MAYER FIRE STATION FEASIBILITY STUDY

MAYER, MN

JANUARY 20, 2016

BRUNTON
ARCHITECTS & ENGINEERS

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CONTENTS

Summary 3
Program Information 4
Space Needs Analysis 5
Conceptual Block Diagram 6-7
Conceptual Site Plan 8-10
Site Matrix 11
Statement of Probable Costs 12

SUMMARY

Brunton Architects & Engineers was commissioned by the City of Mayer to complete a comprehensive study for the feasibility of a new fire station.

The existing fire station does not have the space to accommodate essential areas needed in an emergency facility for the department to sufficiently and practically serve the residents of Mayer. The Mayer Fire Department serves not only the city of Mayer, but also the four surrounding townships. Additionally, a large training and meeting room will give the fire department the opportunity to host regional training sessions and meetings. Key training and recruiting for volunteer firefighters is critical to the survival of a small town department.

The intent of the feasibility study was to review potential sites and relevant amenities provided by each site, review potential access barriers of these sites, complete an existing facility study, complete a space needs analysis, and develop conceptual diagrams of the proposed building.

The process used for the study:

1) The existing building and conditions were measured and documented.

2) The Fire Chief and Mayor were interviewed.

3) The information gathered from the interview (the "Program" information) was used to determine the Space Needs Analysis.

4) Assess potential sites with consideration to the final square footage needed from the space needs analysis.

5) Recommendation of a building solution for the department.

6) Assist the building committee in completing a Site Matrix to determine the most desired building site.

7) Generate the final Feasibility Study Report.

PROGRAM INFORMATION

The Program is developed from visiting the existing building and gathering information from the staff.

1. General Information:
    a. The city of Mayer is located in the center of the fire department's response area
    b. Three proposed sites to be studied.
    c. The fire department uses hydrants on the edge of town to refill drop tanks for rural response calls.
    d. 30 paid on-call fire fighters.
    e. The fire department responds to medical calls.
    f. Possibility of ambulance responding from the fire station in the future.
    g. Possibility of sleeping quarters being needed in the future.

2. Office space needs:
    a. (1) One private office for Fire Chief
    b. (1) One private office for Assistant Fire Chief
    c. (1) One private office for Training Officer

3. Shared space needs:
    a. Meeting/Training room for 50 people (not open to the community)
    b. Kitchen
    c. Fitness Room
    d. Lounge
    e. Hose Tower with Sky warn windows

4. Apparatus: (9) Bays preferred
    a. (2) Engines
        i. (1) 32'-9"
        ii. (1) 34'-0"
    b. (2) Rescues
        i. (1) Pickup with utility
        ii. (1) Heavy Rescue 31'-8"
    c. (2) Tankers
        i. (1) 2000 gallon
        ii. (1) 3200 gallon
    d. (2) Grass Rigs
    e. (1) Hummer
    f. (1) Boat on Trailer
    g. (1) Future Ladder Truck

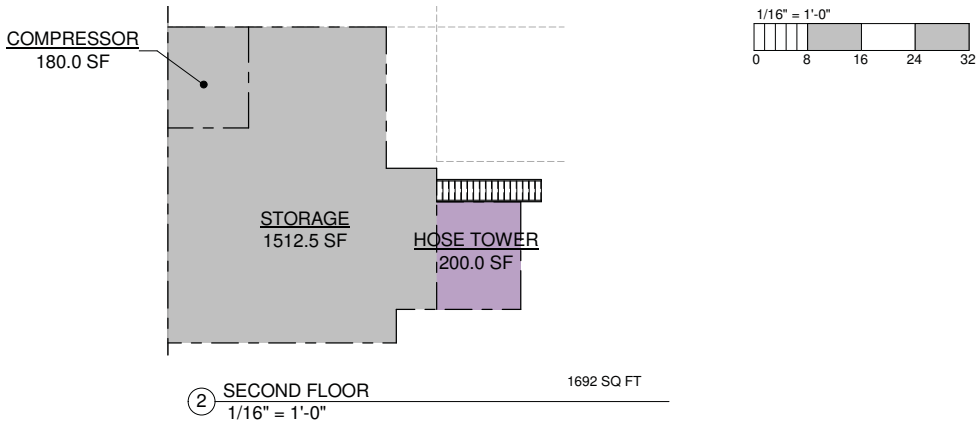
SPACE NEEDS ANALYSIS

Existing Square Footage = 5,394
Needed Square Footage = 12,072

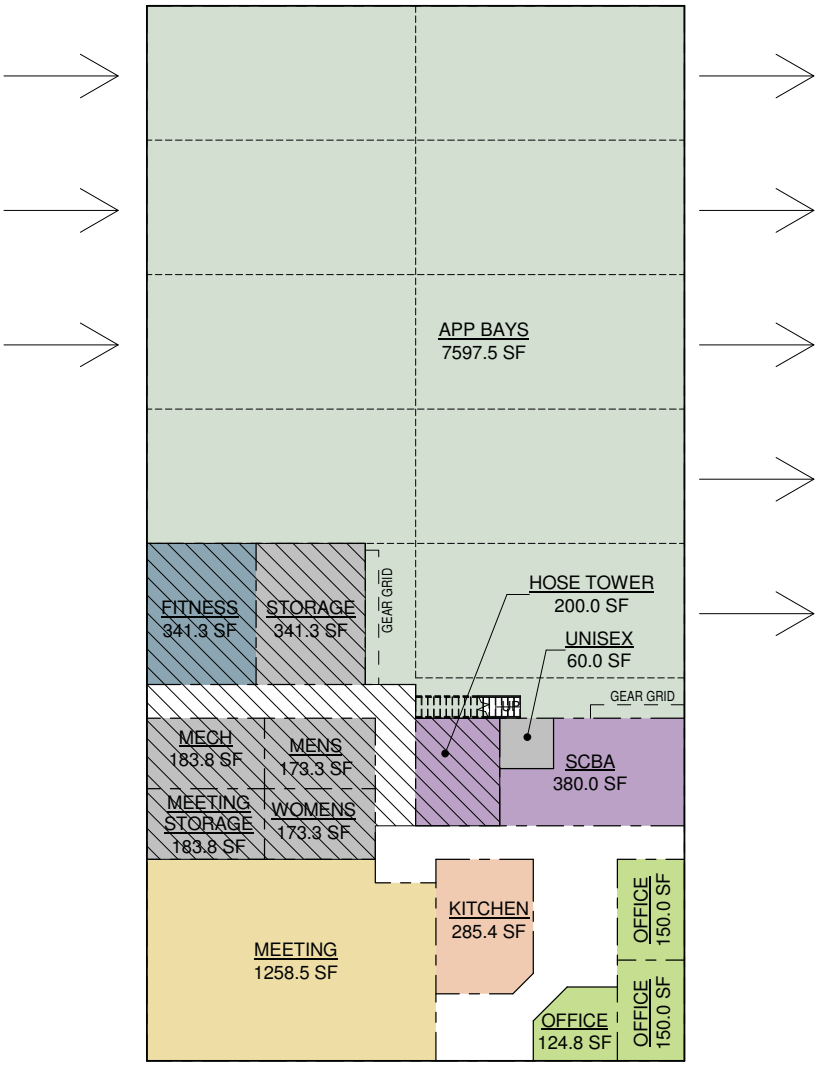
Area	Square Footage Needed	Existing
Office 1 Fire Chief	120	110**
Office 2 Assistant Fire Chief	120	N/A*
Office 3 Training Officer	120	N/A*
Meeting/Training Room	1,250 (25 sf/per person x 50 people)	527
Kitchen	280	36
Hose Tower/Decontamination	200	N/A*
Storage	400	N/A*
SCBA/Laundry	400	N/A***
Fitness Room	300	N/A*
Restrooms (1 Mens/1 Womens)	300 (150/ each)	72
Mechanical	200	N/A*
Compressor Room	120	N/A***
Apparatus Bays	7,200 (9 bays @ 800/each) 20' x 40'/ each	4,500***
Apparatus Bay Restroom (1 Unisex)	50	N/A*
Gear Grid Area	200	N/A***
Total Net Area	11,260 SF	5,245
Add Circulation 20% (less bays) (4060 sf x .20)	812 SF	149
Total Building Gross SF	12,072 SF	5,394

*Does not exist in current facility
**Currently only one office for all 3 staff members
***Currently Gear/SCBA/Compressor/Laundry is located in apparatus bay

CONCEPTUAL BLOCK DIAGRAM - A



2 SECOND FLOOR
1/16" = 1'-0"
1692 SQ FT



1 FIRST FLOOR 'A'
1/16" = 1'-0"
12,560 SQ FT

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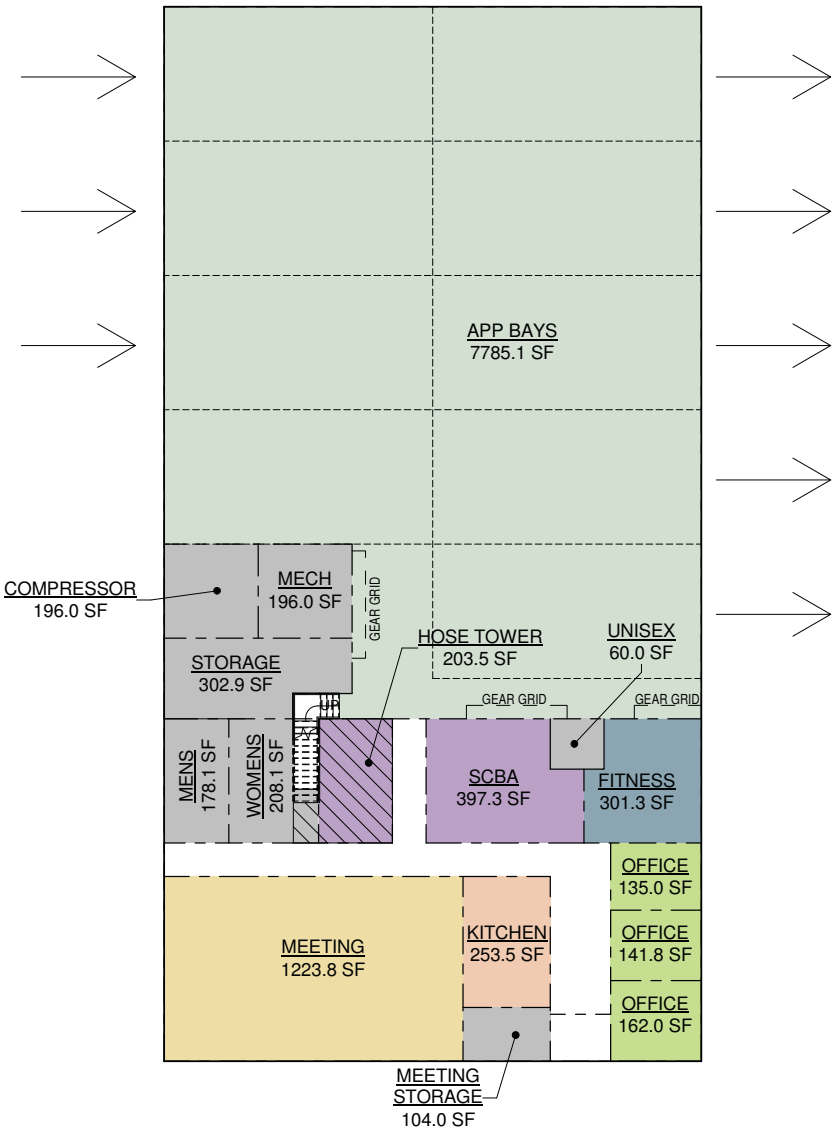
CONCEPTUAL BLOCK DIAGRAM - B



1 FIRST FLOOR 'B' 12,560 SQ FT
1/16" = 1'-0"

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CONCEPTUAL SITE PLAN

1 Site 1
1" = 60'-0"

1:80 = 1'-0"
0 40 80 120 160

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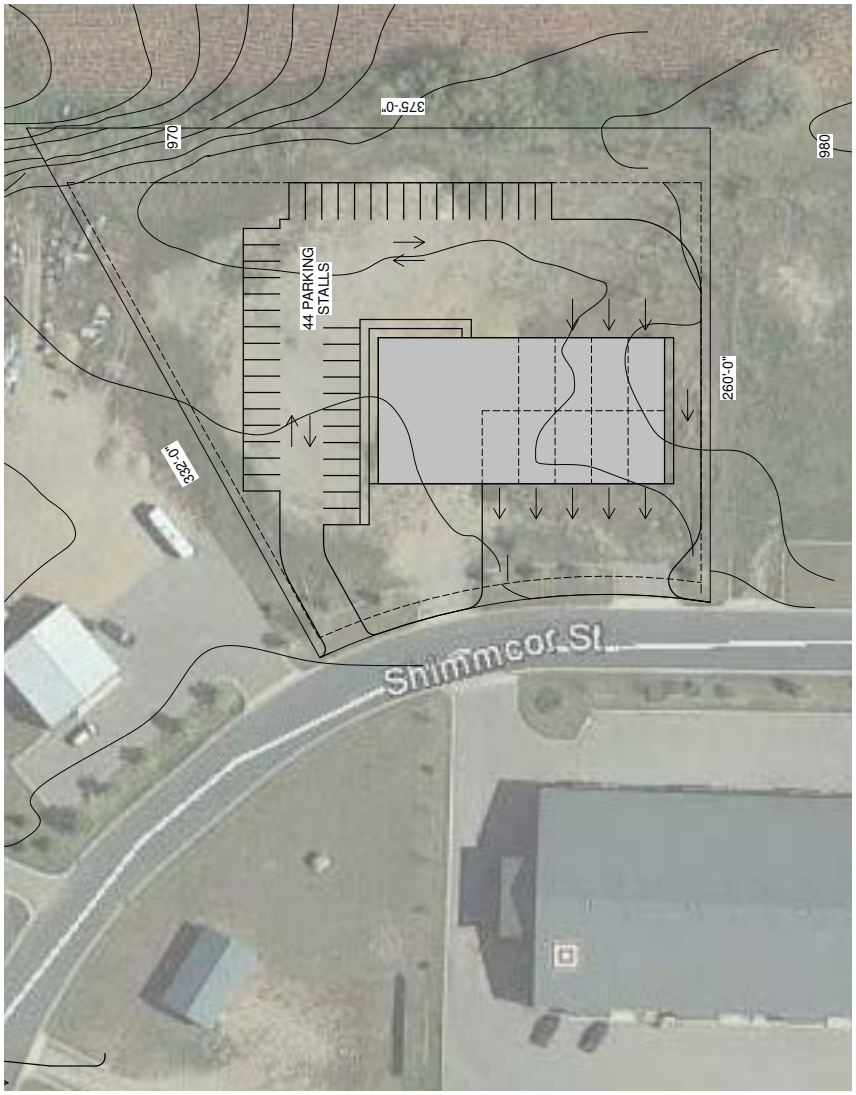
CONCEPTUAL SITE PLAN



1 Site 2
1" = 60'-0"

1:80 = 1'-0"
0 40 80 120 160

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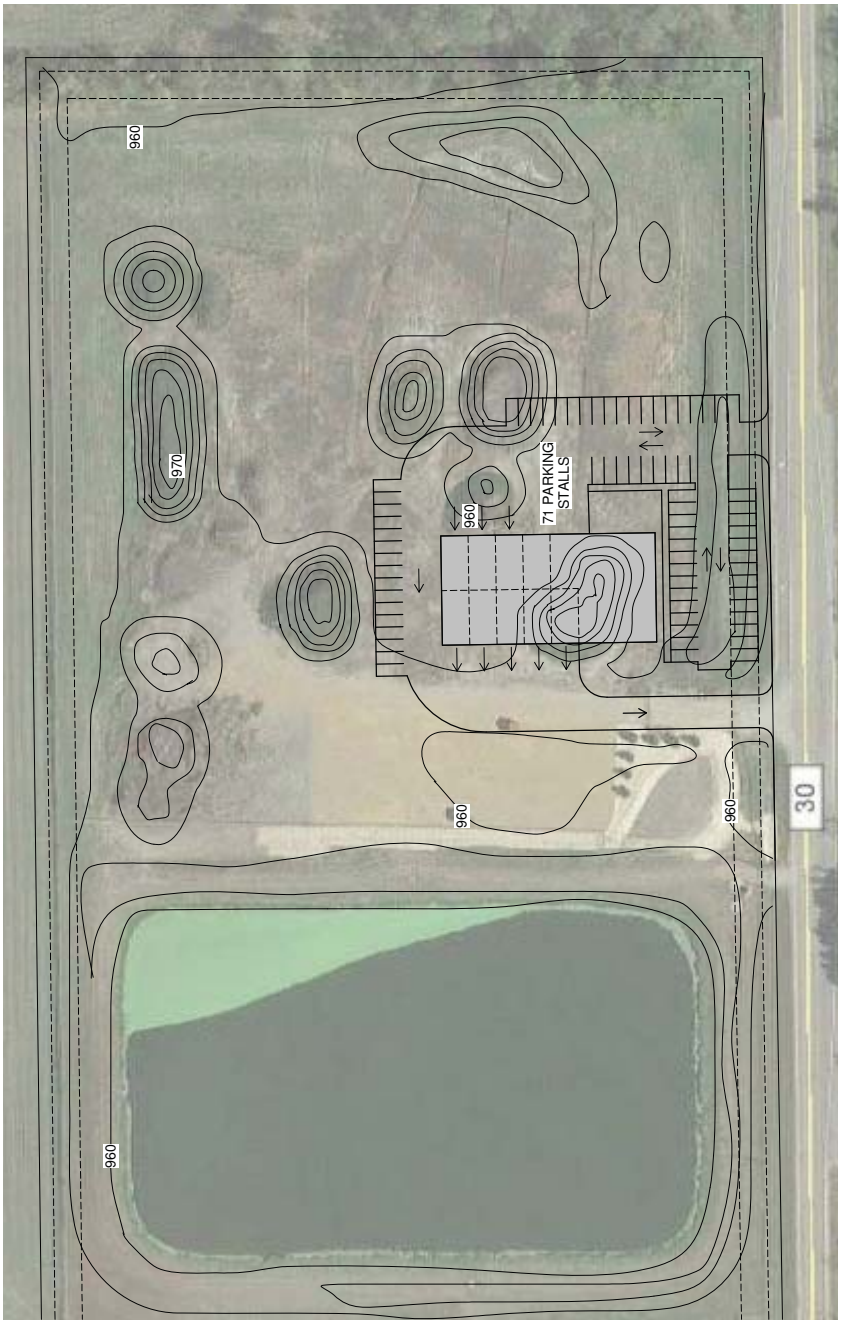
CONCEPTUAL SITE PLAN



1 Site 3
1" = 80'-0"

1:80 = 1'-0"
0 40 80 120 160

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SITE SELECTION MATRIX

City of Mayer

SITE NAME	GEOGRAPHIC LOCATION	LOT SIZE (EXPANSION)	SAFETY	UTILITIES	COST OF LAND	TOTALS
SITE 1	80	16	64	40	28	228
SITE 2	60	38	64	40	32	234
SITE 3	20	38	56	8	16	138

Total numbers combined for 4 Fire Facility Building Committee members.

RANKING: Scale 1-5 (5 = Highest)

SITE 2 HAS HIGHEST RANKING = BEST OPTION

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STATEMENT OF PROBABLE COSTS

PROJECT DESCRIPTION
Construct a fire station building on proposed Site #2 on Shimmcor Street in Mayer, MN. The block diagrams produced were based upon the approved program of spaces and space needs analysis.

CONSTRUCTION COST CALCULATIONS
Based upon our recent experience with projects such as yours, the below square footage costs are raw building costs, ie: not including the land cost, design fees, or equipment costs.

Conceptual Block Diagram A

Total square footage =
First Floor: 12,560 SF
Second Floor: 1,692 SF

First Floor: 12,560 SF x $190/SF
Second Floor: 1,692 SF x $100/SF

Total = approx. $2,555,600

Conceptual Block Diagram B

Total square footage =
First Floor: 12,560 SF

First Floor: 12,560 SF x $190/SF

Total = approx. $2,386,400

SUMMARY
It appears the proposed fire station will fit on the proposed lot. Further modifications to the floor plans are expected and additional cost saving measures will be explored. The projected costs are estimates only and are greatly impacted by interior finish selections and exterior geometry choices. The above estimate is subject to fluctuations in the market for materials, labor, and escalation. As design moves forward, updated cost estimates and projections will be provided and reviewed to assure the project budget is maintained throughout the life of the project.