

Name	Year	Mile (03/14/2024)	Hours	Est Replacement	Dept Unit ID	Source	Six Year Total	FY 25	FY 26	FY 27	FY 28	FY 29	FY 30	FY 31	FY 32	FY 33	FY 34	FY 35	
Fire Station							2	\$0.00											
Medic 1	2020	86,111.00	4,220.00	2030	204		5	\$580,000.00					\$580,000.00						
Medic 2	2013	84,903.00	4,396.00	2023	205		5	\$610,000.00										\$610,000.00	
Medic 3	2016	88,714.00	4,422.00	2026	203		5	\$550,000.00			\$550,000.00								
Engine 1	2005	34,112.00	3,153.00	2025	101		6 or 2	\$0.00											
Engine 2	2016	25,553.00	2,170.00	2036	102		6 or 2	\$0.00											
Engine/Tanker 3	2014	4,810.00	591.00	2034	103		6 or 2	\$0.00											
Rescue Pumper 1	2004	28,741.00	2,802.90	2024	401		6 or 5 or 2	\$1,250,000.00	\$1,250,000.00										
Tower 1	2009	17,889.00	2,345.30	2029	301		6 or 2	\$2,200,000.00				\$2,200,000.00							
Squad 4	2015	49,529.70	4,613.00	2028	904		6 or 2	\$350,000.00			\$350,000.00								
Car 3	2022	8128		2032	503		6	\$0.00											
Car 2	2015			2031	501		6	\$0.00											
Car 1	2022	10,005	473.67	2032	505		6	\$0.00											
Forestry	2018	4675	493	2032	604		6	\$300,000.00							\$300,000.00				
SCBA	2019			2034	SCBA			\$0.00											
								\$5,840,000.00	\$1,250,000.00	\$0.00	\$900,000.00	\$0.00	\$2,200,000.00	\$580,000.00	\$0.00	\$300,000.00	\$0.00	\$0.00	\$610,000.00

Medic 2 Replacement ordered May/June 2022 Expected delivery End of 24 beginning of 25  
 Engine 1 replacement moved ahead of R-1 order placed June 23 expected delivery August 25 (26 months)  
 Rescue if ordered June 24 Expected delivery up to 49 Months

Unit	Hours-Miles	2021 responses	2022 responses	2023 responses	2024 responses	FY 24 Maintenance
Medic 1	168,800.00	1034	1224	1161	179	\$15,391.13
Medic 2	175,840.00	46	288	352	26	\$8,017.10
Medic 3	176,880.00	246	318	218	144	\$4,150.00
Engine 1	126,120.00	45	52	122	23	\$4,946.25
Engine 2	86,800.00	338	495	285	58	\$26,540.96
Engine/Tanker 3	23,640.00	10	11	18	6	\$4,054.60
Rescue Pumper 1	112,116.00	131	172	206	34	\$9,143.96
Tower 1	93,812.00	90	110	108	23	\$1,632.18
Squad 4	184,520.00	926	1237	1098	284	
Car 3	0.00				43	\$149.00

**PROJECT DETAIL SHEET**

Project Title:	<b>Forestry Replacement</b>		
Department:	<b>Fire</b>	Category:	<b>Equipment Replacement</b>
Description and Justification:			
<p>This project seeks to replace our 2018 Forestry Truck. Our forestry truck is specially designed to fight wildland fires and can be driven off road to access fires. In 2018 we replaced 2 Forestry trucks with this single unit. In 2032 this truck will 14 years old and will have reached its expected end of service life. Funding for this truck is expected to come from Free Cash.</p>			

**RECOMMENDED FINANCING**

	Source of Funds	Total Ten -Year Cost	Estimated Expenditures by Fiscal Year										
			FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032	FY 2033	FY 2034	FY 2035
A. Feasibility Study													
B. Design													
C. Land Acquisition													
D. Construction													
E. Furnishings/Equipment													
F. Departmental Equipment	6	300,000									300,000		
G. Contingency													
H. Other													
<b>TOTAL</b>		<b>\$300,000</b>									<b>\$300,000</b>		

Source of Funds Legend

- |                        |                 |                             |                                |
|------------------------|-----------------|-----------------------------|--------------------------------|
| (1) Operating Revenues | (3) State Aid   | (5) EMS Revolving Fund Fees | (7) Sewer Enterprise Fund Fees |
| (2) Municipal GO Bonds | (4) Trust Funds | (6) Free Cash / Other       | (8) Water Enterprise Fund Fees |

**PROJECT DETAIL SHEET**

Project Title:	<b>Ambulance Replacement</b>		
Department:	<b>Fire</b>	Category:	<b>Equipment Replacement</b>
Description and Justification:			
<p>The Town, through the Fire Department, operates an Advanced Life Support (ALS) ambulance service. There are three ambulances associated with this service, a front line ambulance , a second due ambulance and a back-up ambulance. Our current call volume necessitates having two ambulance available for response whenever possible. The newest ambulance operates as the front-line unit and the older ambulance serves as the second due. The oldest ambulance serves as a back-up for when one of the two primary units are out of service. This request seeks to replace the 2020 ambulance in FY2030, at which time the 2027 ambulance would become the second due and the 2024 would become the back-up. Purchase of new ambulances are funded entirely by EMS user fees. The planned, regularly scheduled replacement of emergency ambulances is critical to ensuring public safety.</p>			

**RECOMMENDED FINANCING**

	Source of Funds	Total Ten -Year Cost	Estimated Expenditures by Fiscal Year										
			FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032	FY 2033	FY 2034	FY 2035
A. Feasibility Study													
B. Design													
C. Land Acquisition													
D. Construction													
E. Furnishings/Equipment													
F. Departmental Equipment	5	\$580,000							\$580,000				
G. Contingency													
H. Other													
<b>TOTAL</b>		<b>\$580,000</b>							<b>\$580,000</b>				

Source of Funds Legend

(1) Operating Revenues	(3) State Aid	(5) EMS Revolving Fund Fees	(7) Sewer Enterprise Fund Fees
(2) Municipal GO Bonds	(4) Trust Funds	(6) Free Cash / Other	(8) Water Enterprise Fund Fees

**PROJECT DETAIL SHEET**

Project Title:	<b>Ambulance Replacement</b>		
Department:	<b>Fire</b>	Category:	<b>Equipment Replacement</b>
Description and Justification:			
<p>The Town, through the Fire Department, operates an Advanced Life Support (ALS) ambulance service. There are three ambulances associated with this service, a front line ambulance , a second due ambulance and a back-up ambulance. Our current call volume necessitates having two ambulance available for response whenever possible. The newest ambulance operates as the front-line unit and the older ambulance serves as the second due. The oldest ambulance serves as a back-up for when one of the two primary units are out of service. This request seeks to replace the 2022 ambulance in FY2035, at which time the 2030 ambulance would become the second due and the 2027 would become the back-up. Purchase of new ambulances are funded entirely by EMS user fees. The planned, regularly scheduled replacement of emergency ambulances is critical to ensuring public safety.</p>			

**RECOMMENDED FINANCING**

	Source of Funds	Total Ten -Year Cost	Estimated Expenditures by Fiscal Year											
			FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032	FY 2033	FY 2034	FY 2035	
A. Feasibility Study														
B. Design														
C. Land Acquisition														
D. Construction														
E. Furnishings/Equipment														
F. Departmental Equipment	5	\$610,000												\$610,000
G. Contingency														
H. Other														
<b>TOTAL</b>		<b>\$610,000</b>												<b>\$610,000</b>

Source of Funds Legend

- |                        |                 |                             |                                |
|------------------------|-----------------|-----------------------------|--------------------------------|
| (1) Operating Revenues | (3) State Aid   | (5) EMS Revolving Fund Fees | (7) Sewer Enterprise Fund Fees |
| (2) Municipal GO Bonds | (4) Trust Funds | (6) Free Cash / Other       | (8) Water Enterprise Fund Fees |

**PROJECT DETAIL SHEET**

Project Title:	<b>Ambulance Replacement</b>		
Department:	<b>Fire</b>	Category:	<b>Equipment Replacement</b>
Description and Justification:			
<p>The Town, through the Fire Department, operates an Advanced Life Support (ALS) ambulance service. There are three ambulances associated with this service, a front line ambulance , a second due ambulance and a back-up ambulance. Our current call volume necessitates having two ambulance available for response whenever possible. The newest ambulance operates as the front-line unit and the older ambulance serves as the second due. The oldest ambulance serves as a back-up for when one of the two primary units are out of service. This request seeks to replace the 2016 ambulance in FY2027, at which time the 2022 ambulance would become the second due and the 2019 would become the back-up. Purchase of new ambulances are funded entirely by EMS user fees. The planned, regularly scheduled replacement of emergency ambulances is critical to ensuring public safety.</p>			

**RECOMMENDED FINANCING**

	Source of Funds	Total Ten -Year Cost	Estimated Expenditures by Fiscal Year										
			FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032	FY 2033	FY 2034	FY 2035
A. Feasibility Study													
B. Design													
C. Land Acquisition													
D. Construction													
E. Furnishings/Equipment													
F. Departmental Equipment	5	\$550,000			\$550,000								
G. Contingency													
H. Other													
<b>TOTAL</b>		<b>\$550,000</b>			<b>\$550,000</b>								

**Source of Funds Legend**

(1) Operating Revenues	(3) State Aid	(5) EMS Revolving Fund Fees	(7) Sewer Enterprise Fund Fees
(2) Municipal GO Bonds	(4) Trust Funds	(6) Free Cash / Other	(8) Water Enterprise Fund Fees

**PROJECT DETAIL SHEET**

Project Title:	<b>Squad 4 Replacement (Price &amp; Timeline Update)</b>	
Department:	<b>Fire</b>	Category: <b>Apparatus Replacement</b>
<p><u>Description and Justification:</u></p> <p>This project seeks to replace our 2015 Squad. In 2028 the vehicle will be 13 years old which is the expected useful life of this type of apparatus. This vehicle is the busiest in the department running on almost every medical call, brush fire, service call, and various other incidents. The idea of this operational model is to reduce the wear and tear on our larger more expensive apparatus thereby extending their service life.</p>		

**RECOMMENDED FINANCING**

	Source of Funds	Total Ten -Year Cost	Estimated Expenditures by Fiscal Year										
			FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032	FY 2033	FY 2034	FY 2035
A. Feasibility Study													
B. Design													
C. Land Acquisition													
D. Construction													
E. Furnishings/Equipment													
F. Departmental Equipment	6	\$350,000			\$350,000								
G. Contingency													
H. Other													
<b>TOTAL</b>		<b>\$350,000</b>			<b>\$350,000</b>								

Source of Funds Legend

- |                        |                 |                             |                                |
|------------------------|-----------------|-----------------------------|--------------------------------|
| (1) Operating Revenues | (3) State Aid   | (5) EMS Revolving Fund Fees | (7) Sewer Enterprise Fund Fees |
| (2) Municipal GO Bonds | (4) Trust Funds | (6) Free Cash / Other       | (8) Water Enterprise Fund Fees |

**PROJECT DETAIL SHEET**

<b>Project Title:</b>	<b>Tower 1 Replacement (Price Update)</b>		
<b>Department:</b>	<b>Fire</b>	<b>Category:</b>	<b>Apparatus Replacement</b>
<b>Description and Justification:</b>			
<p>This project seeks to replace our 2009 Tower Truck. In 2029 the vehicle will be 20 years old which is the expected useful life of this type of apparatus, which is typically about 20 years for front-line service. The Insurance Services Office requires Northborough to maintain 1 aerial apparatus in order to sustain its current ISO rating, which residential and commercial fire insurance rates are based upon. The intent is to purchase a 100" Platform Truck. This is similar our current tower but much less complicated and more practical. Our Current Tower will be used in Trade to offset the price of the new Platform.</p>			

<b>RECOMMENDED FINANCING</b>													
	Source of Funds	Total Ten -Year Cost	Estimated Expenditures by Fiscal Year										
			FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032	FY 2033	FY 2034	FY 2035
A. Feasibility Study													
B. Design													
C. Land Acquisition													
D. Construction													
E. Furnishings/Equipment													
F. Departmental Equipment	2	\$2,200,000					2,200,000						
G. Contingency													
H. Other													
<b>TOTAL</b>		<b>\$2,200,000</b>					<b>\$2,200,000</b>						

<b>Source of Funds Legend</b>			
(1) Operating Revenues	(3) State Aid	(5) EMS Revolving Fund Fees	(7) Sewer Enterprise Fund Fees
(2) Municipal GO Bonds	(4) Trust Funds	(6) Free Cash / Other	(8) Water Enterprise Fund Fees

**PROJECT DETAIL SHEET**

Project Title:	<b>Rescue 1 Replacement (Price Update)</b>		
Department:	<b>Fire</b>	Category:	<b>Apparatus Replacement</b>
Description and Justification:			
<p>Our current rescue truck is a 2004 rescue pumper. It was designed to perform many functions, however, do to this design it is overloaded and overtasked. This proposal is to purchase a true rescue truck designed and equipped to function as a rescue truck. It will respond to motor vehicle accidents, hazardous materials calls, building fires, water rescues, technical rescues, and service calls.</p>			

**RECOMMENDED FINANCING**

	Source of Funds	Total Ten -Year Cost	Estimated Expenditures by Fiscal Year										
			FY 2025	FY 2026	FY 2027	FY 2029	FY 2030	FY 2031	FY 2032	FY 2033	FY 2034	FY 2035	
A. Feasibility Study													
B. Design													
C. Land Acquisition													
D. Construction													
E. Furnishings/Equipment													
F. Departmental Equipment	2	1,250,000	1,250,000										
G. Contingency													
H. Other													
<b>TOTAL</b>		<b>\$1,250,000</b>	<b>\$1,250,000</b>										

Source of Funds Legend

- |                        |                 |                             |                                |
|------------------------|-----------------|-----------------------------|--------------------------------|
| (1) Operating Revenues | (3) State Aid   | (5) EMS Revolving Fund Fees | (7) Sewer Enterprise Fund Fees |
| (2) Municipal GO Bonds | (4) Trust Funds | (6) Free Cash / Other       | (8) Water Enterprise Fund Fees |



# S.A.F.E.R.

Staffing for Adequate Fire and Emergency Response

# Priority Objectives of S.A.F.E.R.

To assist local fire departments with achieving the necessary minimum staffing and deployment capabilities to respond to emergencies and ensure that communities have adequate protection from fire and fire-related hazards

To fulfill traditional missions of fire departments, which includes ambulance/emergency medical services, prevention, risk reduction, and public education.

# National Standards

## N.F.P.A. 1710 / 1720

National Fire Protection Association

### MINIMUM STAFFING LEVELS



Minimum of fifteen firefighters on the initial building fire assignment to accomplish all needed fireground tasks.

### ASSITANCE FROM OUTSIDE



The department has worked towards addressing this by entering into automatic mutual aid agreements with surrounding communities.

# History of Staffing Requests



In the early 1980's the fire department was staffed with a Full-Time Chief and two day-time Firefighters (8am-8pm).

By the early 1990's increased call volume demanded 24/7/365 coverage.

This resulted in having two firefighters working 24-hour shift, supplemented by two firefighters working day shift as well as a very robust and active call-member force.



In 1999, the department upgraded from providing Basic to Advanced Life Support ambulance service.

The goal at that time was to have a staffing level of one officer and three firefighters working 24-hours a day.

This staffing level was finally achieved in 2009.

# History of Staffing Requests

**2002**

Chief Durgin requested an increase in staffing to six members per shift

**2009**

According to department records six firefighters were requested as a result of the Avalon Bay and Northborough Crossing development.

These positions were approved and funded initially through fees imposed on the builder.

These positions were never filled.

**2013**

Chief Durgin asked to increase on-duty staffing to one officer and seven firefighters. He also requested the hiring of a deputy chief and a full-time fire prevention officer

# 2015 Staffing Study

After this request the town contracted with an agency to conduct a study on public safety staffing levels and operations.

The study, which was completed in 2015 recommended increasing the on-duty staffing to one officer and four firefighter/paramedics 24 hours a day, hiring a deputy and construction of a new fire station.

This recommendations were based on several items including population, calls for service, ambulance transports, and unit workload.

# History of Staffing Requests

2018

Final compliance with line staffing

2017

Chief Parenti advised then Town Administrator of the need for additional staff and advised him our intention to apply for the SAFER grant. Members dedicated numerous hours compiling data and drafting the application. When presented for approval the Town Administrator would not sign-off on the grant

2017 - 2023

Several times since 2017, Chief Parenti spoke with the Town Administrator about increasing staffing and submitted several supplemental budget requests

2023

In June of this year, Chief Parenti advised the then Interim Town Administrator of a critical need for personnel. Our members were beginning to exhibit signs of physical and mental health impacts due to the workload and as a result we needed to adjust our daily staffing.

2023

Chief Parenti also advised him at that time that it was his intent to apply for the SAFER grant in 2024. It was the Chiefs understanding that the memo was forwarded to the Selectboard

# Benefits to Northborough



Most importantly, Improvement in our firefighters' health, wellness and safety, translating into enhanced services provided to our community



The ability to respond to additional and overlapping calls



The ability to attract and retain highly qualified firefighters and paramedics



An anticipated increase in ambulance fee collection (estimate: \$120,494 annually)



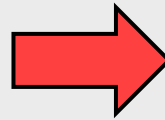
Adding two additional members per shift (= 7 members per shift) gives us the option as necessary to drop shift staffing by one member before filling a vacancy with overtime while maintaining minimum basic services. This will result in an estimated overtime cost savings of \$254,030.



# Fire Department Emergency Response Data

2015

- ▶ Population: 14,155
- ▶ Calls for service: 2,025
- ▶ Calls per day: 5.5
- ▶ Overlapping Emergency Calls:
  - ▶ 2 or more: 216 times
  - ▶ 3 or more: 22 times
  - ▶ 4 or more: 2 times
- ▶ Ambulance Transports: 962
- ▶ Workload per unit: 3,224 Runs



2022

- ▶ Population: 15,741 (2020)
- ▶ Calls for service: 2,553
- ▶ Calls per day: 7.0
- ▶ Overlapping Emergency Calls:
  - ▶ 2 or more: 373 times
  - ▶ 3 or more: 54 times
  - ▶ 4 or more: 13 times
- ▶ Ambulance Transports: 1,446
- ▶ Workload per unit: 4,352 Runs

# Fire Department Non-Emergency Activity Data - 2022

- ▶ Training Hours: 2,034
- ▶ Non-Emergency Details: 941
- ▶ Inspections Conducted: 1,048
- ▶ Permits Issued: 1,116
- ▶ Senior SAFE programs/SAFE (youth/school) programs: 72 events with 4,504 interactions

# S.A.F.E.R. Grant Overview

Funding to hire two additional members per shift  
(8 personnel)



100% reimbursement for all salary, benefits, and contractual (CBA) costs for 36 months



Town absorbs the salary, benefits and CBA costs after 36 months from date of the award



Non-eligible costs:  
Overtime, Training hours, Firefighter Gear, etc.

# Northborough Fire Station Project Status Update



# Current Fire Station

## - Apparatus in Service 1974 -



1973 Maxim Pumper Engine



1958 Ford Pumper Engine



1965 Ford Pumper Engine



1973 International Engine



1949 Ford Water Tanker




1969 GMC Rescue




1964 Pick-up Truck

# Current Fire Station


## - Current Apparatus in Service -

 Engine 1 Pumper - 2<sup>nd</sup> Due


 Engine 2 Pumper – 1<sup>st</sup> Due


 Engine 3 Water Tanker / Pumper


 Rescue 1 Heavy Rescue / Pumper

 Tower 1 Aerial / Pumper


 Medic 1 Ram Ambulance


 Medic 2 International Ambulance

 Medic 3 International Ambulance

 Forestry 1 Off Road Brush Pumper


 Squad 4 Mini Attack/Multi-Use


 Car 1 Ford SUV Explorer


 Car 2 Chevy SUV Tahoe

 Car 3 Chevy Pick-up

 Gator 1 John Deere ATV/UTV

 Boat 1 Rescue Boat W/Trailer/Motor

 All Hazards Trailer 20' x 7'

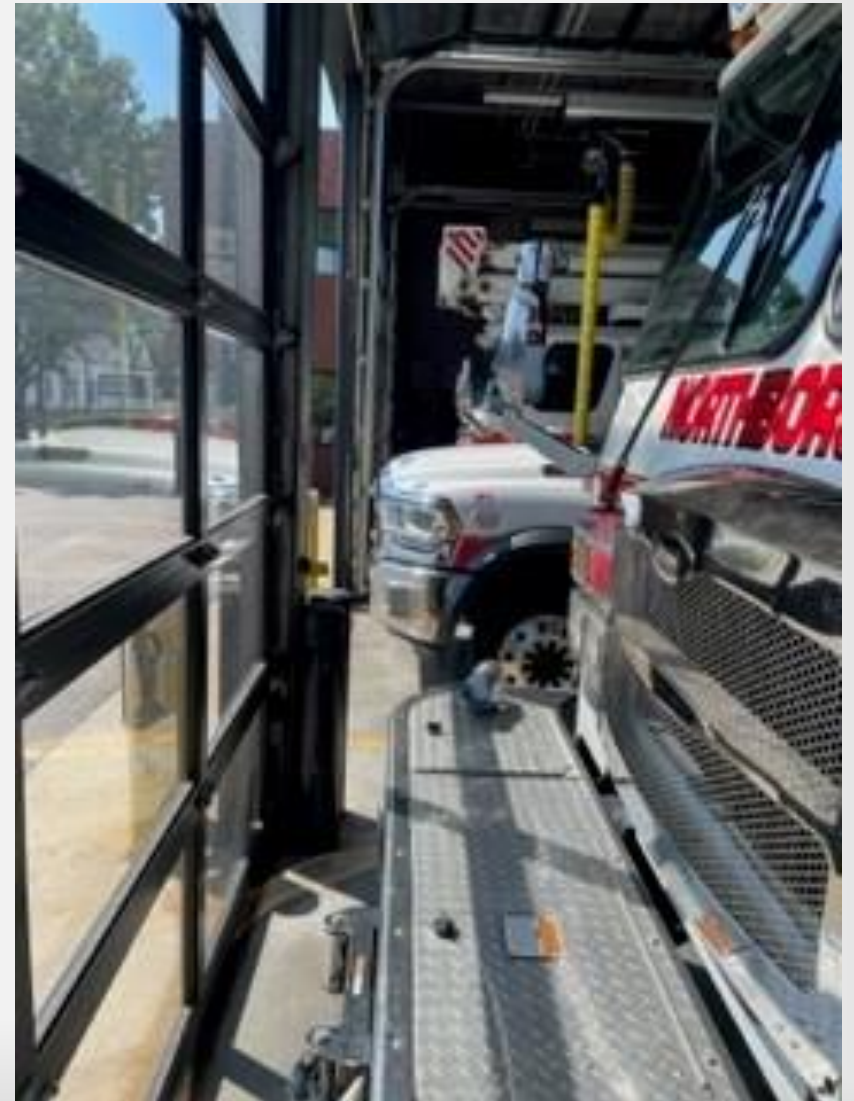
 Hazardous Materials Trailer 15' x 6'

 Open Spice Protection Trailer 21' x 8'



# Current Fire Station

- Current Apparatus in Service -



# - Firefighter Health-

## CANCER AWARENESS FIREFIGHTERS ARE AT RISK!

FIREFIGHTERS HAVE  
A HIGHER RISK  
of contracting

# ALL

types of cancer than the  
general U.S. population.

Synthetic building materials  
used in modern structures,  
including furniture and paint,  
**RELEASE CARCINOGENS**  
when burned.



**WE HAVE AN  
OPPORTUNITY  
TO SAVE LIVES!**  
Cancer is a leading threat  
ALL to firefighters.



For every 5° increase in temperature,  
skin becomes up to  
**400% MORE ABSORBENT.**

The hotter you  
are, the more  
carcinogens  
your skin  
absorbs

MORE THAN  
**60%**

Since 2002, the IAFF has attributed more than  
**60% of its firefighter LODDs**  
**TO CANCER**  
MORE THAN ANY OTHER CAUSE

### FIVE THINGS YOU CAN DO

1



Wear your SCBA from  
the fire attack through  
overhaul to limit  
inhalation of  
carcinogens.

2



Clean yourself off  
during gross decon to  
remove soot as soon  
as possible.

3



Keep contaminated  
gear out of your  
station's living and  
sleeping quarters.  
Also, don't take  
contaminated gear  
home.

4



Make sure your gear  
is cleaned and  
inspected regularly by  
a verified ISP.

5



Maintain a personal  
exposure log of all  
fire calls.

NotInOurHouse.com



STOP CANCER AT THE DOOR





# - Five steps to a clean fire station:

## **Read and learn about cancer-causing carcinogens in fire stations.**

- a. Sources and Exposure
- b. Contamination
- c. Transfer to the Station
- d. Cross contamination within the station

## **Examine decontamination procedures for personnel returning from incidents.**

- a. Bag turnout gear
- b. Shower within an hour
- c. Clean uniforms
- d. Hand, face and neck washing
- e. Exhaust control systems

## **Consider healthy 'green' elements in the station**

- a. Natural materials
- b. Visual interest and richness
- c. Organic shapes, forms and artwork

## **Review the Hot Zone design plan and apply it to existing zones in your station**

- a. Apparatus Bays – clean cabs, tools, and equipment storage areas; no food or ice machines in the bays
- b. Transitional areas – decon and cleaning areas; walk-off mats; closed doors; hand sinks and boot wash stations; airlocks and vestibules
- c. Living areas – limit turnout gear; fully separated from apparatus/equipment areas; confine workout and exercise areas to living area (isolate from the bays)

## **Focus on the physical and mental health of personnel**

- a. Natural lighting
- b. Views of the exterior
- c. Outdoor activity areas
- d. Practice good sleep hygiene

<https://www.firehouse.com/stations/article/21274471/the-concept-of-clean-fire-stations-in-2022>

# New Fire Station Project

## - Interior Design -

### CLEAN STATION CONCEPT







# New Fire Station Project

## - Site Design -

Secure Firefighter parking

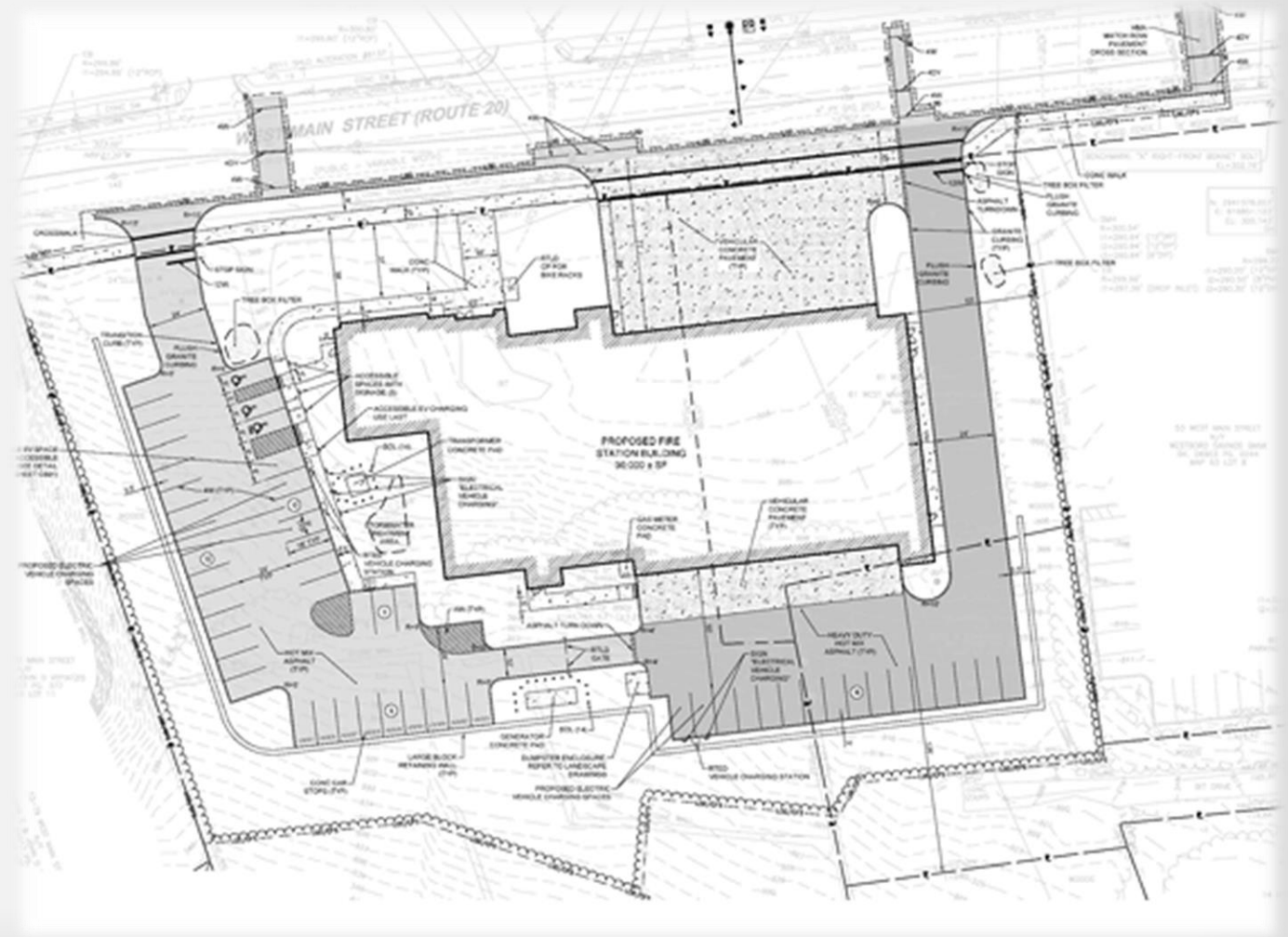
Guest parking separated from operations

Building Placement

Designed to allow PV panels on apparatus bay

EV charging stations (6-11)

Heated apparatus aprons extends 25' from the building to encourage snow melt which assists with response and snow removal



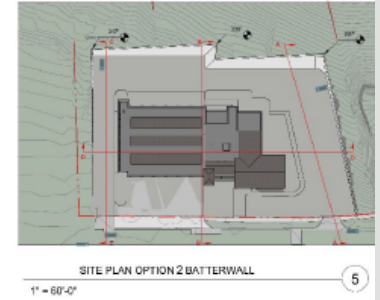
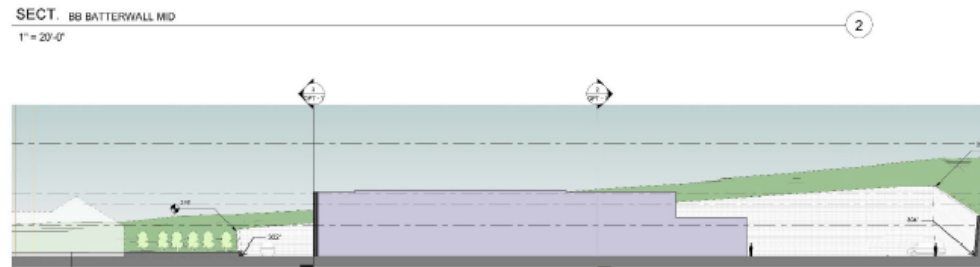
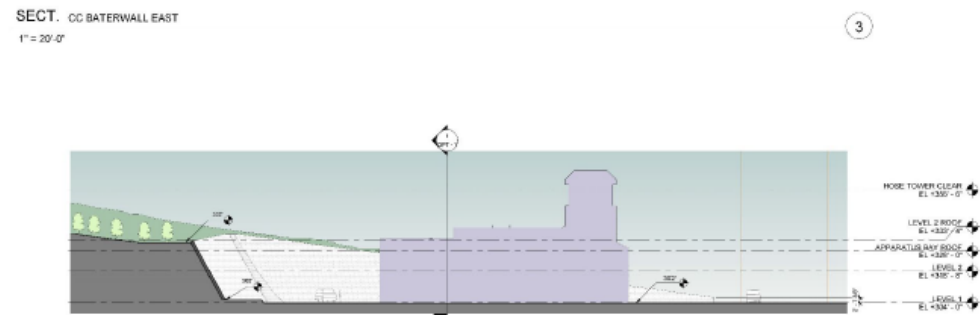
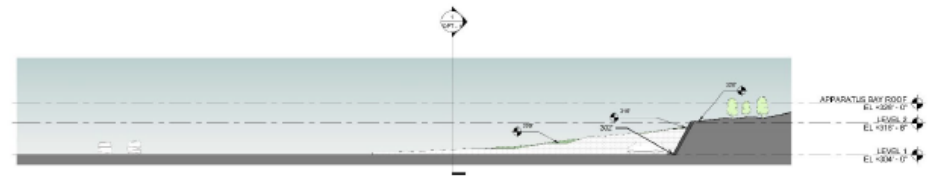
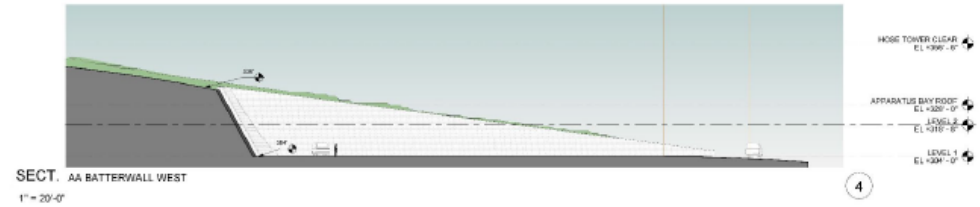


# New Fire Station Project

## - Site Design -

### RETAINING WALL – BATTER WALL OPTION

- Geogrid not anticipated for batter
- Straight wall with geogrid on east + west sides
- 30' high - 17'-2 1/2" deep batter wall on south side

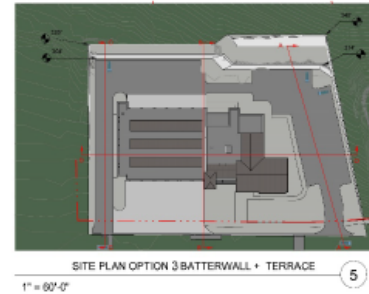
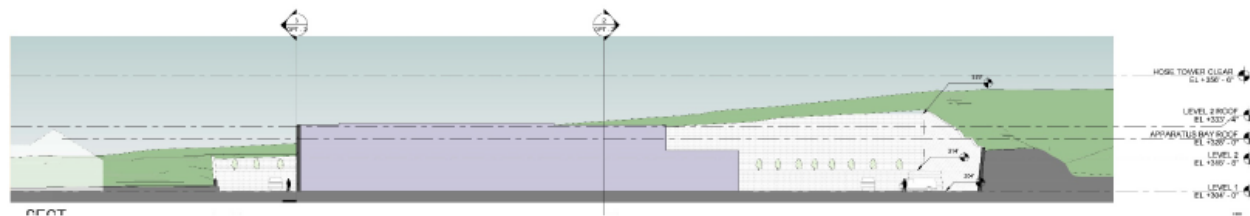
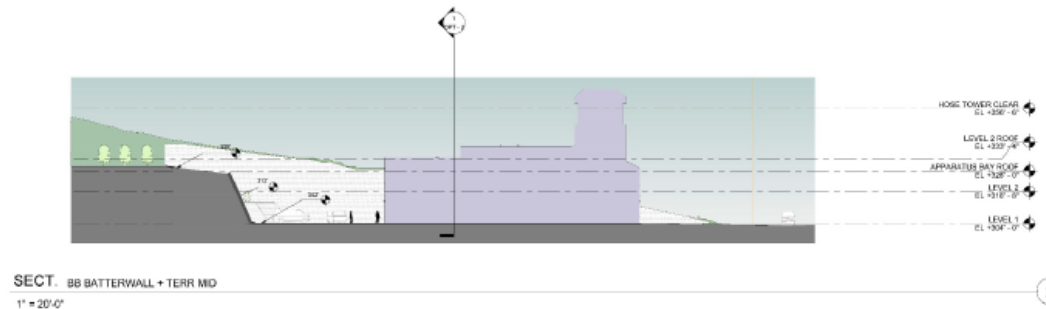
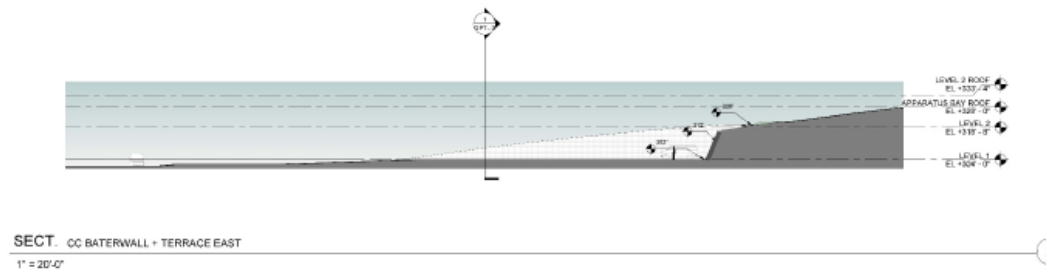
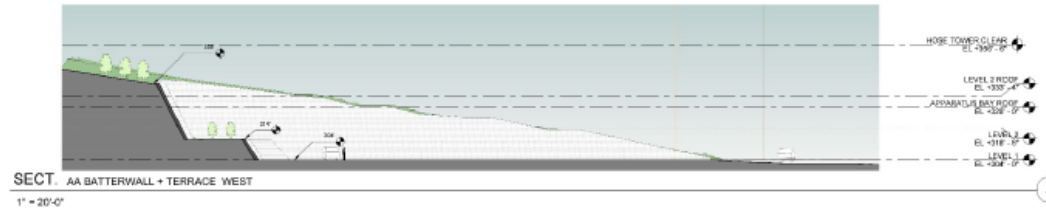
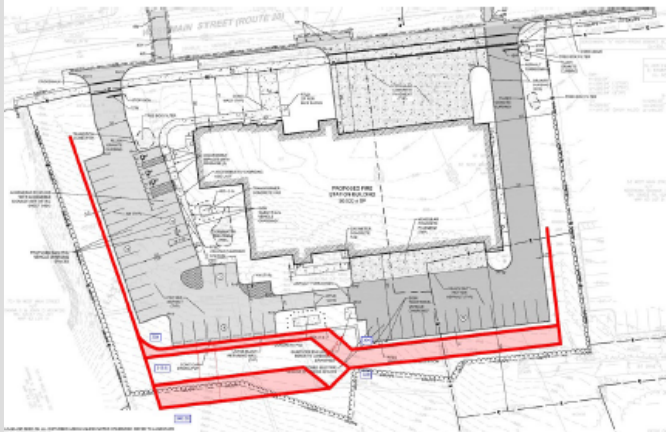


# New Fire Station Project

## - Site Design -

### RETAINING WALL – BATTER + TERRACE WALL OPTION

- Geogrid not anticipated for batter
- Straight wall with geogrid on east + west sides
- 36'-6" high - 40'-10" deep
- 9.5' high 9" batter wall
- Terrace +/- 20' deep



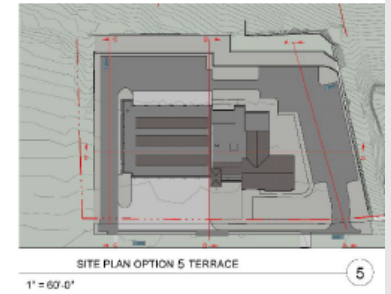
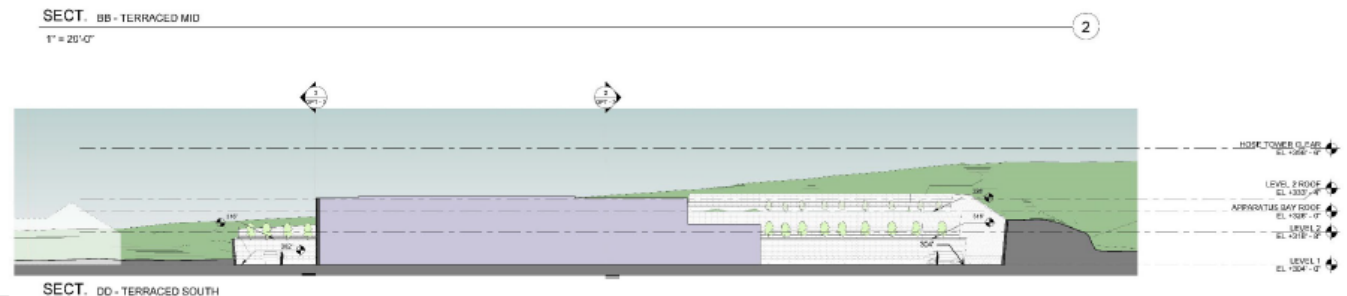
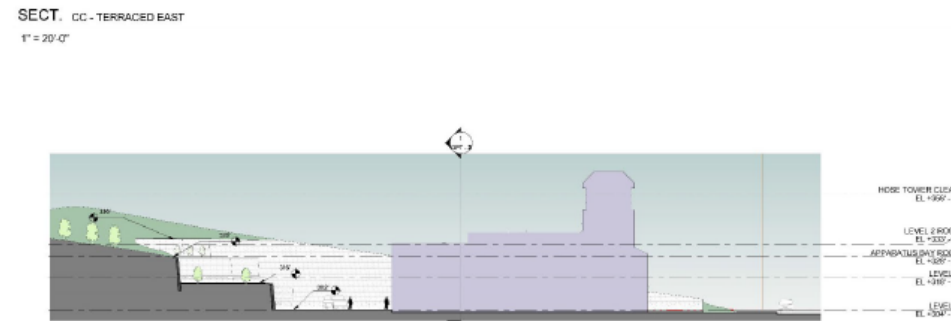
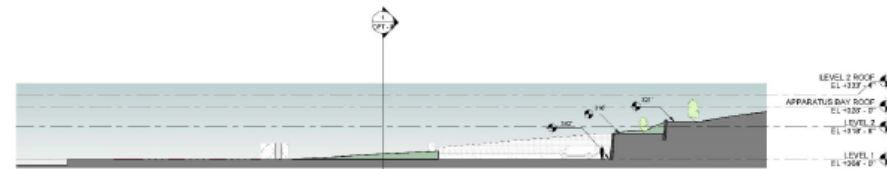
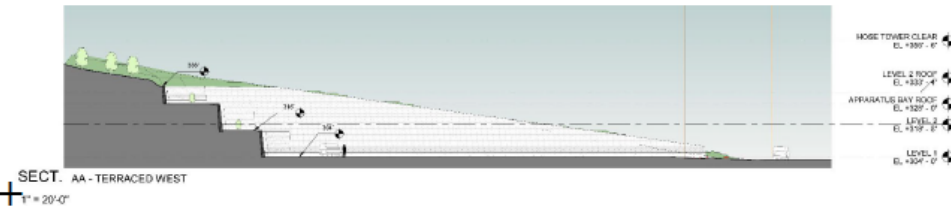
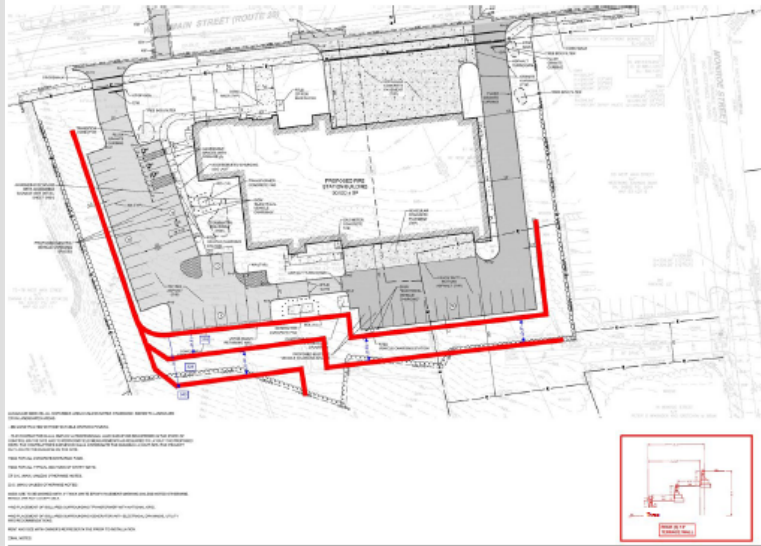


# New Fire Station Project

## - Site Design -

### RETAINING WALL – 2 TERRACE WALL OPTION

- Geogrid not required
- Straight wall with geogrid on east + west sides
- 36'-0" high - 45'-10" deep
- 3 - 12" terrace walls
- Terrace +/- 18' deep



4

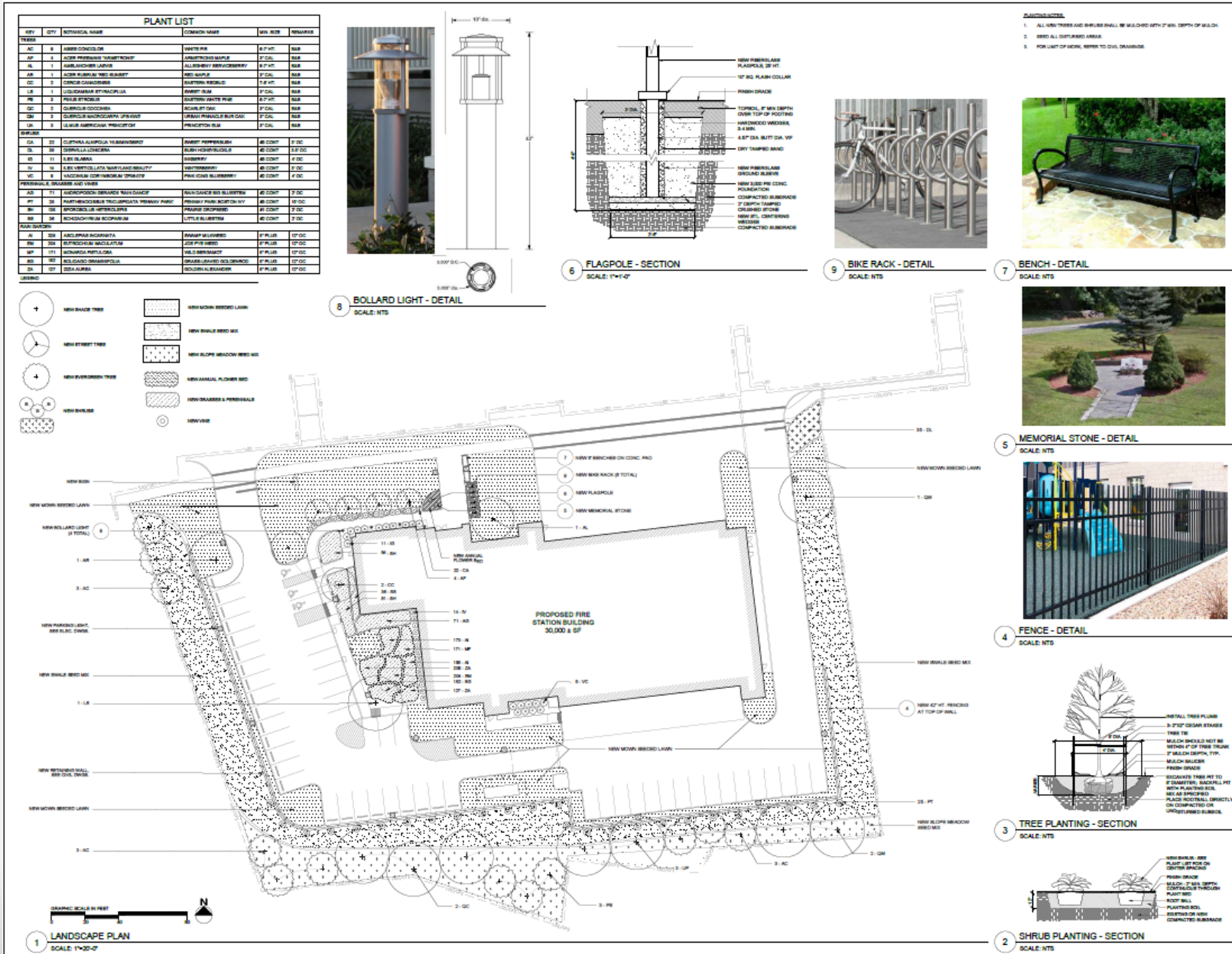
3

2

5

# New Fire Station Project

## - Landscape Design -



1 LANDSCAPE PLAN  
SCALE: 1"=20'-0"

6 FLAGPOLE - SECTION  
SCALE: 1"=1'-0"

9 BIKE RACK - DETAIL  
SCALE: NTS

7 BENCH - DETAIL  
SCALE: NTS

8 BOLLARD LIGHT - DETAIL  
SCALE: NTS

5 MEMORIAL STONE - DETAIL  
SCALE: NTS

4 FENCE - DETAIL  
SCALE: NTS

3 TREE PLANTING - SECTION  
SCALE: NTS

2 SHRUB PLANTING - SECTION  
SCALE: NTS

# New Fire Station Project

## - Interior Design - First Floor

Total Square Feet: 22,000

Designed as a “Clean Station”

Four distinct areas

- Operations
- Administration
- EOC/Training/Public access
- Mechanicals

EOC: Emergency Operations Center



# New Fire Station Project

## - Interior Design - Second Floor

Total Square Feet: 8,000

### Rooms:

- Dorms (7)
- Day-Room/Kitchen
- Fitness area
- Individual restrooms (2)
- Individual restrooms with showers (3)

### Features:

- Green roof
- Terrace with pergolas
- Training tower
- Fire pole (1)



# New Fire Station Project

## - Exterior Design -



- Red Brick Construction to compliment current downtown buildings
- Built to withstand harsh weather with minimal on-going maintenance
- 2 Arches over bay doors to maintain “Fire Station” feel.
- Training tower with clock to mirror historical look found in many New England Towns
- Arch over main entrance extends out 4’ and windows provide view of antique fire apparatus.

**New Fire Station Project**  
- Exterior Design –  
Birds Eye From Northeast



**New Fire Station Project**  
- Exterior Design –  
Birds Eye From Southwest



**New Fire Station Project**  
**- Exterior Views -**  
**Northeast Elevation**





**New Fire Station Project**  
**- Exterior Views -**  
Northwest Elevation





# New Fire Station Project

## - Exterior Views -

### Address Sign



Dimensions  
5'8" x 9"

# New Fire Station Project - Exterior Views - West & Southwest Elevations



West Elevation

Southwest Elevation



# New Fire Station Project

## - Exterior Views -

### South Elevation



# New Fire Station Project

## - Exterior Views -

### East & Southeast Elevations



Southeast Elevation



East Elevation

## TOTAL PROJECT COSTS – SCHEMATIC DESIGN OPTIONS + ANALYSIS

- Hard Construction Costs
  - HKT Team Schematic Estimating Package consisted of limited drawings + outline specifications + engineering narratives
  - At the schematic design level documents are not fully developed. Where information was not available, the professional cost estimator was directed to make assumptions based on knowledge + experience
  - The Statement of Probable Costs includes design + pricing contingencies of 10% to allow for the unknowns
  - Includes 14 Alternate Options + 1 Allowance Order of Magnitude Alternate
    - Categories include sustainable strategies, envelope upgrades potentially required to meet new energy code, alternate material explorations, retaining wall options, HVAC system options + underground conduit for antenna on water tank

## TOTAL PROJECT COSTS – SCHEMATIC DESIGN OPTIONS + ANALYSIS

- Soft Costs – Other Project Costs outside the Scope of the Builder
  - Furnishings, Fixtures and Equipment
    - Loose Furnishings
    - Program Related Equipment
    - Data/Telecom Equipment
    - AV Equipment
    - Security
    - Other Specialty Items
  - Fees and Expenses
    - Designer and OPM Fees
    - Commissioning
    - Legal
    - Utility Assessment
    - Materials Testing Fees During Construction
  - Contingency
    - Construction
    - Owner's Project
- **Total Project Costs =**  
Hard Cost (Construction Costs) + Soft Costs



## COMPARING 2019 FEASIBILITY STUDY TO 2024 PROJECT DESIGN

- The 2019 plan was developed as part of a Feasibility Study.
- The 2024 design is based on actual programmed current + future space needs of the fire department for interior + exterior spaces.
- Comparisons between estimates in 2019 + 2024 must be made based on actual historic escalation of construction costs for Massachusetts municipal projects bid under MGL Chapter 149.
  - Prior to 2020, historic escalation averaged 3.8% to 4.0% annually.
  - With the Covid Pandemic beginning in 2020, supply chain issues, worker shortages + company closures resulted in unprecedented escalation of construction costs.
  - Inflation since 2020 has remained high impacting multiple market sectors including construction.
  - As a result, historic escalation figures for Massachusetts municipal projects bid under MGL Chapter 149 post-2020 have fluctuated, ranging from 8% to up to 15% annually.
  - Our analysis, applying escalation to the 2019 Study cost estimate, demonstrated the current + previous estimates are comparable after adjusting for inflation, additional site costs + major building elements that were not included in the study document.

## TOTAL PROJECT COSTS – SCHEMATIC DESIGN ESTIMATE

ITEM	BUDGET RANGE
Construction Estimate	\$30.9 million
Alternates	\$2.1 - \$6.7 million
<b>Total Construction</b>	<b>\$33 - \$37.6 million</b>
Furnishings Fixtures and Equipment Loose Furnishings, Program related Equip., Data/Telecom, AV, Security	\$.73 - \$1.35 million
Fees and Expenses Architect and Sub Consultants, Project Manager, Commissioning, Legal, Utility Assessment, Materials Testing, Moving	\$5.1 - \$6.25 million
Contingency Construction, Owner's Project	\$4.1 - 4.7 million
<b>Range of Total Project Cost</b>	<b>\$43 - 49.9 million</b>

## HARD COSTS – ALTERNATES – APPROXIMATE ESTIMATED COST

- Some of these may require additional soft costs
- 14 Alternate Options + 1 Allowance Order of Magnitude Alternate

Green			Energy Code Upgrades		
11 EV Ready Charging Stations	PV on sloped and flat roofs - 63.696 KW	Green roof in lieu of TPO at front	Triple glazed punched windows in lieu of double glazed	Triple glazed change to all curtainwall in lieu of double glazed storefront / curtainwall	Add closed cell insulation between studs in the exterior walls
\$129,000	\$577,000	\$32,000	\$337,000	\$444,000	\$165,000
add	add	add	add	add	add

Materials Options				Retaining Wall	
Asphalt shingle roofing at sloped roofs in lieu of standing seam	Overhead glazed door at apparatus doors in lieu of folding doors	Brick Veneer in lieu of Arriscraft	Aluminum composite metal panels or cementitious panels in lieu of zinc panels around the apparatus bay doors	Terrace retaining walls in lieu of base	Batter retaining walls in lieu of base
(\$307,000)	\$172,000	\$165,000	(\$49,000)	\$612,000	\$297,000
deduct	add	add	deduct	add	add

HVAC		Antenna
Air Source Variable Refrigerant Flow (VFR) system (option 2) in lieu of Base (option 1)	Ground Water to Variable Refrigerant Flow/Volume (VFR/VRV) (Option 3) in lieu of Base (Option 1)	Allowance Order of Magnitude - Conduit underground between the fire station and the water tank
(\$292,000)	\$2,260,000	\$700,000 to \$900,000
deduct	add	add

## Note from TCI Construction Cost Estimating

- **Note: This cost estimate includes escalation and market bidding conditions contingency until late 2024 bids. If bidding is delayed, the annual increase would be in the 7% - 10% range each year.**

## New Fire Station Project

- Best Source For Information & Progress Updates -

[www.NB-FireStation.org](http://www.NB-FireStation.org)



Thank you  
for your time and support