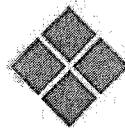


City of Monroe, MI

***Central Fire Station
Needs Assessment***

Project No. 3410

Prepared by



Redstone Architects, Inc.
29201 Telegraph Road, Suite 400
Southfield, MI 48034-7647 (248) 351-0770
www.redstonearchitects.com

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I. Executive Summary

A. Introduction

In the fall of 2004, the City of Monroe, Michigan, commissioned **Redstone Architects, Inc.**, specialists in municipal facility architecture, to prepare a Needs Assessment for the Central Fire Station located on Scott Street and E. First Street. The study to include a preliminary architectural condition survey of the existing building, the assessment of current and future space needs for the Central Fire Station, and a preliminary analysis of the existing site.

As a bonus to the original scope of work, Redstone Architects provided a concept for a two story facility on the existing site, and included a preliminary 3D rendering of a building sympathetic with the surrounding architecture of the Monroe downtown area. It should be noted that the graphics of the conceptual site plan and 3D rendering enclosed with this report (see Conceptual Site Plan SK01) include a 5 bay facility, while the number of Apparatus bays was subsequently reduced to four, in order to reduce the cost.

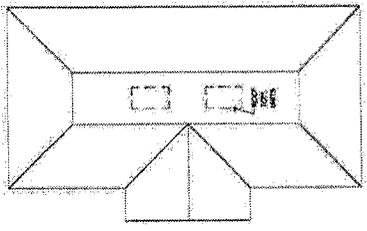
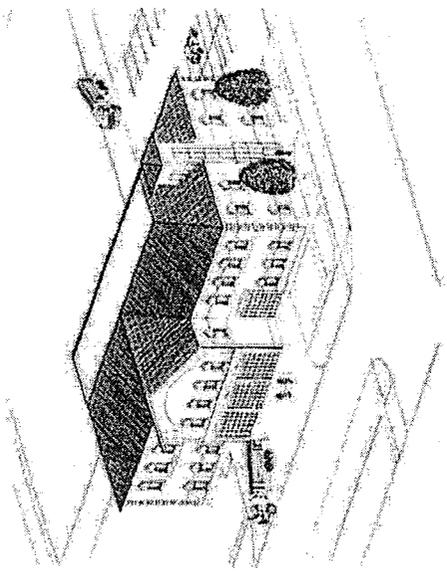
B. Needs Assessment

The Needs Assessment, developed by Redstone Architects under the supervision of the City Manager Debbie L. Manns through questionnaires and interviews with Fire Chief William Bert and key personnel of the Monroe Fire Department, identifies a total gross building area of 20,305 square feet (the total gross building area of the existing facility is 13,465) required to meet present and future needs of the Central Fire Station. A 2,000 square feet, freestanding Training Tower, located off-site, to be shared by the entire Monroe Fire Department for training exercises, was also identified in the Needs Assessment.

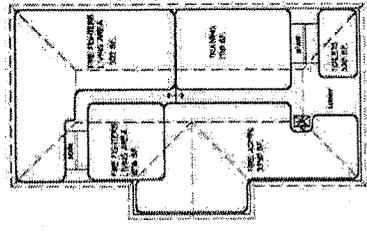
C. Building Conditions

The current conditions of the facility demand an overall upgrading. However, although beneficial, an upgrading of the existing facility will not address the real issue of the Department which is the lack of physical space to accommodate current needs and future expansion and growth. Furthermore, the size of the current lot is not sufficient to accommodate a practical addition to the building.

If the current location of the central fire station is vital to the City of Monroe, an upgrading alone of the existing, close to 40 years old, facility is not an advisable long term solution, and a more cost effective and viable solution, such as a new facility, should be considered.

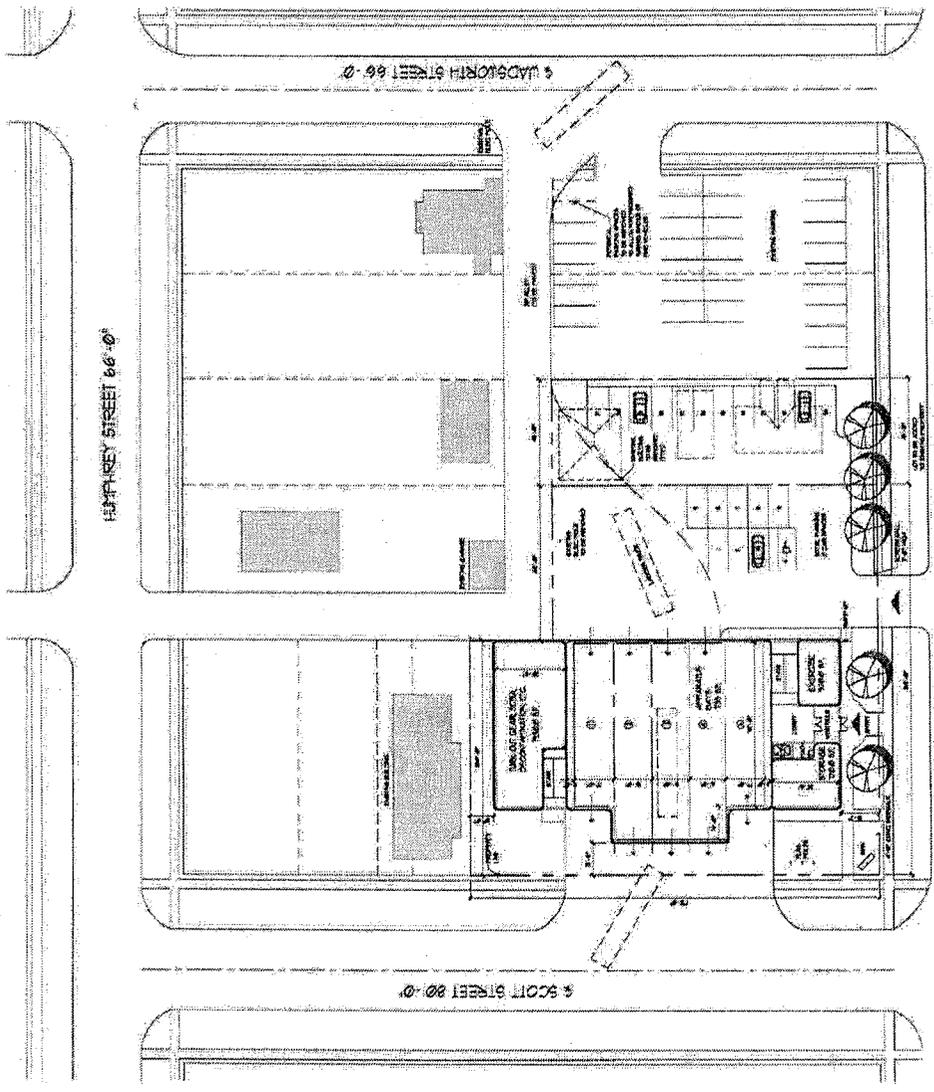


ROOF PLAN
SCALE: 1/8" = 1'-0"



SECOND FLOOR PLAN
SCALE: 1/8" = 1'-0"

BUILDING DATA
 1ST FLOOR = 15,000 SF.
 2ND FLOOR = 15,000 SF.
 TOTAL BUILDING AREA = 30,000 G.S.F.
 PARKING:
 31 CAR SPACES (1 ADA)



E. FIRST STREET 66'-0"

FIRST FLOOR PLAN
SCALE: 1/8" = 1'-0"

DATE: 10/15/00
 DRAWN BY: [Name]
 PROJECT NO: 3410.00
SK01

CONCEPTUAL SITE PLAN,
 FIRST FLOOR PLAN &
 SECOND FLOOR PLAN

CENTRAL FIRE STATION
 CITY OF ANDOVER, MASSACHUSETTS



II. Existing Building Conditions

A. Existing Central Fire Station and Site

The original Central Fire Station building was built in 1968 and includes a first and a second floor. The structure and shell of the building are composed of steel columns and beams, brick veneer masonry walls, insulated panels set in metal frame (first floor) and a "mansard" like metal roof with standing seams.

The first floor occupies an area of approximately 7,195 gross square feet and includes four (4) single door Apparatus Bays accessible from Scott Street (one bay is also accessible from the back alley), and one (1) Maintenance Bay accessible only from the back alley. Also included in the first floor are the Dispatcher, and the administrative offices. This part of the building is one-story only with a flat roof, and is connected to the two story section through an enclosed stair that intersects the "mansard" like metal roof with standing seams.

The second floor extends above the footprint of the Apparatus Bay and Maintenance Bay and occupies an area of approximately 5,909 gross square feet including a 357 square feet enclosed porch. Located on the second floor are the Sleeping Quarters, the Day Room, Kitchen/Dining, Locker Room with toilets and showers and a Study. A Mezzanine of approximately 361 gross square feet, accessible through a folding wooden ladder from the toilet area below, hosts the mechanical air handler unit, while the air conditioning condensing unit is located in a small outdoor court screened by the metal roof with standing seam. The total gross building area is 13,465 square feet.

No elevator is provided in the building and three slide poles, two in the Dormitory and one in the Recreation Room provide the fire fighters with a quick connection to the Apparatus Bays below. A two story hose tower is located on the back of the building. An open metal stair provide a second means of egress from the Dormitory through the hose tower.

The building is not provided with a fire protection system. A natural gas emergency generator is located on the back of the one story section of the building, off E. First Street. The generator is enclosed by a low three sided brick wall screen topped with a removable metal roof matching the building roof.

Staff parking on site includes a total of 14 car spaces. Additional parking required for employees parking needs are available on the parking lots across Scott Street.

B. Departmental Conditions Summary

The lack of physical space for equipment and staff is a primary concern for the expected future growth of the Department. With no room to grow the existing facility no longer accommodates the needs of a modern fire station capable of responding efficiently and quickly to the possible emergencies of a vibrant community such as the City of Monroe.

D. Conclusion

The Central Fire Station provides a fundamental and vital service to the City of Monroe. The efficiency of the department is appreciated by the public and helps define the image of the community. By current standards the existing facility, although structurally sound, is functionally obsolete, inefficient, and offers no space for growth to satisfy current and future needs of the Department.

The solution of adding to the building would require increasing the size of the existing property to accommodate more building, more parking and better vehicular circulation. This idea still would require the remodeling-upgrading of the existing building and is not practical nor economical. A vertical expansion of the facility, assuming it is feasible, will be very costly, disruptive, and aesthetically intrusive.

However, a new building will be desirable to achieve a more efficient, modern and adequate facility that will benefit the community as well as its users.

III. Space Needs Assessment

A. Central Fire Station

The table that follows summarizes the functional and spatial requirements for the individual departments, current staff and projected staff, and allocates the required amount of area in net (usable) and gross square feet, for planned and future spaces. The table also provides descriptions of functions and furniture requirements. Some important adjacencies are noted with many of the more significant spaces. Refer to Appendix 1 and 2 for Office and Workstation Standard Areas, and possible furniture arrangement.

Space	Description	Current Staff	Proj'd Staff	Std. Area	Net Area Req'd	Comments/ Adjacencies
1. FIRE ADMINISTRATION						
Public Vestibule	Floor Mat After hours 911 phone	0	0		90	Public Lobby
Public Lobby	4-chairs waiting area. Trophy display area. Elec. Water cooler	0	0		250	Front Counter Public Toilet Training Room
Fire Chief's Office	Desk with credenza. 5 guest chairs Coat Closet 1-four-shelf bookcase 4-two-drawer file cab. Equipment: Computer, Printer, Telephones TV/VCR.	1	1	Type A 225	225	Clerical Public access Conference room
Front Counter	Counter space.	0	0		60	Clerical Main Lobby
Clerical	Office with 2 Workstations 2- four drawer files Equipment: Computers, Telephones, Shared printer, Copier & Fax	1PT	1PT	1@64	64	Front Counter Chief Deputy Fire Chief

Space	Description	Current Staff	Proj'd Staff	Std. Area	Net Area Req'd	Comments/ Adjacencies
Public Toilets	Accessible facility M: 1u, 1wc, 1 lav F: 2 wc, 1 lav	0	0		350	Lobby Training Room
Unisex Staff Toilets	Accessible facilities	0	0	2@60	120	Administration Offices
Storage	Metal Shelves	0	0		100	Administrative Offices
Janitor	Service sink Rack Storage shelves	0	0		36	
Subtotal : Fire Administration		6.5	11		2,283	

Space	Description	Current Staff	Proj'd Staff	Std. Area	Net Area Req'd	Comments/Adjacencies
3. APPARATUS BAY AREA						
<p>Apparatus Bay (2 drive-thru Bays + 2 other)</p>	<p>Vehicles: 1-Engine truck 1-Ambulance/ EMS truck 1-Aerial (Ladder) truck 1-Heavy rescue Misc. vehicle (grass truck, boat, foam trailer) 1-Command car & pick up truck 14'x14' overhead doors (Electrical operators, radio control, photo electric and safety edge, push buttons at each door, gang buttons, glazing)</p> <p>Space ventilation: Exhaust fans interlocked with air intake Vehicle exhaust: Direct vehicle exhaust connection with automatic disconnect (Plymovent System)</p> <p>1 1/2" fill and washing the vehicles connections (ground) Compressed air lines over each bay Hose bibs reels (location, front and rear and central of bay) Oil interceptor Trench drain Connecting to the oil interceptor Utility sink Infrared linear ceiling mounted heating system</p>				<p>5,390</p>	<p>Need 2 Drive Through bays (17.5'x84' each) Other bays: 17.5'x70' each. See attached sketch: Preliminary Diagram of Apparatus Bay</p> <p>Locate infrared linear ceiling mounted heating system between trucks</p>

Space	Description	Current Staff	Proj'd Staff	Std. Area	Net Area Req'd	Comments/Adjacencies
SCBA Room	Working counter with vice Writing desk Air bottles storage Oxygen filling station Oxygen bottles storage Lockable cabinets with stainless steel sink Sink for mask wash	0	0		120	Apparatus Bay Locate away from living quarters
Air/Compressor Room	Fresh air intake Exhaust build up heat to outside Concrete pad	0	0		50	Noisy room. Separate from SCBA Room
Station Air Compressor	Air distribution to the Apparatus Bay Equipment	0	0		0	Part of Air/Compressor Room
Subtotal : Apparatus Bay Area		-	-		6,570	

Space	Description	Current Staff	Proj'd Staff	Std. Area	Net Area Req'd	Comments/Adjacencies
Women's Locker/Toilet Room	2-lockers 2'x2'x6' high sloped top over concrete base 1-shower stall 1-lavatory 1-water closet	0	0		175	Sleeping Quarters Living Quarters
Kitchen	Plastic laminated cabinets Solid surface counter top with 2 compartment stainless steel sink 3 Food pantries 2 Commercial grade refrigerators Commercial grade microwave Commercial range Commercial stainless steel hood with fire suppression Dishwasher Snack bar and food prep counter Workstation island Telephone	0	0		400	Provide electrical switch to shut down all stoves. Access to outside for barbeque. Adjacent to Dining Area
Dining Area	Seating for 15 persons	0	0		250	Kitchen
Family Room	Unisex toilet with baby changing station Kitchenette with microwave oven, sink Play area with TV	0	0		180	Close to main entrance
Storage Area	Metal shelves	0	0		100	
Laundry Room	Residential washer and dryer	0	0		120	Sleeping Quarters Living Quarters
Janitor's Closet	Service sink Rack Storage shelves	0	0		0	Part of Laundry Room
Subtotal: Firefighters Living Area		10	10		3,225	

B. Summary

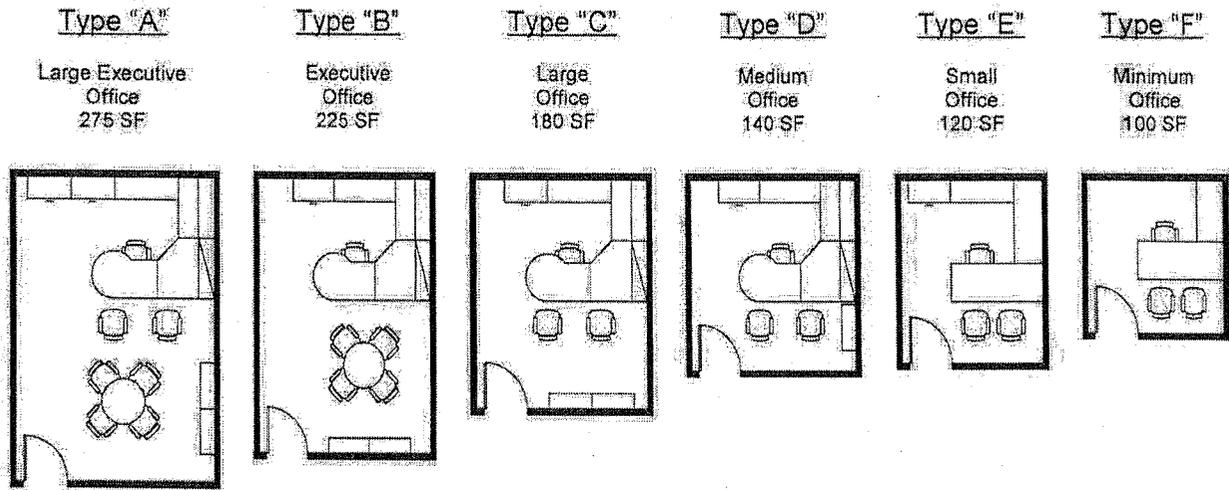
The tables that follow summarize the space/functions above and estimates the total gross area required for a new building.

BUILDING AREA CALCULATIONS	PROJECTED STAFF	AREA
1. FIRE ADMINISTRATION	11	2,283
Gross up Factor (Circulation, walls, mechanical, electrical) = 50%		1,142
Total Gross Area - Fire Administration		3,425
2. TRAINING FACILITY	0	1,620
Gross up Factor (Circulation, walls, mechanical, electrical) = 50%		810
Total Gross Area - Training Facility		2,430
3. APPARATUS BAY AREA	0	6,570
5. MAINTENANCE AREA	0	0
Subtotal Net Square Feet - Apparatus & Maintenance Bays		6,570
Gross up Factor (Circulation, walls, mechanical, electrical) = 25%		1,643
Total Gross Area - Apparatus - Maintenance Bays		8,213
4. FIREFIGHTERS LIVING AREA	10	3,225
Gross up Factor (Circulation, walls, mechanical, electrical) = 50%		1,613
Total Gross Area - Firefighters Living Area		4,838
6. SUPPORT AREA (Departmental Storage & Exercise Room)		1,000
Gross up Factor (Circulation, walls, mechanical, electrical) = 40%		400
Total Gross Area - Support Area		1,400
Total Projected Staff	21	
TOTAL GROSS BUILDING AREA		20,305
7. TRAINING TOWER (Not included, located off-site)		1,600
Gross up Factor (Circulation, walls, mechanical, electrical) = 25%		400
Total Gross Area - Training Tower		2,000

APPENDIX

1. Office Standards

Shown below is a typical set of **private office standards** with a range of sizes and furniture arrangement. Refer to specific office spaces of the Needs Assessment for area allocation.



2. Workstation Standards

Shown below is a typical set of **workstation standards** with a range of sizes and furniture arrangement. Refer to specific workstation spaces of the Needs Assessment for area allocation.

