



Sunnyvale Fire Station Master Plan Study Session 21-0534

Chip Taylor, Director of Public Works
September 28, 2021

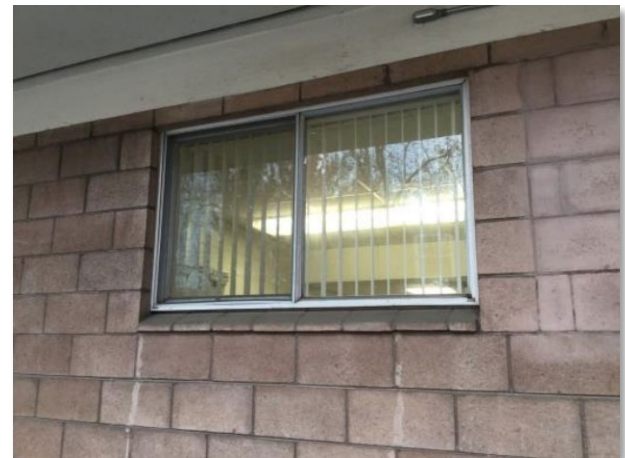
Master Plan Process

- Identify Best Practices for Fire Stations
- Public Safety Staff Interviews
- Space Needs/Building Program Requirements
- Facility Condition Assessment (FCA)
 - ◆ Structural Evaluation
- Conceptual Cost Estimates
- Project Schedules
- Life Cycle Cost Analysis



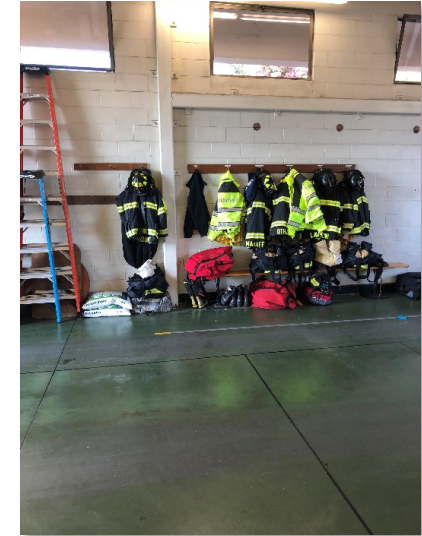
Current Conditions

- 6 Stations, Built in 1960s (except Station 5)
- Wood frame and concrete block buildings
- Generally well maintained



Current Conditions (continued)

- Outdated electrical distribution systems
- Inadequate apparatus rooms
- Lack of PPE Turnout Storage rooms
- Fire services have evolved requiring different equipment
- No locker room for female fire fighters at the training center
- Ineffective ventilation



Best Practices

- National Fire Protection Agency (NFPA)
- Standards - Not Mandated or Required by Code
- For Optimum Station Operation and Personnel Safety
- Examples:
 - ◆ PPE (Turnout) Storage
 - ◆ Training Facility Gender Accommodation (Station 2)



Best Practices

- Examples continued:
 - ◆ Apparatus Ingress/Egress (Stations 1 and 4)
 - ◆ Apparatus Bay Door Size
 - ◆ Exercise Rooms



Best Practices

- Examples continued:
 - ◆ Decon Cleaning Stations
 - ◆ SCBA/Oxygen Refilling



Best Practices (continued)

Operational Assessment of Existing Stations

CATEGORY	REFERENCE	STATION NUMBER						
		1	2	2T*	3	4	5	6

ESSENTIAL SERVICES

Structurally Upgraded	ASCE 41-13	?	?	N/A	?	?		?
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OPERATIONS

Apparatus Ingress/Egress	Best Practice							
Apparatus Accomodation	Best Practice			N/A				
Circulation for Turnout	Best Practice			N/A				
Training Facility	Best Practice	N/A	N/A		N/A	N/A	N/A	N/A

CARCINOGEN & INFECTIOUS DISEASE

Decon Cleaning	NFPA 1581.5.6.4							
Medical Cleaning	NFPA 1581.7			N/A				
Transition Zone	NFPA 1581.5.1.3			N/A				
House Cleaning	NFPA 1581.5.6			N/A				
PPE (Turnout) Storage	NFPA 1581.5.5.4.1							
SCBA/Oxygen Refilling	NFPA 1852.7.2			N/A	N/A		N/A	N/A
Kitchen	NFPA 1581.5.2			N/A				
Floor Surfaces	Best Practice							
Exercise Room	NFPA 1500.11.3.1			N/A				

ADA

Parking/Entry	CAC 11B.404.2							
Restroom/Bathroom	CAC 11B.213.2							
Kitchen	CAC 11B.212.1			N/A				

GENDER ACCOMMODATION

Gender Accommodation	Best Practice							
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SUSTAINABILITY

Sustainability	LEED							
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CHART KEY:



Meets Best Practice



Marginally Meets Best Practice



Does Not Meet Best Practice



Station 2 Training Facility

Program

- Listing of site features, rooms, square footages, etc. necessary to meet best practices and other operational requirements
- Examples:
 - ◆ Drive-thru apparatus bays (with 14'x14' doors)
 - ◆ Transition zone between apparatus floor and house interior
 - ◆ Medical cleaning station
 - ◆ Decon PPE cleaning station
 - ◆ Exercise room
 - ◆ Training Center program

FIRE STATION NO. 1
EXISTING FLOOR PLAN



Life Cycle Costs

- Analyzes Average Annual Operation and Maintenance

Example showing conceptual increase in operating budget:

Station 2 (Existing)		Station 2 (New)	
Year Built	1964	Year Built	2020s
Gross Square	9,431SF	Gross Square	20,486SF
Average Annual Maintenance and Repair Costs	\$11.31/SF	Average Annual Maintenance and Repair Costs	\$6.01/SF
Average Annual Operations Cost	\$8.41/SF	Average Annual Operations Cost	\$7.93/SF
Total Average Cost/SF	\$19.72	Total Average Cost/SF	\$13.94
Total Annual Cost	\$185,982	Total Annual Cost	\$285,610

Option 2 (Rebuild Stations 1-4 and 6)

Alternative

Station	Cost
New Station 1	\$28,162,000
New Station 2	\$40,753,000
New Station 3	\$16,922,000
New Station 4	\$16,922,000
Remodel Station 5	\$4,000
New Station 6	\$16,922,000
Total	\$119,685,000

- Brings 1960s era stations fully up to today's standards
- Provides new stations to address all deficiencies

Option 1 (Minimum Recommended Work)

Staff Recommendation

Station	Cost
Cleaning Measures (All Stations)	\$3,000
Traffic Signal Modifications (Stations 1&4)	\$2,222,000
New Station 2	\$40,753,000
Remodel Station 1	\$4,032,000
Remodel Station 3, 4 & 6	\$10,782,000
Total	\$57,792,000

- Remodel to correct key deficiencies
- Provide new station where major deficiencies cannot be resolved by remodeling

Recommendations

Operational Assessment of New & Remodeled Stations

CATEGORY	REFERENCE	STATION NUMBER						
		1	2	2T*	3	4	5	6
ESSENTIAL SERVICES		Remodel	New	New	Remodel	Remodel	N/A	Remodel
Structurally Upgraded	ASCE 41-13	?		N/A	?	?		?
OPERATIONS								
Apparatus Ingress/Egress	Best Practice							
Apparatus Accommodation	Best Practice			N/A	<1>			
Circulation for Turnout	Best Practice			N/A				
Training Facility	Best Practice	N/A	N/A		N/A	N/A	N/A	N/A
CARCINOGEN & INFECTIOUS DISEASE								
Decon Cleaning	NFPA 1581.5.6.4							
Medical Cleaning	NFPA 1581.7			N/A				
Transition Zone	NFPA 1581.5.1.3			N/A				
House Cleaning	NFPA 1581.5.6			N/A				
PPE (Turnout) Storage	NFPA 1581.5.5.4.1							
SCBA/Oxygen Refilling	NFPA 1852.7.2			N/A	N/A	N/A	N/A	N/A
Kitchen	NFPA 1581.5.2			N/A				
Floor Surfaces	Best Practice							
Exercise Room	NFPA 1500.11.3.1			N/A				
ADA								
Parking/Entry	CAC 11B.404.2							
Restroom/Bathroom	CAC 11B.213.2							
Kitchen	CAC 11B.212.1			N/A				
GENDER ACCOMMODATION								
Gender Accommodation	Best Practice							
SUSTAINABILITY								
Sustainability	LEED							

CHART KEY:

	Meets Best Practice
	Marginally Meets Best Practice
	Does Not Meet Best Practice
2T*	Station 2 Training Facility
<1>	Station 3 currently has a truck which does not fit into the apparatus bay with proper circulation access

Recommendations

Assessment of Existing Stations

CATEGORY	REFERENCE	STATION NUMBER						
		1	2	2T*	3	4	5	6
ESSENTIAL SERVICES								
Structurally Upgraded	ASCE 41-13	?	?	N/A	?	?		?
OPERATIONS								
Apparatus Ingress/Egress	Best Practice							
Apparatus Accomodation	Best Practice			N/A				
Circulation for Turnout	Best Practice			N/A				
Training Facility	Best Practice	N/A	N/A		N/A	N/A	N/A	N/A
CARCINOGEN & INFECTIOUS DISEASE								
Decon Cleaning	NFPA 1581.5.6.4							
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Kitchen	NFPA 1581.5.2			N/A				
Floor Surfaces	Best Practice							
Exercise Room	NFPA 1500.11.3.1			N/A				
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Parking/Entry	CAC 11B.404.2							
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GENDER ACCOMMODATION								
Gender Accommodation	Best Practice							
SUSTAINABILITY								
Sustainability	LEED							

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2T*	Station 2 Training Facility

Assessment of New and Remodeled Stations

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ESSENTIAL SERVICES		Remodel	New	New	Remodel	Remodel	N/A	Remodel
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OPERATIONS								
Apparatus Ingress/Egress	Best Practice							
Apparatus Accommodation	Best Practice			N/A	<1>			
Circulation for Turnout	Best Practice			N/A				
Training Facility	Best Practice	N/A	N/A		N/A	N/A	N/A	N/A
CARCINOGEN & INFECTIOUS DISEASE								
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Kitchen	NFPA 1581.5.2			N/A				
Floor Surfaces	Best Practice							
Exercise Room	NFPA 1500.11.3.1			N/A				
ADA								
Parking/Entry	CAC 11B.404.2							
Restroom/Bathroom	CAC 11B.213.2							
Kitchen	CAC 11B.212.1			N/A				
GENDER ACCOMMODATION								
Gender Accommodation	Best Practice							
SUSTAINABILITY								
Sustainability	LEED							

<1> Station 3 currently has a truck which does not fit into the apparatus bay with proper circulation access

Next Steps

Staff Recommendation

- Station 2 Replacement (Priority, proposed in both options)
 - ◆ Program into Capital Budget in FY2022/23 using general fund capital reserves
 - ◆ 3-4 years for design, permitting, bid and construction
- Add other station projects during the capital budget cycle (funded or unfunded)
- Replacement/Renovation decisions do not need to be made at this time
- Council Feedback?