

**NEW FIRE STATION
NORTHBOROUGH, MA**

MAY 8, 2024

STATUS UPDATE

- Project History
- Design Development to Date
- Costs



NEW FIRE STATION PROJECT – TIMELINE - 2012 - 2021

- **2012 Annual Town Report**
 - Fire Station project placeholder in the FY2013/2014 Capital Improvement Plan to complete a limited Feasibility Study using \$75,000 in capital funds
- **10/27/2017**
 - First Fire Station Feasibility Committee meeting
- **11/29/2018**
 - Location at 61-65 West Main Street selected
- **04/22/2019**
 - Town meeting approved \$3,500,000 to purchase 10 Monroe + 61-65 West Main, Hire an owner's project manager + for design fees
- **05/25/2019 (Approximate)**
 - Negotiations begin with owner of 61-65 West Main St.
- **12/16/2020 – 04/30/2021**
 - Purchase + Sale extended 5-times
- **09/20/2022**
 - Purchase + Sales for 61-65 West Main Executed
 - ... *3.41 Years (1,274 Days) after Town meeting approval*
- **11/10/2022**
 - Purchase + Sales 10 Monroe Executed
- **03/20/2023**
 - First Fire Station Building Committee (FSBC) meeting held
- **05/20/2023**
 - Architect Selected
 - ... *4.08 years (1,489 days) after Town meeting approval*

NEW FIRE STATION PROJECT – TIMELINE – 2023 TO PRESENT

09/15/2023 – 02/28/2024

- Program Development
 - Discussions with Fire Department Leadership
 - Survey of department personnel
 - Space needs determined
- Schematic Design Phase
 - FSBC meetings
 - Joint Mtg with DRC & MPIC
 - Community Information sessions
 - Design Review Committee meetings

HKT ARCHITECTS INC. 11502015

PROGRAMMING QUESTIONNAIRE

Master Facilities Development Plan HKT Project No.: _____

Name / Title: _____

Department / Division: _____

Phone / Email: _____

Contact Complete: _____

General Information

Function: Please respond to the following questions

F1. Please describe the primary function and advise if your department is as small as possible.

F2. Identify any functions not listed below that you would like to see your department perform now and in the future before not currently being discussed by whom?

F3. Please describe how the space allocation factors affect the total area your program is provided for this function.

Room Data

Room	Area	Volume	Height	Notes
Public Safety	1000	1000	10	
Office	500	500	10	
Storage	200	200	10	
MECH	100	100	10	
Electrical	100	100	10	
Plumbing	100	100	10	
Fire Station	1000	1000	10	
Garage	1000	1000	10	
Office	500	500	10	
Storage	200	200	10	
MECH	100	100	10	
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CURRENT FIRE STATION AT 11 PIERCE STREET - HISTORY



Built in 1974 / Occupied in 1975



Designed for two full-time firefighters only working day shifts



Department did not offer ambulance service at the time



Limited sleeping facilities were incorporated



Focus was on current space needs rather than future growth

1



1973

Maxim Pumper Engine

2



1958

Ford Pumper Engine

3



1965

Ford Pumper Engine

4



1973

International Engine

5



1949

Ford Water Tanker

6



1969

GMC Rescue Truck

7

















1964

Pick-up Truck



CURRENT FIRE STATION AT 11 PIERCE STREET - CURRENT APPARATUS IN SERVICE

- | | | | | | |
|---|---|---------------------------------------|----|---|--|
| 1 |  | Engine 1 Pumper – 2 nd Due | 10 |  | Squad 4 Mini Attack / Multi-Use |
| 2 |  | Engine 2 Pumper – 1st Due | 11 |  | Car 1 Ford SUV Explorer |
| 3 |  | Engine 3 Water Tanker / Pumper | 12 |  | Car 2 Chevy SUV Tahoe |
| 4 |  | Rescue 1 Heavy Rescue / Pumper | 13 |  | Car 3 Chevy Pick-Up |
| 5 |  | Tower 1 Aerial / Pumper | 14 |  | Gator 1 John Deere ATV / UTV |
| 6 |  | Medic 1 Ram Ambulance | 15 |  | Boat 1 Rescue Boat W/Trailer/Motor |
| 7 |  | Medic 2 International Ambulance | 16 |  | All Hazards Trailer 20' x 7' |
| 8 |  | Medic 3 International Ambulance | 17 |  | Hazardous Materials Trailer 15' x 6' |
| 9 |  | Forestry 1 Off Road Brush Pumper | 18 |  | Open Space Protection Trailer 21' x 8' |

CURRENT APPARATUS IN SERVICE



CLEAN FIRE STATION CONCEPT – 5 STEPS TO SAFE + HEALTHY DESIGN

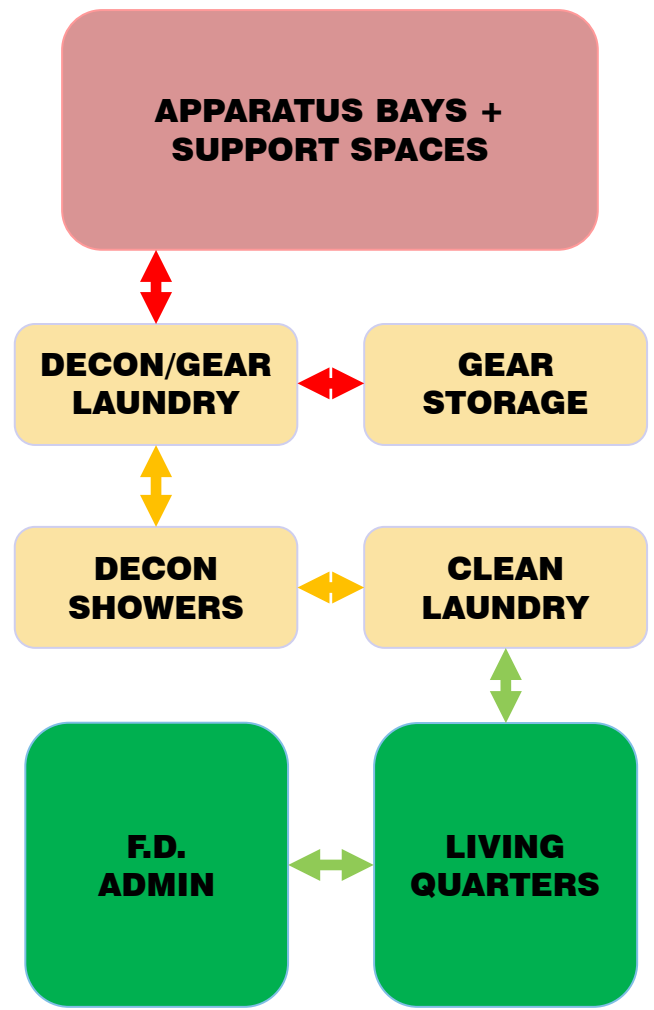
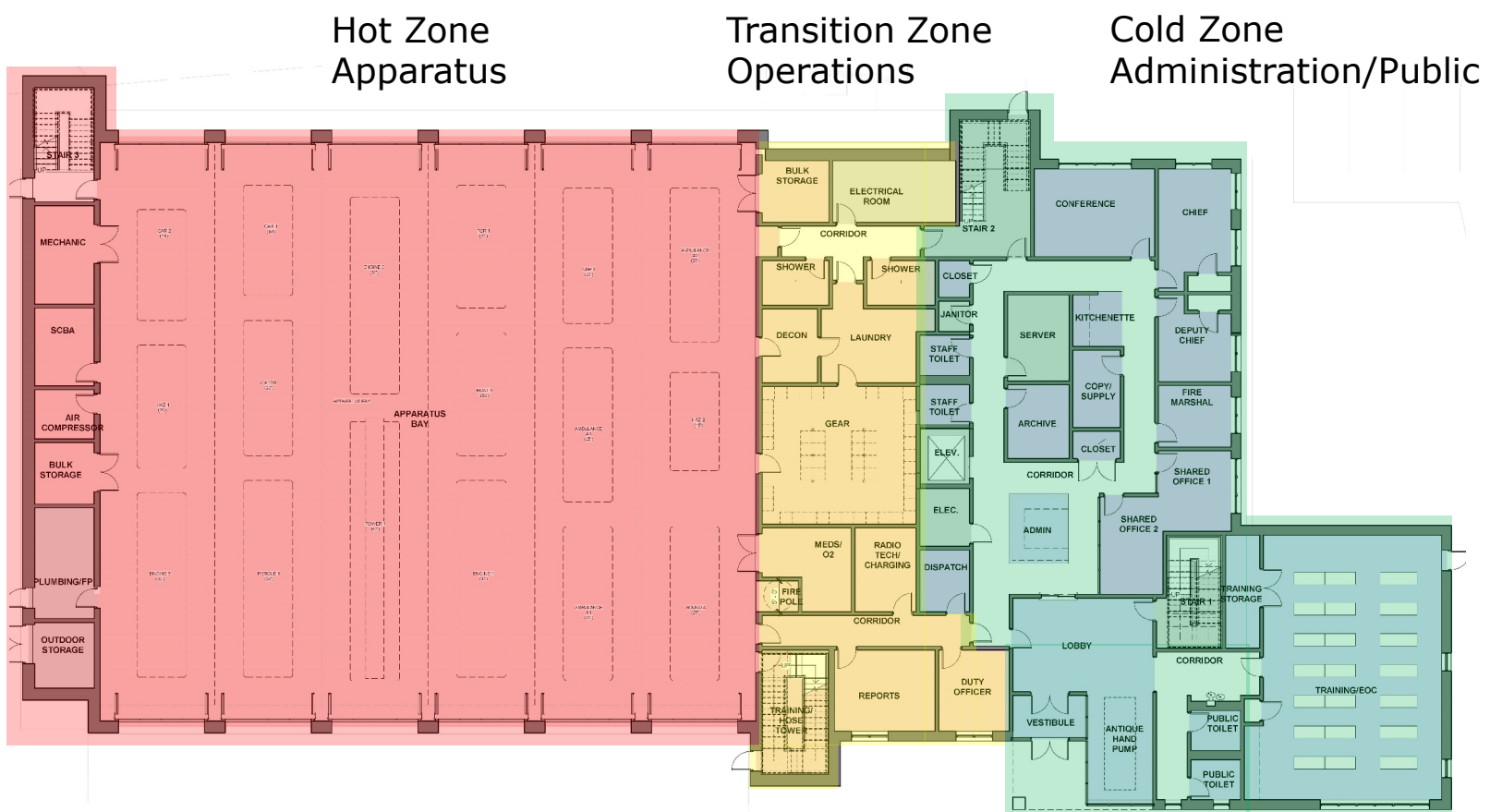
1. Read and learn about cancer-causing carcinogens in fire stations.
2. Examine decontamination procedures for personnel returning from incidents.
3. Consider healthy 'green' elements in the station.
4. Review the Hot Zone design plan and apply it to existing zones in your station.
5. Focus on the physical and mental health of personnel.

Firefighters have a 9% higher risk of being diagnosed with cancer than the general U.S. population



Firefighters have a 14% higher risk of dying from cancer than the general U.S. population.

CLEAN FIRE STATION CONCEPT – FIRST LEVEL PLANNING TO SUPPORT CONCEPT



COLD ZONE TRANSITION HOT ZONE

NEW FIRE STATION PROJECT – COMPARISON OF 2019 vs 2024

• 2019

- Feasibility Study
 - Limited research + details
- Professional site survey not part of scope
- Did not include an Elevator
- Undersized
 - Apparatus Bay
 - Building Support Spaces
- No accounting for Future Growth
- Prior to current MA Energy Code

• 2024

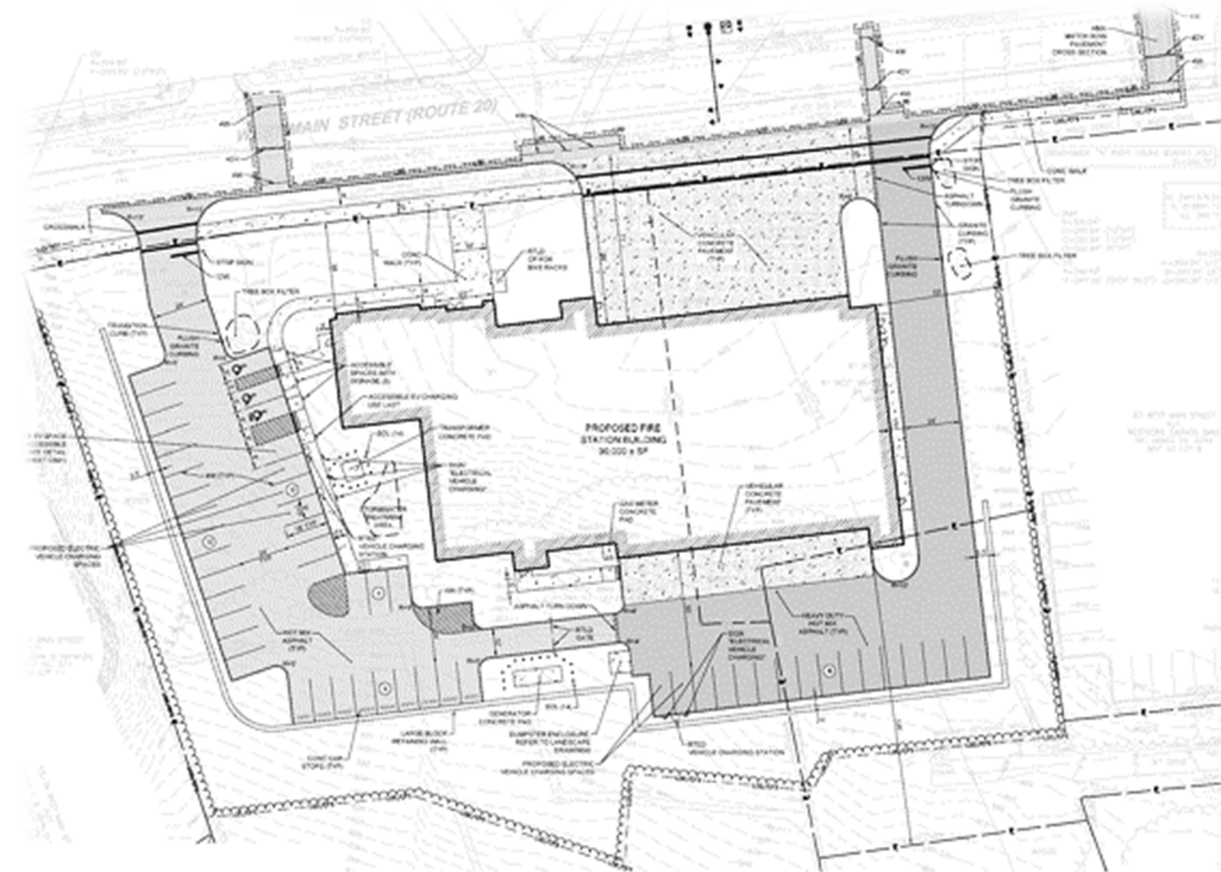
- Programming + Design
 - Detailed research + details
 - Layout to meet Clean Building Concept
- Professional site survey completed
- Elevator added
- Right Sized
 - Apparatus Bay: Apparatus measured, layout planned + spacing considered
 - Building Support Spaces
- Designed for 40 years of Growth
- Incorporates significant requirements of the new MA Energy Code

NEW FIRE STATION PROJECT – COMPARISON OF 2019 vs 2024

- **2019 @ 26,420 GSF vs 2024 @ 30,850 GSF**
- Accounting for the difference of 4,430 gsf. What items have been identified or adjusted through detailed programming + analysis
 - Increased apparatus bay sizes to meet vehicle layout + egress code
 - Layout of apparatus support spaces to meet Clean Station Design Concept
 - Increased building support spaces to meet requirements of this building design including an elevator
 - Accounting for future growth
 - Incorporation of MA Energy Code requirements
 - Increased site costs
 - Additional parking spaces to meet program
 - Set back from the street to create adequate turning radius for trucks on apparatus apron
 - Retaining wall required based on actual survey

NEW FIRE STATION – SITE DESIGN

- Separate parking to promote safety for public parking + movement of vehicles
 - Firefighter parking located at rear of building
 - Guest parking separated from operations
- Building placement to provide clearest sight-lines for apparatus + ease of movement for vehicles
- EV charging stations – Code mandated infrastructure for 11 – provide 6 at this time
- Heated apparatus aprons extends 10' from the building to encourage snow melt which assists with response + snow removal
- Plantings + Site elements chosen to enhance site



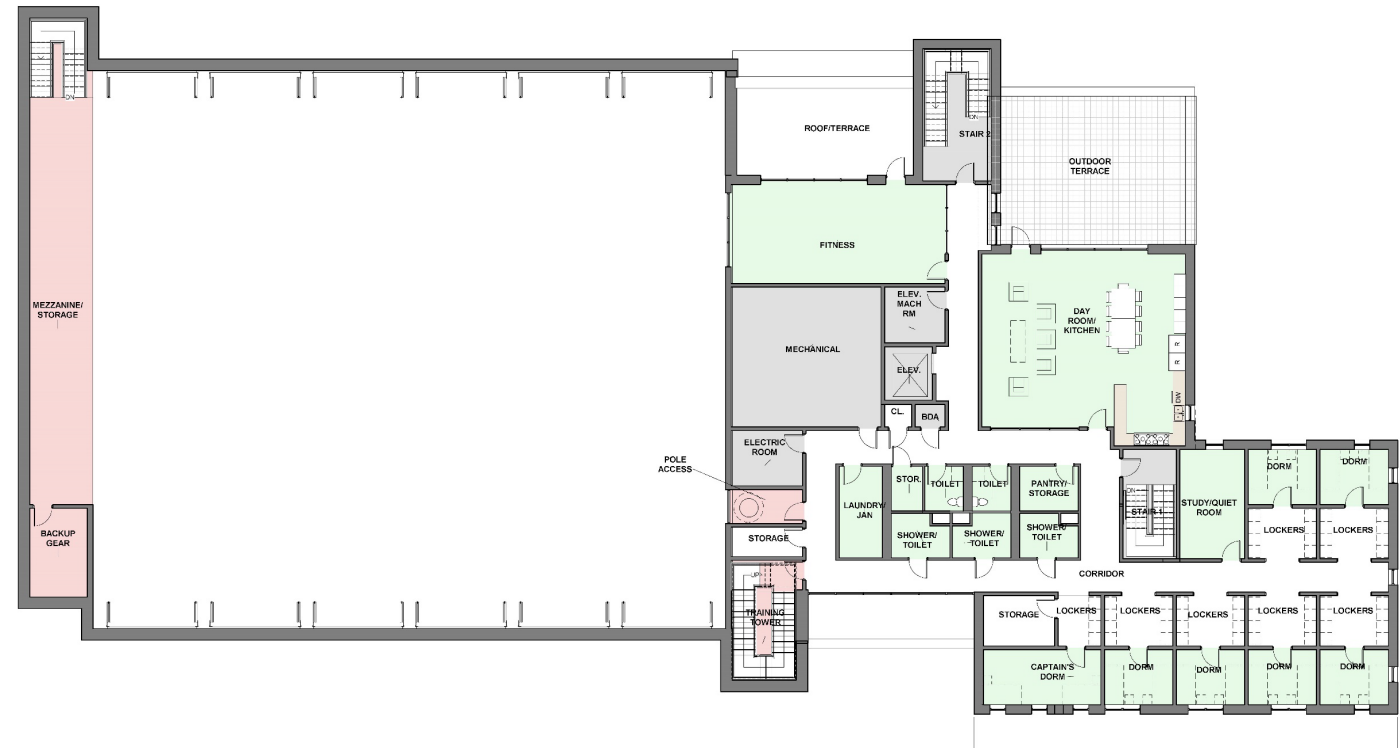
NEW FIRE STATION PROJECT – INTERIOR BUILDING LAYOUT – FIRST LEVEL

- 21,500 gsf
- Clean Station Concept
- Four Distinct Areas
 - Operations
 - Administration
 - Emergency Operations Center (EOC)/Training/Public Access
 - Building Support



NEW FIRE STATION PROJECT – INTERIOR BUILDING LAYOUT – SECOND LEVEL

- 9,350 gsf
- Rooms
 - Dorm Rooms (7)
 - Day-Room/Kitchen
 - Fitness Room
 - Individual Toilet Rooms (2)
 - Individual Bathrooms (3)
- Features
 - Solar Ready Roofs
 - Terraces (2)
 - Hose Tower + Training Tower
 - Fire Pole



NEW FIRE STATION PROJECT – MAIN ELEVATION AT SCHEMATIC DESIGN



- Traditional New England Approach

- Red brick compliments other Town buildings
- Durable materials selected to minimize maintenance concerns
- Arches located at apparatus bays and at entry
- Training/hose tower includes clock

North Elevation from West Main Street

NEW FIRE STATION PROJECT – MAIN ELEVATION AT SCHEMATIC DESIGN



Northeast Elevation from West Main Street

NEW FIRE STATION PROJECT – MAIN ELEVATION AT SCHEMATIC DESIGN



Northwest Elevation from West Main Street

NEW FIRE STATION PROJECT – REAR ELEVATION AT SCHEMATIC DESIGN



South Elevation

NEW FIRE STATION PROJECT – CONSIDERATIONS

- **Location**

- Fire station locations are dictated by response time requirements set by the National Fire Protection Association (NFPA). This site meets those requirements.
- Building anywhere outside of downtown will require *building two fire stations, *hiring at least 12 additional firefighters, *purchasing 1 Fire Engine & *replacing/purchasing 1 ambulance

- **Municipal Projects**

- Public funded construction projects regulations include
 - MGL c.30B (procurement), MGL c.149, §27 (prevailing wage), MGL c.149, §44A & B(bidding)
- Labor must be at Prevailing Wage rates
- All materials + services must be awarded through an open bid process
- Contracts must be awarded to the lowest responsible bidder
- Proprietary products cannot be chosen, basis of design elements, as detailed + specified, must be bid by contractors

NEW FIRE STATION PROJECT – CONSIDERATIONS

- **Bid Pricing**

- Bid prices are based on the estimated costs in July 2025
- Total Project Costs include contingencies for unforeseen conditions. Total Project Costs should not increase.

- **Cost Estimate Deadline**

- The current cost estimates for the project are based on bidding in September/October 2024
- Delaying bidding beyond this date will incur cost increases
- Cost escalation beyond 2024 could result in a 7% - 10% increase in project costs

- **Alternatives**

- If not passed at the 2024 Special Town Meeting, it is the intent of the FSBC to repropose the same design at the 2025 Annual Town Meeting
- This could result in a minimum 7% - 10% increase in the total project cost, for the same building proposed now

NEW FIRE STATION PROJECT – UNDERSTANDING COST FACTORS

- **Hard Construction Costs – Building + Site**

- Estimating Package consisted of Schematic Design Documents
- Statement of Probable Costs included design + pricing contingencies of 10% to allow for the unknowns
 - Included 14 Alternate Options + 1 Allowance Order of Magnitude Alternate

- **Soft Costs – Other Project Costs outside the Scope of the General Contractor**

- Furnishings, Fixtures + Equipment:
 - Loose Furnishings, Program Related Equipment, Data/Telecom Equipment, AV Equipment Security, Other Specialty Items
- Fees + Expenses
 - Designer + OPM Fees, Commissioning, Legal, Utility Assessment, Materials Testing Fees During Construction
- Contingencies
 - Construction + Owner's Project

NEW FIRE STATION PROJECT – COMPARISON OF 2019 vs 2024

- **2019 Estimated Costs**

- Hard Costs: \$14.4 Million
- Soft Costs: \$4.4 Million

- **2024 Estimated Costs**

- Hard Costs: \$31.7 Million
- Soft Costs: \$10.8 Million

- **Why + How: What other factors impacted cost differences**

- Escalation per year that was not standard
- New Energy Code Regulations
- Prevailing wage increases
- Manufacturing delays + Supply Chain interruptions
- A refined program translated into increased square footage
- Site costs: parking + retaining wall

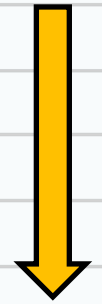
NEW FIRE STATION PROJECT – COMPARISON OF 2019 vs 2024 – BUILDING 2019 DESIGN TODAY

Construction Cost Escalation										
Year	4/24/19 Estimate		Escalation %					Escalated cost w/ current SF		2024 Construction Estimate
	26420 sf							30,850 sf		
				\$/sf						
2019	\$	15,417,787	=	\$ 584	x	30850 SF	=	\$ 18,002,980		
2020	\$	16,651,210		\$ 630	x	30850 SF	=	\$ 19,443,218		
2021	\$	19,148,891	8%	\$ 725	x	30850 SF	=	\$ 22,359,701		
2022	\$	21,446,758	15%	\$ 812	x	30850 SF	=	\$ 25,042,865		
2023	\$	23,591,434	12%	\$ 893	x	30850 SF	=	\$ 27,547,152		
2024	\$	25,478,749	10%	\$ 964	x	30850 SF	=	\$ 29,750,924	vs	\$ 30,900,450
			8%							

A



B



A = Size as Proposed

B = Includes Clean Station Design, Elevator, Energy Code requirements, Apparatus Bay size, Growth



NEW FIRE STATION PROJECT – TOTAL PROJECT COST ESTIMATES BASED ON SCHEMATIC DESIGN

ESTIMATED TOTAL PROJECT COSTS PRESENTED		
DATE	HIGH	LOW
2/1/2024	\$49,906,000	\$42,969,700
3/27/2024	\$45,229,600	\$39,749,400
4/15/2024	\$45,697,200	\$42,895,300
ESTIMATED RETURN COSTS		
ITEM	HIGH	LOW
Possible Geothermal Rebates	(\$1,958,564)	(\$1,958,564)
ESTIMATED TOTAL PROJECT COSTS AS OF APRIL 2024		
ITEM	HIGH	LOW
With Rebates applied	\$43,738,636	\$40,936,736

NEW FIRE STATION PROJECT – IMPORTANT FUTURE DATES

- **September 24, 2024**
 - Deadline for Select Board to place project on the Ballot
- **No later than October 14, 2024**
 - Special Town Meeting – Scheduled for October 7, 2024
- **Debt Exclusion Vote**
 - Scheduled for November 5, 2024
- **Early 2025**
 - Groundbreaking + Construction begins



- **Best Source for Information + Progress Updates**

- www.NBFireStation.org



THANK YOU FOR YOUR TIME + SUPPORT

