ORLEANS FIRE RESCUE

FEASIBILITY STUDY—MILESTONE #1

Orleans, Massachusetts

November 10, 2022

KAESTLE BOOS associates, inc

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1.1 EXECUTIVE SUMMARY

In the spring of 2022, Kaestle Boos Associates (KBA), based in Foxborough, MA., was selected by the Town of Orleans (the Town) to participate in a feasibility study to evaluate potential locations and develop conceptual designs for a new Fire Rescue Station (FRS). The existing FRS at 58 Eldredge Park Way is over 35 years old and the fire rescue department's service population and technology have outgrown the current building.

Prior to KBA's selection, the Town issued a Request For Proposal (RFP), in accordance Mass General Law Chapter 30B, soliciting property owners, within a desirable response time area, to respond if they were willing to consider selling their property to accommodate the construction of a new Fire Rescue Station. In addition, targeted letters were sent to owners whose property was deemed to be potentially desirable. No responses were received. Also, the Orleans Elementary School Committee (OESC) initially agreed to participate with the Town during the feasibility study to explore the conveyance of approximately one acre of their property 46 Eldredge Park Way adjacent to the current FRS, for construction of a new station.

In the development of this study, the scope was distributed amongst the design team as follows:

- KBA staff members were responsible for site selection analysis, conceptual building and site design and an opinion of probable costs.
- Mitchell Associates Architects (MAA) was responsible for the operational needs programming to determine a conceptual layout of the building along with the overall space requirements

Milestone #1 of the Study commenced with an assessment of three municipally owned sites, 18 Bay Ridge Lane (former Parks and Highway Facility), 46 Eldredge Park Way (Orleans Elementary School property) and 139 Main Street (Town Hall Annex) which were identified by the Orleans Fire Rescue Station Feasibility Study Committee (the Committee).

KBA's investigations concluded that the Bay Ridge Lane and Main Street sites should be eliminated due to general size, location, and adverse impact on Town Operations currently conducted on these sites. It was further concluded that the utilization of the one acre of Orleans Elementary School property at 46 Eldredge Park Way abutting the current FRS, while presenting significant challenges in the form of topography, adjacencies, site development costs and public utilities, was feasible for a one building scenario. However, significant investments in improvements would be needed to enhance traffic flow for the school and the FRS. Acquisitions or conveyance of easements from other abutting property were also required to accommodate traffic and use of municipal utility services. The detailed site analysis is presented in Section 2.1 & 2.2 of this report.

Concurrently, MAA facilitated a series of meetings with key Fire Rescue department staff and members of the Committee to assess the needs of the department. The draft product of those meetings is a

Space Needs Program developed based on the synergies of combining the operational and administrative operations in a single two-story, new facility. As a result of this analysis, it was determined that an approximate 36,000 square foot facility with a footprint of approximately 18,000 square feet was required to meet both operational and administrative needs. MAA's draft findings are summarized in Section 2.3 of this report.

After the recommended Orleans Elementary School site was presented in July 2022 by KBA at a joint meeting of the Fire Rescue Station Feasibility Study Committee and the Orleans Elementary School Committee. The School Committee voted not to accept the site development concepts and to participate no further in the Feasibility Study. As a result of this vote and a subsequent decision by the Orleans Select Board, the project was paused until further notice while the Select Board pursues a suitable site for construction.

The 46 Eldredge Park Way (Orleans Elementary School) site is the only feasible option, of the locations available for consideration in this study and is in an advantageous location. Due to the noted challenges with this site, the Town may want to explore other sites not previously identified that would also maintain favorable response times.

It should be noted that the RFQ also included Milestone #2 (Development of Building Models and Probable Costs) and Milestone #3 (Refinement of a Conceptual Design) (see Appendix D). Work should continue on these milestones when a new building site is secured.

2.1.A SITE 1 – 46 ELDREDGE PARK WAY

P3. 46 Eldredge Park Way Site Plan (Town of Orleans GIS)

SITE NARRATIVE – EXISTING FIRE RESCUE STATION

Site 1 is the existing Orleans Fire Rescue Station (FRS) and it is located at 58 Eldredge Park Way, southeast of the Orleans Elementary School (OES), which is at 46 Eldredge Park Way. The existing Station is located on the OES property of 23 acres. There are no surveyed boundary lines between the school and the station. Mature trees, predominantly non-native locust, separate the school from the station on the North and West sides. The existing station is a two-

story block and brick façade building with two truss shingled roofs (shown in red, P3). The first floor (basement) has the apparatus bays with three garage spaces where fire trucks currently back-in to park. The second floor has two rescue vehicle garage spots with its driveway having a severe slope change.

P4. 58 Eldredge Park Way Site Plan (Google Earth Satellite)

Both Fire Rescue Station's driveways have excessively sloped grades, in some sections, close to ten percent. The up and down elevations of the driveways add to the difficulty of controlling the vehicles especially during snow and ice conditions. Currently, the only access to Eldredge Park Way accommodates two-way traffic for both public and emergency business. In addition to the excessive grade, the width is too narrow at 20'. A modern Fire-Rescue Station in a neighboring town has a two-way public business driveway that is 24'; their emergency vehicle driveway is approximately 26' wide. The single means of egress has already proven to be a

liability in the event of an obstruction at the driveway intersection with Eldredge Park Way. There is no sidewalk alongside the driveway connecting the FRS to Eldredge Park Way.

The developable area of the site is zoned as R – Residential, municipal buildings are allowed in this zone by special permit.

The existing station site is served by municipal water and a septic system. Municipal sewering would be critical to a future station's operation.

SITE 1 DATA TABLE

Property Information	**Fire Rescue Station**
Address	46 Eldredge Park Way
Parcel ID (map-block-lot)	40-0-65
Lot Size (acres)	23
Current Uses	Elementary School, public tennis courts, and Fire-Rescue Station
No. of Buildings on Site	2 Existing
Ownership	Town of Orleans, under jurisdiction of the Elementary School Committee
Appraised Value (FRF only)	$2,147,800.00 building "only"
Legal Restrictions	Under jurisdiction of the Elementary School Committee
Physical Site Features	
Site Natural Features	Mature landscape
Topography	Sloping occurs on mature landscape zones
Soils	Sandy
Critical Habitat	No
Vegetation	Mature landscape on the N, S, and W
Flood Plain	None
Vernal pools	None
Regulatory and Environmental	
Wetlands	
Habitat	Developed landscape
Aquifer Recharge Zone	No
Aquifer Protection Zone	No
Existing Zoning	R
Max. Coverage Requirements	OES& FRS = 5.4%, Max. Coverage by Code 15%
Setback Requirements	Front: 25' Side: 25' Rear: 25'
Max building height Req.	30'
Abutting Land Uses	
North Side	Orleans Conservation Trust
East Side	Nauset Regional Middle School and its Athletic Fields
South Side	Commercial Offices

Property Information	Fire Rescue Station
West Side	Orleans Elementary School
Vehicular Accessibility	Direct Arterial, Eldredge Park Way (W-E)
Utility Services Available	
Municipal Water or well	Municipal
Municipal Sanitary Sewer	No, planned to be installed in the next few years
Electric	Single phase, the current building capacity is 400amps.
Gas	Yes
Other Site Features/Comments	One access road for FRS
Significant Site Specific Construction Costs	Existing FRS demo, campus wide parking lot and driveway improvements, sewer infrastructure, excessive fill and structural compaction, potential interruptions to the education process and professional practices, relocation of electrical, water and gas utilities, five abutter easements

SITE SUMMARY – EXISTING FIRE STATION

Due to the lot configuration, topography and the shared nature of the site, the station only has minimal room for expansion of the building and parking without impacting the adjacent school uses.

The existing parking currently does not meet the need of staff, and the public. 34 spaces currently exist on site, 38 spaces are needed per current staffing and programming expectations. Existing uses at this location make expansion at this location not feasible.

The response times from the current location have allowed the fire department to serve the community for many years.

Criterion Associates was contracted by the Town of Orleans to conduct a Location Study to determine, based on the Fire-Rescue Department call history, the best location for a new station. The report can be found in Appendix E.

In summary the Town is faced with very limited possibilities to host a modern and responsibly sized Fire-Rescue Station within an area desirable for minimizing emergency response times serving Orleans as a whole.

The complex challenges of this site include the simultaneous conveyance of abutting property and / or easements in four, possibly five, critical areas; utility improvements are also critical including a new neighborhood sewer collection system, conversion to 3-phase electricity; likely relocation of OES's incoming electrical service; relocation of water and gas services; likely

interruption to the operations of abutting businesses as well as the school and fire-rescue station during intense periods of soil compaction; required demolition of the existing station including the abatement of known hazardous building materials all contribute to a complex and costly project.

The 46 Eldredge Park Way (Orleans Elementary School) site is the only feasible option, of the locations available for consideration in this study and is in an advantageous location. Due to the noted challenges with this site, the Town may want to explore other sites not previously identified that would also maintain favorable response times.

EXISTING FIRE RESCUE STATION - EXISTING CONDITIONS IMAGES

Figure 1.1. *Driveway off of Eldredge Park Way*

Figure 1.2. *Fire Rescue Station Building and main entrance*

Figure 1.3. *East face of building and staff entry*

Figure 1.4. *Back apparatus exit*

Figure 1.5. *Apparatus bays*

Figure 1.6. *Road slope from Apparatus Bay*

Figure 1.7. *Road leading to apparatus bay*

Figure 1.8. *Road to Eldredge Park Way*

Figure 1.9. *OES parking and driveway loop*

Figure 1.10. *Orleans Elementary School building*

Figure 1.11. *OES main entrance*

Figure 1.12. *OES secondary entrance*

Figure 1.13. *OES driveway & visitor parking on right*

Figure 1.14. *OES access road from Eldredge Park Way*

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2.1.B SITE 2 – 139 MAIN STREET

P5. 139 Main Street Site Plan (Town of Orleans GIS)

SITE NARRATIVE – 139 MAIN STREET – ORLEANS TOWN HALL ANNEX

Site 2 on Main Street is the second town owned property reviewed as part of this study, and it is 2.11 acres in size. The current building served for many years as the American Legion Hall. In 2002 it was purchased by the town and now functions as Town Hall Annex. This site is within the planned Phase 2 sewer district. It is located across from the Town Hall, separated by School Road. The site currently has 47 parking spaces and has vehicular access roads from Main Street and School Road. The Centers for Cultural and History in Orleans (Historical Society) building is located on the north side abutting parcel, and shares parking with the town. The core of the

site is relatively flat; however it sharply slopes 10' down to School Road on the southeast. There is some mature vegetation on the northwest side of the property. The parcel is zoned as R-Residential. Municipal buildings are allowed in this zone by special permit.

SITE 2 DATA TABLE

Property Information	Orleans Recreation Department
Address	139 Main Street
Parcel ID (map-block-lot)	35-0-120-2
Lot Size (acres)	2.11
Current Uses	Town Hall Annex. Shared parking for Town and Centers for Culture and History in Orleans
No. of Buildings on Site	1 Existing
Ownership	*Town of Orleans*
Appraised Value	$417,900.00 land; $372,400 building
Legal Restrictions	
Physical Site Features	
Site Natural Features	Sloping lawn, mature landscape
Topography	Sloping West to East
Soils	Sandy – non structural fill
Critical Habitat	No
Vegetation	Mature landscape - minimum mature trees
Flood Plain	None
Vernal pools	None
Regulatory and Environmental	
Wetlands	No wetlands on site
Habitat	Developed landscape
Aquifer Recharge Zone	No
Aquifer Protection Zone (Certain Discharge regs apply)	No
Existing Zoning	R
Max. Coverage Requirements	Max. Coverage by Code 15%
Setback Requirements	Front: 25' Side: 25' Rear: 25'
Max building height Req.	30'
Abutting Land Uses	
North Side	Centers for Culture and History in Orleans
East Side	Town Offices
South Side	American Legion Inc.
West Side	American Legion Inc.
Vehicular Accessibility	Direct Arterial from Main Street (W-E)
Utility Services Available	
Municipal Water or well	Municipal
Municipal Sanitary Sewer	Planned in Phase 2

Property Information	Orleans Recreation Department
Electric	Yes
Gas	No, heating oil
Other Site Features/Comments	
Significant Site Specific Construction Costs	

SITE SUMMARY – 139 MAIN STREET

This location is not feasible for the following reasons:

- Site too small for Fire-Rescue operations and parking.
- Town Hall Annex would need to be demolished eliminating a valuable town resource.
- Would displace parking which is required for Town Hall overflow and Centers for Culture and History in Orleans events.
- Undesirable co-mingling of public and first responder vehicles.
- Set back requirements cannot be met.
- Unsuitable sub-surface materials.
- Change in grade down to School Road unacceptable.

TOWN HALL ANNEX - EXISTING CONDITIONS IMAGES

Figure 2.1. *Town Hall Annex*

Figure 2.2. *Historical Society Bldgs., North*

Figure 2.3. *Orleans Historical Society bldg.*

Figure 2.4. *Orleans Historical Society bldg. back*

Figure 2.5. *School Rd., Town Hall Annex on right*

Figure 2.6. *View from School Rd.*

Figure 2.7. *Steps to School Rd.*

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2.1.C SITE 3 – 18 BAY RIDGE LANE

P6. 18 Bay Ridge Lane Site Plan (Town of Orleans GIS)

SITE NARRATIVE – 18 BAY RIDGE LANE

Site 3 on Bay Ridge Lane is the third town owned property in this study. This lot is 3 acres in size and is currently utilized for storing materials and equipment.

There are five existing buildings on site, and several storage units. The site was backfilled to achieve a relatively flat surface throughout; however, it slopes sharply to wetland areas to the south and west. Along the south and west perimeters there is vegetation comprised of native and invasive species. The parcel is zoned as General Business.

SITE 3 DATA TABLE

Property Information	**Storage Lot**
Address	18 Bay Ridge Lane
Parcel ID (map-block-lot)	39-0-23
Lot Size (acres)	3
Current Uses	Storage
No. of Buildings on Site	5 Existing
Ownership	*Town of Orleans*
Appraised Value	$543,006 land; $290,800 buildings, $4,600 detached items
Legal Restrictions	
Physical Site Features	
Site Natural Features	Within wetland buffer zone, mature vegetation
Topography	Sloping east down to west
Soils	Sandy – non structure bearing soils
Critical Habitat	No
Vegetation	Mature sparse landscape
Flood Plain	None
Vernal pools	None
Regulatory and Environmental	
Wetlands	Wetlands buffer on site on south and west parameters
Habitat	Full spectrum of wild species in adjacent areas
Aquifer Recharge Zone	No
Aquifer Protection Zone (Certain Discharge regs apply)	No
Existing Zoning	GB
Max. Coverage Requirements	FAR: 40% maximum; impervious 75% maximum
Setback Requirements	Front: 25' Side: 10' Rear: 10'
Max building height Req.	30'
Abutting Land Uses	
North Side	Light Industrial
East Side	Commonwealth of Massachusetts, Transportation Building
South Side	Undeveloped wetland areas
West Side	Undeveloped wetland areas
Vehicular Accessibility	Bay Ridge Lane
Utility Services Available	
Municipal Water or well	Municipal Water
Municipal Sanitary Sewer	No

Property Information	Storage Lot
Electric	Yes – 3 phase
Gas	Natural gas
Other Site Features/Comments	
Significant Site Specific Construction Costs	

SITE SUMMARY – 18 BAY RIDGE LANE

This location is not feasible for the following reasons:

- Remote from the town center resulting in a longer response time than the FRS current response time.
- Site too small for Fire-Rescue operations and parking.
- Proximity to wetlands constrains space for construction.
- Unsuitable sub-surface materials.
- DPW buildings would need to be demolished, potentially exposing hazardous materials that will need to be abated.
- Would displace active DPW storage facility.
- Municipal sewers not currently planned for this site.

STORAGE LOT - EXISTING CONDITIONS IMAGES

Figure 3.1. *Main entry from Bay Ridge Lane*

Figure 3.2. *Property Buildings*

Figure 3.3. *Earth material*

Figure 3.4. *E view to Bay Ridge Lane, main access road*

Figure 3.5. *Largest building structure*

Figure 3.6. *Earth material and storage*

Figure 3.7. *Building*

Figure 3.8. *Property detached structures*

Figure 3.9. *View of Bay Ridge Lane*

2.2 SITE DESIGN PROGRAMMING AND SCOPE

Three sites were selected by the Orleans Select Board to study the construction of the new Fire Rescue Station. KBA developed three pre-designs for the selected sites to suit the Fire Rescue Station's program:

- 18,000 SF building footprint
- Two 80-100' apparatus bays on both sides of the building: one required at 100' for training
- Access road 1 (Shared public/fire entrance)
- Access road 2 (Emergency access only for FRS)
- Separate staff and visitor parking
    - 21 staff and admin. parking spaces
    - 17 visitor parking spaces

The three pre-designs were presented to the Select Board in June of 2022, and the 46 Eldredge Park Way Orleans Elementary School, adjacent to the current Fire-Rescue Facility at 58 Eldredge Park Way was approved for further design development. Due to location, lot size, topography, buffer zone, and vehicle circulation constraints, the properties at 139 Main Street and 18 Bay Ridge Lane were not further developed for construction design (Refer to Appendix A, Plans 8 and 9).

KBA's conceptual design for the 46 Eldredge Park Way property addresses the Fire-Rescue Station's program and the Orleans Elementary School need for better school drop-off and traffic circulation (Appendix B).

Recommended Site – 46 Eldredge Park Way

46 Eldredge Park Way is the only site, of the three, that has the potential to support a Fire Rescue Station building based on the size and operation programming investigations.

The 18,000 SF building footprint has two 80' (West) and 100' (East) apparatus bays. The school's concrete plaza addition divides bus and parent drop off zones, easing traffic flow and increasing student safety.

P7. Site 1 – Conceptual Design

Campus Circulation

- **Access road 1** (bottom right of P7 diagram above) **–** A shared 26' road for the school and fire department is not for public use but strictly to separate the buses from the parent drop-off area to increase safety and minimize traffic flow. The school buses will only use this entry for daily drop off and pick up events (P7. yellow line). Having a connected road to the school serves as a secondary FRS emergency egress way. This primary entrance would mainly serve the emergency vehicle and FRS staff for parking (P7. Red line). Grade fill will be Extensive site grading is required to allow unimpeded emergency vehicle traffic to and from the apparatus bays.

- **Access road 2** (bottom center of P7 diagram above) **–** Through informal, yet extensive, communication, the abutter has been made aware of the town's interest to acquire a permanent easement of currently undeveloped land to install a 2-way public access road with sidewalk and lighting.

- **OES access road** (bottom left of P7 diagram above) **–** The only access road to the school for staff (P7. orange line), and public (P7. blue line), would require widening to allow proper 2-way traffic and allow vehicle interaction from the perpendicular spaces. A raised concrete sidewalk and lighting would enhance pedestrian traffic from Eldredge Park Way.
  The school, FRS business and authorized vehicle driveways would all require Eldredge Park Way sidewalk modifications for accessibility compliance.

- **Drop-Off/Pick up** (top center of P7 diagram above) **–** A concrete plaza in front of the school is intended to create uninterrupted student access drop-off zone (P7. purple line). It separates school buses and parent drop-off/pick- up areas. A weather canopy extending from the school to the end of the Drop-Off/ Pick-Up area is also planned.

- **Parking –** The proposed Fire Rescue Station will have two separated parking areas with 46 spaces, 24 for staff and 22 for public. It may be possible to add spaces along the traffic loop to allow for large special events. The school currently has 82 parking spaces, the design proposes two separated parking areas, 90 for staff and 67 for visitors.

Other renovations

- Tennis courts – The bus loop and expanded parking would require court modifications to shift the distance of one court to the east.

- Relocation of school's electrical service including at least one pole and the transformer are required for wider roadways. Improved site lighting for traffic, parking and potentially the tennis courts is also planned.

- A water service loop extending through authorized vehicle access road, including new and relocated hydrants are envisioned to accommodate the widened roadways and eliminate existing pressure drops to the school service.

- A "cross-county" sewer service is planned to originate from Route 6A allowing for the school and the FRS to connect via gravity. Orleans' Wastewater Consultant AECOM has completed enough preliminary investigations to determine that there is sufficient capacity to also connect the Middle School (most likely through a low pressure force lateral), Clayton Circle and Nickerson Road residents. AECOM is confident enough to proceed with State Revolving Fund applications during future phasing.

In conclusion, Site 1 conceptual-design site plan (P7) proposes a feasible solution to meet the FRS programming requirements while greatly enhancing school's traffic circulation with increased pedestrian safety.

2.3 SPACE NEEDS PROGRAM

SPACE NEEDS PROGRAM SUMMARY

At the start of the Orleans Fire Rescue Feasibility Study, Mitchell Associates Architects (MAA) issued a department questionnaire and began a series of meetings with key Fire Department staff to assess both the current and future needs of the department. MAA's analysis included reviewing the current department operating procedures, inventorying the existing physical assets, and projecting probable growth trends over time.

The product of these meetings was a Space Needs Program that identified the requirements in terms of both spaces and equipment to adequately respond to the assessed demands of the next half-century.

Working concurrently with the design team at Kaestle Boos Associates, MAA's report reflects the basis of a prototype facility, combining administrative and operation functions, based on actual task-area configurations, into a two-story structure of approximately 36,000 square feet. The exact size of a facility suitable to Orleans requires a more in-depth analysis by the Designers, the Study Committee and Town Staff through the process of completing Milestones Two and Three once a site has been acquired.

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Orleans Fire Station Program Document

1st Program Meeting Date**: 5/31/22**

Printout Date: **July 6, 2022** Filename: Orleans Fire Program.docx

This document is not meant to be limited to a description of your current station.

Indicate what you will need for proper operations when you move in, and try to forecast what you will need 10 years after move-in.

A General Information

A1. Staffing Level at Station: total: **7 per shift** female: **2 in department**

A2. Future Possible: **10**

A3. Typical Turnout: **2-4**

A4. Typical Callback Turnout: **1 to 3, or full department for storm or fire**

A5. On-Call: **2**

A6. Number of Shifts: **4**

A7. Number of calls/year at station: **2800 now** → **3200+**

A8. Number of fires responded to/year at station: **20-25**

A9. Administrative Staffing: **5**

A10. Building Committee:

Meeting Attendance/Date:	5/31	6/13	6/21	6/27	7/6			
A9.1. **Chief Deering**	☒	☒	☒	☒	☒	☐	☐	☐
A9.2. **Tim Gula**	☒	☒	☒	☒	☒	☐	☐	☐
A9.3. **Ron Collins, Town Facilities Mgr.**	☒	☐	☒	☐	☐	☐	☐	☐
A9.4. **Tom Finan, Chair**	☒	☐	☒	☐	☒	☐	☐	☐
A9.5. **Alexis Mathison**	☒	☐	☒	☐	☐	☐	☐	☐
A9.6. **Al Nickerson, Comm.**	☐	☒	☒	☒	☒	☐	☐	☐
A9.7. **Ken Heritage**	☐	☒	☒	☐	☒	☐	☐	☐
A9.8. **Mark Ziomek**	☐	☒	☒	☐	☐	☐	☐	☐
A9.9. _____	☐	☐	☐	☐	☐	☐	☐	☐
A9.10. **Kevin Witzel**	☒	☐	☒	☒	☐	☐	☐	☐
A9.11. **Bob Mitchell**	☒	☒	☒	☒	☒	☐	☐	☐

A11. Type of entity:

A11.1. Municipality: **Town department**

A12. Date of Department monthly meeting: **Subsidiary of Select Board**

B Functional Activities in Building

B1. Types of response:

B1.1. Fire: **Yes**

B1.2. EMS: **Yes**

B1.3. Heavy Rescue: **Yes**

B1.4. HAZ MAT: **Very Little**

B1.5. Water Rescue: **Yes**

B1.6. Technical Rescue: Yes

B1.7. Ambulance: **Yes**; Transporting: **Yes**

B2. Training activities in building:

B2.1. **Didactic and practical**

B2.2. **Medical Sim Lab**

B3. Training activities on site:

B3.1. **Flow water & pump training**

B3.2. **Roof props**

B3.3. **Ladders**

B4. Fuel Filling Station: **No**

B5. Other uses of apparatus bay:

B5.1. Other: **Department dinner & pancake breakfast**

B6. Sleeping Over:

B6.1. Now

.6.1.1. Intermittent, short duration: **Yes**

B6.2. Future – **Higher quantity**

B7. Standing by: **Yes**

B7.1. Will other fire companies park their apparatus in the bay under certain circumstances: **Yes?**

.7.1.1. Is their access to the building to be limited: **Yes, if possible**

.7.1.2. Describe: **Maybe a Ready Room**

B8. Emergency Shelter:

B8.1. Who stays in building: **Capacity to house entire staff in a storm (15 to 18 people)**

B8.2. Special needs: **Sleeping in the meeting room**

B8.3. Special storage: **Store 8 cots & bedding**

B9. Firematic Business:

B9.1. Describe:

.9.1.1. **Chief**

.9.1.2. **Deputy Chief**

.9.1.3. **Fire Inspector**

.9.1.4. **EMS Coordinator**

.9.1.5. **(4) Captains (1 room with 4 desks)**

.9.1.6. **Office Manager**

.9.1.7. **Future Training Officer**

.9.1.8. **Two Spare**

B10. Biggest Challenge for the future viability of the station: **Anticipating future demand for service and required staffing**

B11. Meetings:

B11.1. Type: **Command Staff**; size: **12**; frequency: **2/month**

B11.2. Type: **Associations**; size: **20-25**; frequency: **3 or 4/month**

B11.3. Type: **Union**; size: **20-25**; frequency: **1/month**

B12. Social Life:

B12.1. Daily recreation – describe: **Training, workout, equipment & vehicle repairs, online classes towards college degrees**

B12.2. Periodic recreation – describe: **Pancake breakfast (1/year) – 200-300 people**

B12.3. Outdoor recreation – describe: **Picnic-grill, basketball**

B13. Misc. Activities

B13.1. **Citizen Fire Academy**

B13.2. **Stop the Bleed Classes**

B13.3. **Choke Saver Classes**

B13.4. **CPR Classes**

B14. Access control:

B14.1. Electronic access: **Yes**

B14.2. Vendor's access to drop off material: **Yes**; where: **Near EMS**

APPARATUS

1 Apparatus Bays

1.1 Number of vehicles: **10**; # of bays: **5**

Front Line Vehicles

1.1.1 Name: **E175** ; type: **Engine** ; length: **32'6"** ; weight:

1.1.2 Name: **T176** ; type: **Tower** ; length: **41'6"** ; weight:

1.1.3 Name: **A172** ; type: **AMB** ; length: **25'** ; weight:

1.1.4 Name: **A173** ; type: **AMB** ; length: **25'** ; weight:

1.1.5 Name: **Future** ; type: **AMB** ; length: **25'** ; weight:

Second Line Vehicles

1.1.6 Name: **A174** ; type: **AMB** ; length: **25'** ; weight:

1.1.7 Name: **E177** ; type: **Engine** ; length: **30'4"** ; weight:

1.1.8 Name: **C170** ; type: **Util** ; length: **21'8"** ; weight:

1.1.9 Name: **F169** ; type: **Forest** ; length: **20'4"** ; weight:

1.1.10 Name: **M601** ; type: **Boat** ; length: **26'6"** ; weight: **on Trailer**

1.2 Type of bays:

1.2.1 Drive-through: **Yes**; quantity: **All**

1.3 Wash bay: **No;** Where: **Wash in place**

1.4 Plan for future expansion of bays: **Yes**; # **1**

1.5 Overhead doors:

1.5.1 Front:

1.5.1.1 Number: **5**

1.5.1.2 Width: **13'-4";** Height: **14'**

1.5.1.3 Windows: **Partial**

1.5.2 Rear:

1.5.2.1 Number: **5**

1.5.2.2 Width: **13'-4";** Height: **14'**

1.5.2.3 Windows: **Partial**

1.6 Signage requirements: **4 display screens**

1.7 Trench drains: **Under vehicles**

1.8 Wall mounted water hose reels: **Yes**; Quantity: **6**; Tempered: **No, except for hose washer**

1.9 Fume exhaust: **Yes**; Type: **Currently Plymovent**

1.10 Truck fills:

1.10.1 Wall hydrant: **Yes;** Quantity: **3 or 4, depending on bay layout**

1.10.2 Outdoor hydrant: **Yes;** Quantity: **1**

1.11 Overhead electrical drops: **Yes**; Quantity: **Each Vehicle**

1.12 Overhead airdrops: **Yes**; Quantity: **Engines/Tower**

1.13 Compressed air for tools: **Yes**

1.14 Wall mounted air hose reels: **YES**; Quantity: **2+**

1.15 Utility sinks: **Yes;** Where: **Janitor's closet**

1.16 Hand wash sinks: **Yes;** Where: **Near doors to warm zone**

1.17 Water fountain/bottle filling station: **Yes**

1.18 Storage of Diesel Exhaust Fluid: **Yes**

1.19 Pressure Washer: **Yes**

1.20 Under Carriage Washer: **Yes**

1.21 Do you use chains: **No**

1.22 Epoxy flooring: **Yes**

1.23 Wall construction type: **CMU**

1.24 Comments: **Center columns should have a cabinet under the countertop**

1.25 Size: **6,933** sq ft

2 Accessory Apparatus Bay 1 (Staff Cars)

2.1 Number of vehicles: **4**; # of bays: 4

2.1.1 Name: **171**; type: **SUV**; length: **16'11"**

2.1.2 Name: **179**; type: **SUV**; length: **16'11"**

2.1.3 Name: **167**; type: **SUV**; length: **17'**

2.1.4 Name: **166**; type: **SUV**; length: **19'2"**

2.2 Type of bays:

2.2.1 **Single deep back-in**

2.3 Plan for future expansion of bays: **No**

2.4 Overhead doors:

2.4.1 Front:

2.4.1.1 Number: **4**

2.4.1.2 Width: **10'**; Height: **10'**

2.4.1.3 Windows: **2 rows**

2.5 Signage requirements: **1 display screen**

2.6 Square drains: **Under vehicles**

2.7 Wall mounted water hose reels: **One**

2.8 Fume exhaust: **Dilution with HRV's**

2.9 Overhead electrical drops: **No, but plan for future plug-in vehicles**

2.10 Overhead airdrops: **No**

2.11 Wall mounted air hose reels: **Yes**; Quantity: **One**

2.12 Utility sinks: **One**

2.13 Hand wash sinks: **One**

2.14 Water fountain/bottle filling station: **No**

2.15 Epoxy flooring: **Yes**

2.16 Wall construction type: **CMU**

2.17 Comments: **Near administration**

2.18 Size: **1,540** sq ft

3 Accessory Apparatus Bay 2

3.1 Number of vehicles: **5**; # of bays: **5**

3.1.1 Name: **SH610** ; type: **Util** ; length: **23'2"**; weight:

3.1.2 Name: **Spill Trailer** ; type: **Trailer** ; length: **23'10"**; weight:

3.1.3 Name: **ATV w/o Trailer**; type: ; length: **12'7"**; weight:

3.1.4 Name: **ATV w/ Trailer** ; type: ; length: **16'6"**; weight:

3.1.5 Name: **Lighting** ; type: ; length: **14'6"**; weight:

3.2 Type of bays:

3.2.1 **Single deep, back in**

3.3 Plan for future expansion of bays: **If possible**

3.4 Overhead doors:

3.4.1 Front:

3.4.1.1 Number: **5**

3.4.1.2 Width: **12'**; Height: **12' except spill trailer needs 14'**

3.4.1.3 Windows: **Two rows**

3.5 Signage requirements: **No**

3.6 Trench drains: **Centered under vehicles**

3.7 Wall mounted water hose reels: **Yes**; Quantity: **One**; Tempered: **No**

3.8 Fume exhaust: **Dilution**

3.9 Overhead electrical drops: **No**

3.10 Overhead airdrops: **No**

3.11 Compressed air for tools: **Small wheeled compressor**

3.12 Wall mounted air hose reels: **No**

3.13 Utility sinks: **Yes**

3.14 Hand wash sinks: **No**

3.15 Water fountain/bottle filling station: **No**

3.16 Storage of Diesel Exhaust Fluid: **No**

3.17 Epoxy flooring: No

3.18 Wall construction type: **Metal building**

3.19 Comments: **Thermostat at 50 degrees**

3.20 Size: **2,736** sq ft

FIREMATIC SUPPORT

4 Mezzanine

4.1 Use: **Training/Storage**

4.2 Training Features: **Ladder evolutions, bail out, confined extrication, mask confidence, etc.**

4.3 Manhole size/type: **YES – Sewer System**

4.4 Items to be located in this space:

4.4.1 **Training props**

4.4.1.1 **Movable walls**

4.4.1.2 **entanglement**

4.5 Location: **Contiguous apparatus bay on both sides**

4.6 Size: **1,000** sq ft

5 Storage Room #1

5.1 Items to be stored:

5.1.1 **Tools**

5.2 Security: **Lockable**

5.3 Adjacencies: **apparatus bay**

5.4 Comments: **Robust construction**

5.5 Size: **216** sq ft

6 Storage Room #2

6.1 Items to be stored:

6.1.1 **Supplies**

6.2 Security: **Lockable**

6.3 Adjacencies: **apparatus bay**

6.4 Comments: **Robust construction**

6.5 Size: **216** sq ft

6A Quartermaster Storage

- Items to be stored:
  - **Supplies**
- Security: **Lockable**
- Location: **Mezzanine**
- Comments: **Protect from Apparatus Bay contaminants**
- Size: **112** sq ft

7 Hose Cleaning & Storage

7.1 Operational Comments:

7.1.1 **Near Apparatus – w/Floor Drain**

7.2 A room, or on the floor: **Room**

7.3 Hose racks: **#1 @ 8'**

7.4 Hose drying: **Yes**; Describe: **Cabinet Dryer**

7.5 Hose washer: **Yes**; Describe: **Circul Air**

7.6 Hose winder: **Yes**; Describe: **Tipping Disk**

7.7 Inventory:

7.7.1 5" LDH: **2** @ 50', **4** @ 100' [7 ½" footprint]

7.7.2 2 ½": **10**@ 50' [4" footprint]

7.7.3 1 ¾": **20**@ 50' [3" footprint]

7.7.4 Total LF of hose rack = **8'**

7.8 Adjacencies**: Apparatus Bay**

7.9 Comments: **Needs hot water**

7.10 Size: **142** sq ft

Fire Investigation Storage – Small, secure storage cage somewhere

8 Yard Storage

8.1 Use: **Snow Blower / Shovels / Salt / Fuel**

8.2 Items to be stored:

8.2.1 **Yard tractor**

8.2.2 **Mower**

8.2.3 **Snow blower**

8.2.4 **Out of season grill**

8.2.5 **Flammable cabinet**

8.2.6 **(3) 55-gallon waste oil drums**

8.2.7 **Shelving for small equipment containing fuel**

8.3 Security: **Lockable**

8.4 Adjacencies: **Apparatus Bay**

8.5 Comments: **Doors to interior and exterior**

8.6 Size: **286** sq ft

9 Dive Team Storage Room

9.1 Items to be stored:

9.1.1 **Equipment for 4 divers**

9.1.1.1 **Dive suit**

9.1.1.2 **Bottles**

9.1.1.3 **Compensators**

9.1.1.4 **Gear bag for mask & fins**

9.1.2 **8 gumby suits**

9.1.3 **12-15 Personal Floatation Devices**

9.1.4 **Ice sled**

9.1.5 **Lots of rope**

9.1.6 **Marker buoys**

9.1.7 **Anchors**

9.1.8 **Oars**

9.2 Additional items (not in this room – on trailer):

9.2.1 **Kayaks**

9.2.2 **Surf Boards**

9.3 Location: **Near the Apparatus Bay**

9.4 Comments: **Easily decontaminated surfaces, floor drain**

9.5 Size: **296** sq ft

10 Hazardous Waste Storage

10.1 Location: **Near Apparatus Bay**

10.2 Comments:

10.2.1 **Containment floor, polymer door & frame**

10.2.2 **Easily decontaminated surfaces**

10.3 Size: **12** sq ft

11 Turnout Gear Storage Room

11.1 Operational Comments:

11.1.1 Response pathway

11.1.1.1 **From Living Quarters**

11.2 Quantity of Lockers: **50**

11.3 Describe Lockers: **Open mesh. Able to hold 2 sets per member.**

11.4 Locker Size: **24”** x **30”**

11.5 Location: **Locate on pathway from living quarters**

11.6 Adjacencies: **Apparatus Bay & Decon Laundry**

11.7 Comments: **Easily decontaminated surfaces, floor drain, direct ventilation**

11.8 Size: **832** sq ft

12 DeCon/Laundry

12.1 Operational Comments:

12.1.1 **Essential decontamination of equipment, PPE and personnel**

12.2 Sink(s): **One;** Foot Pedal Supply: **Yes;** Knee Operated Drain: **Yes**; # of sink chambers: **2**

12.3 Gear washer/extractor: **Two**, size: **65 lbs**

12.4 Cabinet gear dryer: **Two**

12.5 Residential type clothes washer & dryer: **One each**

12.6 Drench shower: **Adjacent in Apparatus Bay**

12.7 SCBA Washing: **Yes**; Describe: **Mask washing machine**

12.8 Backboard/Etc. cleaning: **Yes**

12.9 Holding tank: **TBD**

12.10 Adjacency: **Apparatus Bay**

12.11 Adjacencies: **Apparatus Bay, Turnout Gear Storage & Hot Side Showers**

12.12 Comments: **Easily decontaminated surfaces, floor drain, direct ventilation**

12.13 Size: **502** sq ft

13 Hot Side Showers & Lockers

13.1 Operational Comments:

13.1.1 **Single occupant private showers**

13.1.2 **Comply with recommendation of a hot shower within an hour of exposure**

13.2 Shower Quantity: **4**

13.3 Operational Comments:

13.3.1 **Storage of clean clothes to replace those contaminated at scene**

13.4 Locker Quantity: **50**

13.5 Adjacencies: **Decon laundry**

13.6 Comments: **Easily decontaminated surfaces, floor drain**

13.7 Size: **276** sq ft

14 EMS Storage Room

14.1 Operational Comments:

14.1.1 **Near Ambulance, Near Delivery, Locks to secure meds**

14.2 Items to be located in this space:

14.2.1 **Sharps grinder**

14.2.2 **(12) D bottles**

14.3 Location: **Near Decon**

14.4 Security: **Yes**

14.5 Adjacencies: **Apparatus Bay**

14.6 Comments: **Easily decontaminated surfaces**

14.7 Size: **273** sq ft

Per NFPA:

- If more than 300 c.f., the cylinders must be stored in a non-combustible room, with a lockable door.

- If more than 3,000 c.f., the room must also be 1-hour rated, with provisions for ventilation, heating & electrical.

Per 2018 International Fire Code:

- If more than 504 c.f., the cylinders must be stored in a non-combustible room, with a lockable door and the room must also be 1-hour rated, with provisions for ventilation, heating & electrical.

Cylinder Size	c.f.
D	14
E	25
M	125
H	250
K	251
J or S	282
T	337

15 Apparatus Floor Bathrooms

15.1 Quantity: **2**

15.2 Fixture: **Sink, toilet & urinal**

15.3 Adjacencies: **Apparatus Bay**

15.4 Comments: **Easily decontaminated surfaces, floor drain**

15.5 Size: **2 @ 70** sq ft

16 Work Room

16.1 Use: **Repair of power tools and light carpentry work**

16.2 Mechanic: **Work is performed by staff**

16.3 Workbench: **Yes**

16.4 Tool storage: **Yes**

16.5 Stationary power tools:

16.5.1 **Drill Press**

16.5.2 **Grinder**

16.5.3 **Bench vice**

16.6 Air: **Yes**

16.7 Water/Sink: **No**

16.8 Flammable Storage: **Yes**

16.9 Security: **Yes**

16.10 Location: **Near apparatus bay**

16.11 Size: **196** sq ft

17 Hydration

17.1 Operational Comments:

17.1.1 **Water and ice for rehab**

17.2 Refrigerator with water bottles: **Yes**

17.3 Ice machine: **Yes**

17.4 Shelving for coolers & portable water container: **Yes**

17.5 Location: **Cold zone**

17.6 Adjacencies: **Apparatus Bay**

17.7 Size: **75** sq ft

18 SCBA Compressor Room

18.1 Air compressor size: **Scott, Simple Air**

18.2 Sound attenuation panels: **Yes**

18.3 External feed lines: **For ladder truck**

18.4 Cascade: **Yes**

18.5 Oxygen Generator: **No**

18.6 House Air Compressor: **Yes**

18.7 Location: **On mezzanine**

18.8 Security: **Yes**

18.9 Comments: **Adequate ventilation for compressor heat (132 cfm/hp)**

18.10 Size: **106** sq ft

19 SCBA Fill Station Room

19.1 "Public" access: **No**

19.2 Sink: **Yes, 3-bowl**

19.3 Filling station: **Scott Revolve Air 2-bottle**

19.4 SCBA storage: **(15) bottles, (5) backpacks**

19.5 SCBA repair: **No**

19.6 External feed lines: **Feed to ladder truck from compressor room**

19.7 Location: **Near Apparatus Bay**

19.8 Security: **No**

19.9 Adjacencies: **Apparatus Bay**

19.10 Comments: **Easily decontaminated surfaces, floor drain**

19.11 Size: **120** sq ft

20 Janitor's Closet

20.1 Mop Receptor: **Yes**

20.2 Slop Sink: **Yes**

20.3 Floor Machine: **Yes**

20.4 Shelving: **Yes**

20.5 Mop/Broom Rack: **Yes**

20.6 Truck Cleaning Tools: **Yes**

20.7 Adjacencies: **Apparatus Bay**

20.8 Comments: **Easily decontaminated surfaces, floor drain**

20.9 Size: **106** sq ft

21 Delivery Room

21.1 Use: **EMS, Vehicle Repair, Fire Equipment**

21.2 Location: **Near Apparatus Bay**

21.3 Security: **Yes – with access granted to delivery companies**

21.4 Adjacencies: **Sidewalk or apron**

21.5 Comments: **Doors to interior and exterior**

21.6 Size: **100** sq ft

22 Ready Room

22.1 Operational Comments:

22.1.1 **For staff to congregate adjacent bay**

22.1.2 **Space for report writing**

22.1.3 **Space for visiting firefighters during mutual aid to wait, but not have access to the station living or office areas.**

22.2 Seating for how many: **10**

22.3 Food Counter: **Yes**

22.4 Sink: **Yes**

22.5 Refrigerator: **Yes**

22.6 Vending machines: **No**

22.7 Adjacencies: **Bay**

22.8 Comments: **"Dirty side" meeting, waiting, etc.**

22.9 Size: **215** sq ft

23 Radio/Watch Room

23.1 View control: **Front apron, front line vehicles in bay, and public access point**

23.2 Operational Comments:

23.2.1 **Large scale events, Storms, after hours, location for filling out reports**

23.3 Seating for how many: **4**

23.4 Items:

23.4.1 Door operator switches: **Yes**

23.4.2 Traffic device control: **Yes**

23.4.3 Light switches for app bay: **Yes**; Outside: **Yes**

23.4.4 Internal paging system: **Yes**

23.4.5 Siren trigger: **There is none**

23.4.6 Computer equipment: **Yes**

23.4.7 Closed Circuit TV, Phones, Weather Station: Describe: **Yes - All**

23.4.8 Other equipment: **Desk top radios**

23.4.9 File cabinets: **(2) 2-drawer**

23.4.10 Rechargeable items (flashlights, pagers): **Radios**

23.4.11 Lockable storage: **No**

23.5 Security: **Yes**

23.6 Adjacencies: **Front apron, front line vehicles in bay, and public access point**

23.7 Size: **186** sq ft

24 Training Tower

24.1 Describe: **Hose evolutions, rappelling, standpipe**

24.2 Size: **168** sq ft @ 1st floor, **168** sq ft @ mezzanine and **168** sq ft above mezzanine

ADMINISTRATION

25 Firefighter's Lobby

25.1 Items to be located in this space:

25.1.1 **Bulletin Board**

25.2 Security: **Yes**

25.3 Adjacencies: **Radio/Watch Room**

25.4 Comments: **After hours public access point**

25.5 Size: **120** sq ft

26 Conference Room

26.1 Uses: **Chiefs / Command Staff**

26.1.1 **Bi-weekly command staff meetings**

26.1.2 **Daily on-duty officer meetings**

26.1.3 **Small scale didactic training**

26.1.4 **Working groups and committees**

26.2 Seat how many: **12** at table; **8** at wall

26.3 Is there a workstation with a computer to be shared by all users: **No**

26.4 Items to be located in this space:

26.5 Location: **Admin, near Chief**

26.6 Security: **Yes**

26.7 Adjacencies: **Near Chief's Office**

26.8 Comments: **Power and data in floor under conference table**

26.9 Size: **373** sq ft

27 Chief's Office

27.1 Seat how many: **3, plus couch**

27.2 Security: **Yes**

27.3 Adjacencies: **Near Administrative Assistant**

27.4 Comments: **Closet, couch**

27.5 Size: **224** sq ft

28 Administrative Assistant

28.1 Seat how many: **2**

28.2 Security: **Yes**

28.3 Adjacencies: **Public lobby, Office support room, near Chief**

28.4 Comments: **Closet**

28.5 Size: **169** sq ft

29 Office Support Workroom

29.1 Purpose:

29.1.1 **Network printer/copier**

29.1.2 **Fax**

29.1.3 **Recycling**

29.1.4 **Mailboxes**

29.1.5 **Work Surface**

29.1.6 **Storage Cabinet(s)**

29.2 Adjacencies: **Administrative Assistant**

29.3 Comments: **Kitchenette in Admin. Area**

29.4 Size: **135** sq ft

30 Deputy Chief's Office

30.1 Seat how many: **4**

30.2 Location: **Near Chief and conference room**

30.3 Security: **Yes**

30.4 Comments: **Closet, Couch**

30.5 Size: **224** sq ft

31 Inspector/Fire Prevention Office

31.1 Seat how many: **2+ (Potential for 2 Staff)**

31.2 Use: **Plan Review / Code Enforcement**

31.3 Location: **Near administrative assistant and conference room**

31.4 Security: **Yes**

31.5 Comments: **Easy access to lobby**

31.6 Size: **288** sq ft

32 EMS Coordinator's Office

32.1 Seat how many: **3**

32.2 Use: **EMS**

32.3 Location: **Admin.**

32.4 Security: **Yes – Health Info**

32.5 Adjacencies: **Not critical**

32.6 Size: **158** sq ft

33 Captains' Office

33.1 Seat how many: **6+**

33.2 Use: **Captains**

33.3 Location: **Near Crew living quarters, and apparatus bays if possible**

33.4 Security: **Yes**

33.5 Comments: **4 separate desks for 4 Shift Captains. Each gets a 2-drawer file**

33.6 Size: **224** sq ft

34 Lieutenants' Office

34.1 Seat how many: **3**

34.2 Use: **On duty Lieutenant**

34.3 Location: **Near Crew living quarters, and apparatus bays if possible**

34.4 Security: **Yes**

34.5 Size: **158** sq ft

34A Spare Office #1

- Seat how many: **3**
- Use: **Training Officer**
- Location: **Admin area**
- Security: **Yes**
- Size: **158** sq ft

34B Spare Office #2

- Seat how many: **3**
- Use: **Emergency Management**
- Location: **Admin area**
- Security: **Yes**
- Size: **158** sq ft

35 Office Area ADA Compliant Restrooms

35.1 Quantity: **2**

35.2 Fixture: **Sink, toilet & urinal?**

35.3 Shower: **Yes, in one**

35.4 Lockers: **(6) half high**

35.5 Location: **Admin area**

35.6 Security: **Privacy lock**

35.7 Comments: **Easily decontaminated surfaces, floor drain**

35.8 Size: **One @ 61 & one at 95** sq ft

36 Fire Prevention Storage

36.1 Purpose: **Public education**

36.2 Seat how many: **NA**

36.3 Is there a workstation with a computer: **No**

36.4 Items to be located in this space:

36.4.1 **Public education supplies**

36.4.2 **Sparky**

36.5 Location: **Admin area**

36.6 Security: **Yes**

36.7 Size: **100** sq ft

37 Records Storage

37.1 Items to be located in this space:

37.1.1 **High Density File System**

37.2 Location: **Admin Area**

37.3 Security: **Lock**

37.4 Comments: **Small countertop**

37.5 Size: **113** sq ft

38 Parade Storage

38.1 Items to be located in this space:

38.1.1 **Flags**

38.1.2 **Uniforms**

38.2 Location: **Admin Area**

38.3 Security: **Lock**

38.4 Size: **5' x 2';** or **10** sq ft

FIREFIGHTERS

39 Dining/Kitchen

39.1 Kitchen:

39.1.1 Number of pantry lockers: **4** Shifts plus common

39.1.2 Number of refrigerators: **4**

39.1.3 Island Seating: **4**

39.2 Dining:

39.2.1 Number of seats: **12-14**

39.3 Soft seating area? **Yes**

39.3.1 Seating for how many: **4-5**

39.4 Items to be located in this space:

39.4.1

39.5 Door to exterior? **Yes**

39.6 Location: **Near Apparatus Bay**

39.7 Security: **NA**

39.8 Size: **752** sq ft kitchen/dining, plus **92** sq ft pantry

40 Living Room

40.1 Seat how many: **10**

40.2 Location: **Near Kitchen, Near Apparatus**

40.3 Comments: **Sound dampening walls, gasketed door**

40.4 Size: **554** sq ft

41 Study Room

41.1 Seat how many: **2**

41.2 Location: **Crew Areas**

41.3 Security: **NA**

41.4 Adjacencies: **NA**

41.5 Comments: **Sound dampening walls, gasketed door**

41.6 Size: **96** sq ft

42 Firefighters' ADA Compliant Restroom

42.1 Quantity: **1**

42.2 Fixture: **Sink, toilet & urinal**

42.3 Adjacencies: **Day Room**

42.4 Comments: **Easily decontaminated surfaces, floor drain**

42.5 Size: 67 sq ft

43 Physical Conditioning

43.1 Equipment:

43.1.1 Cardio: **Treadmill, Rower, Elliptical**

43.1.2 Weights: **Full Dumbbells, etc.**

43.1.3 Weight Machines: **Yes**

43.2 Location: **Crews' Quarters**

43.3 Security: **Allow for fob**

43.4 Comments: **Sound dampening walls, gasketed door**

43.5 Size: **936** sq ft

44 Bunkers' Bedrooms

44.1 Number of rooms: **10**

44.2 Beds per room: **1**

44.3 Storage: **1 locker/shift, plus on-duty firefighter wardrobe**

44.4 Nightstand: **Yes**

44.5 Desk: **No**

44.6 Location: **Ground floor, quiet corridor**

44.7 Security: **Fob**

44.8 Comments: **Sound dampening walls, gasketed door**

44.9 Size: **104** sq ft

45 Bunkers' Bathrooms

45.1 Quantity: 4

45.2 Details: **Uni-sex, single occupant**

45.3 Fixtures: **Toilet, urinal, shower, sink & bench**

45.4 Security: **Privacy lock**

45.5 Adjacencies: **Bunk rooms**

45.6 Comments: **Easily decontaminated surfaces, floor drain**

45.7 Size: **(3) @ 73 & (1) @ 92** sq ft

46 Temporary Use Lockers

46.1 Locker Quantity: **4**

46.2 Locker Size: **18”**

46.3 Location: **Bunking area**

46.4 Size: **26** sq ft

47 Bunkers’ Area Laundry Room

47.1 Details: **Washing of bedding & station uniforms**

47.2 Location: **Bunking area**

47.3 Comments: **Easily decontaminated surfaces, floor drain**

47.4 Size: **82** sq ft

PUBLIC SPACES

48 Public Entry Area

48.1 Trophy case: **No**

48.2 Bulletin board: **Yes**; Size: **TBD**

48.3 Plaque: **Yes**

48.4 Museum Display: **6’ Case, 7 ft tall.**

48.5 Items to be located in this space:

48.5.1 **Existing pole**

48.6 Comments: **Seating for 2 or 3**

48.7 Size: **200** sq ft

49 First Aid & Triage

49.1 Operational Comments:

49.1.1 **Near Ambulance Bay**

49.2 Items to be located in this space:

49.2.1 **Bariatric transport**

49.2.2 **Side table**

49.2.3 **Side chair**

49.2.4 **O^2**

49.2.5 **AED**

49.2.6 **Base & Wall cabinets w/ counter and sink**

49.3 Location: **off lobby, with “short” access to apparatus floor**

49.4 Security: **Lobby side door to be lockable**

49.5 Comments: **Easily decontaminated surfaces**

49.6 Size: **182** sq ft

50 Meeting/Training Room

50.1 Intended population: **75**

50.2 Public access: **YES**

50.3 Uses:

50.3.1 Department meetings: **YES**

50.3.2 Training: **YES**

50.3.3 Fundraising dinners: **YES**

50.3.4 Political/Municipal: **YES**

50.3.5 Boy Scouts or other similar groups: **YES - CERT**

50.3.6 Rental: **NO**

50.3.7 Other: **Back up EOC**

50.4 Purpose: **Public Training**

50.4.1 Avg. people: **25-35**

50.4.2 Max people: **75**

50.5 Whiteboard: **YES**

50.6 Bulletin board: **YES**

50.7 Projector & screen: **YES**

50.8 Coat rack: **YES**

50.9 Items to be located in this space (from current inventory):

50.9.1 **CPR Equipment / Medical Training Equipment**

50.10 Additional items (not in current inventory):

50.10.1 **Medical Simulation Manikin**

50.11 Location: **Can be on 2nd floor, depending on site constraints**

50.12 Adjacencies: **Public lobby**

50.13 Comments: **Public should not have access to balance of building**

50.14 Size: **1,142** sq ft

51 Meeting/Training Room Table & Chair Storage

51.1 Table rack quantity: **2 @ 10 tables each**

51.2 Chair rack quantity: **8 @ 16 chairs each**

51.3 Adjacencies: **Meeting/training**

51.4 Comments: **Robust walls**

51.5 Size: **150** sq ft

52 Training Prop Storage

52.1 Items to be stored:

52.1.1 **CPR & medical training equipment**

52.1.2 **"Stop the Bleed", "Choke Saver," etc.**

52.2 Security: **Yes**

52.3 Adjacencies: **Meeting/training**

52.4 Comments: **Robust walls**

52.5 Size: **120** sq ft

53 Meeting/Training Room A/V Equipment

53.1 Adjacencies: **Meeting/training**

53.2 Comments: **A closet**

53.3 Size: **10** sq ft

54 Meeting Room Kitchen

54.1 Uses: **Kitchenette**

54.2 Equipment types and size:

54.2.1 Refrigerator/Freezer: √- Small apartment size
54.2.2 Sink: **One**
54.2.3 Other equipment: **Microwave & coffee maker, hard piped bottle filler/bubbler outside of room**

54.3 Dish storage: **No**

54.4 Locked storage: **No**

54.5 Size: **99** sq ft

55 Public Restrooms

55.1 Quantity: **2**

55.2 Location: **Lobby**

55.3 Comments: **Handicapped accessible. Easily decontaminated surfaces, floor drain**

55.4 Size: **158** sq ft

MISCELLANEOUS SPACES

56 Entry Vestibules (2)

56.1 Size: **(2) @ 64** sq ft

57 House Keeping Storage

57.1 Comments: **Paper goods, etc.**

57.2 Size: **50** sq ft on 1st floor & **25** sq ft on 2nd

58 Office Side Janitors Closet

58.1 Mop Receptor: **Yes**

58.2 Slop Sink: **No**

58.3 Floor Machine: **Yes**

58.4 Shelving: **Yes**

58.5 Mop/Broom Rack: **Yes**

58.6 Comments: **Easily decontaminated surfaces, floor drain**

58.7 Size: **(2) @ 70** sq ft

59 File Server

59.1 Location: **Not critical**

59.2 Security: **Yes**

59.3 Comments: **Adequate cooling**

59.4 Size: **123** sq ft

60 Mechanical, Electrical, Plumbing, HVAC, Sprinkler, Alarm, etc.

60.1 Green community obligations: **A priority discussion**

60.2 Fuel type at site: **Natural gas**

60.3 Backup heating fuel: **Propane, natural gas or electric - TBD**

60.4 Heating type in apparatus bay: **In-floor radiant**

60.5 Heating type elsewhere: **Ducted**

60.6 Building to be sprinklered: **Yes**

60.6.1 Adequate water pressure: **Yes, public water**

60.7 Hose bibs for exterior: **Yes**

60.8 All lighting type: **LED**

60.9 Solar energy considerations: **Yes**

60.10 Electric vehicle charging: **Yes, scale to be determined**

60.11 Generator:

60.11.1 Fuel: **Diesel**

60.11.2 Location of generator: **Outside of the building**

60.11.3 Circuits on generator: **All**

60.12 Access control type (fob?): **Yes**

60.13 Security cameras: **Yes, recordable**

60.14 Alarm: **Yes;** Describe: **Fire, but not security**

60.15 911 phone: **Yes. One near watch room, one near lobby, and one in meeting room. In vestibule.**

60.16 Clerk assistance needed button: **Yes**

60.17 CO alarm: **Yes – bay, mechanical room, kitchen, bunking**

60.18 Siren: **No**

60.19 Hazardous waste handling: **Boat flare receptacle outside front door, 10 ft from building**

60.20 Size: **350** sq ft on 1st floor & **100** sq ft on 2nd

61 Sprinkler Room

61.1 Assume **70** sq ft

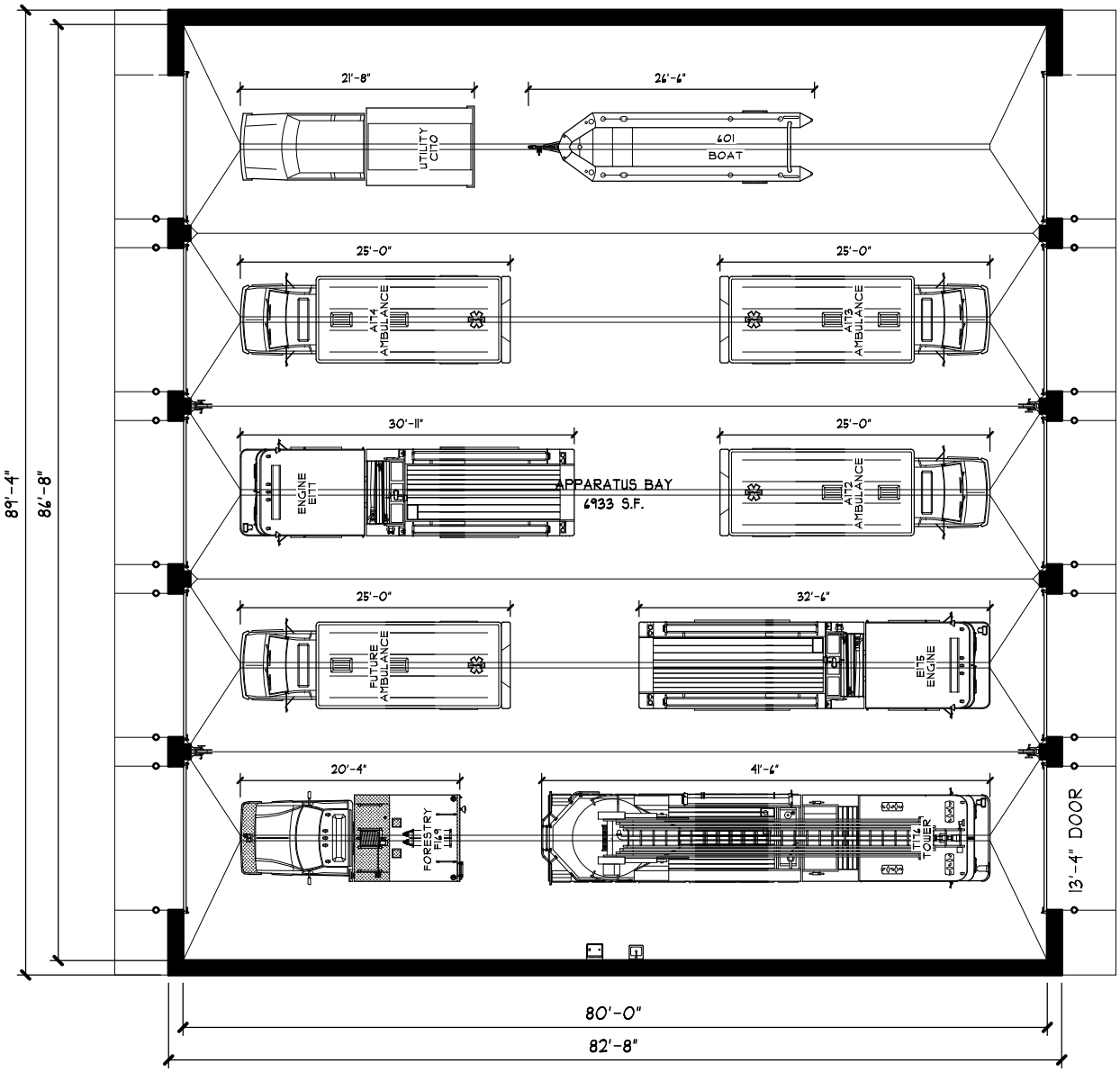
Orleans Fire Headquarters Space/Usage Analysis - 7/6/2022

Final Draft

Program Item	Room Name	1st Floor Area	Mezz	2nd Floor Area	Upper Tower	Area All Floors	Accessory Bay
	Apparatus Bays						
1	Apparatus Bay	6,933					
2	Accessory Apparatus Bay	1,540					
3	Accessory Apparatus Bay 2						2,736
	Subtotal - Apparatus	**8,473**					**2,736**
	Firematic Support						
4	**Mezzanine**		**1,000**				
5	Storage Room 1	216					
6	Storage Room 2	216					
6A	Quartermaster Storage	0	112				
7	Hose Storage	142					
8	Yard Storage	286					
9	Dive Team Storage	296					
10	Hazardous Waste Storage	20					
11	Turnout Gear Storage	832					
12	Decon/Laundry	502					
13	Hot Side Showers	276					
14	EMS Storage	273					
15	Bay Bathrooms (2 @ 70)	140					
16	Work Room	196					
17	Hydration	75					
18	SCBA Compressor		106				
19	SCBA Fill Station	120					
20	Janitors Closet	106					
21	Delivery Room	100					
22	Ready Room	215					
23	Radio/Watch Room	186					
24	Tower	168	168	168	168	672	
	Subtotal - Firematic Support	**4,365**	**386**	**168**	**168**	**672**	
	Administration						
25	Firefighters' Lobby	120		120		240	
26	Conference	0		373		373	
27	Chief's Office	0		224		224	
28	Administrative Assistant	0		169		169	
29	Office Support Workroom	0		135		135	
30	Deputy Chief's Office	0		224		224	
31	Inspector/Fire Prevention Office	0		288		288	
32	EMS Coordinator's Office	0		158		158	
33	Captains' Office	0		224		224	
34	Lieutennants' Office	0		158		158	
34B	Spare Office #1	0		158		158	
34A	Spare Office #2	0		158		158	
35	Office Area ADA Compliant Bathrooms	0		156		156	
36	Fire Prevention Storage	0		100		100	
37	Records Storage	0		113		113	
38	Parade Storage	0		10		10	
	Subtotal - Administration	**120**		**2768**		**2888**	

Program Item	Room Name	1st Floor Area	Mezz	2nd Floor Area	Upper Tower	Area All Floors	Accessory Bay
	Firefighters						
39	Kitchen/dining/pantry	844		0		844	
40	Living Room	554		0		554	
41	Study	96		0		96	
42	Bathroom	67		0		67	
43	Physical Conditioning	936		0		936	
44	Bunkrooms (10 @ 104 sq ft)	1040		0		1,040	
45	Bunkers' Bathrooms (3 @ 73 & 1 @ 92 sq ft)	311		0		311	
46	Temporary Use Lockers	26		0		26	
47	Bunker's Laundry	82		0		82	
	Subtotal - Firefighters	**3,956**		**0**		**3,956**	
	Training/Public Spaces						
48	Public Entry Area	200		200		400	
49	First Aid & Triage	182		0		182	
50	Meeting/Training Room	0		1,142		1,142	
51	Table & Chair Storage	0		150		150	
52	Training Props	0		120		120	
53	A/V	0		10		10	
54	Meeting Room Kitchen	0		99		99	
55	Public Rest Rooms	0		158		158	
	Subtotal - Training/Public Spaces	**382**		**1,879**		**2,261**	
	Miscellaneous Space						
56	(2) Entry Vestibules	128		0		128	
57	Housekeeping Storage	50		25		75	
58	Non-Bay Janitors Closets (2)	70		70		140	
59	File Server	0		123		123	
60	Mechanical/Electrical	100		350		450	
61	Sprinkler	70				70	
	Subtotal - Miscellaneous Spaces	**418**		**568**		**986**	
	Vertical Circulation						
62	(2) Stairwells (area per floor)	356		364		720	
63	Elevator (area per floor)	58		58		116	
64	Elevator Equipment Room	52		0		52	
65	Elevator Foyer	80		80		160	
	Subtotal - Vertical Circulation	**546**		**502**		**1,048**	
	Area Subtotals						
	Bay	**8,473**				**8,473**	**2,736**
	Firematic Support	**4,365**	**386**	**168**	**168**	**5,087**	
	Net Free Mezzanine		**1,000**			**1,000**	
	Office & Living	**5,422**		**5,717**		**11,139**	
	Walls & Circulation						
	Apparatus Bay Walls @ 10%	847				847	274
	Firematic Support Walls @ 12%	524		20	20	564	0
	Firematic Support Circulation @ 17%	742		29		771	0
	Office/Living Area Walls @ 20%	1,084		1,143		2,228	
	Office/Living Area Circulation @ 25%	1,356		1,429		2,785	
	Subtotal - Walls & Circulation	**4,553**		**2,621**	**20**	**7,195**	**274**
	Total >>	**22,813**	**1,386**	**8,506**	**188**	**32,894**	**3,010**
	Main Building Footprint>>	**22,813**				**Total Construction>>**	**35,903**

Mitchell Associates Architects
29 Thacher Park Road, Voorheesville, NY 12186
(518) 765-4571 (fax) 765-2950



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APPARATUS BAY

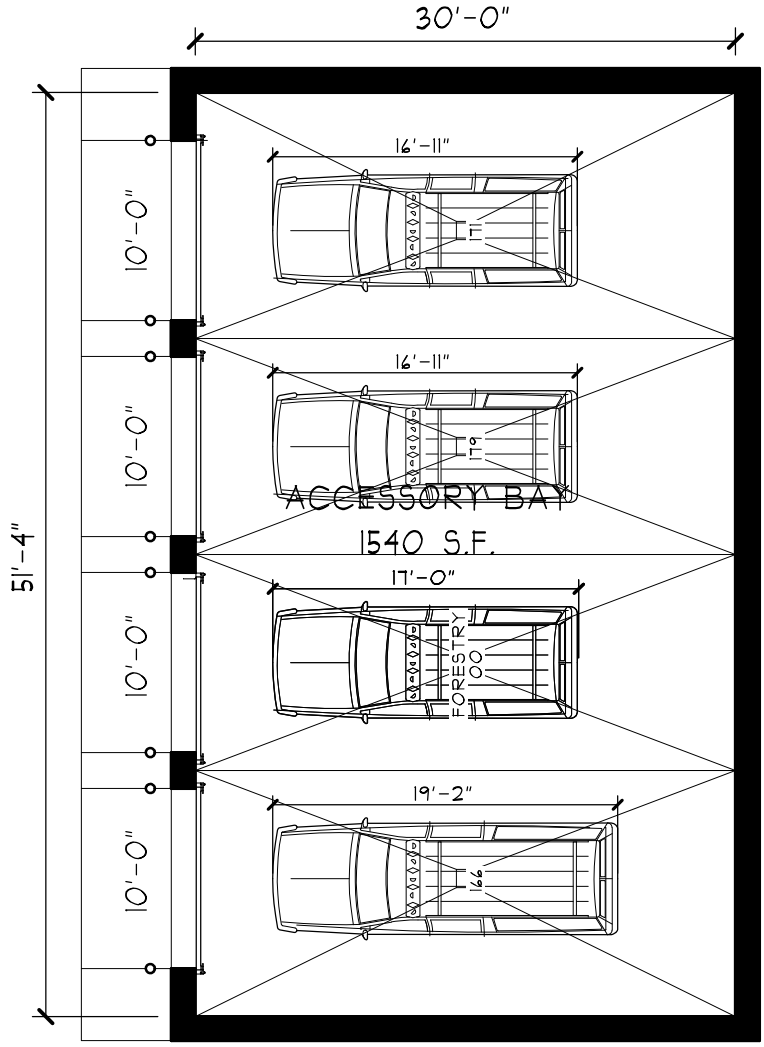
SCALE: 1/16" = 1'-0"

DATE: 6/9/2022

S:\J Drive\Kaestle Boos\Orleans\Individual Rooms\1- Bay & Firematic Support\01 - Apparatus Bay

01

ROOM #



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ACCESSORY APPARATUS BAY #1

SCALE: 3/32" = 1'-0" | DATE: 6/9/2022

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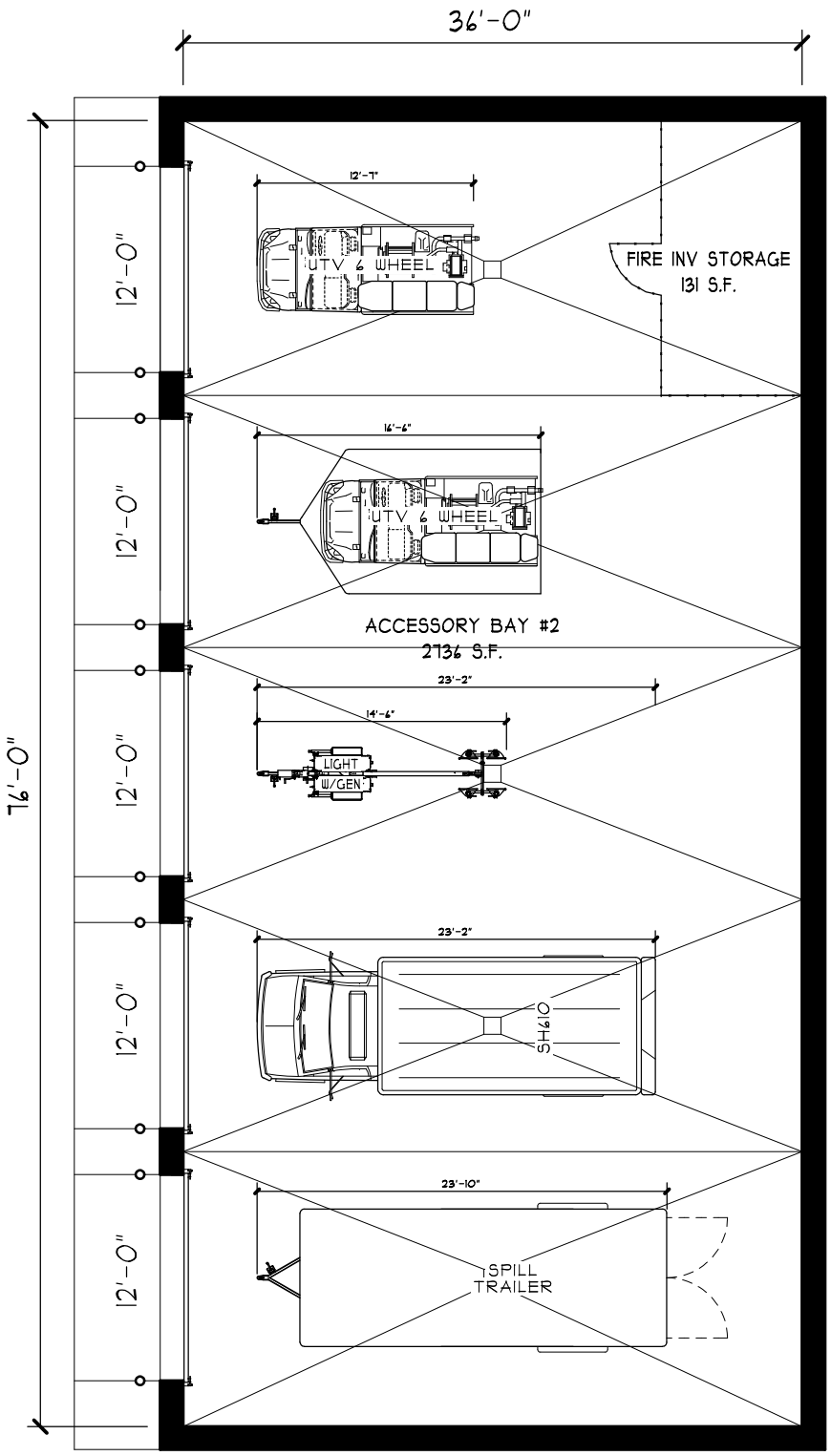
02

ROOM #



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ACCESSORY APPARATUS BAY #2

SCALE: 3/32" = 1'-0" | DATE: 6/21/2022

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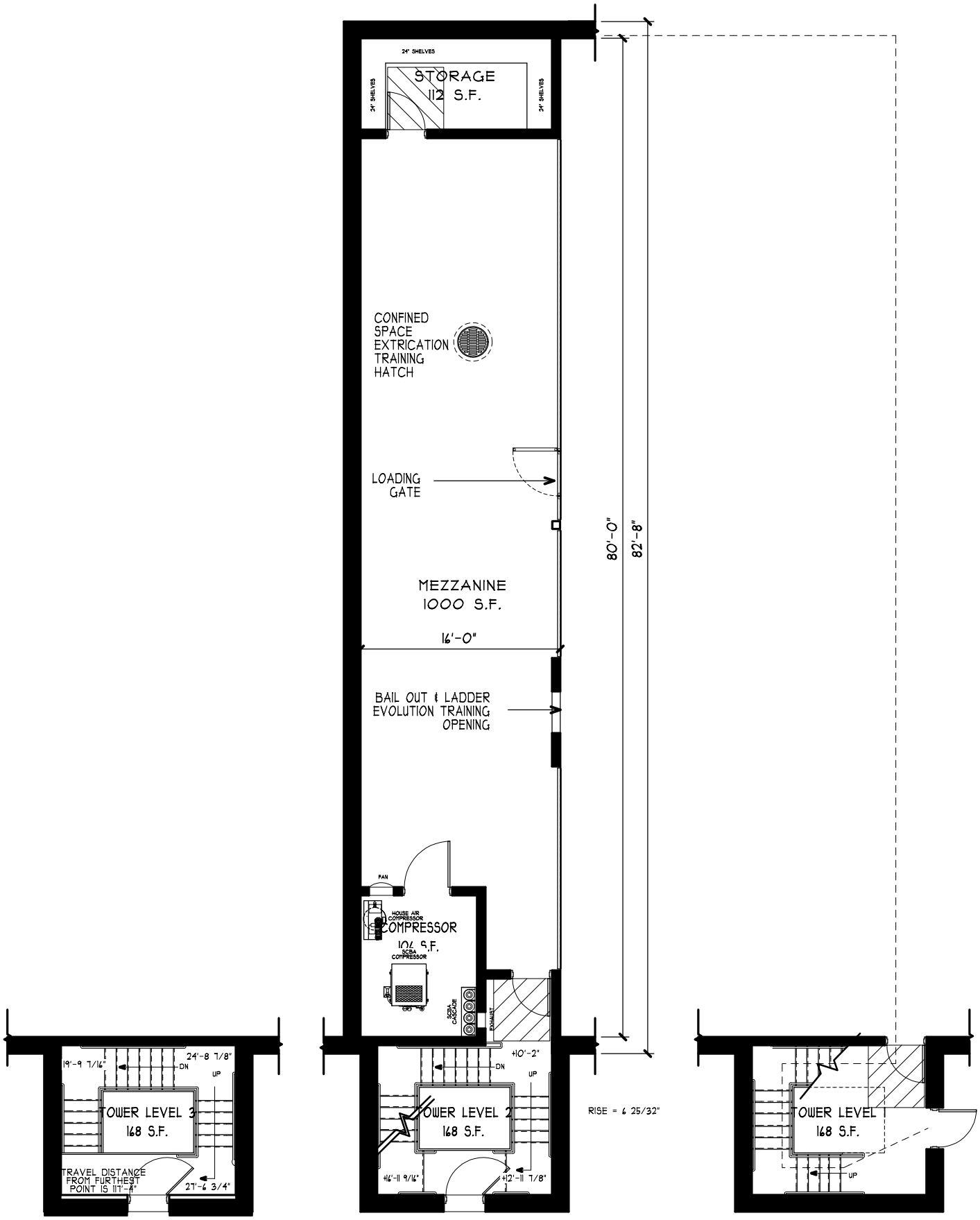
03

ROOM #



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MEZZANINE, TOWER & COMPRESSOR RM

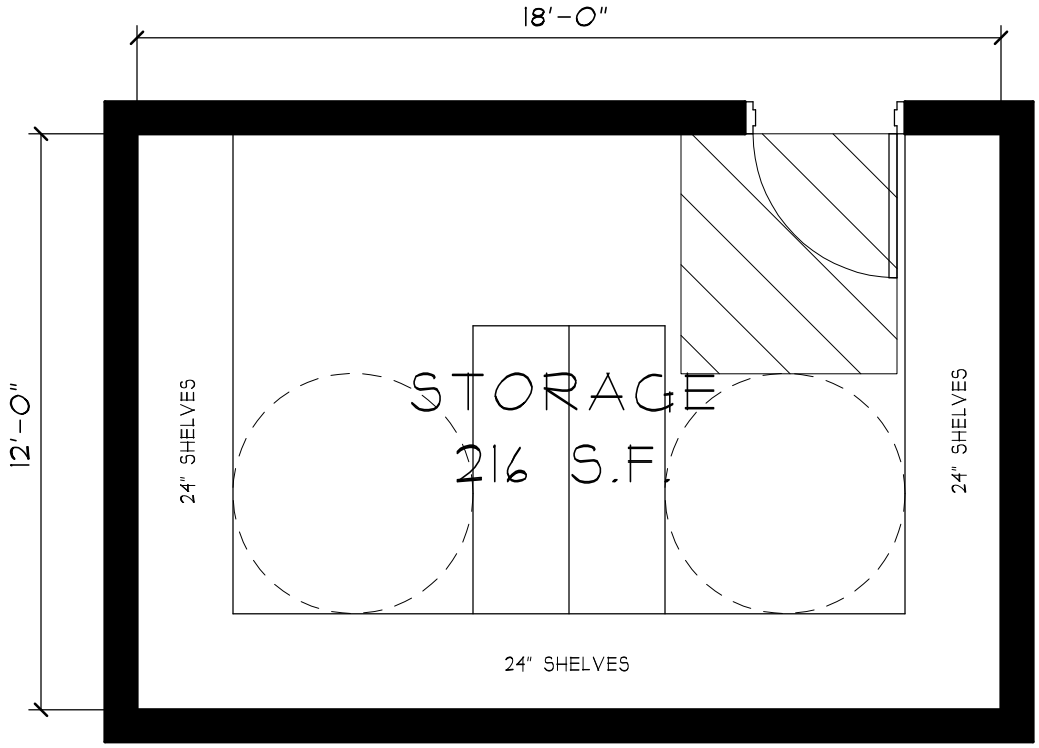
SCALE: 3/32" = 1'-0"

DATE: 7/6/2022

S:\J Drive\Kaestle Boos\Orleans\Individual Rooms\1- Bay & Firematic Support\04 - 18 & 24 - Mezzanine w Compressor Room and Tower

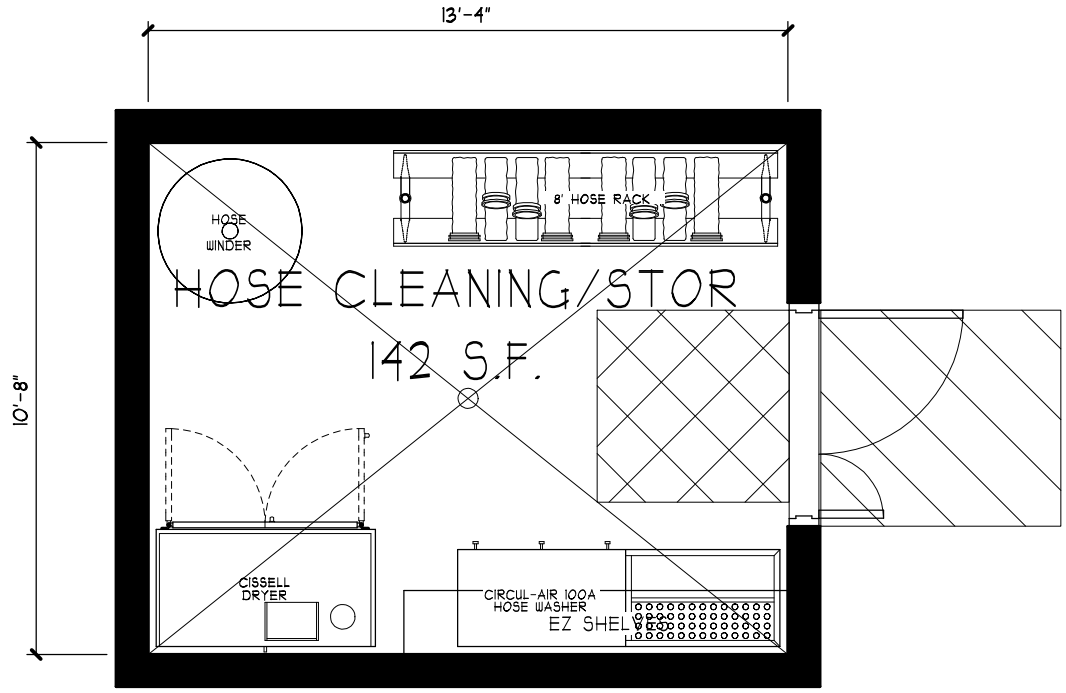
04, 18 & 24

ROOM #



55

MITCHELL ASSOCIATES ARCHITECTS PLLC	FIREMATIC STORAGE	05 & 06
	SCALE: 1/4" = 1'-0" | DATE: 6/9/2022	.
	S:\J Drive\Kaestle Boos\Orleans\Individual Rooms\1- Bay 1 Firematic Support\05 & 06 - Storage	ROOM #



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HOSE STORAGE

SCALE: 1/4" = 1'-0" | DATE: 6/9/2022

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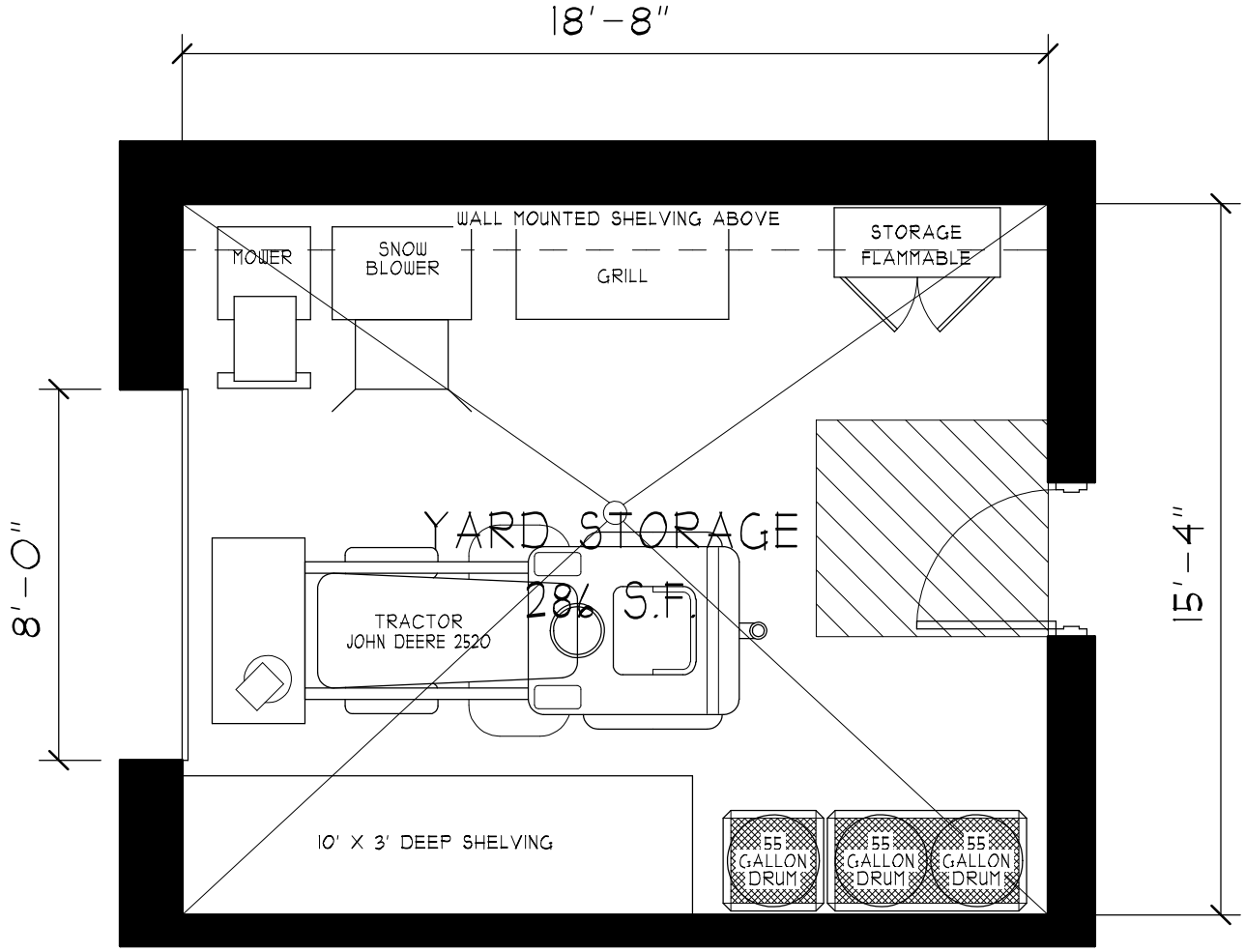
07

ROOM #



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YARD STORAGE

SCALE: 1/4" = 1'-0" | DATE: 6/9/2022

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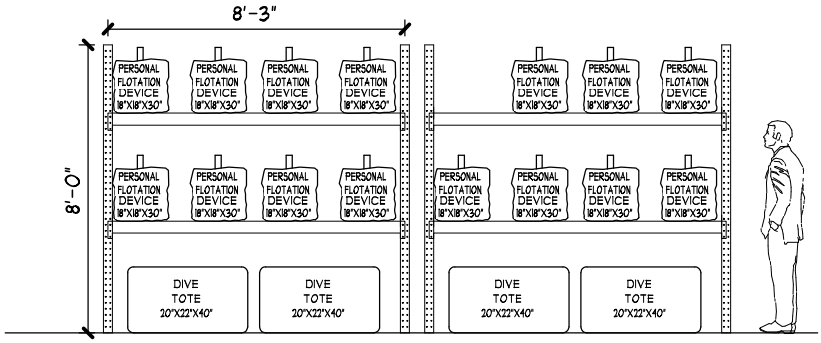
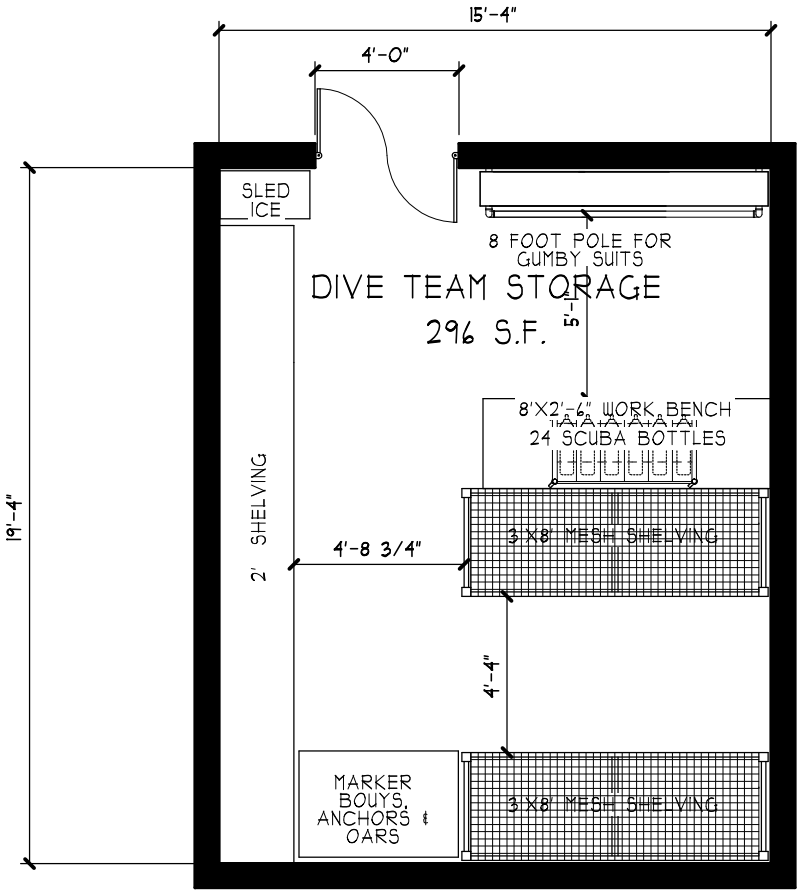
08

ROOM #



ELEVATION VIEW



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DIVE TEAM STORAGE

SCALE: 3/16" = 1'-0" | DATE: 6/10/2022

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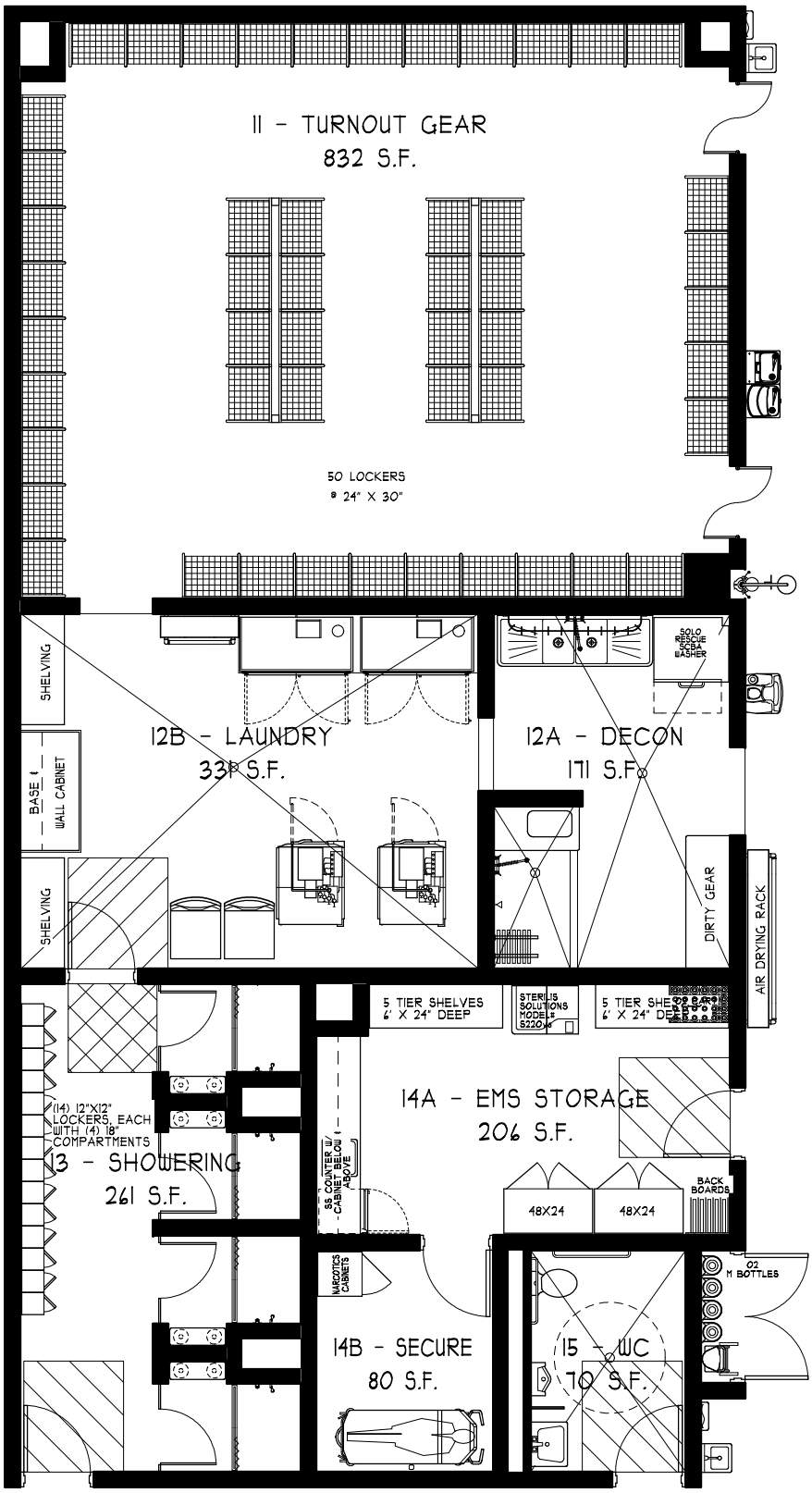
09

ROOM #



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PPE, EMS, WC & DECON

SCALE: 1/8" = 1'-0"

DATE: 6/21/2022

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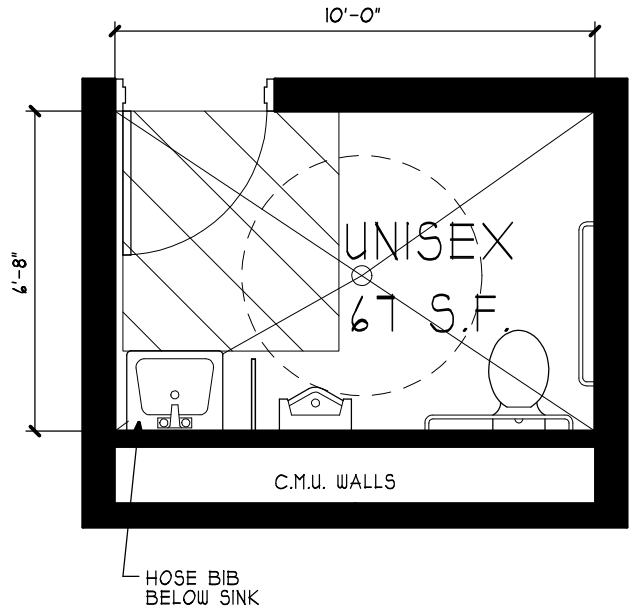
11 - 15

ROOM #



09

MITCHELL ASSOCIATES ARCHITECTS PLLC

2ND BAY BATHROOM

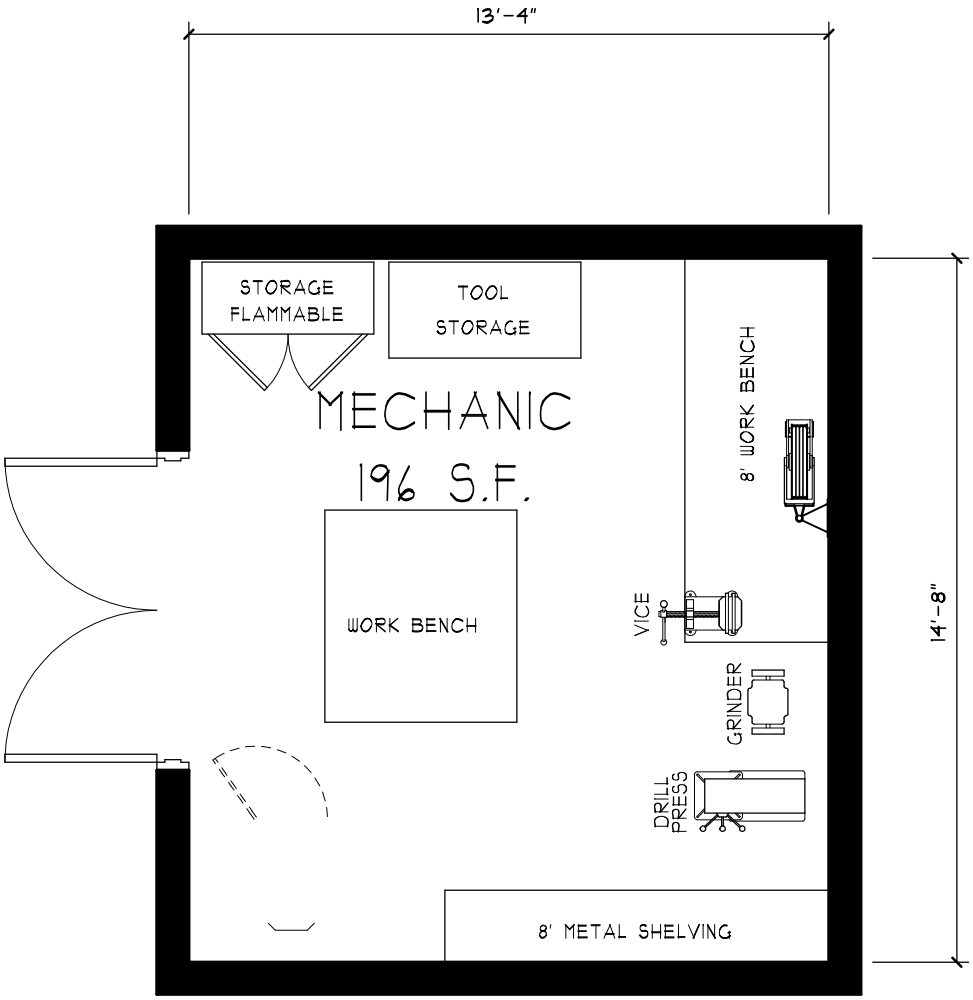
SCALE: 1/4" = 1'-0"

DATE: 6/10/2022

S:\J Drive\Kaestle Boos\Orleans\Individual Rooms\1- Bay & Firematic Support\15 - 2nd Bay Bathroom

15

ROOM #



MITCHELL ASSOCIATES ARCHITECTS PLLC

MECHANICS WORKROOM

SCALE: 1/4"

DATE: 7/6/2022

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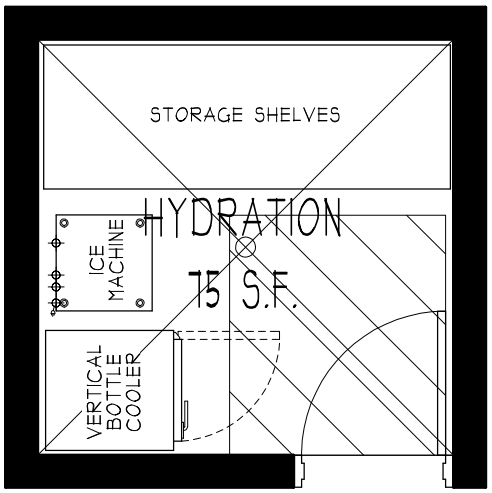
16

ROOM #



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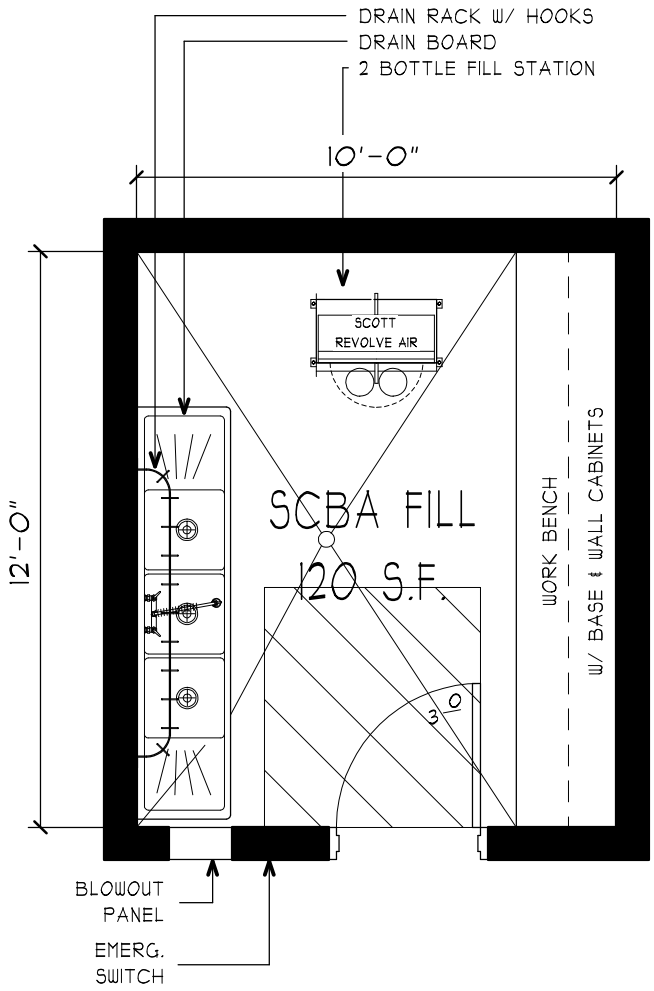
HYDRATION 75 SQ FT

SCALE: 1/4" = 1'-0" | DATE: 6/9/2022

S:\J Drive\Kaestle Boos\Orleans\Individual Rooms\1- Bay 1 Firematic Support\17 - Hydration

17

ROOM #



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SCBA FILL

SCALE: 1/4"

DATE: 6/10/2022

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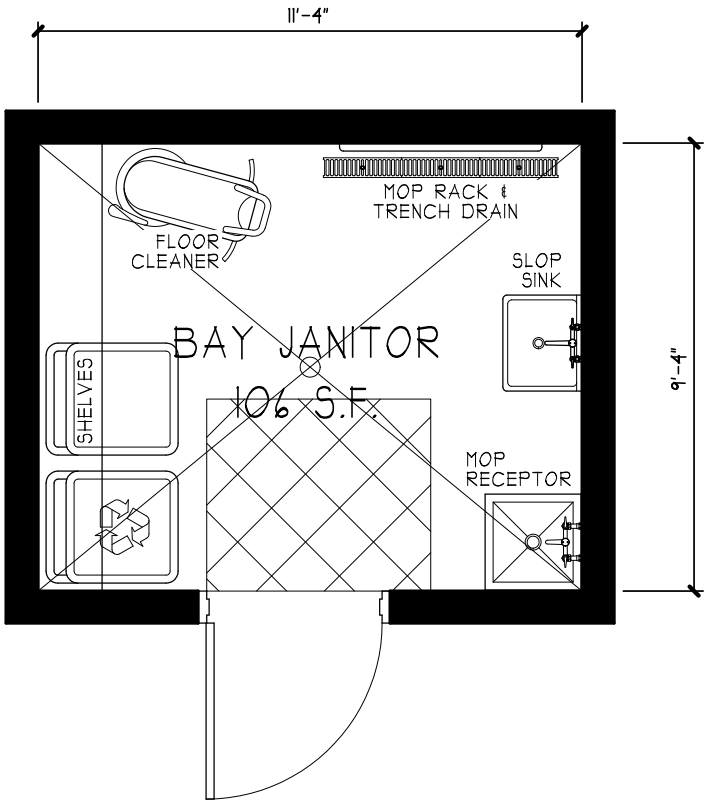
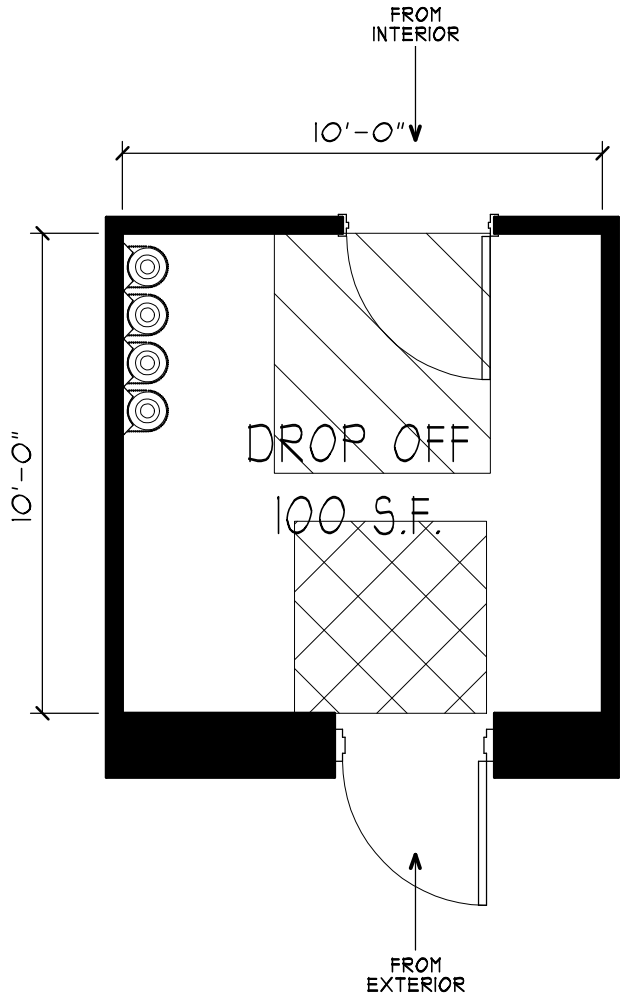
19

ROOM #



64

MITCHELL ASSOCIATES ARCHITECTS PLLC	APPARATUS BAY JANITOR'S CLOSET	20
	SCALE: 1/4" = 1'-0" | DATE: 6/9/2022	.
	S:\J Drive\Kaestle Boos\Orleans\Individual Rooms\1- Bay & Firematic Support\20 - Bay Janitor	ROOM #



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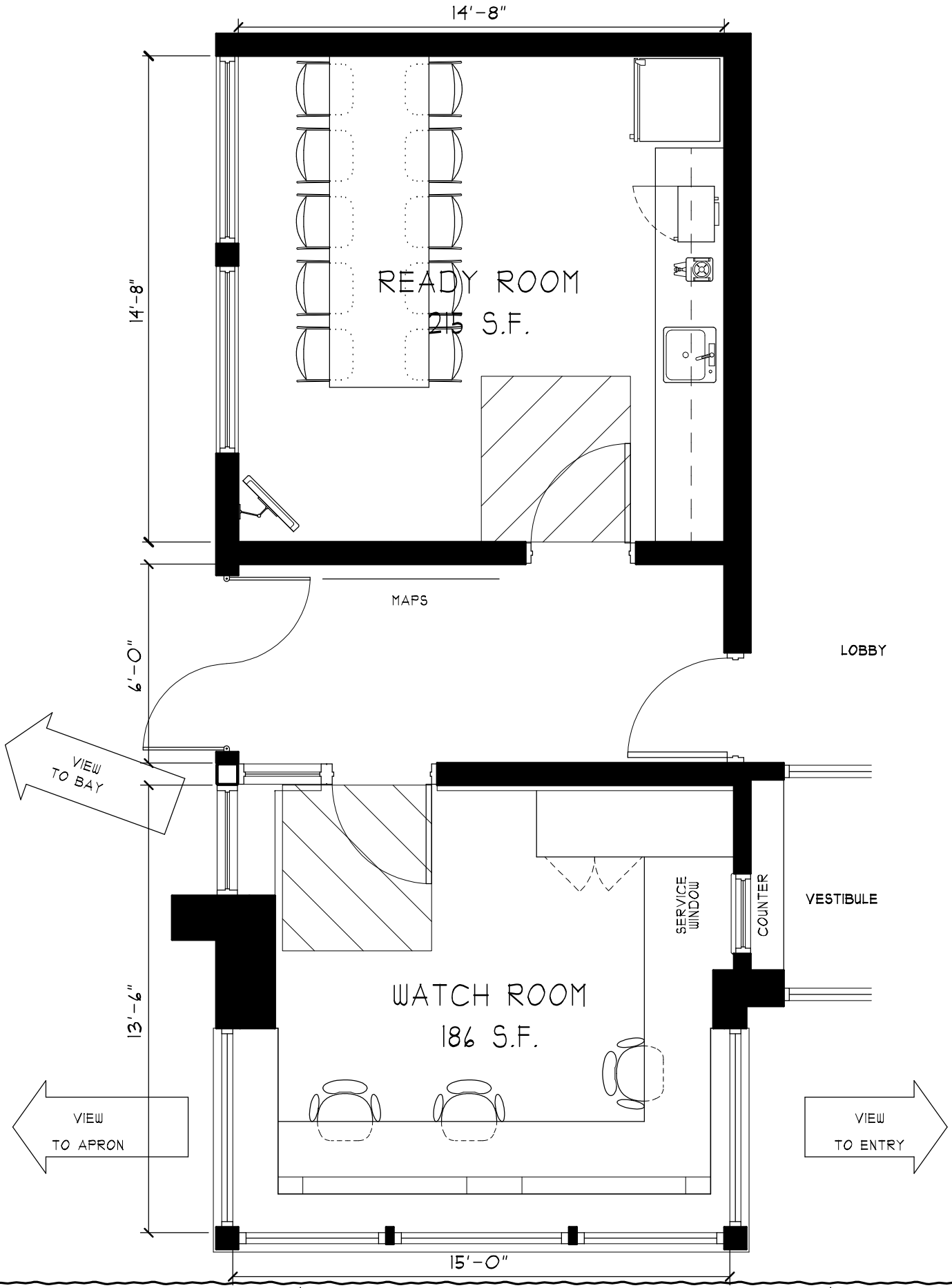
DELIVERY ROOM

SCALE: 1/4" = 1'-0" | DATE: 6/10/2022

S:\J Drive\Kaestle Boos\Orleans\Individual Rooms\1- Bay & Firematic Support\21 - Delivery

21

ROOM #



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WATCH & READY ROOMS

SCALE: 1/4" = 1'-0" | DATE: 6/9/2022

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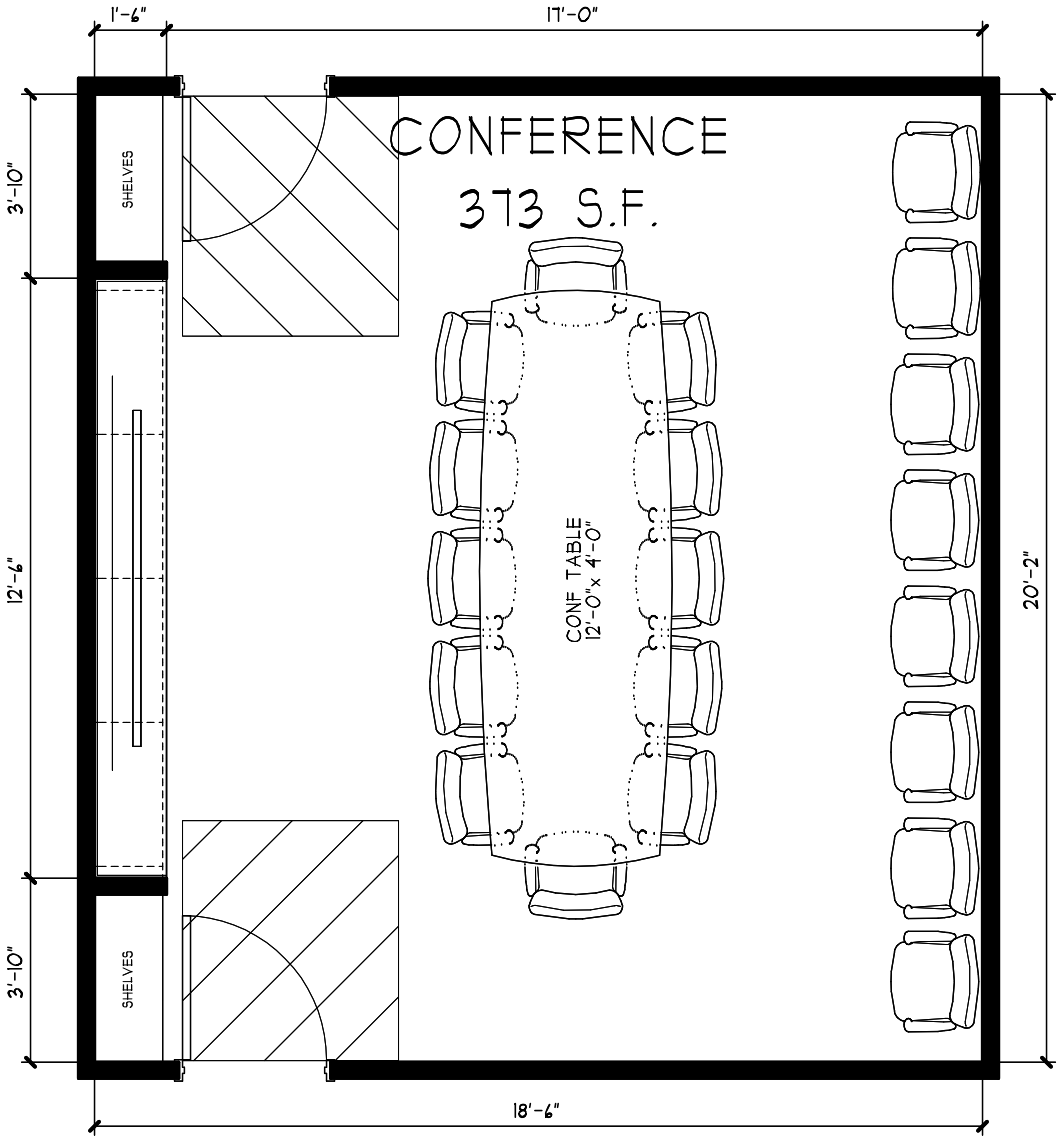
22 & 23

ROOM #



MITCHELL ASSOCIATES ARCHITECTS PLLC

CONFERENCE ROOM

SCALE: 1/4" = 1'-0" | DATE: 6/10/2022

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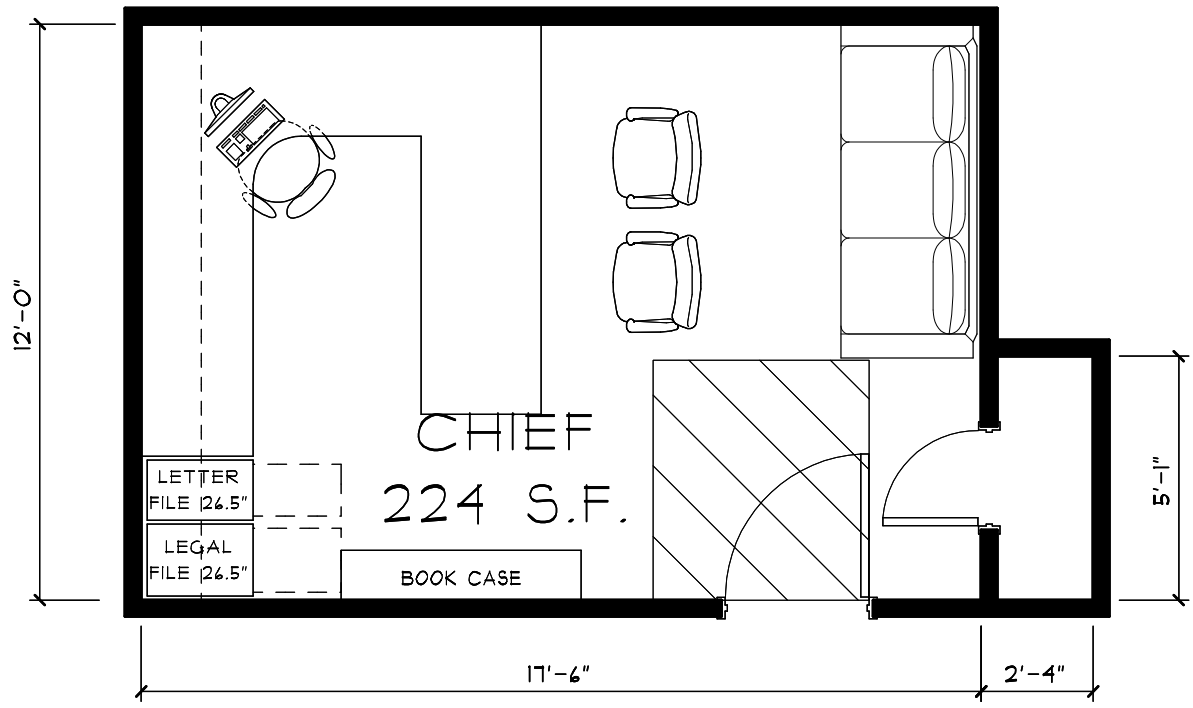
26

ROOM #



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CHIEF

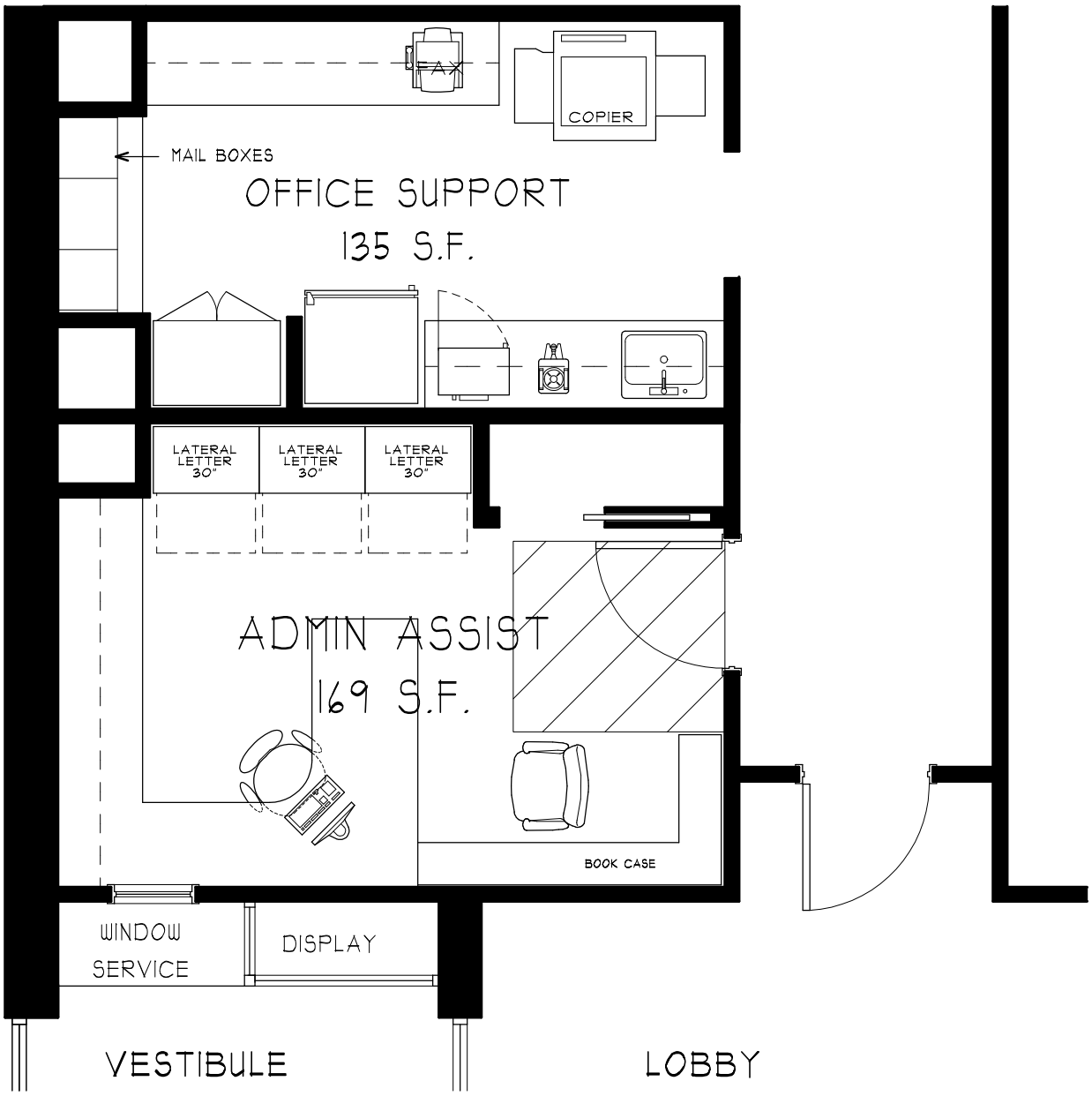
SCALE: 1/4"

DATE: 6/10/2022

S:\J Drive\Kaestle Boos\Orleans\Individual Rooms\2 - Administration\27 - Chief

27

ROOM #



MITCHELL ASSOCIATES ARCHITECTS PLLC

ADMIN ASSIST & WORKROOM

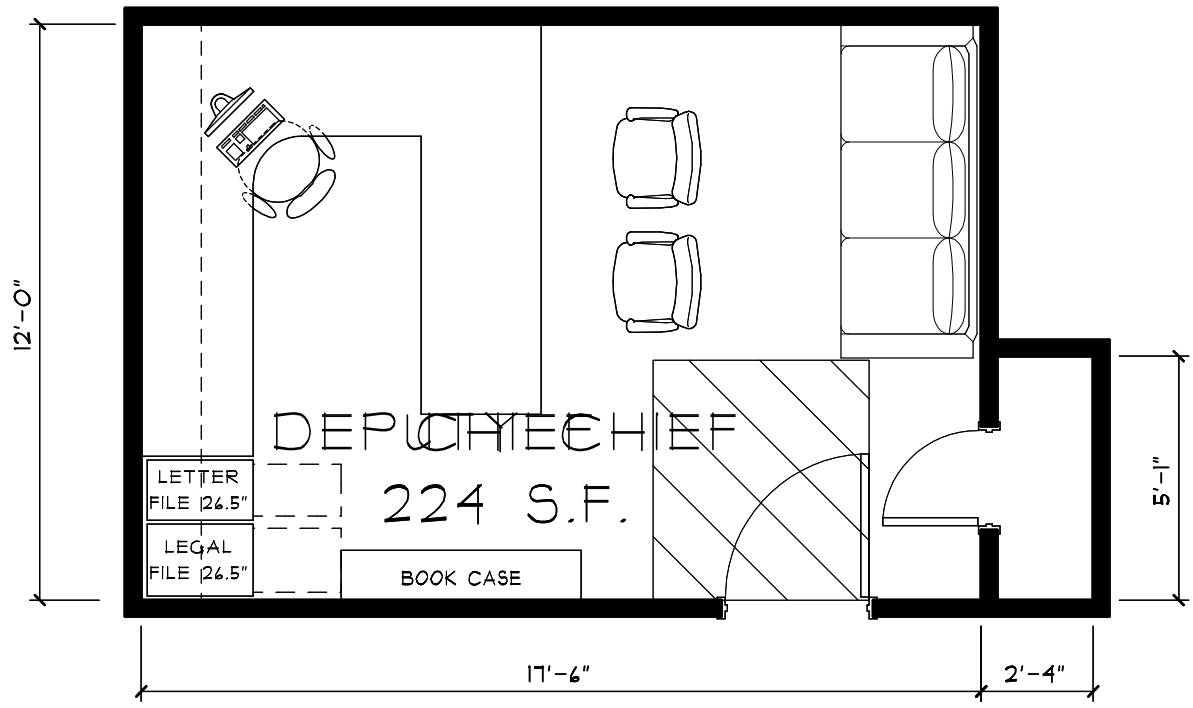
SCALE: 1/4"

DATE: 6/10/2022

S:\J Drive\Kaestle Boos\Orleans\Individual Rooms\2 - Administration\28 & 29 - Admin Asst & Workroom

28 & 29

ROOM #



70

MITCHELL ASSOCIATES ARCHITECTS PLLC

DEPUTY CHIEF

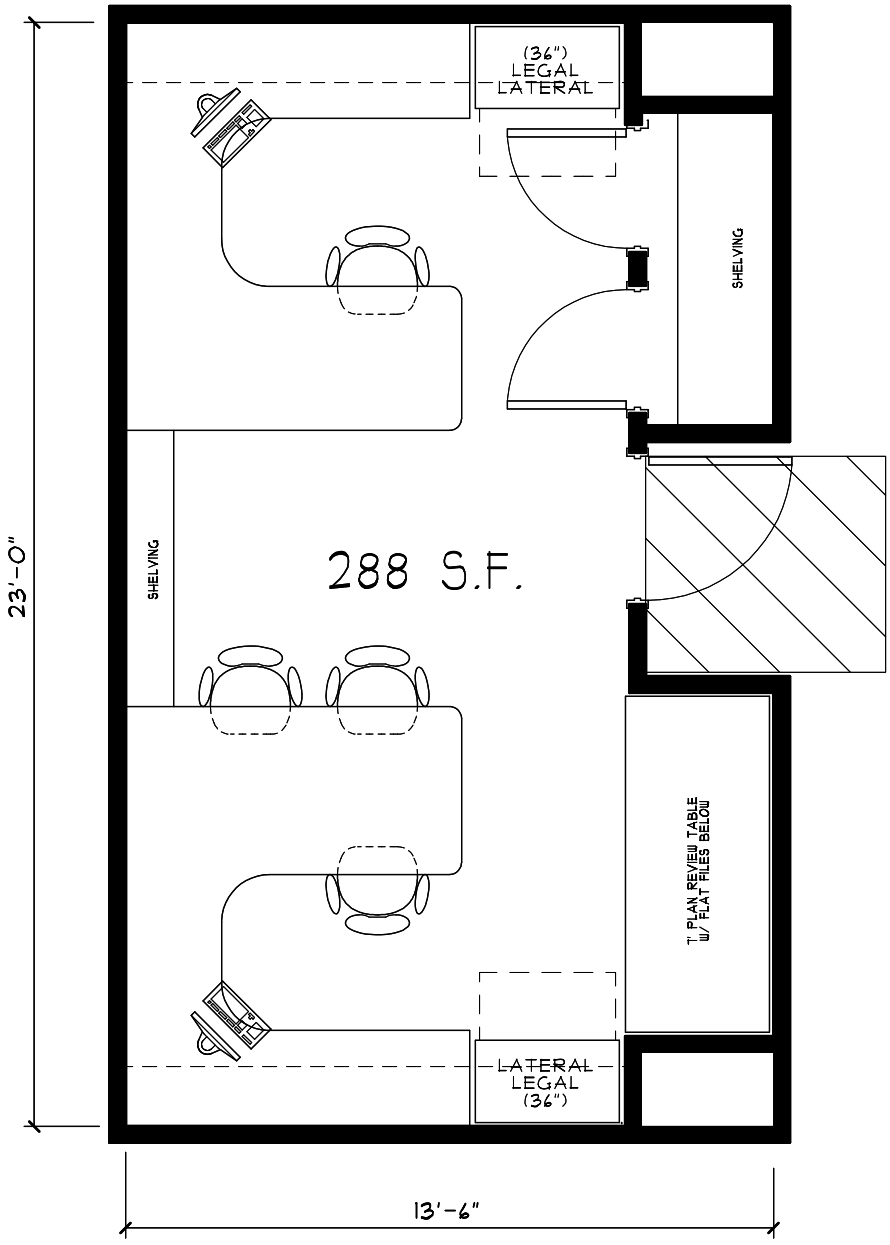
SCALE: 1/4"

DATE: 6/10/2022

S:\J Drive\Kaestle Boos\Orleans\Individual Rooms\2 - Administration\30 - Deputy Chief

30

ROOM #



71

MITCHELL ASSOCIATES ARCHITECTS PLLC

FIRE PREVENTION

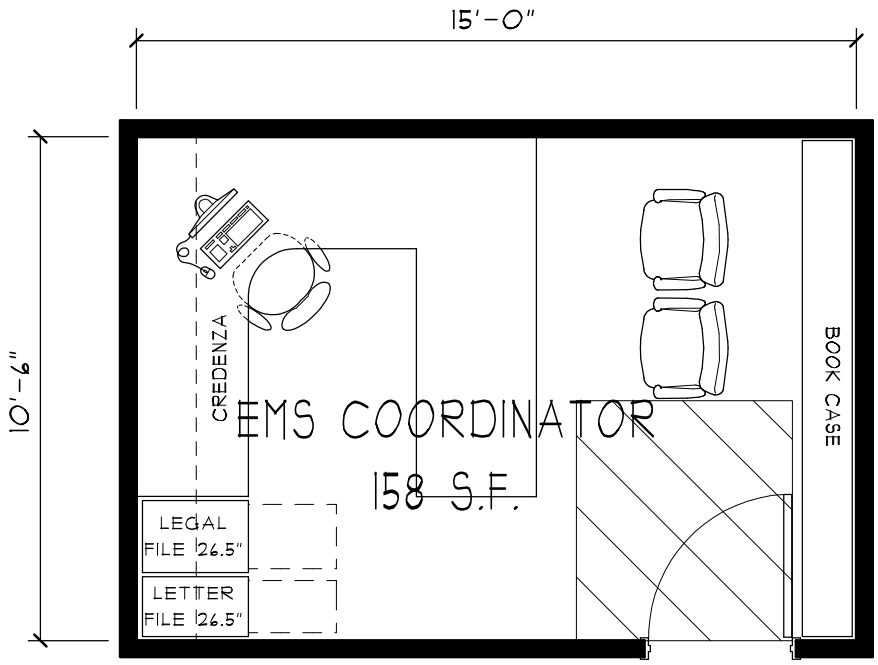
SCALE: 1/4"

DATE: 6/10/2022

S:\J Drive\Kaestle Boos\Orleans\Individual Rooms\2 - Administration\31 - Fire Prevention

31

ROOM #



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MITCHELL ASSOCIATES ARCHITECTS PLLC

EMS COORDINATOR

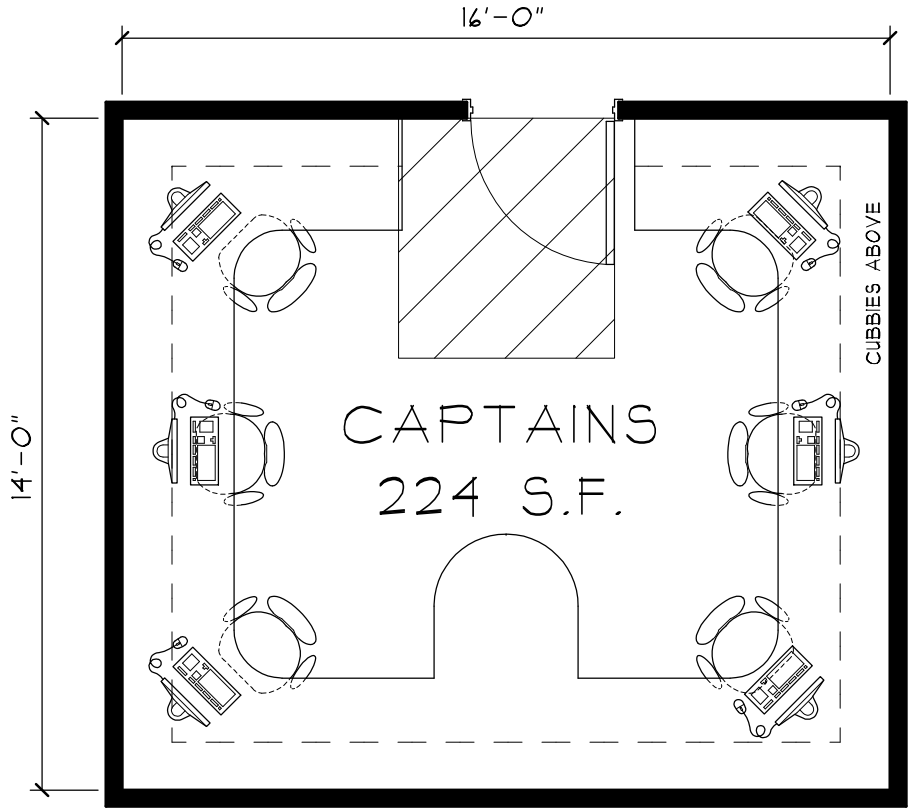
SCALE: 1/4"

DATE: 6/16/2022

S:\J Drive\Kaestle Boos\Orleans\Individual Rooms\2 - Administration\32 - EMS Coordinator

32

ROOM #



MITCHELL ASSOCIATES ARCHITECTS PLLC

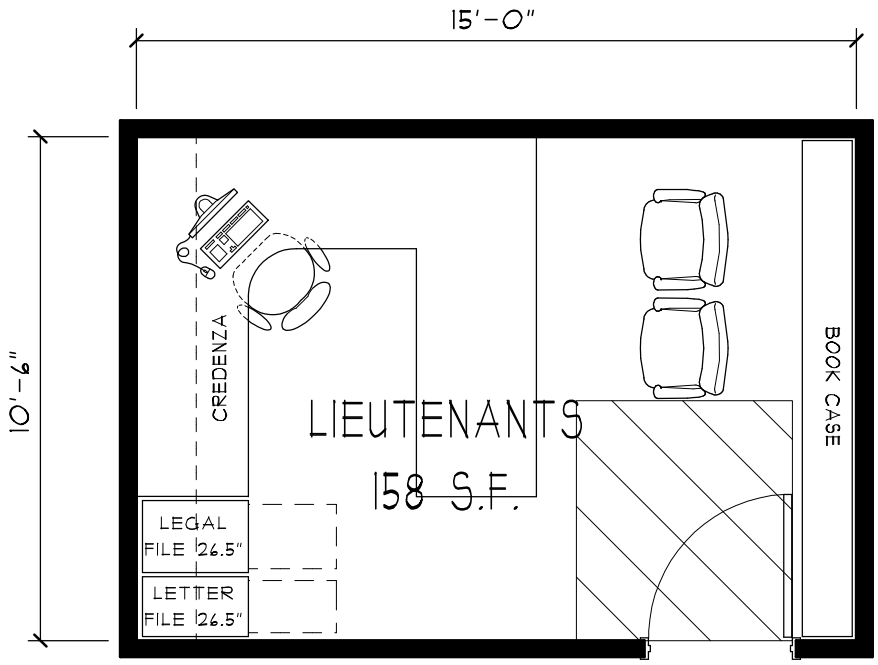
CAPTAINS

SCALE: 1/4" = 1'-0" | DATE: 6/16/2022

S:\J Drive\Kaestle Boos\Orleans\Individual Rooms\2 - Administration\33 - Captains

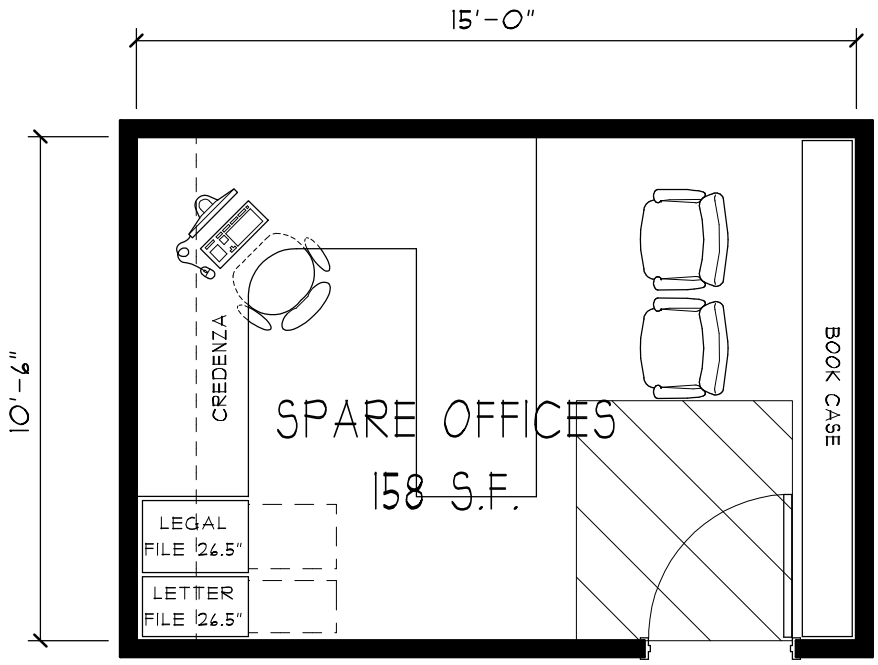
33

ROOM #



74

MITCHELL ASSOCIATES ARCHITECTS PLLC	LIEUTENANTS	34
	SCALE: 1/4" DATE: 6/16/2022	.
	S:\J Drive\Kaestle Boos\Orleans\Individual Rooms\2 - Administration\34 - Lieutenants	ROOM #



FUTURE OFFICES FOR THE TRAINING OFFICER AND EMERGENCY MANAGEMENT

MITCHELL ASSOCIATES ARCHITECTS PLLC

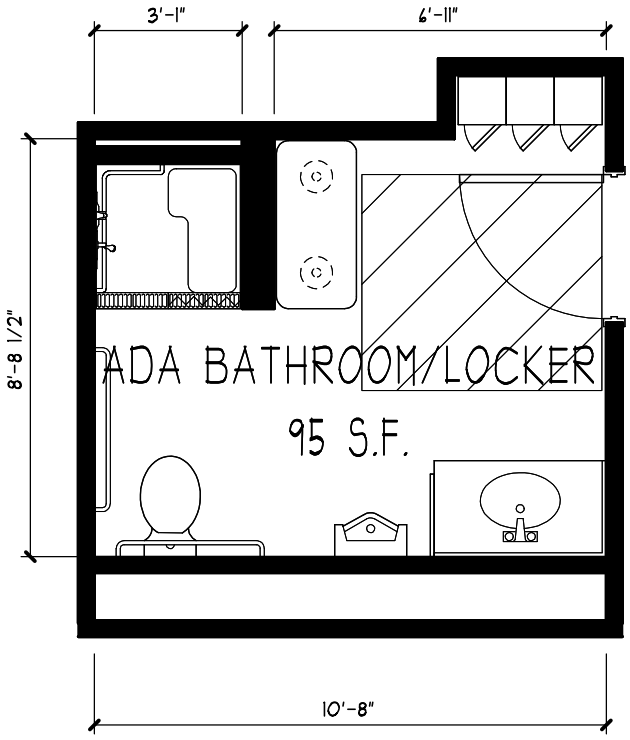
SPARE OFFICES

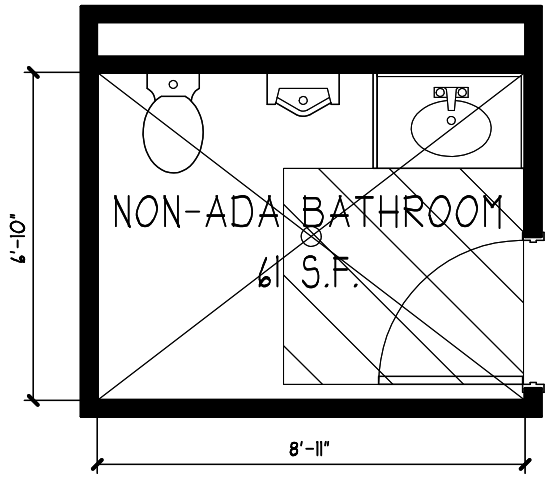
SCALE: 1/4" | DATE: 7/6/2022

S:\J Drive\Ithaca\34 A & B - Spare Offices

34A & B

ROOM #





MITCHELL ASSOCIATES ARCHITECTS PLLC

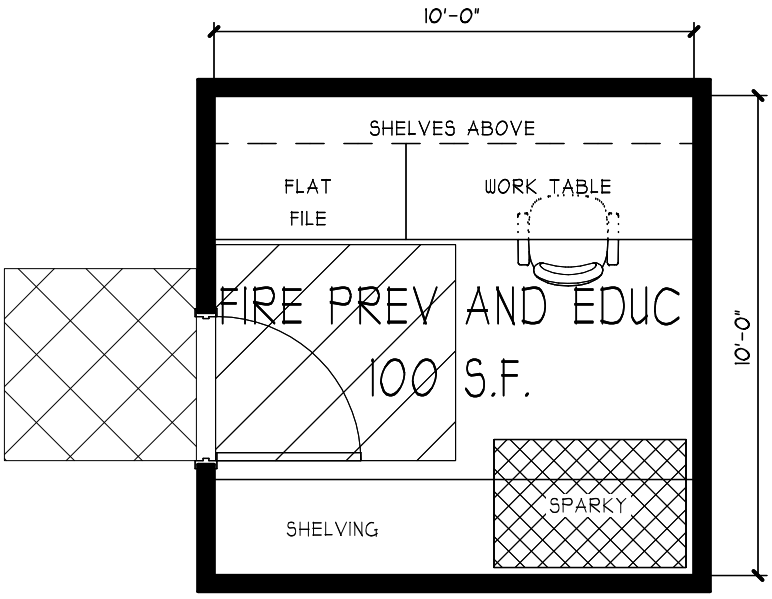
OFFICE AREA BATHROOMS

SCALE: 1/4" = 1'-0" | DATE: 6/16/2022

S:\J Drive\Kaestle Boos\Orleans\Individual Rooms\2 - Administration\35 - Office Area Bathrooms

35

ROOM #



77

MITCHELL ASSOCIATES ARCHITECTS PLLC

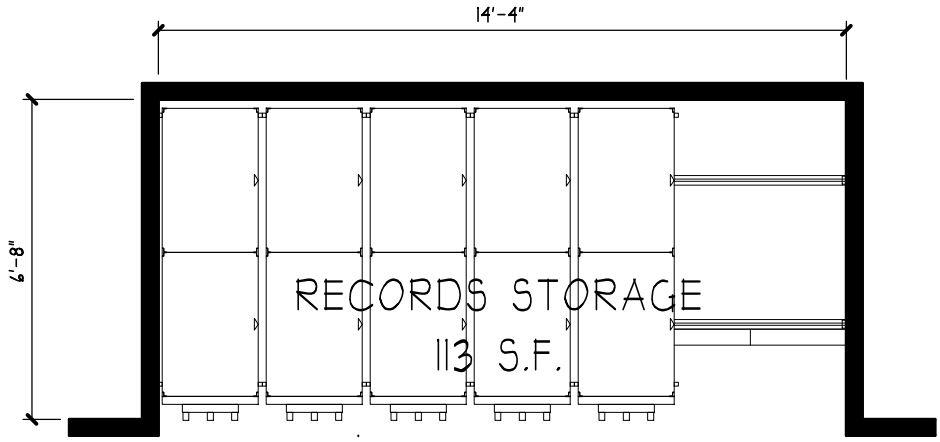
FIRE PREV. & EDUC. STORAGE

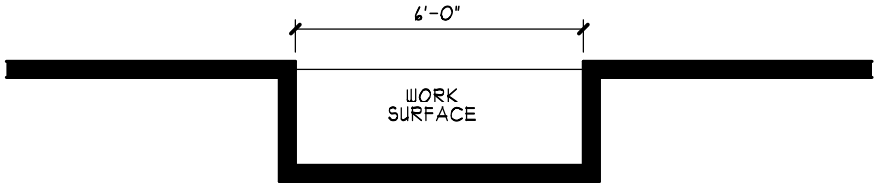
SCALE: 1/4" = 1'-0" | DATE: 6/16/2022

S:\J Drive\Kaestle Boos\Orleans\Individual Rooms\2 - Administration\36 - Fire Prev & Educ Storage

36

ROOM #





MITCHELL ASSOCIATES ARCHITECTS PLLC

RECORDS STORAGE

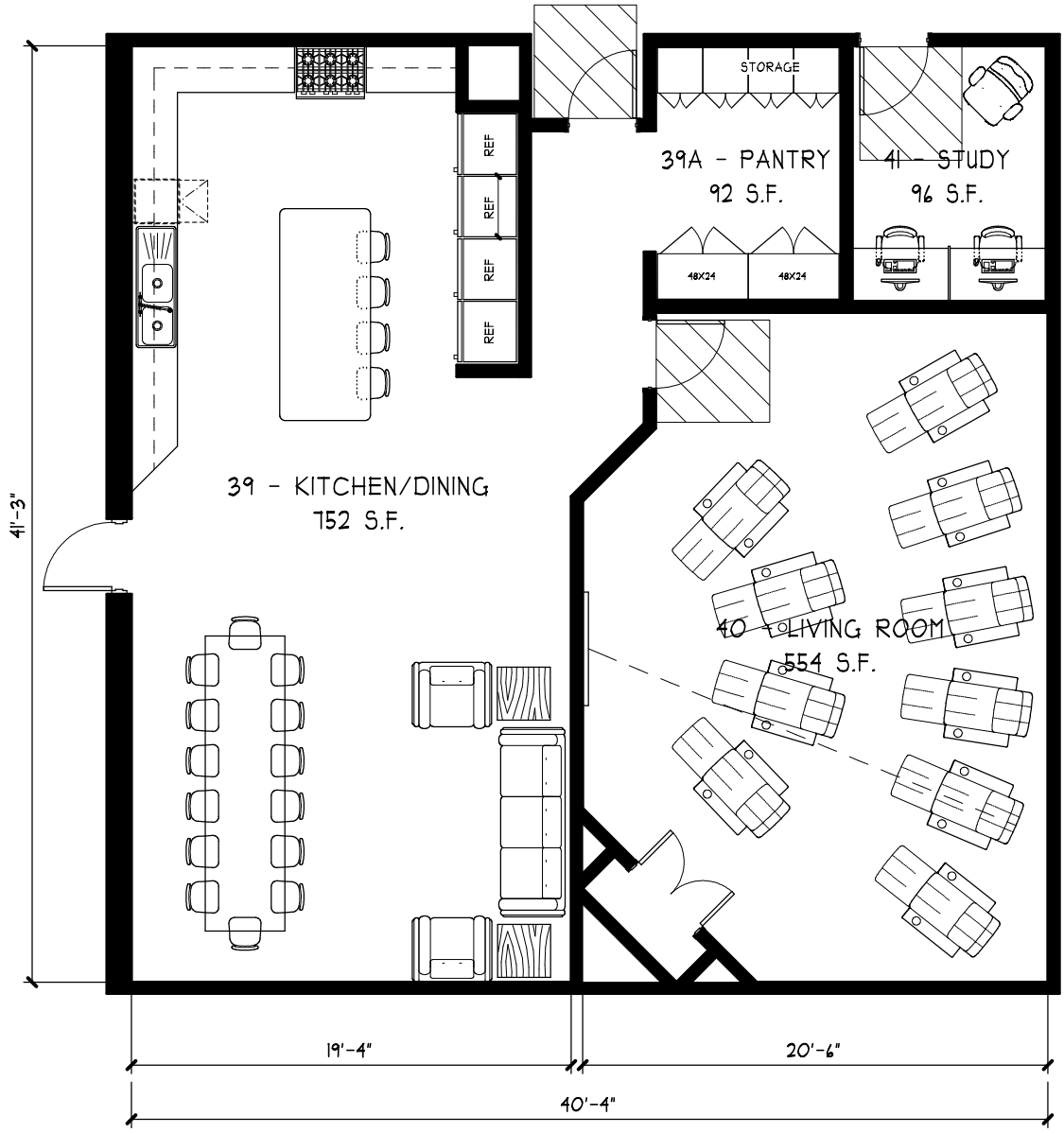
SCALE: 1/4"

DATE: 6/16/2022

S:\J Drive\Kaestle Boos\Orleans\Individual Rooms\2 - Administration\37 - Records Storage

37

ROOM #



MITCHELL ASSOCIATES ARCHITECTS PLLC

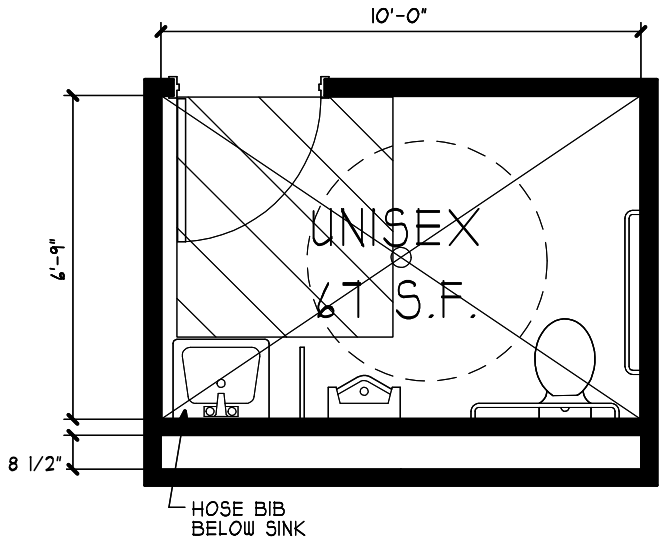
KITCHEN-DINING-LIVING-STUDY

SCALE: 1/8" = 1'-0" | DATE: 6/22/2022

S:\J Drive\Kaestle Boos\Orleans\Individual Rooms\3 - Firefighters\39 - 41 - Kitchen-Dining-Living-Study

39 - 41

ROOM #



80

MITCHELL ASSOCIATES ARCHITECTS PLLC

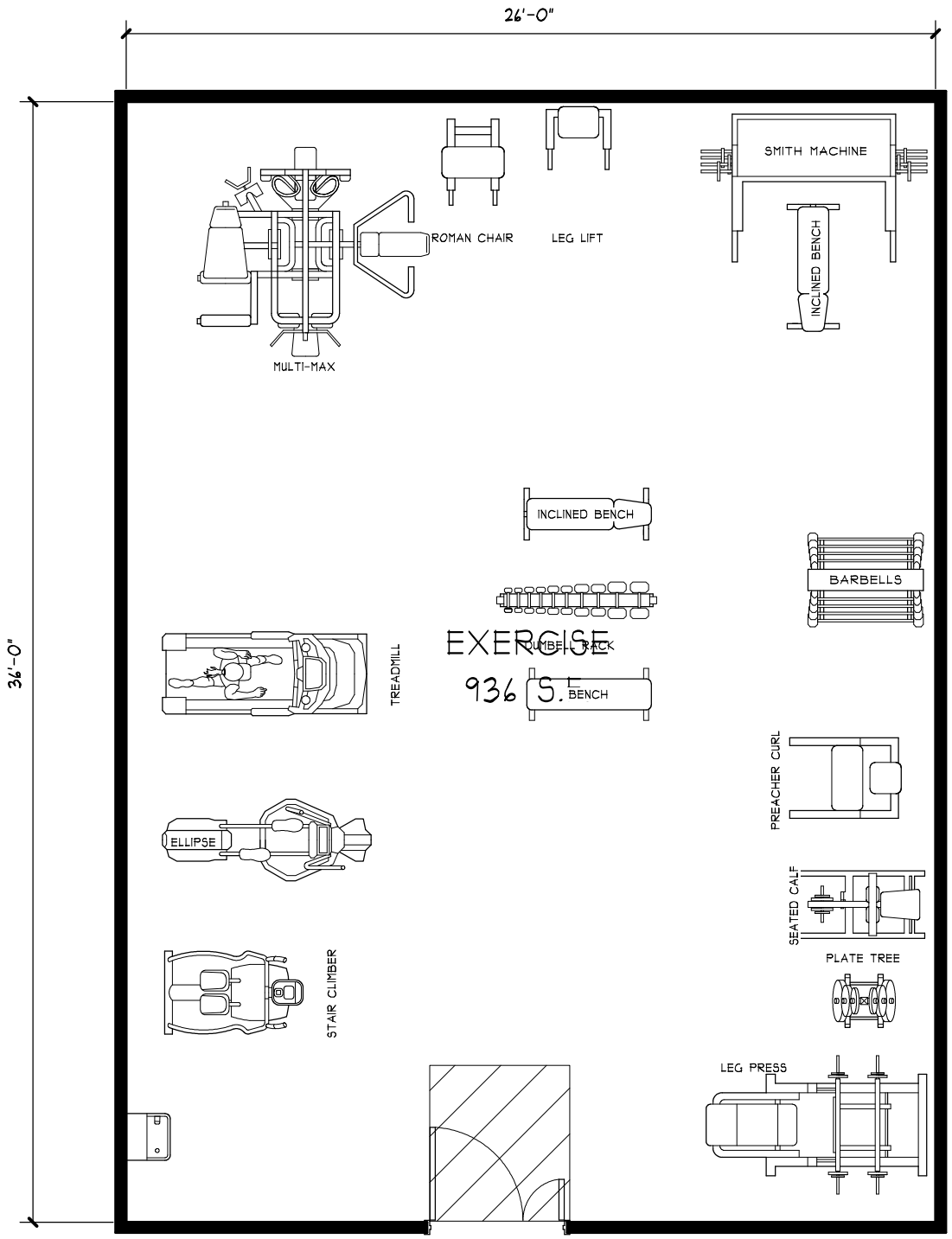
FIREFIGHTERS' BATHROOM

SCALE: 1/4" = 1'-0" | DATE: 6/16/2022

S:\J Drive\Kaestle Boos\Orleans\Individual Rooms\3 - Firefighters\42 - Firefighters' Bathroom

42

ROOM #



81

MITCHELL ASSOCIATES ARCHITECTS PLLC

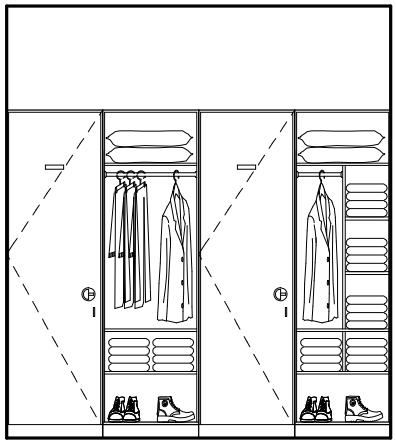
PHYSICAL CONDITIONING

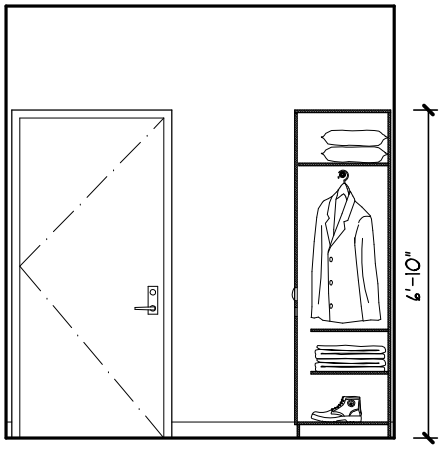
SCALE: 3/16" = 1'-0" | DATE: 7/6/2022

S:\J Drive\Kaestle Boos\Orleans\Individual Rooms\3 - Firefighters\43 - Physical Conditioning

43

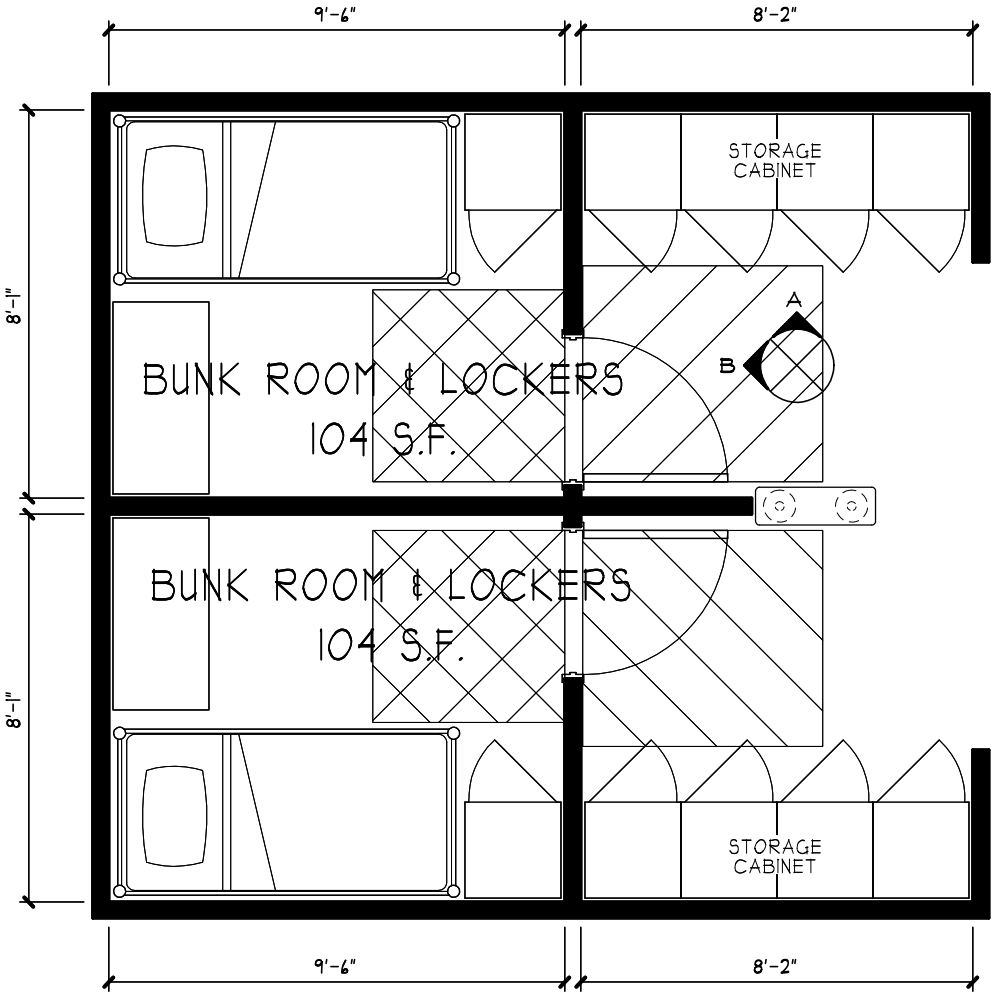
ROOM #





A

B



82

MITCHELL ASSOCIATES ARCHITECTS PLLC

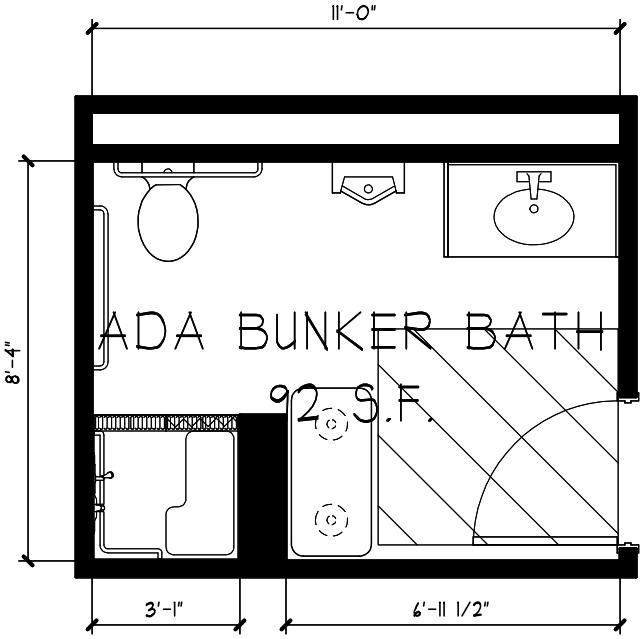
BUNK ROOMS

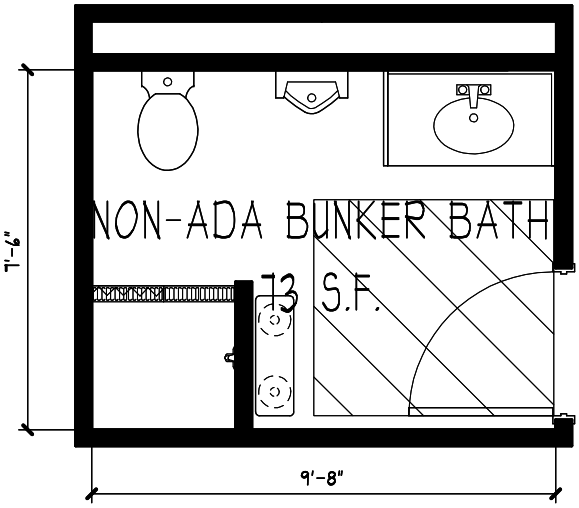
SCALE: 1/4" = 1'-0" | DATE: 6/21/2022

S:\J Drive\Kaestle Boos\Orleans\Individual Rooms\3 - Firefighters\44 - Bunkrooms

44

ROOM #





MITCHELL ASSOCIATES ARCHITECTS PLLC

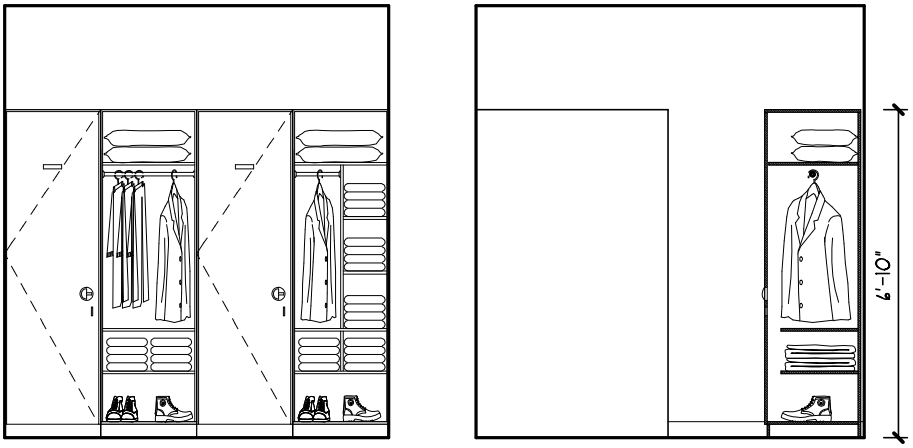
BUNKERS' BATHROOMS

SCALE: 1/4" = 1'-0" | DATE: 6/16/2022

S:\J Drive\Kaestle Boos\Orleans\Individual Rooms\3 - Firefighters\45 - Bunkers' Bathrooms

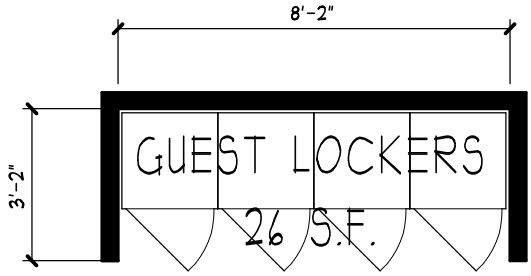
45

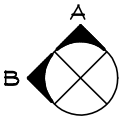
ROOM #



A

B





84

MITCHELL ASSOCIATES ARCHITECTS PLLC

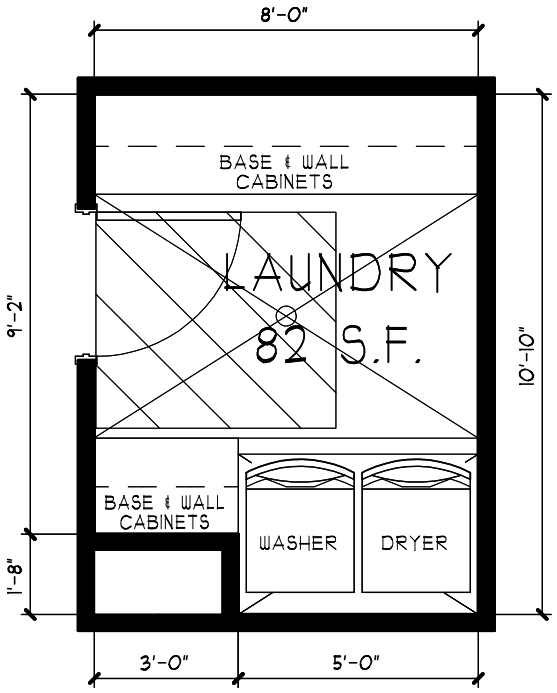
TEMPORARY USE LOCKERS

SCALE: 1/4" = 1'-0" | DATE: 6/16/2022

S:\J Drive\Kaestle Boos\Orleans\Individual Rooms\3 - Firefighters\46 - Guest Lockers

46

ROOM #



MITCHELL ASSOCIATES ARCHITECTS PLLC

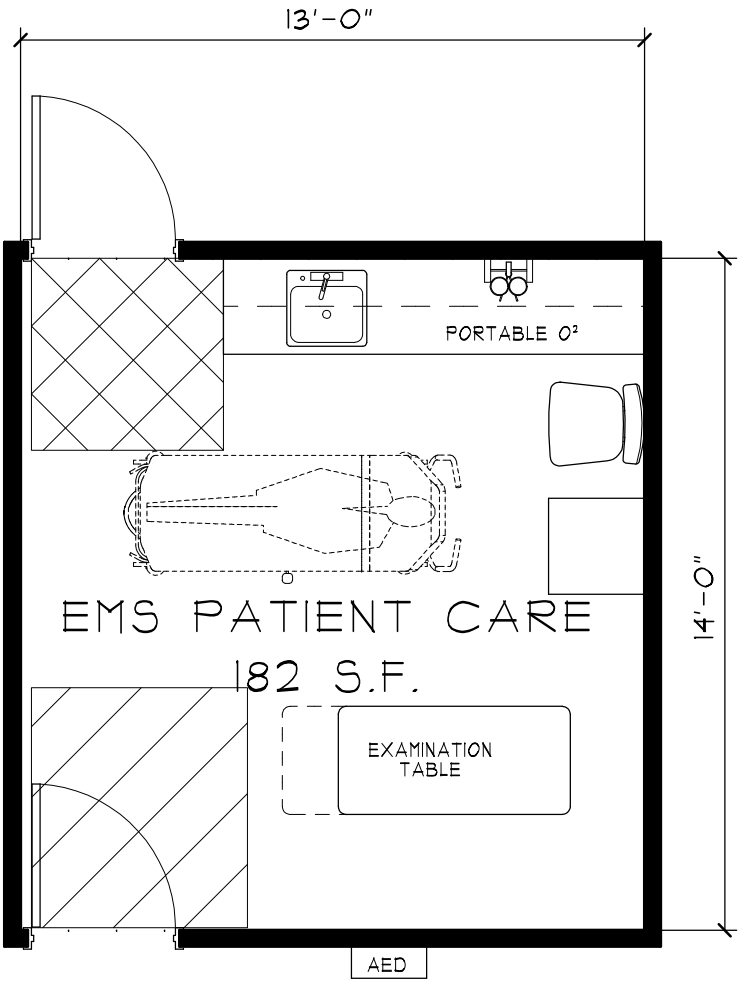
BUNKERS' AREA LAUNDRY

SCALE: 1/4" = 1'-0" | DATE: 6/16/2022

S:\J Drive\Kaestle Boos\Orleans\Individual Rooms\3 - Firefighters\47 - Bunkers' Area Laundry

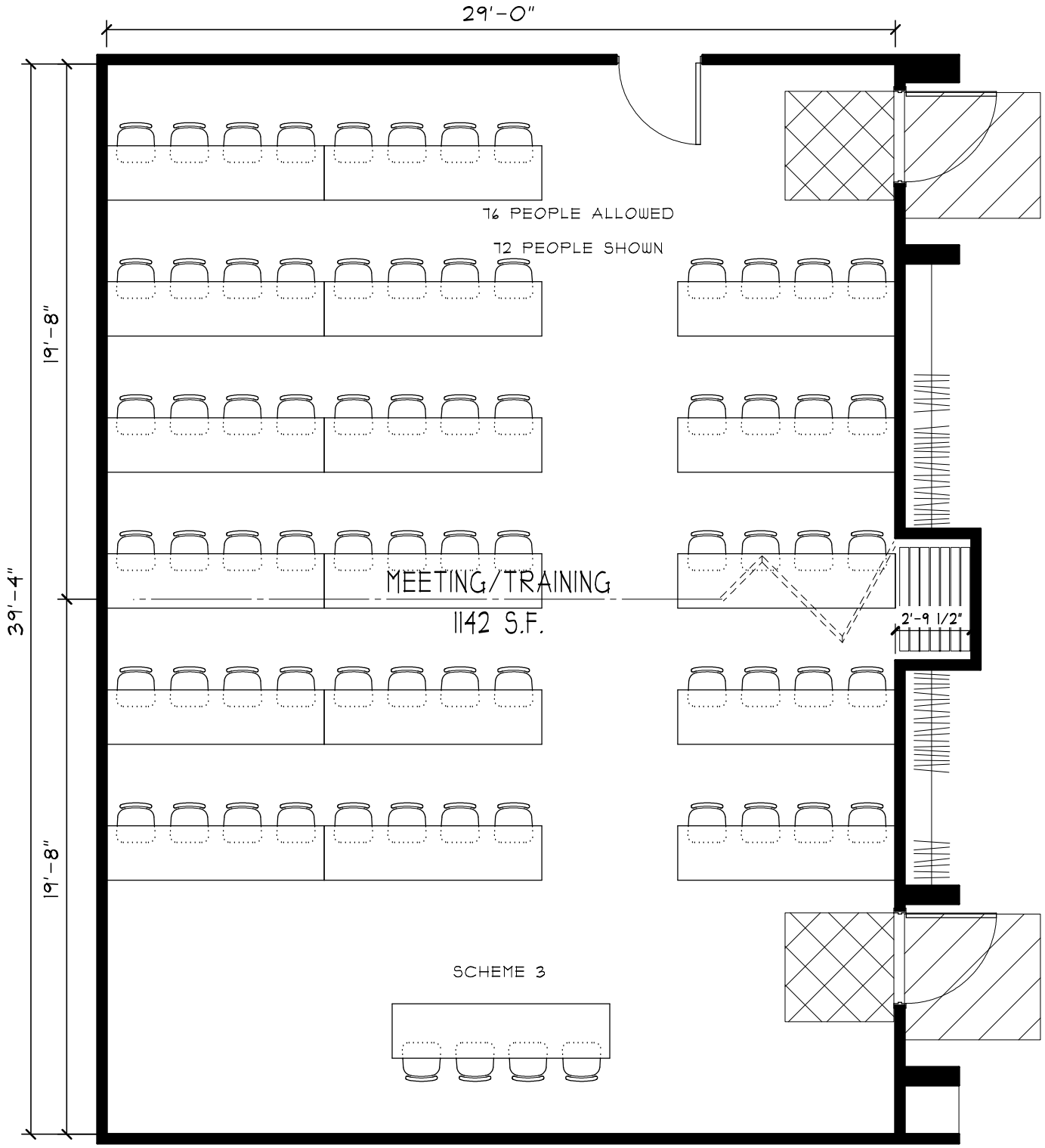
47

ROOM #



98

MITCHELL ASSOCIATES ARCHITECTS PLLC	FIRST AID & TRIAGE	49
	SCALE: 1/4" = 1'-0" | DATE: 6/21/2022	.
	S:\J Drive\Kaestle Boos\Orleans\Individual Rooms\1 - Public & Training\49 - First Aid & Triage	ROOM #



87

MITCHELL ASSOCIATES ARCHITECTS PLLC

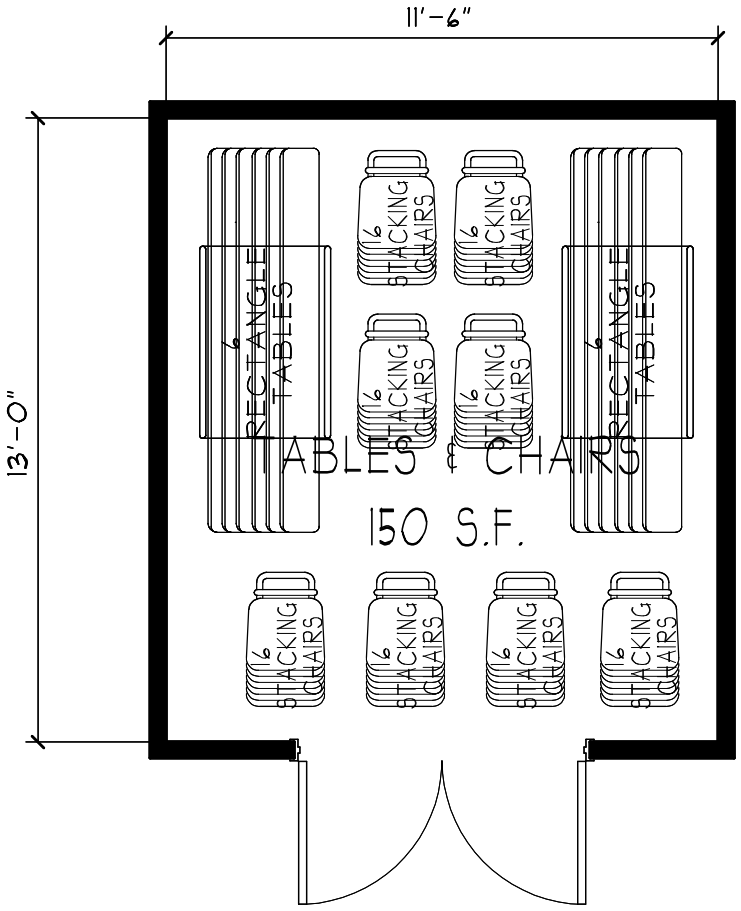
MEETING/TRAINING

SCALE: 3/16" = 1'-0" | DATE: 6/21/2022

S:\J Drive\Kaestle Boos\Orleans\Individual Rooms\4 - Public & Training\50 - Meeting-Training

50

ROOM #



88

MITCHELL ASSOCIATES ARCHITECTS PLLC

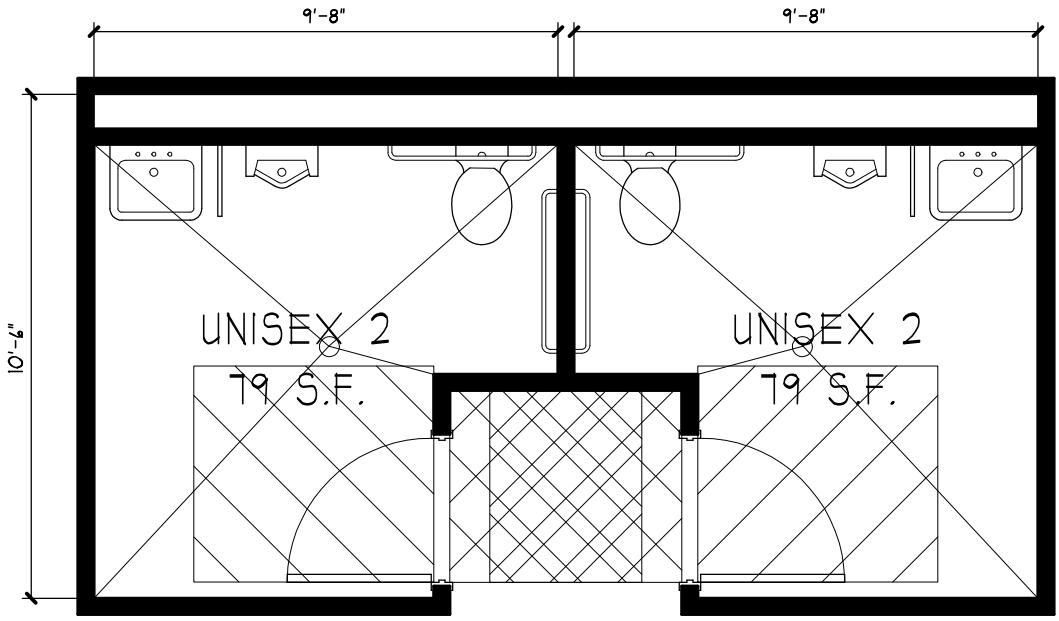
TABLE AND CHAIR STORAGE

SCALE: 1/4" = 1'-0" | DATE: 6/21/2022

S:\J Drive\Kaestle Boos\Orleans\Individual Rooms\4 - Public & Training\51 - Tables & Chairs

51

ROOM #



68

MITCHELL ASSOCIATES ARCHITECTS PLLC

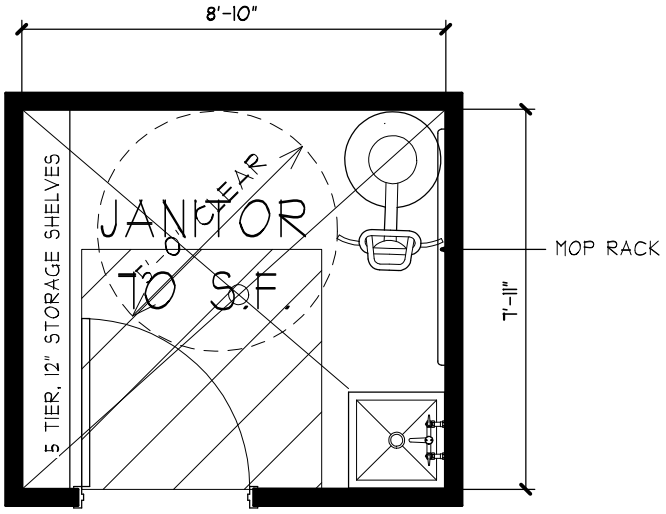
PUBLIC BATHROOMS

SCALE: 1/4" = 1'-0" | DATE: 6/21/2022

S:\J Drive\Kaestle Boos\Orleans\Individual Rooms\4 - Public & Training\55 - Public Bathrooms

55

ROOM #



06

MITCHELL ASSOCIATES ARCHITECTS PLLC

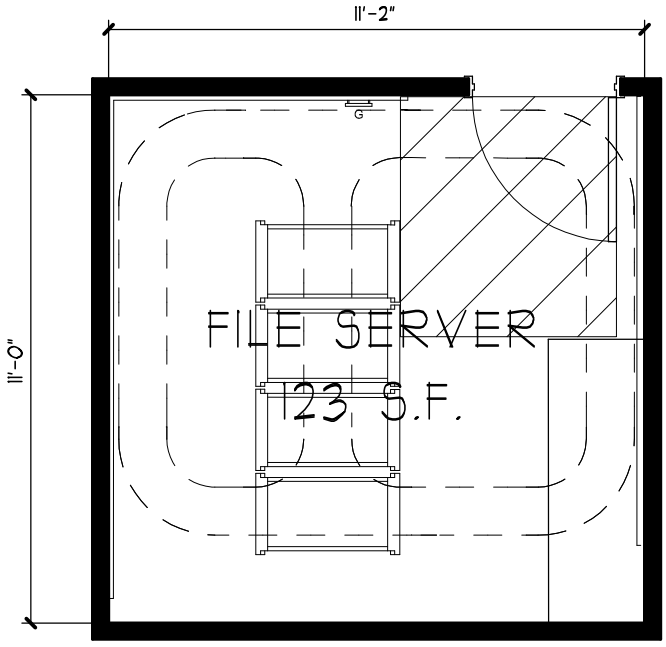
LIVING SIDE JANITOR'S CLOSET

SCALE: 1/4" = 1'-0" | DATE: 6/21/2022

S:\J Drive\Kaestle Boos\Orleans\Individual Rooms\5 - Miscellaneous\58 - Office Side Janitor

58

ROOM #



91

MITCHELL ASSOCIATES ARCHITECTS PLLC	FILE SERVER	59
	SCALE: 1/4" = 1'-0" | DATE: 6/21/2022	.
	S:\J Drive\Kaestle Boos\Orleans\Individual Rooms\5 - Miscellaneous\59 - File Server	ROOM #

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APPENDIX A

1. Schematic site layouts – Main Street and Bay Ridge Lane properties

Due to location, lot size, topography, buffer zone and vehicle circulation issues noted in the evaluation section, the sites at Main Street and Bay Ridge Lane are not recommended for construction.

Site 2 – Main Street

P8. Site 2 – Pre-Design

Program's Limitations

- ✓ 18,000 SF building footprint with 80' apparatus on both sides of building, *100' apparatus is required on one side for FRS training*
- ✓ Access road 1 - connecting to Main St, *increases traffic*
- ✓ Access road 2 - connecting to School Road with 10' grade change, *12.5% slope is not acceptable*
- ✓ 24 staff parking spaces, *adds three more spaces than required*
- ✓ 15 visitor parking spaces, *does not meet the require number of parking spaces of 17*

In conclusion, site 2 pre-design site plan (P8) access roads cause great challenge for circulation in this small area surrounded by three roads. Grading on the east side to School Road cannot be achieved.

Site 3 – Bay Ridge Lane

P9. Site 3 – Pre-Design

Program's Limitations

- ✓ 18,000 SF building footprint with 80' apparatus on both sides of building, *100' apparatus is requested on one side for FRS training*
- ✓ Access road 1 - connecting to Bay Ridge Lane, ok
- ✓ Access road 2 - connecting to Bay Ridge Lane, ok
- ✓ 21 staff parking spaces, *meets the requirement of 21 spaces*
- ✓ 15 visitor parking spaces, *does not meet the required number of parking spaces of 17*

In conclusion, site 3 pre-design site plan (P9) is constrained to wetland buffer zone and location distance response time are the major challenges making this site undesirable for construction.

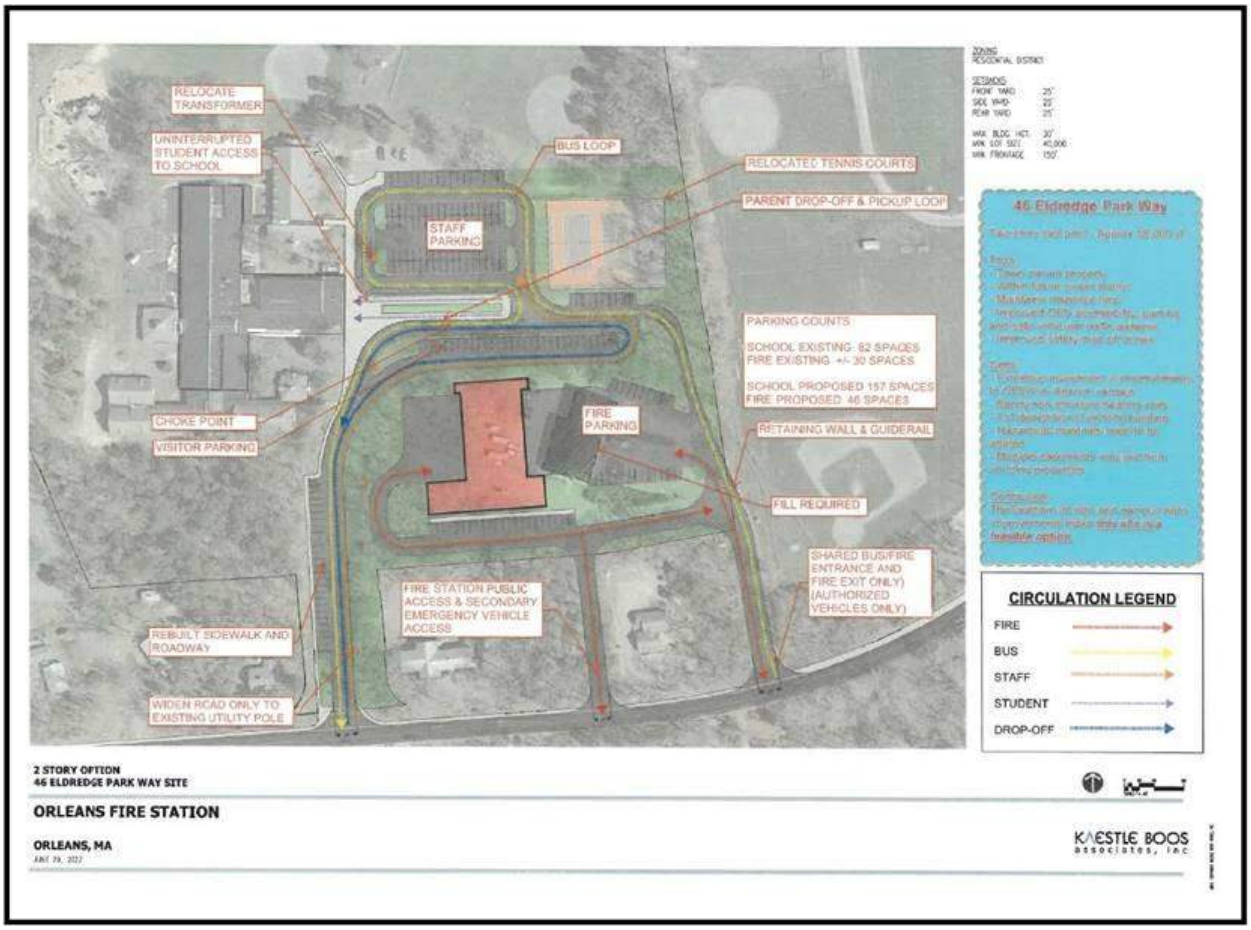
APPENDIX B – CORRESPONDENCE AND COMMENTS

From: Ron Collins <rcollins@town.orleans.ma.us>
Sent: Friday, July 8, 2022 9:19 AM
To: Gail Briere <gbriere330@gmail.com>; tfinan@capecod.net; John Kelly <jkelly@town.orleans.ma.us>; Geof Deering <gdeering@orleansfd.com>; Tom Daley <tdaley@town.orleans.ma.us>
Subject: Considerations for Orleans Elementary School in the Fire Station Feasibility

Hello to Gail and all:

In regards to the list of requested OES campus improvements provided in January, progress has been made with the Fire-Rescue Building Study site planning currently underway. Additionally, the activity of Nauset School District and other Town Committees are reflected in my opinion of what is currently achievable.

With Kaestle Boos Associates plan known as Option 1 -



Considerations for Orleans Elementary School in the Fire Station Feasibility Study

- Traffic Impact and Access Study to include evaluation and design of Intelligent Transportation Systems infrastructure to improve safety, mobility, and sustainability. (parking and circulation study)
- Planning Studies & Design of Infrastructure to Improve the Safety & Accessibility of Walking & Biking to School
- Outcomes as a result of the study-
    - Sidewalk from Eldredge Park Road to the Field Entrance – **To Be Included**
    - Repair cracks in the cement under the Portico - **To Be Included – Noting that the entrance peninsula would directly connect**
    - Improve Handicap Accessibility (parking and sidewalk) - **To Be Included**
    - Widen the School driveway from Eldredge Park Road - **To Be Included**
    - Reconfigure the front loop to accommodate two drop off and pick up areas for both busses and cars - **To Be Included**
    - Reconfigure parking lot to accommodate school, tennis courts, and the Fire Department - **To Be Included**
    - Increase lighting in the parking lot - **To Be Included**
    - Create a secondary means of exit from the school property for arrival and dismissal or for bus use - **To Be Included**
    - Create sidewalks and walking paths between the Fire Station and the School - **To Be Included**
    - Create a space for a bike rack - **To Be Included**
    - Clear signage (directions, safety, and informational) - **To Be Included**
    - Landscape area between the Fire Department and the School to include mature trees and plantings for privacy - **To Be Included**
    - Create direct access from the fire department to the school - **To Be Included**
- Preserve as much of the native plantings horticulture as possible - **To Be Included**
- Repave walkways around the entire circumference of the school – **Not all areas have walkways. Noting the magnitude work, study level planning and an estimate might be needed for a final determination.**
- For Consideration to benefit the School and Community – **To Be Determined - Planning which includes District and other Town Committees, currently underway, will be required for a cohesive plan**
    - Relocate the Tennis Courts and install an obstacle course for students and a multigenerational fitness circuit for the community (Outdoor Health and Fitness)
    - Install a walking path around the perimeter of the property for school and community walking programs

- Design walking and biking pathways between OES, Fire Station, Boland Pond, NRMS, and the Library
- Public Restrooms and hydration station
- Sponsor installation of Outdoor Classrooms
- Sponsor installation of a Natural Playground
- Sponsor installation of a Natural Presentation area with bench seating

I welcome thoughts from anyone else on these requests.

RC

Ron Collins

Building and Facilities Manager

Town of Orleans

DPW and NR Building

40 Giddiah Hill Road

Orleans MA, 02653

Cell 508-958-0839

Office 508-240-3790, ext. 3109

Fax 508-240-3711

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APPENDIX C – SITE SELECTION MAINTENANCE SUMMARY

	Site 1 - Existing Fire Rescue Station Eldredge Park Way	Site 2 – Town Hall Annex	Site 3 – Storage Lot Bay Ridge Lane
Summary:	Though constrained by topography and potentially conflicting adjacent uses, this site provides the best option for expansion of the three sites reviewed. Extensive grading and re-work of the existing site will be required; however, this work is more palatable when the need for renovation of the adjacent elementary school bus and parent drop-offs are considered.	Small lot size, lot configuration and challenged topography make this site unfeasible for construction of a modern fire station. Access for larger equipment and room for adequate parking are not available for this small (2.1 acre) site.	Though this site is relatively flat, its remote location, challenged access on narrow roads make this site less preferred. This site is also challenged by adjacent regulated wetland areas, and potential hazardous waste that will need to be abated.
Lot Size /Buildable Area	23 acres / The Fire-Rescue Station occupies approximately 2.13 acres of the Orleans Elementary School's campus comprised of 23 acres. The FRS's connection to Eldredge Park Way straddles two abutting properties. Sloping topography covering a significant portion of the property would be challenging for any station whether one built in 1988 or in the present time. The FRS is essentially "land locked" by multiple abutters, making replacement or expansion very challenging.	2.1 acres / Sloping topography constrained by perimeter roads and lot access agreements with 3 River Road and 8 School Road limit the buildable lot size to approximately 0.66 acres.	3 acres / Steep sloping topography to adjacent wetlands is comprised of un-improved non-structural fill and wetland setbacks limit the buildable lot size to 1.75 Acres.
Key Considerations	New fire station at this site will provide needed improvements to Elementary school Pick-up, Drop-off, and parking. Temporary facilities will be required during construction.	New station will negatively affect parking and circulation at the adjacent town hall and historic society. Requires relocation of Town Hall Annex.	Poor response times from this location. Requires relocation of DPW storage.
Utilities and Services	Municipal Water and Sewer Available	Municipal Water and Sewer Available	Septic System Required. Municipal Water Available
Regulatory /Environmental	Small, regulated wetland areas. Typical demolition remediation should be expected. Property acquisition requirements	No regulated areas. Typical demolition remediation should be expected.	Regulated Wetland areas limit buildable area. Existing use has higher likelihood of need for hazardous waste remediation.
Fire Response times	Unchanged - Existing Fire Rescue site	Increased response times. No direct access to feeder roads.	Increased response times – narrow roads, remote access to feeder roads.
Site & Soils	Property shared with elementary school. Developed and wooded site Sandy Soils	Currently developed (Park & Rec Bldg.)	Currently Developed (DPW storage) Sandy Soils
Fire Department Staff Support	Acceptable Response times (existing).	Concerns with response times due to adjacent intersection. Inadequate parking & circulation	Response times from this site are not acceptable. In-adequate site circulation.

	Site 1 - Existing Fire Rescue Station Eldredge Park Way	Site 2 – Town Hall Annex	Site 3 – Storage Lot Bay Ridge Lane
Anticipated Public Response	Opposition due to effects on Elementary School and added costs for development.	Opposition anticipated due to effects on Town Hall and Historical Society parking and service needs.	Opposition anticipated due to effects on adjacent pond/wetlands and need to relocate DPW yard.
Added Cost Considerations	Additional property acquisition & Easements. Elementary School sitework costs Temporary Fire Rescue costs Existing building Demolition Lost tax revenue of acquired properties.	Building demolition costs. Park and recreation relocation cost	Building demolition costs. DPW lot relocation cost Hazardous materials remediation.
Cost Savings Considerations	Town owned property	Town owned property	Town owned property

APPENDIX D – EXCERPT FROM 12/09/2021 TOWN OF ORLEANS RFQ

TOWN OF ORLEANS MASSACHUSETTS REQUEST FOR QUALIFICATIONS
ORLEANS FIRE STATION FEASIBILITY STUDY

Milestone #1 – Assessment of Potential Properties for the Site of a New Fire Station Milestone #1 will conclude with a graphically enhanced report and presentations detailing the assessment of two non-municipally owned properties that have been determined to be advantageous to fulfill the Fire Department's needs with a new station. The Designer shall guide the Town by suggesting the most significant criteria to determine a property's attributes. Primary areas of concern include: a centralized location, lot size, the availability of public utilities including sewer, price, site improvement costs to rectify existing conditions and on-going expenses to secure a property during its undeveloped state. Equally important is to facilitate discussions on the appropriateness of acquiring property and the effect it will have on the community's "socioeconomic fabric". A component to affecting the community's socioeconomic fabric is how and when the town notifies owners, of potential properties, about the town's elevated interest. Through decades of operation and past response time data, the Fire Department has determined that the east end of Eldredge Park Way appears to be highly advantageous with respect to addressing the town's overall needs for emergency responses. It will be incumbent on the Designer to confirm that hypothesis and determine the locale limits for maintaining acceptable response times. Taking into account the issues above, the following tasks will form the basis for completing Milestone #1: 1. Assist the Town with developing a general solicitation of inviting the submission of proposals for acquiring real property in accordance with Mass. General Law Chapter 30B, Section 16. 2. Complete a desk top evaluation, using publically available GIS data, of no fewer than December 9, 2021 New Fire Station Study Page 6 of 15 eight properties. Develop a criteria matrix to establish a ranking order. 3. Meet with Town Officals to refine the possibility of properties to two sites. In a parallel track, the town will explore opportunities with acquiring municipal property.

Milestone #2 – Development of Building Models With the Town's agreement of Milestone #1's Assessment of Properties, the Designer will then complete two virtual building models in sufficient detail allowing the Town to choose one for further development. Generally, these models will include: 1. A building and site layout conveying a functionally efficient, attractive, and inviting environment for employees and visitors. 2. Evidence that the prospective lot sizes will address current and future department needs. This level of detail should also include conceptual space allocations and locations for mechanical and electrical areas. 3. A proposed schematic layout to address traffic flow within the building to accommodate staff-to-public and staff to-staff interactions. 4. A refinement of Milestone #1's overall projects costs including property acquisition.

Milestone #3 – Refinement of Conceptual Design Advance Milestone #2's chosen concept design to achieve the equivalent of a DCAMM certified solution. 1. This would include a publicly presented final written report for approval by the Select Board. Additionally, the Design Team will also be required to participate in two public presentation meetings. 2. Include preliminary site and floor plans, building elevations, and overall assessments. 3. Provide a feasibility level estimate, by an independent Estimator and a Commercial Property Assessor, for the acquisition of property, proposed new facility and Owner's development costs such as Designer fees, Owner's Project Manager (OPM) fees, furnishings, contingency, etc. 4. Milestone #3's finished product shall be in sufficient detail, to serve as a basis for continuation into the Design Development and Construction Bidding Phases. 5. The report should be concise and clear, summarizing the findings. The report shall be prepared in 8 1/2" x 11" format with fold outs as required. 6. The Designer shall also provide a complete collection of electronic sketches, preliminary designs and models used during the initial development of the Building Information Modeling program.

Analysis of Fire Station Location Alternatives

Town of Orleans, Massachusetts

Orleans Fire Rescue

November 10, 2022

EXECUTIVE SUMMARY

The Town of Orleans, through the Orleans Fire Rescue Department, retained Criterion Associates to conduct a study focused on determining the best location for a new fire station located within the Town to provide for the highest levels of service possible from a single location. This study was conducted with the full cooperation and assistance from the Fire Rescue Department, as part of an on-going effort to provide enhanced fire and rescue response capability to the Town of Orleans. This is in response to several concerns / challenges related to the current facility. This was also conducted with an awareness that the availability of suitable parcels in the Town of Orleans is very restricted given land use, build out, and size of available parcels.

This document provides the following information:

- Maps showing the following:
  - Distribution of calls for service
  - Fractile performance (i.e., % of calls reached in a set amount of time)
- Analyses focused on:
  - Fractile response times
  - Expected response time (i.e., a calculation of drive time under various scenarios and assumptions).

The project team from Criterion Associates utilized two different analytical methodologies for assessing the potential fire station locations in the Town of Orleans. These include:

- Evaluating the performance of each system by calculating the fractile performance based on the location of stations and calls for service.
- Assessing the "expected response time" of the system by calculating the aggregate travel time to the all call addresses to which the Orleans Fire Rescue Department responded within the data set provided by the Town.

To conduct these analyses, the project team from Criterion Associates needed to provide the GIS software (Criterion Associates utilizes state of the art ESRI software and modules for all calculations in this report) with timestamps against which to measure the performance. This makes it possible to compare

various alternatives across a common measure. These standards exist for fire / EMS and are recognized nationally as appropriate benchmarks.

The project team was given a list of possible sites by the Town of Orleans. In addition, we utilized the GIS software to identify a theoretical "best" location – albeit one that may or may not be available, of suitable size, and any other possible constraint. The results of these analyses are provided, below:

Fractile and Expected Response Time Performance

Scenario	Fractile Performance <4-Minutes of Drive Time	Fractile Performance <8-Minutes of Drive Time	Expected Response Time in Minutes
6A / Canal / Rt28 Circle[1]	67.40%	96.80%	3.86
58 Eldredge Pkwy. [2]	55.10%	99.60%	3.93
48 Eldredge Pkwy.[3]	68.10%	96.60%	3.94
139 Main St.	72.40%	96.10%	3.96
46 Eldredge Pkwy.[4]	64.50%	96.60%	4.24
18 Bay Ridge Ln.	51.80%	95.40%	5.08

[1] This site was identified using the GIS model as the best location in the Town of Orleans for a single station without regard to lot size, current use, availability, best possible use, etc. It is a theoretical location that should be used to assess the efficacy of other properties that are more suitable, available, etc.

[2] Note that if the Fractile Performance target was set to 4:15 all three properties on Eldredge Parkway would have the same results.

[3] See note above

[4] See note above

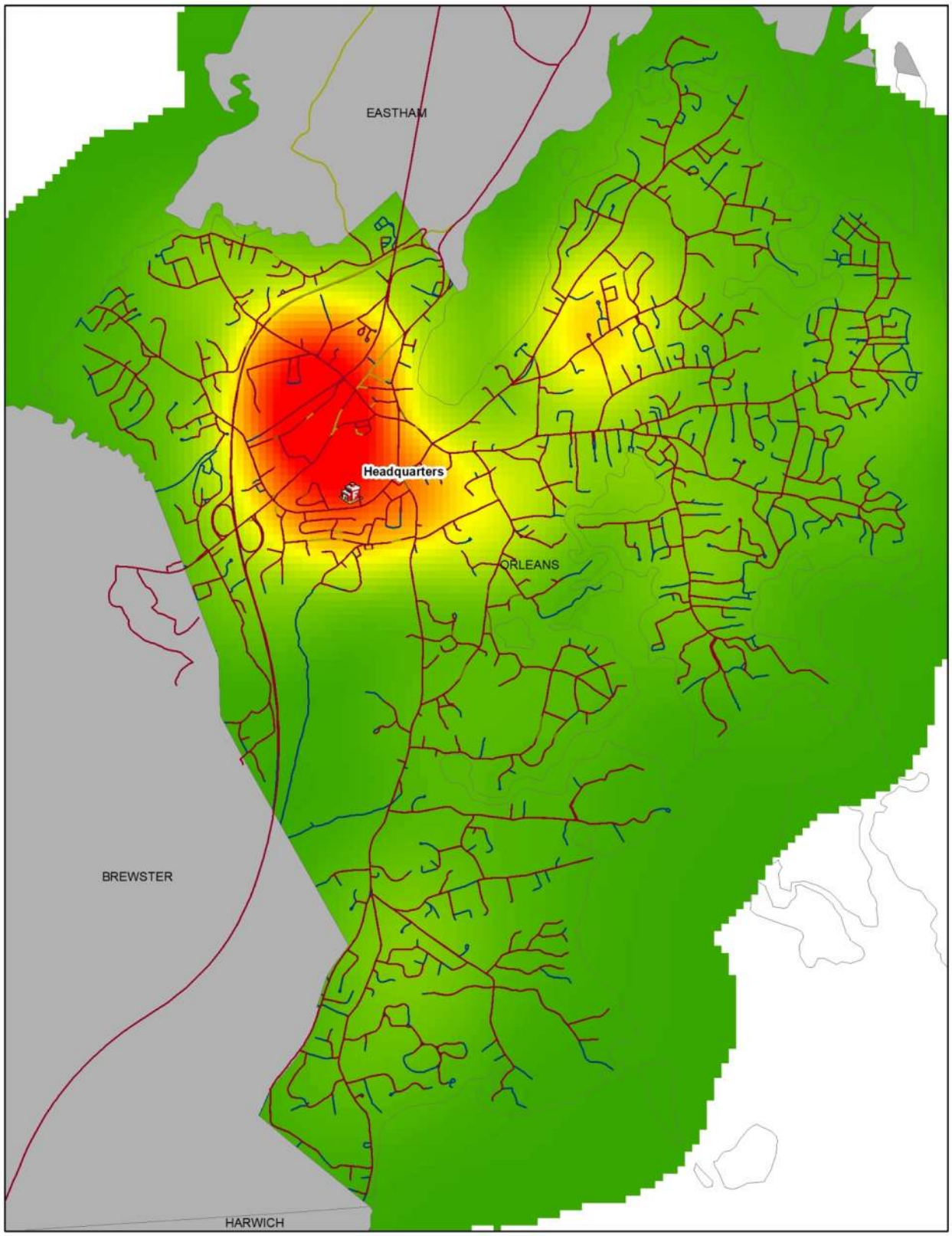
Note the seemingly significant variances for the three addresses on Eldredge Parkway – even though they are all quite close to one another. This is driven by the fact that some call locations with numerous responses are fractions of a minute closer or further from one or the other of the three addresses on Eldredge Parkway. This is also driven by the tightness of the call cluster shown in the heat map indicating the distribution of calls for service in the northern end of the Town.

The project team from Criterion Associates has not made any effort to determine the suitability, geo-technical issues, land-use issues, etc. associated with any of these properties. The Town's committee that has been appointed to identify site options will need to take that next step. ***It is clear, however, from***

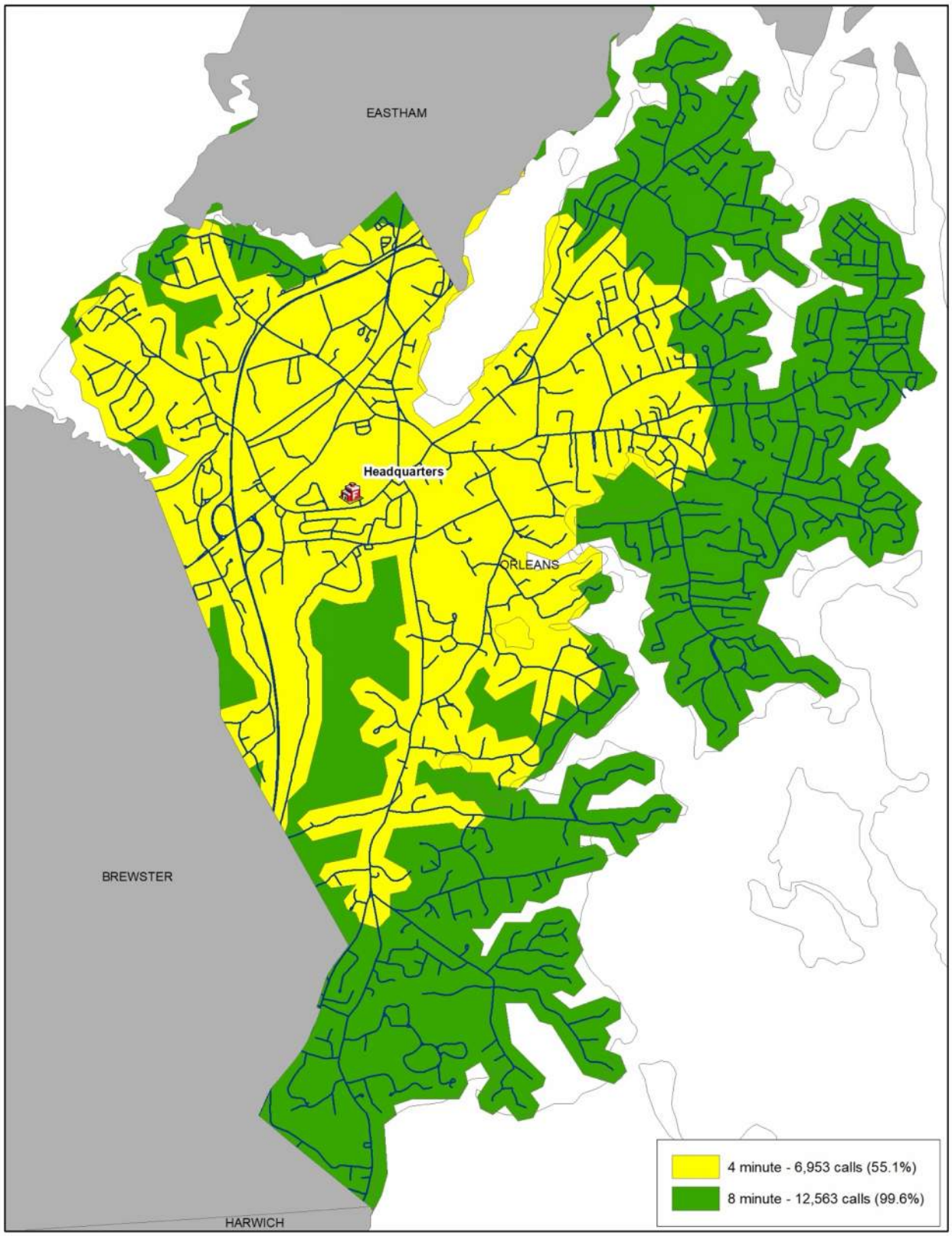
the analyses contained in this report, that the most advantageous location for a new Fire-Rescue facility is in the area immediately surrounding the current facility.

The illustrative maps for the scenarios run by the project team are provided on the following pages.

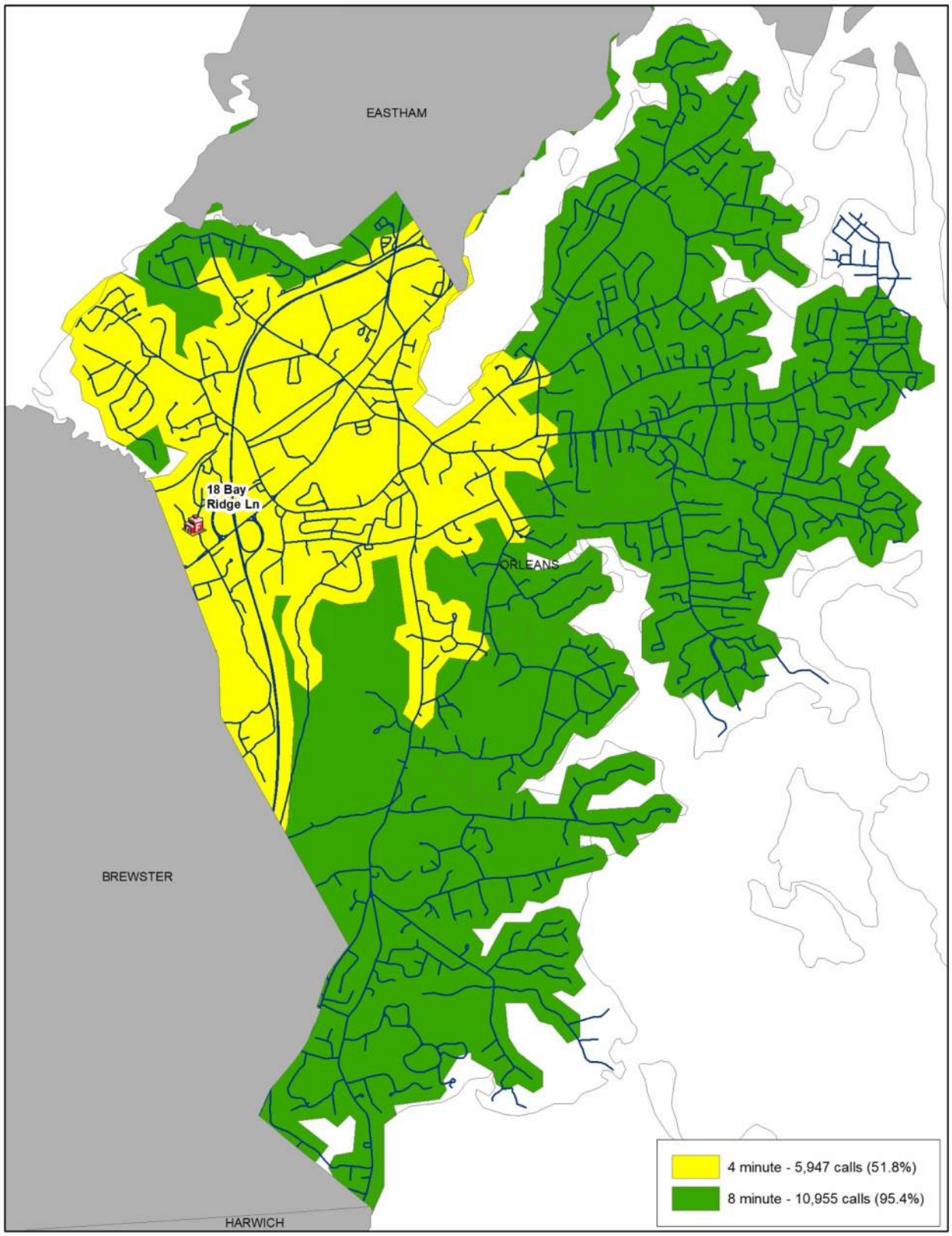
Distribution of Fire Rescue Calls for Service Within the Town of Orleans



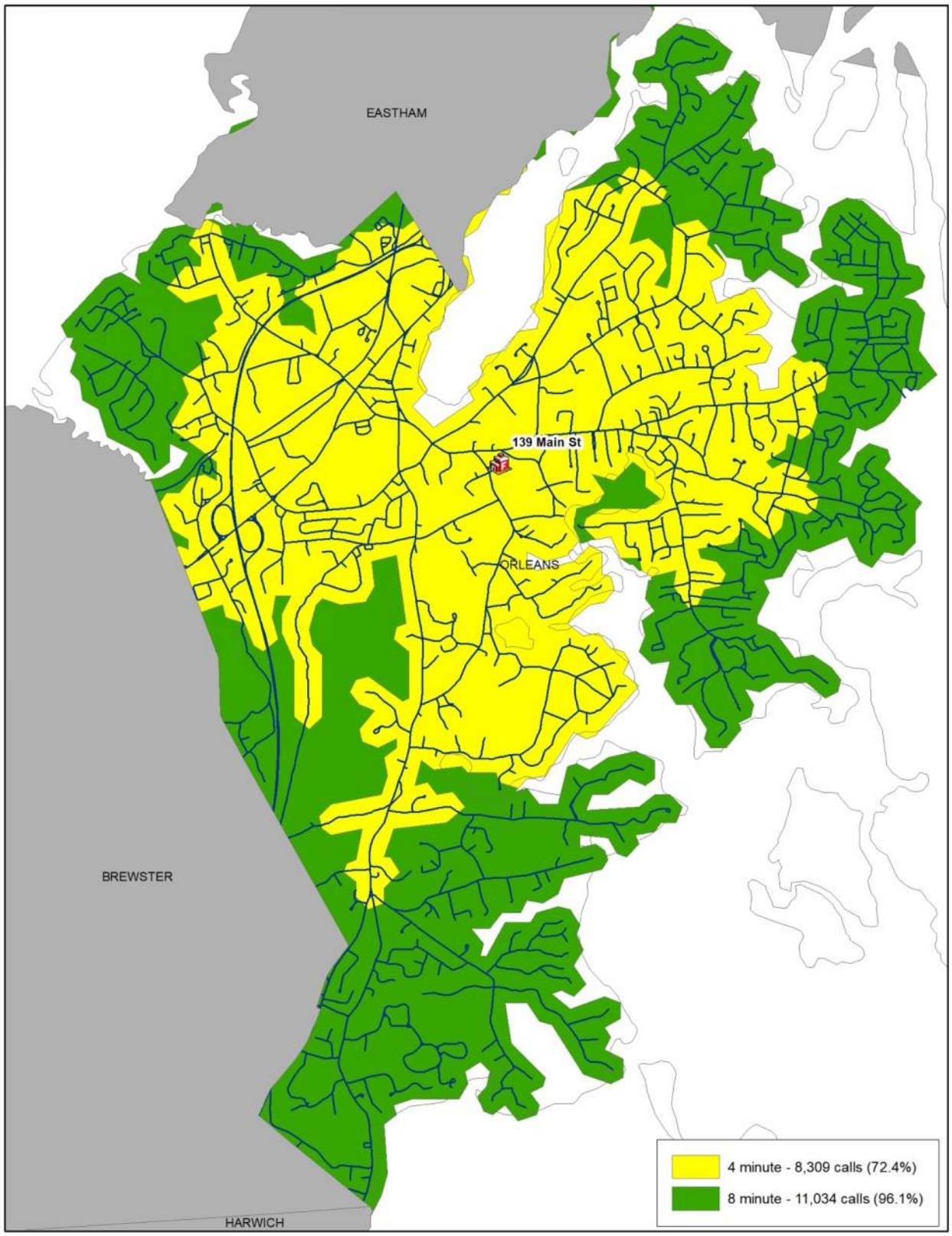
Fractile Performance: Current System (58 Eldredge Parkway)



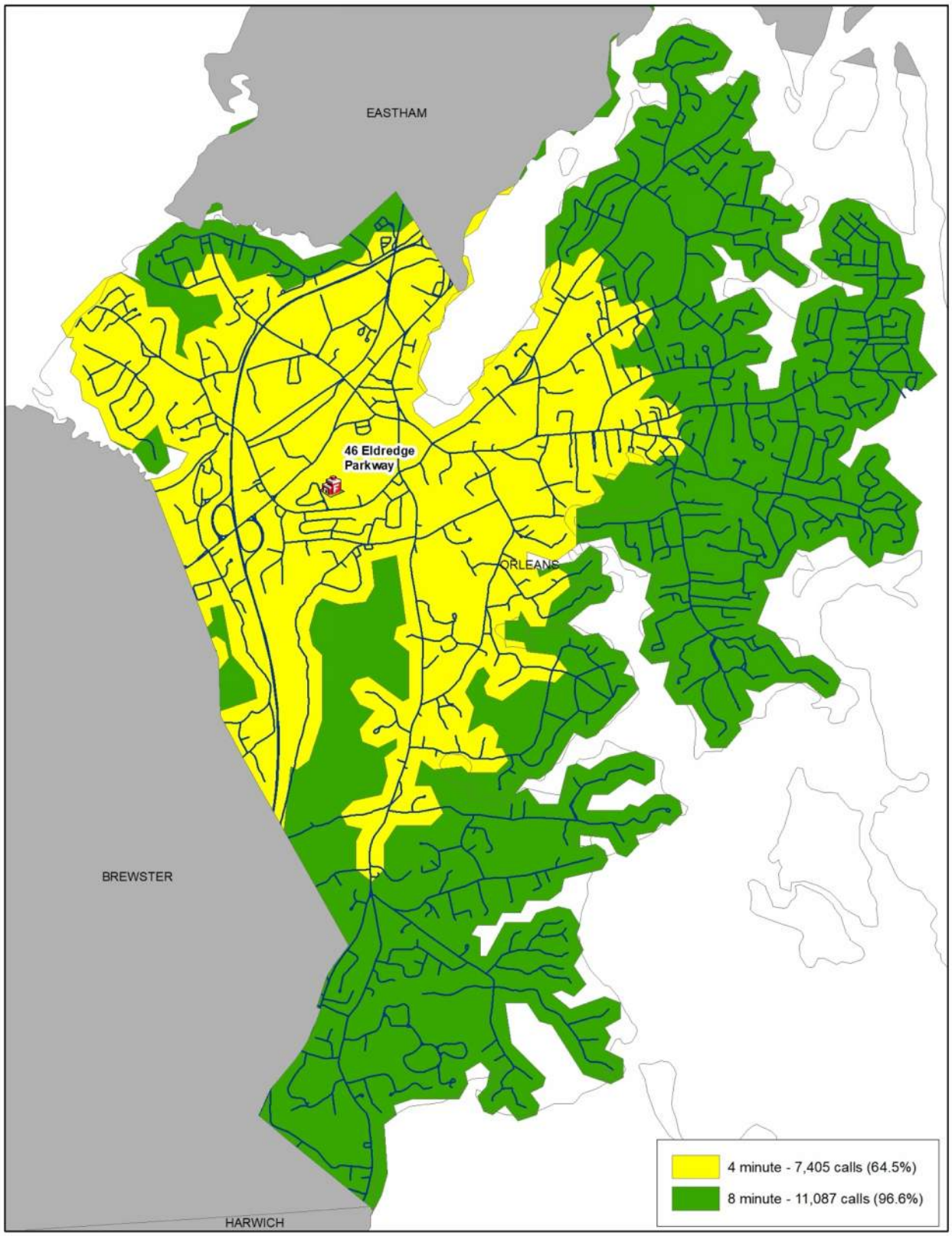
Fractile Performance: 18 Bay Ridge Lane



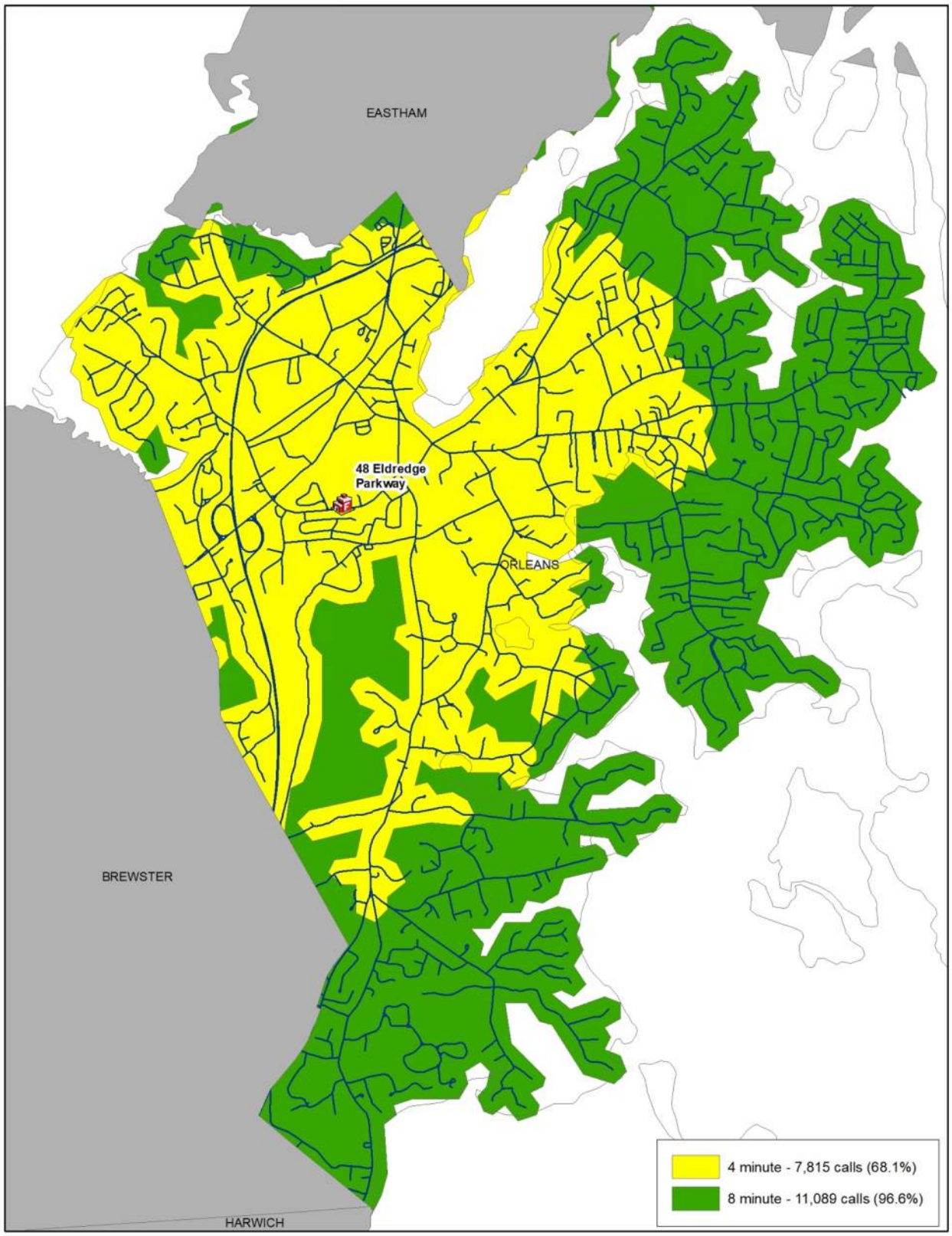
Fractile Performance: 139 Main Street



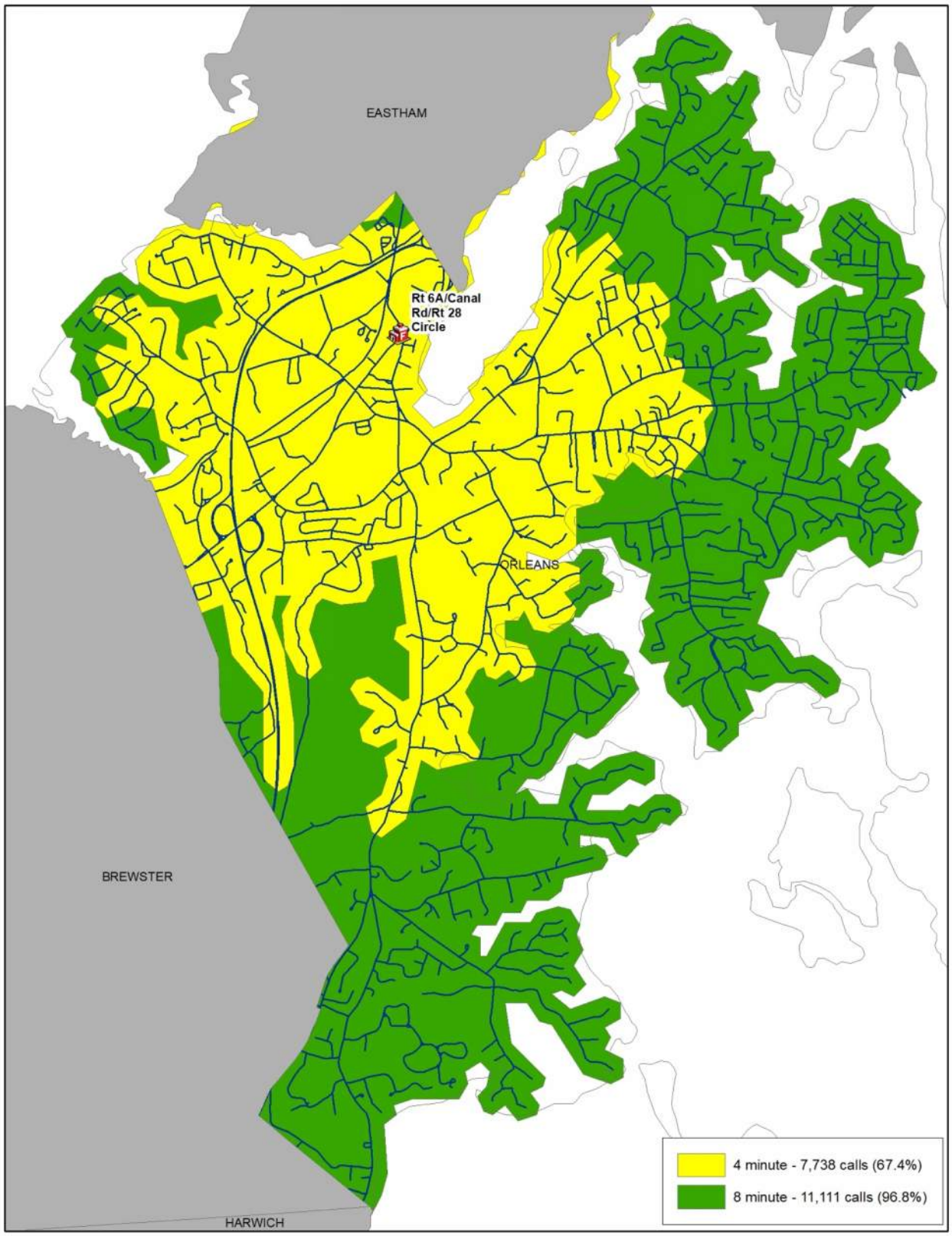
Fractile Performance: 46 Eldredge Parkway



Fractile Performance: 48 Eldredge Parkway



Fractile Performance: Optimal Single Location



APPENDIX: ANALYTICAL APPROACH

The adoption of performance standards for fire and EMS response is a critical first step in the evaluation of service levels and staffing alternatives. While there are national standards that can be used to evaluate fire and EMS service delivery, each community must identify the key risks and necessary level of protection it needs based on its own unique circumstances. Once these performance standards are established a community can assess its performance and determine if current resources support the desired level of service.

The project team from Criterion Associates makes use of two distinct but related measures for evaluating the efficacy of each scenario. This approach is utilized to bring additional clarity to managers and policy makers as they assess possible alternatives.

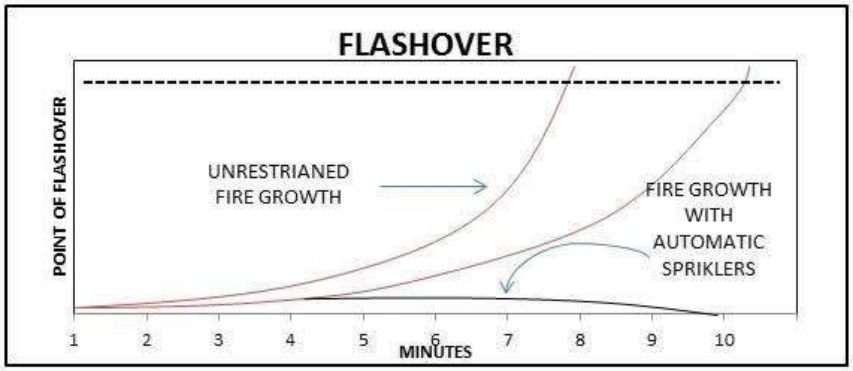
Fractile Response Time Performance

Nationwide, a great deal of effort and research has been put into developing performance objectives for the delivery of fire and EMS services. This effort is critical for agencies making decisions about deployment and location of emergency resources. The objectives promoted for fire/rescue and EMS have their basis in research that has been conducted into two critical issues:

- What is the critical point in a fire's "life" for gaining control of the blaze while minimizing the impact on the structure of origin and on those structures around it?
- What is the impact of the passage of time on survivability for victims of cardiac arrest?

The exhibit, that follows, shows a typical "flashover" curve for interior structure fires. The point in time represented by the occurrence of "flashover" is critical because it defines when all the contents of a room become involved in the fire. This is also the point at which a fire typically shifts from "room and

contents" to a "structure" fire – involving a wider area of the building and posing a potential risk to the structures surrounding the original location of the fire.



DETECTION OF FIRE	REPORT OF ALARM 911 OR DIRECT	FIRE RESPONSE TIME			
		DISPATCH UNITS	TURN OUT	RESPONSE TIME	SET UP
TIME VARIES	TIME DIRECTLY MANAGEABLE				

Typical Fire Flashover Timeline

Note that this exhibit depicts a fire from the moment of inception – not from the moment that a fire is detected or reported. This demonstrates the criticality of early detection and fast reporting as well as rapid dispatch of responding units. This also shows the critical need for a rapid (and sufficiently staffed) initial response – by quickly initiating the attack on a fire, "flashover" can be averted. The points, below, describe the major changes that occur at a fire when "flashover" occurs:

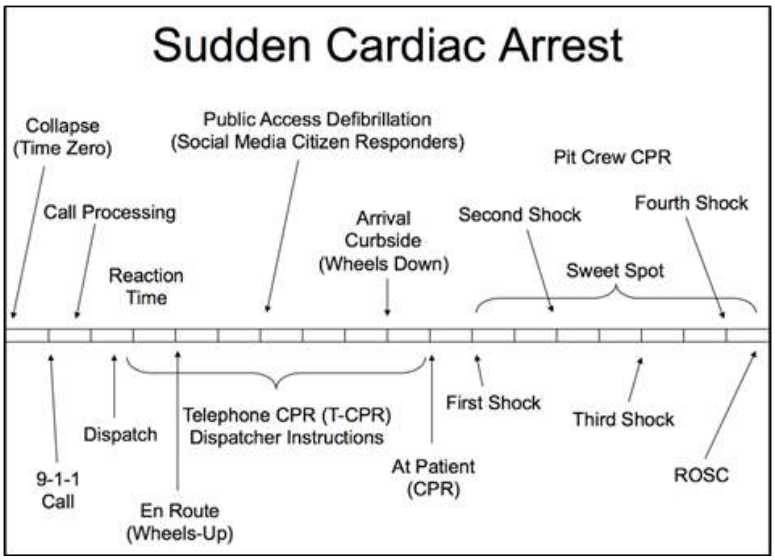
- It is the end of time for effective search and rescue in a room involved in the fire. It means that likely death of any person trapped in the room – either civilian or firefighter.
- After this point in a fire is reached, potable extinguishers can no longer have a successful impact on controlling the blaze. Only larger handlines will have enough water supply to affect a fire after this point.
- The fire has reached the end of the "growth" phase and has entered the fully developed phase. During this phase, every combustible object is subject to the full impact of the fire.
- This also signals the changeover from "contents" to "structure" fire. This is also the beginning of collapse danger for the structure. Structural collapse begins to become a major risk at this point and reaches the highest point during the decay stage of the fire (after the fire has been extinguished).

It should be noted that not every fire will reach flashover – and that not every fire will "wait" for the 8-minute mark to reach flashover. A quickly responding fire crew can do things to prevent or delay the occurrence of flashover. These options include:

- Application of portable extinguisher or other “fast attack” methodology.
- Venting the room to allow hot gases to escape before they can cause the ignition of other materials in the room.
- Not venting a room – under some circumstances this will stifle a fire and prevent flashover from occurring.

Each of these techniques requires the rapid response of appropriately trained fire suppression resources that can safely initiate these actions. In the absence of automatic fire suppression systems, access to interior fires can again limited by a safety requirement related to staffing levels. OSHA and related industry standards require the presence of at least 2-firefighters on the exterior of a building before entry can be made to a structure in which the environment has been contaminated by a fire. In the absence of a threat to life demanding immediate rescue, interior fire suppression operations are limited to the extent a fire service delivery system can staff to assure a minimum of 4-people actively involved in firefighting operations. The second issue to consider is the delivery emergency medical services. One of the primary factors in the design of emergency medical systems is the ability to deliver basic CPR and defibrillation to the victims of cardiac arrest. The exhibit, that follows, demonstrates the survivability of cardiac patients as related to time from onset:

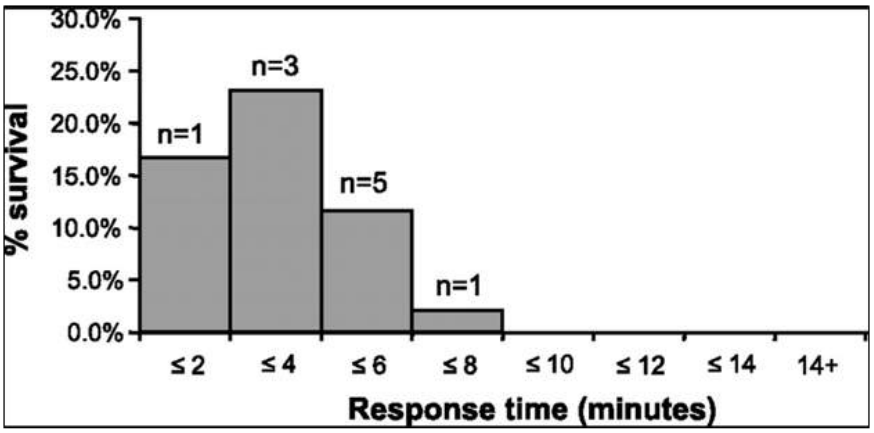
Typical Cardiac Arrest Timeline



This graph illustrates that the chances of survival of cardiac arrest diminish approximately 10% for each minute that passes before the initiation of CPR and/or defibrillation. These dynamics are the result of extensive studies of the survivability of patients suffering from cardiac arrest. While the demand for services in EMS is wide ranging, the survival rates for full arrests are often utilized as benchmarks for response time standards as they are more readily evaluated because of the ease in defining patient outcomes (a patient either survives or does not). This research results in the recommended objective of provision of basic life support within 4-minutes of notification and the provision of advanced life support within 8 minutes of notification. The goal is to provide BLS within 6 minutes of the onset of the incident (including detection, dispatch and travel time) and ALS within 10 minutes. This is often used as the foundation for a two-tier system where fire resources function as first responders with additional (ALS) assistance provided by responding ambulance units and personnel.

With cardiac arrest – and opioid overdose has a similar timeline – rapidity of initial treatment (CPR, AED, drugs) can have a significant impact on patient survival outcomes:

Cardiac Arrest Survival Rate vs. Timeline



Additional research shows the impact and efficacy of rapid deployment of automatic defibrillators to cardiac arrests. This research – conducted in King County (WA), Houston (TX) and as part of the OPALS study in Ontario, Canada – shows that the AED can be the largest single contributor to the successful outcome of a cardiac arrest – particularly when accompanied by early delivery of CPR. It is also important to note that these medical research efforts have been focused on a small fraction of the emergency responses handled by typical EMS systems – non-cardiac events make up the majority of EMS and total system responses and this research does not attempt to address the need for such rapid (and expensive) intervention on these events.

The results of these research efforts have been utilized by communities and first responders, often on their own with no single reference, to develop local response time and other performance objectives. However, there are now three major sources of information to which responders and local policy makers can refer when determining the most appropriate response objectives for their community:

- The Insurance Services Office (ISO) provides basic information regarding distances between fire stations. However, this "objective" does little to recognize the unique nature of every community's road network, population, calls for service, call density, etc.
- The National Fire Protection Association (NFPA) promulgated a documented entitled: "NFPA 1710: Objective for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the Public by Career Fire Departments." This document (NFPA 1710) was first published in 2001 and updated in every several years – has and

generated a great deal of dialogue and debate – which is still on going. This document is not a requirement for communities to follow – local authorities can and must determine for themselves an appropriate service level – but it is an important starting point for most service level discussions.

- The Commission on Fire Accreditation International (CFAI) in its "Objectives of Coverage" manual places the responsibility for identifying "appropriate" response objectives on the locality. These objectives should be developed following a comprehensive exercise in which the risks and hazards in the community are compared to the likelihood of their occurrence.

Expected Response Time

The project team from Criterion Associates also uses a calculation we term "expected response time" in our analyses. This is intended to give managers, policy makers, and the community the ability to assess each option in an easy-to-understand number. While the fractile performance is a key consideration, this second methodology provides insight into why certain options might be better or worse than others. Calculating the expected response times for each scenario was performed using the following approach:

- All call locations in the data set were utilized.
- For each of the scenarios, the project team then used the GIS software to calculate the fastest response time from the set of station in the scenario.
- Response times are then aggregated by multiplying the number of responses against the drive time for each address.
- These response times are then summed and then divided by the total number of calls for all 100 addresses.

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