Recreation Room		1	1000	1000	
	Outdoor Covered Patio		1	300	300	
<b>Sutotal Day Room &amp; Residential Areas:</b>					<b>4,630</b>	

# Analysis of Space Needs and Estimated Costs

Preliminary Space Program - Barnstable Fire Department & District Offices

Barnstable Fire District, Barnstable Village,  
Massachusetts

1/17/2024 Page 4

Module		# Occupants	# Rooms Required	Multiplier	Required SF	Comments
				SF	SF	
<b>Training &amp; Administrative Areas</b>						
Lobby	Main Entry Vestibule		1	75	75	
	Lobby Area		1	100	100	
	Public Toilet (ADA - Compliant Unisex)		1	75	75	
Admin and Offices	Administrative Assistant Office (the Boss)		1	150	150	
	Station Officer's Office / Watch Desk		1	120	120	
	Fire Chief's Office		1	150	150	
	Chief's Conference Room		1	120	120	Could be part of Chief's Office
	Deputy Fire Chief's Office		1	200	200	Including Conference Table
	Inspector's Office / Workstation		1	120	120	
	EMS Office		1	120	120	
	Safety Office		1	120	120	
	Union Representative Office		1	100	100	
	Captain's Dorm Room		1	108	108	
	Chief's / Supervisors Bathroom		1	75	75	
	Leutenant's Dorm Room		1	108	108	
	Admin & Training Restrooms		2	75	150	
	Female Lavatories					
	Female Water Closets					
	Male Lavatories					
	Male Water Closets / Urinals					
	Admin & Training Kitchenette		1	75	75	
Custodial Closet		1	50	50		
General Admin Storage and Records		1	300	300	25 full height lateral files for records	

## Analysis of Space Needs and Estimated Costs

Preliminary Space Program - Barnstable Fire Department & District Offices

Barnstable Fire District, Barnstable Village,  
Massachusetts

1/17/2024 Page 5

Module		# Occupants	# Rooms Required	Multiplier	Required SF	Comments
				SF	SF	
Training	Training Officer Office		1	100	100	
	Training Room		1	600	600	
	Training Room Storage		1	300	300	
	Computer Training / Testing Room		1	100	100	
Generator	Inside Generator Room		1	500	500	Inside for security purposes.
Telecom	MDF / IDF Room		1	150	150	
<b>Subtotal Training and Admin Areas:</b>					<b>4,066</b>	
<b>Total Fire Station Square Footage requirements:</b>					<b>23,236</b>	

# Analysis of Space Needs and Estimated Costs

## Preliminary Space Program - Barnstable Fire Department & District Offices

Barnstable Fire District, Barnstable Village,  
Massachusetts

1/17/2024 Page 6

Module		# Occupants	# Rooms Required	Multiplier	Required	Comments
				SF	SF	
<b>Water Department &amp; District Offices Space Requirements</b>						
District Offices	District Treasurer Office		1	150	150	
	Records Storage		1	150	150	
	Prudential Chair Office		1	200	200	Includes Conference Space
	Committee(s) Meeting Room		1	300	300	
	IT Closet		1	150	150	
	Restrooms					
	Female		1	60	60	
Male		1	60	60		
Water Department	Entry Vestibule		1	50	50	
	Lobby		1	100	100	
	Administrative Assistant		1	100	100	
	Billing Office		1	150	150	
	Records Room		1	150	150	
	Superintendent's Office		1	200	200	Includes Conference Space
	Assistant Superintendent Office		1	150	150	
	Elevator and Lobby		1	200	200	
	Restrooms					
	Female		1	75	75	
	Male		1	75	75	
Water System Service & Maintenance	Maintenance Truck Bays		3	200	600	
	System Maintenance Tool Storage		1	100	100	
	System Emergency Repair Storage		1	200	200	
	Meter Testing Room & Workshop		1	200	200	
	Service Staff Locker Room		1	150	150	
	Service Restrooms / Showers				0	
	Female		1	100	100	
	Male		1	100	100	
Other Spaces	Public Meeting Room		1	2000	2000	Up to 250 People (Auditorium Style Seating)
	Serving Kitchen for Meeting Space		1	200	200	
	Restrooms for Meeting Space		2	150	300	
<b>Subtotal Water Department &amp; District Offices</b>					6,270	



# Option 3 – Estimated Costs

Combined Fire Department, Water Department  
& District Offices  
29,506 Square Feet

		Estimated Project Cost:	\$23,604,800	Combined Fire and District Building
		A/E Fee:	1,770,360	7.5% of Project Costs
		OPM Fee:	708,144	3% of Project Cost
		Land Aquisition Costs:	600,000	
		Escalation	1,180,240	5% of Project Cost
		<b>Project Costs</b>	<b>\$27,863,544</b>	

This cost per square foot is based on the average of 24 completed and 26 in progress projects in MA, CT, NY escalated to 2024. The range of costs was from \$551/SF to \$1100/SF.	800	Estimated Cost per Square Foot Year 2024
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# Option 4 – Estimated Costs

New Fire Station 23,236 Square Feet, Renovations to Existing 10,300 Square Feet

<b>Fire Station Only</b>				
Estimated Project Cost:		\$18,588,800	Fire Station Only	
A/E Fee:		1,394,160	7.5% of Project Costs	
OPM Fee:		557,664	3% of Project Cost	
Escalation:		929,440	5% of Project Cost	
<b>Project Costs</b>		<b>\$21,470,064</b>		

<b>Renovation of Existing Fire House</b>				
Estimated Project Cost:		2,110,000	10,300 SF	
A/E Fee:		158,250	7.5% of Project Costs	
OPM Fee:		63,300	3% of Project Cost	
Escalation:		105,500	5% of Project Cost	
<b>Project Costs</b>		<b>2,437,050</b>		

This cost per square foot is based on the average of 24 completed and 26 in progress projects in MA, CT, NY escalated to 2024. The range of costs was from \$551/SF to \$1100/SF.	800	Estimated Cost per Square Foot Year 2024
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# Cost Data Source Page 1 - Completed Fire Stations and/or Municipal Buildings

Built or Under Construction	Completion Year / Projected Completion	Cost	Area	\$/sq ft	Assumed Build Completion Year	Escalated \$/sq ft	Escalated w/o Outliers (1)
Dracut Fire Station	2020	\$ 5,200,000	8,496	\$ 612	2024	\$ 809	\$ 809
Westwood Fire Station No 2	2017	\$ 6,800,000	11,971	\$ 568	2024	\$ 870	\$ 870
North Acton	2021	\$ 7,595,000	12,179	\$ 624	2024	\$ 786	\$ 786
Yonkers as Built (Cost includes 6,731 sq ft garage under)	2019	\$ 13,755,000	14,618	\$ 941	2024	\$ 1,383	NA
Yonkers Assumed w/o Parking Below	2019	\$ 9,755,000	14,618	\$ 667	2024	\$ 981	\$ 981
Purchase, NY Addition Only	2019	\$ 6,445,265	14,669	\$ 439	2024	\$ 646	\$ 646
West Natick (Tecton & PRA)	2020	\$ 14,072,984	17,000	\$ 828	2024	\$ 1,126	\$ 1,126
Lisbon, CT	2023	\$ 11,662,635	17,924	\$ 651	2024	\$ 703	\$ 703
Groton Fire Station	2014	\$ 5,939,000	18,550	\$ 320	2024	\$ 567	\$ 567
Boston Ladder 17	2018	\$ 12,875,000	18,600	\$ 692	2024	\$ 1009	\$ 1009
Bedford Village, NY	2021	\$ 10,301,825	20,189	\$ 510	2024	\$ 643	\$ 643
Needham Station 2	2021	\$ 12,493,280	22,204	\$ 563	2024	\$ 709	\$ 709
Walpole Fire Station	2016	\$ 9,727,000	22,305	\$ 436	2024	\$ 701	\$ 701
Nantucket, FD Addition	2019	\$ 15,928,420	22,340	\$ 713	2024	\$ 1,048	NA
Boston Fire Engine 42/Ladder 30	2019	\$ 14,600,000	23,771	\$ 614	2024	\$ 853	\$ 853
Lexington, MA (High site & remediation costs)	2022	\$ 14,500,000	26,000	\$ 558	2024	\$ 650	NA
Westborough Fire Station	2014	\$ 8,400,000	27,000	\$ 311	2024	\$ 551	\$ 551
Putnam Valley - Avg of 4 bids	2021	\$ 13,639,215	28,876	\$ 472	2024	\$ 595	\$ 595
Newton Fire Station No 2	2015	\$ 15,955,000	30,103	\$ 530	2024	\$ 895	\$ 895
Hyannis	2019	\$ 19,038,000	33,400	\$ 570	2024	\$ 838	\$ 838
Woburn, MA	2022	\$ 18,512,000	33,858	\$ 547	2024	\$ 638	\$ 638
Mansfield Fire, Police & DPW	2019	\$ 19,414,290	39,621	\$ 465	2024	\$ 683	\$ 683
Plainville Combined	2018	\$ 20,619,225	41,655	\$ 495	2024	\$ 786	\$ 786
Needham Fire & Police	2021	\$ 34,593,300	60,690	\$ 570	2024	\$ 718	\$ 718
					<b>2024</b>		
<b>Average \$/sq ft</b>						<b>\$ 799</b>	<b>\$ 765</b>

Recent Fire Station Construction Costs New York, Massachusetts and Connecticut  
 Information from Tables created by Mitchell Associates Architects and Johnson Roberts Associates Architects  
 Actual Project Costs at Completion

## Cost Data Source Page 2 – Planned and Budgeted Fire Stations and/or Municipal Bldgs.

Built or Under Construction	Completion Year / Projected Completion	Cost	Area	\$/sq ft	Assumed Build Completion Year	Escalated \$/sq ft	Escalated w/o Outliers (1)
<b>Estimates - Unbuilt</b>							
Norwich, MA (Noriko Estimate)	2019		1	\$ 519	2024	\$ 763	\$ 763
North Plymouth, MA (Noriko Estimate)	2020		1	\$ 415	2024	\$ 565	\$ 565
Hadley Fire Substation	2020	\$ 2,390,000	5,400	\$ 443	2024	\$ 602	\$ 602
Dennis, MA	2020	\$ 7,000,000	14,000	\$ 500	2024	\$ 680	\$ 680
North Brookfield Fire Headquarters	2021	\$ 7,500,000	14,782	\$ 507	2024	\$ 639	\$ 639
Hanover Study (Saccoccio Study)	2023	\$ 9,009,688	15,344	\$ 587	2024	\$ 634	\$ 634
Ashby Public Safety Complex (new & reno)	2022	\$ 6,900,000	16,000	\$ 431	2024	\$ 503	\$ 503
Ithaca, NY - East Hill Station (DD Estimate)	2024	\$ 8,702,979	16,183	\$ 538	2024	\$ 538	\$ 538
Maynard, MA	2022	\$ 10,275,000	18,000	\$ 571	2024	\$ 666	\$ 666
Greenfield (May not get built until 2023)	2022	\$ 10,100,000	19,800	\$ 510	2024	\$ 595	\$ 595
Westminster Public Safety Building	2023	\$ 17,500,000	21,500	\$ 814	2024	\$ 879	\$ 879
Millbury	2022	\$ 14,000,000	22,515	\$ 622	2024	\$ 725	\$ 725
Southbridge, MA	2024	\$ 19,629,000	26,800	\$ 732	2024	\$ 732	\$ 732
<b>Williamstown Adjusted <sup>(2)</sup></b>	<b>2024</b>	<b>\$ 18,000,000</b>	<b>27,215</b>	<b>\$ 661</b>	<b>2024</b>	<b>\$ 661</b>	<b>\$ 661</b>
<b>Williamstown</b>	<b>2024</b>	<b>\$ 19,214,600</b>	<b>27,215</b>	<b>\$ 706</b>	<b>2024</b>	<b>\$ 706</b>	<b>\$ 706</b>
Middlefield, CT (Reno & addition)	2024	\$ 20,936,258	27,831	\$ 752	2024	\$ 752	\$ 752
Northbridge Fire HQ	2022	\$ 16,700,000	27,900	\$ 599	2024	\$ 698	\$ 698
Middlefield, CT (New Construction)	2024	\$ 21,444,148	28,423	\$ 754	2024	\$ 754	\$ 754
Stoughton, MA (Dore Whittier)	2021	\$ 23,237,000	36,630	\$ 634	2024	\$ 799	\$ 799
New Rochelle - Concept Estimate	2019	\$ 17,175,600	36,700	\$ 468	2024	\$ 688	\$ 688
Hingham, MA	2024	\$ 35,448,960	49,233	\$ 720	2024	\$ 720	\$ 720
Poughkeepsie town hall/courts - Concept Estimate	2023	\$ 29,384,949	50,403	\$ 583	2024	\$ 630	\$ 630
West Haven, CT	2023	\$ 27,478,000	53,237	\$ 516	2024	\$ 557	\$ 557
Poughkeepsie fire/police - Concept Estimate	2023	\$ 43,705,176	73,208	\$ 597	2024	\$ 645	\$ 645
Somerville Public Safety Facility	2022	\$ 50,000,000	77,000	\$ 649	2024	\$ 757	\$ 757
Brockton, MA	2024	\$ 75,467,614	107,330	\$ 703	2024	\$ 703	\$ 703
Quincy, MA w/o active fire station	2021	\$ 98,000,000	130,000	\$ 754	2024	\$ 950	NA
<b>Average \$/sq ft (3)</b>						<b>\$ 677</b>	<b>\$ 677</b>

(1) The column labelled "Escalated w/o Outliers" excludes projects with abnormal cost data, such as environmental remediation

(2) For comparison purposes, the adjusted figure for Williamstown removes the cost of addressing specific site challenges and of aiming for net carbon-zero design.

(3) Average values exclude Williamstown