



Village of Saranac Lake Emergency Services Facility

March 27, 2023

Project Team



VILLAGE OF SARANAC LAKE PUBLIC SAFETY BUILDING

Robert Krzyzanowski
Director of Emergency Services
Principal-in-Charge

Jerry Summe
Director of Special Projects
Principal-in-Charge

Wendel/Five Bugles Design

Laura Eysnogle, AIA, CID, WRID
Registered Architect (WI)
Registered Interior Designer (WI)

Denis Rioux, AIA, LEED AP
Registered Architect (NY, CT)

Jim Schmidt
Emergency Services Specialist

John Rauen, PE
Electrical Engineer

James Winde, PE, LEED AP
Mechanical Engineer

Peter Kukulka, SE, PE, LEED AP
Structural Engineer

Christopher Chapman, PE, LEED AP
Civil Engineer

Mitchell Architects

Robert Mitchell, AIA, NCARB

Michael McKeon, AIA, LEED B+C AP
Police/Public Safety Facility Planning & Design Consultant

Ken Gale, Assoc. AIA, NCARB
Project Manager

Peter Signorelli, AIA, LEED AP
Directory of Architecture



W

+250

employees

Services Wendel Offers:



ARCHITECTURE
 INTERIOR DESIGN
 LANDSCAPE ARCHITECTURE
 HISTORICAL RESTORATION/PRESERVATION
 PUBLIC SAFETY
 SUSTAINABILITY
 GRANT WRITING



ENGINEERING
 CIVIL
 ELECTRICAL
 ENVIRONMENTAL
 MECHANICAL
 MUNICIPAL
 STRUCTURAL
 TRANSPORTATION
 RAILROAD
 ALTERNATIVE FUEL SOLUTIONS/CNG
 WATER/WASTEWATER RETROFITS
 LAND SURVEYING
 GEOGRAPHIC INFORMATION SYSTEMS (GIS)
 PLANNING



ENERGY EFFICIENCY
 ENERGY AUDITS
 COMMISSIONING
 PROFESSIONALLY ASSISTED PERFORMANCE CONTRACTING
 ALTERNATIVE FUNDING/GRANT PROGRAMS
 RETROFIT AND IMPLEMENTATION DESIGN
 GREEN BUILDING DESIGN
 MEASUREMENT & SAVINGS VERIFICATION (M&V)
 RENEWABLE TECHNOLOGIES



CONSTRUCTION MANAGEMENT
 MASTER BUILDER
 PROGRESSIVE DESIGN/BUILD
 DESIGN/BID/BUILD
 CONSTRUCTION ADMINISTRATION
 CONSTRUCTION MANAGEMENT AT RISK (CMAR)
 CM AGENT
 GMP DESIGN/BUILD





Five Bugles Design™

Unmatched Experience:

200+ Public Safety Projects

25+ public safety projects designed/constructed with an additional 20 studied in the past 5 years

In-House Public Safety Specialists

Public Safety Projects ranging in size from 10,000 SF – 60,000SF

National Credibility: judging, writing, speaking, attending, award winning designs

Sponsors/Presenters of State and National Organizations

FIREHOUSE®



PRESENTATION OUTLINE:

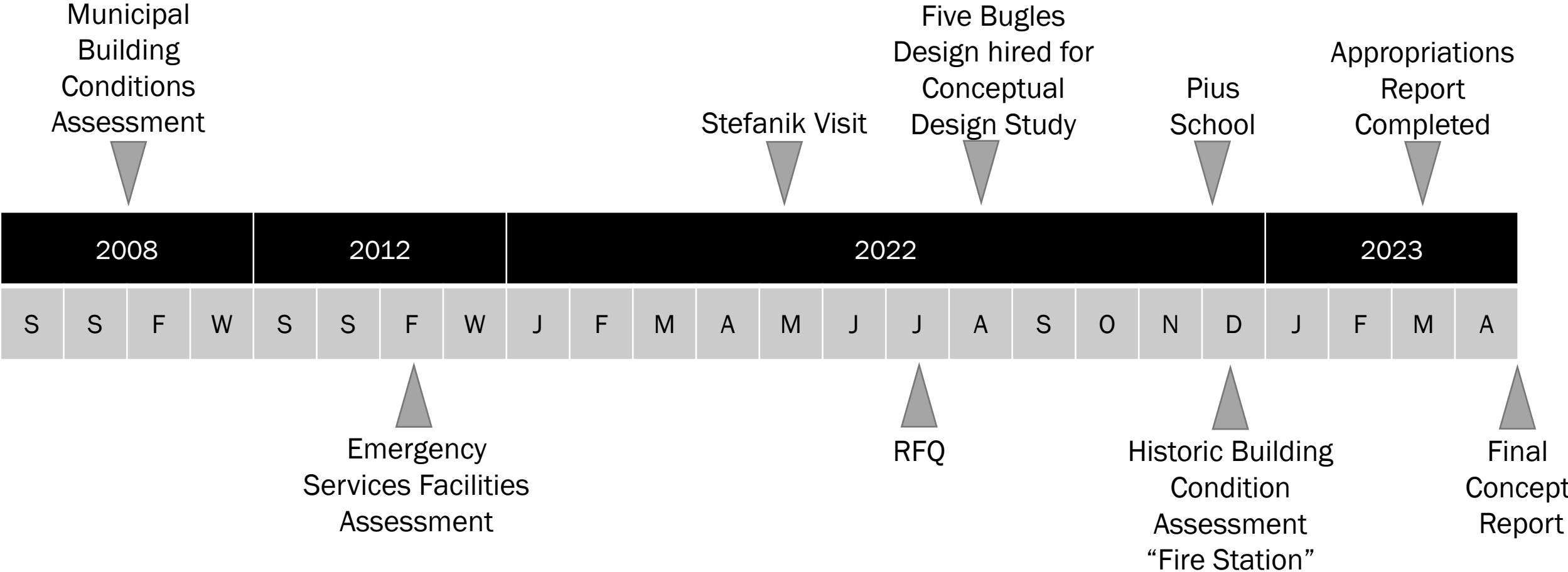
- Scope of Work
- Project History
- Existing Facility Condition
- Preliminary Programming
- Conceptual Designs
- Preliminary Costing
- What's Next?

Study Scope of Work

- Physical Assessment of the adequacy of the existing facilities
- Space Needs Analysis and Programming
- Conceptual Designs
- Site Analyses
- Estimates of Probable Costs
- Conceptual Design Report

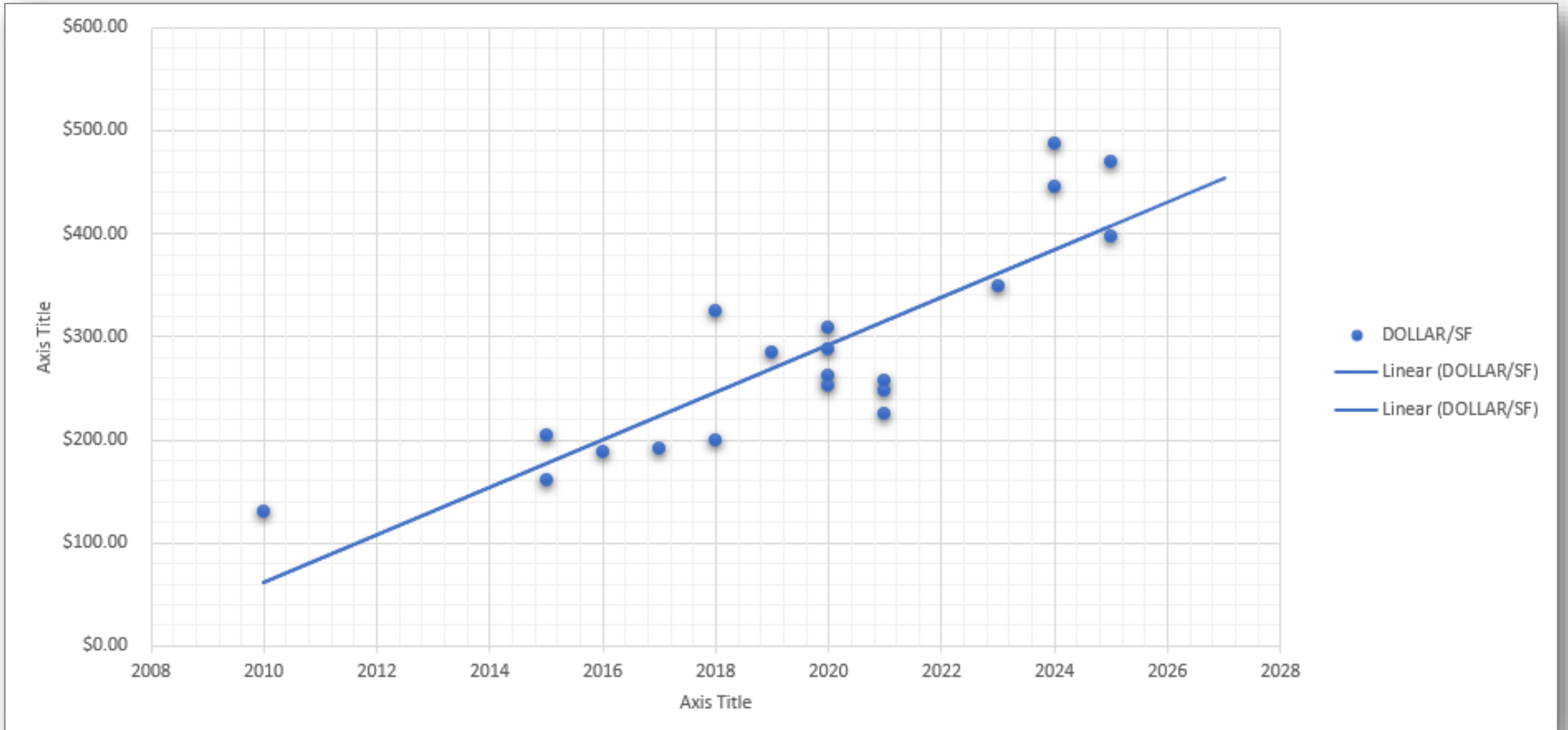


PROJECT HISTORY:



PROJECT HISTORY:

CONSTRUCTION COSTS – LAST 10 YEARS



WHERE ARE WE:

TIMELINE OF DESIGN

Concepts
(Estimate)

We Are
Here:

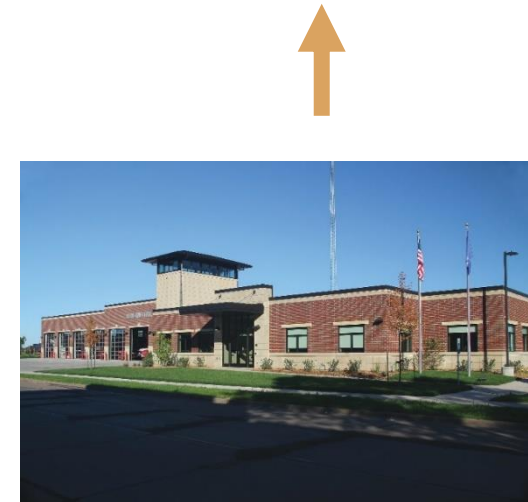
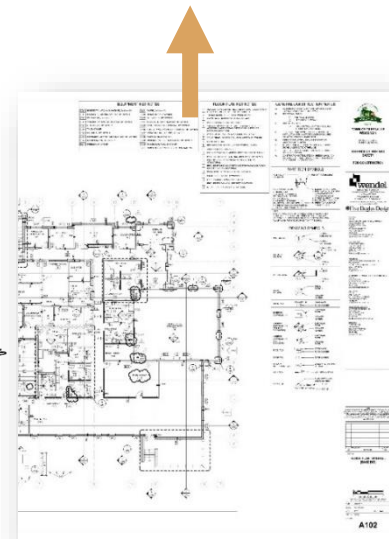
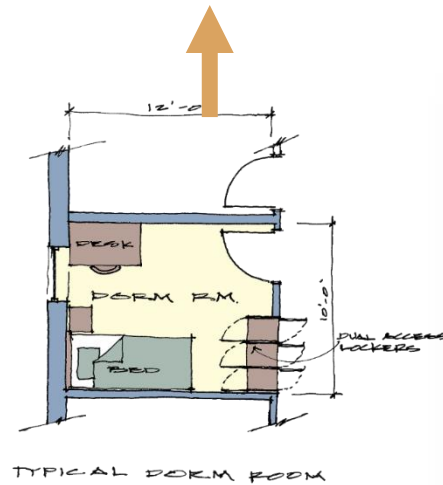
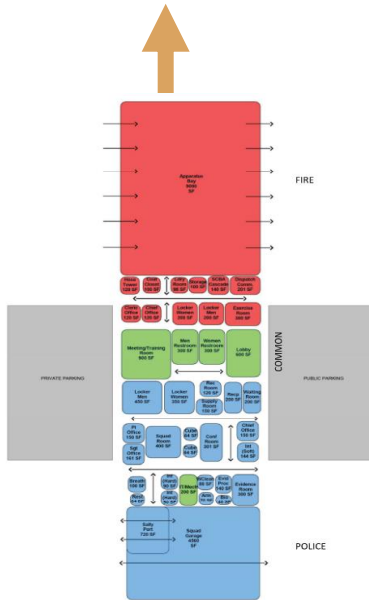


Review & Finalize
Needs/Wants
+
Schematic
Designs
(Estimate)

Design
Development
(Estimate)

Construction
Documents
(Estimate)

Bidding
Construction
Occupancy



Existing Facility Condition Assessments



- Historic vs general renovation
- Condition of current facility
 - Structure and Infrastructure
 - Code and ADA Compliance
- Size of current site
 - Updated setbacks?
- Costs of renovation vs new construction
- Phasing of construction:
 - How to operate while under construction

Existing Facility Conditions - Infrastructure

- Envelope Repair due to age
 - Tuckpointing, sealants, window replacements, etc.
 - No vapor barriers or insulation in cavity walls
- Inadequate Parking and parking lot repairs needed
- Windows and doors need replacing
- HVAC, Plumbing and Electrical equipment is past useful life and not efficient
- Apparatus Bays are significantly undersized
- Minimal room for growth
- Entryway not welcoming for guests
- No vestibules to exterior doors for climate control
- Possible asbestos. Would have to be abated if renovated

Existing Facility Conditions - ADA

Non-Code Compliant:

- Noncompliant door hardware
- Noncompliant Handrails and Landings at stairs
- Exterior envelope would not meet today's energy code
- Fixture counts

Non-ADA Compliant:

- No elevator to second floor
- Clearances throughout apparatus bays

- Toilet rooms not compliant:
- Toilet heights, grab bars, knee clearances, turn radii,
- Push/pull clearances not met at certain doors
- No ADA sink in kitchen
- No knee space in bathroom sinks
- No compliant parking stalls

Existing Facility Conditions – Program Specific

Fire Station/Rescue:

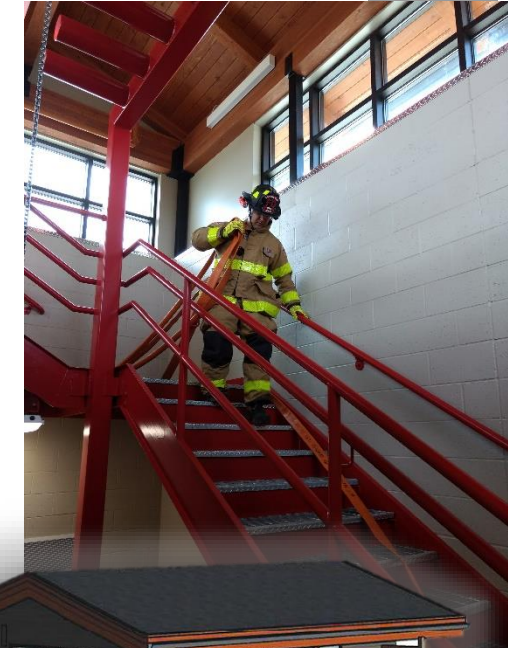
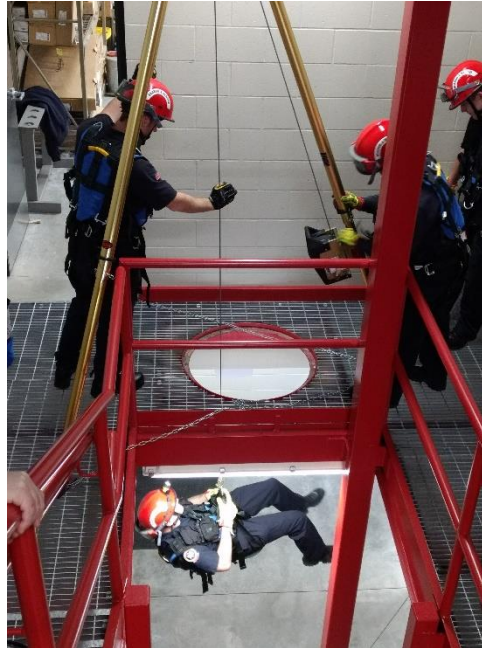
- Poor operational flow
- No drive-through bays, currently backing in off Main Street
- Limited space between and above apparatus for maintenance
- Limited apparatus configuration
- Limited apparatus support spaces
- No personal decontamination area
- No Gear Turnout locker room
- Ability to train onsite
- Limited offices and sleeping quarters

Police:

- Limited offices and sleeping quarters
- Poor operational flow
- Overall Security Concerns
- No hardening/projectile resistance
- Lack of evidence processing & isolation
- Lack of holding for adults and juveniles
- Limited evidence storage
- No properly conditioned evidence storage

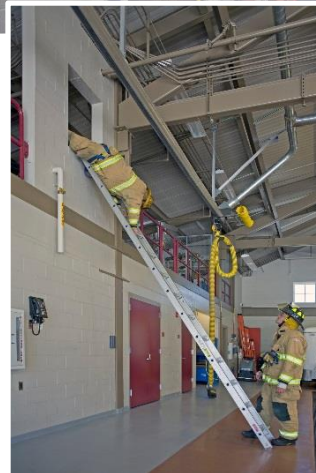
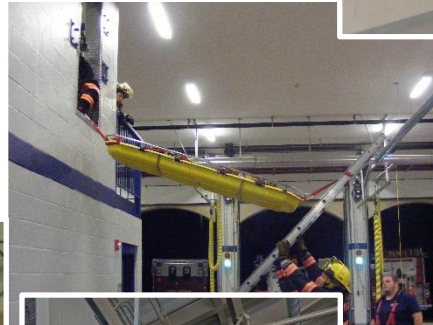
Fire/EMS/Police Training

Access / Egress
Stairwell Standpipe/Sprinkler
Smoke Drills
Confined Space Rescue
Ladder (Roof & Windows)
Rapid Intervention Team
High Angle Rescue
De-escalation Training
Simulation Training

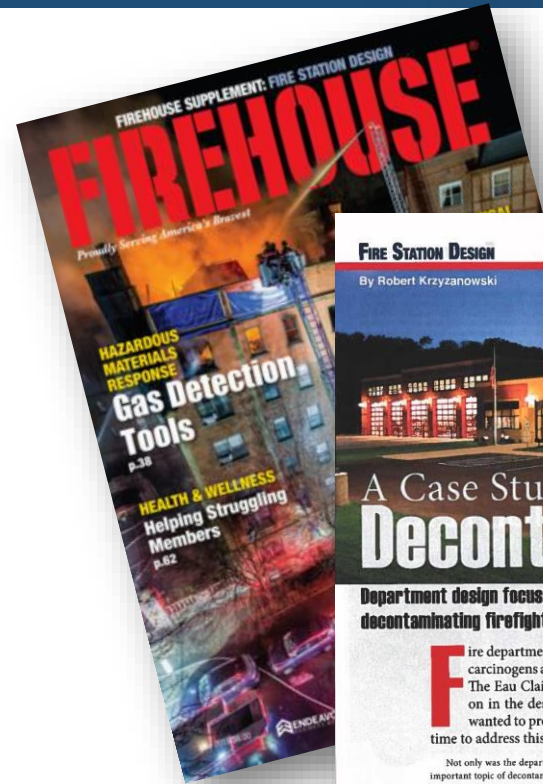


Increased Importance of Training

More frequent and more intense training required to support ever more complex missions



Wellness Case Study



FIREHOUSE SUPPLEMENT: FIRE STATION DESIGN
FIREHOUSE
 Proudly Serving America's Bravest

HAZARDOUS MATERIALS RESPONSE
Gas Detection Tools
 p.38

HEALTH & WELLNESS
Helping Struggling Members
 p.62

FIRE STATION DESIGN
 By Robert Krzyzanowski

The Eau Claire Fire Department's new Fire Station No. 10 was designed with a focus on reducing exposure to toxins.

A Case Study in Decontamination

Department design focuses on revitalizing a contaminated site and decontaminating firefighters

Fire departments across the country are faced with a problem: deadly carcinogens and how best to remove them from personnel after a fire. The Eau Claire Fire Department in Wisconsin took this issue head on in the design of its new fire station. Leaders at the department wanted to protect their employees as well as themselves and took the time to address this important aspect of the building.

Not only was the department dealing with the important topic of decontamination, but they were also challenged with constructing their new state-of-the-art facility on a contaminated site. Although challenging, the department and city went the extra mile and challenged the design team to come up with innovative solutions to these problems.

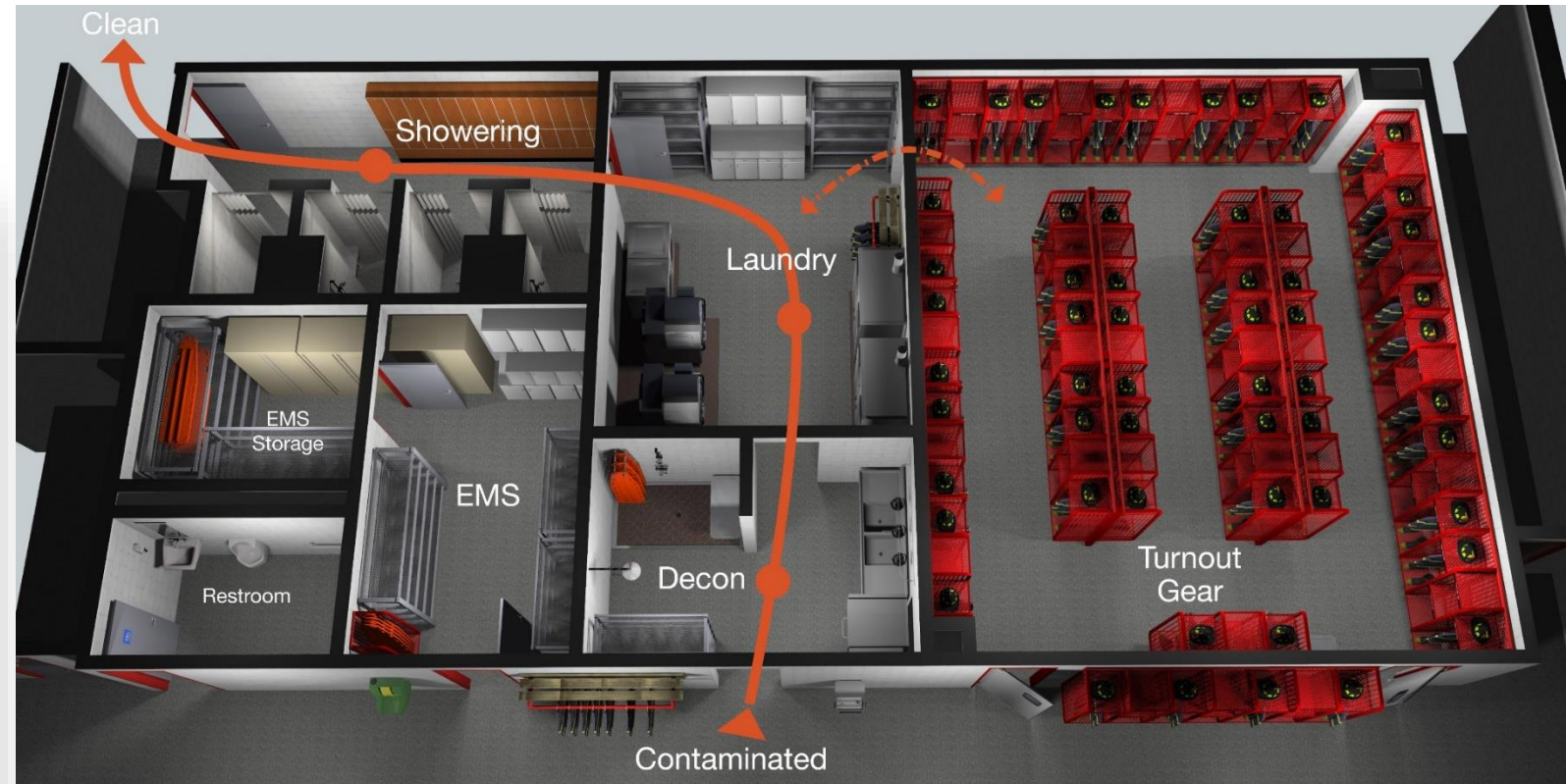
Starting with a vision

In 2017, the City of Eau Claire began the process of designing a new satellite station, replacing existing Fire Station No. 10 on the city's East Side. Our team used a comprehensive GIS study to review potential site locations, eventually selecting a densely vegetated lot in a residential area; however, the site was known to be a former waste disposal area in the early 1900s. Based on historic topographic maps, the team revealed that there was a ravine at the proposed site, which the locals used to fill with various materials.

These materials were glass and paper-type products, which were then burnt off. Geo-technical data indicated that half of the station could be placed in the upper northwest corner of the property and still be located in virgin sand soils, while the other half of the station would need excavation to depths of 30 feet to remove these unsuitable materials.

A Phase 2 environmental site assessment indicated heightened levels of volatile organic compounds (VOCs). This resulted in our sub-consultant recommending that a passive vapor mitigation system be installed under the slab of the entire building footprint. Passive vapor mitigation systems consist of perforated PVC pipe strategically placed throughout the building, located under a vapor barrier membrane of the proper thickness and welded seams. Much like how a radon system removes radon gas from a home, vapor mitigation systems prevent harmful gases and other contaminants from entering the building by venting

A22 | Firehouse | Fire Station Design



PRELIMINARY PROGRAMMING:

SPACE NEEDS ANALYSIS

SPACE	FIRE	RESCUE	POLICE
Apparatus /EMS/Police Bays	14,459 SF	6,728 SF	3,581 SF
Apparatus/EMS/Police Support	4,346 SF	2,010 SF	4,627 SF
Training	2,625 SF	925 SF	500 SF
Administration / Office	4,055 SF	2,965 SF	4,902 SF
Living Quarters & Support	4,360 SF	4,403 SF	0 SF
Mechanical / Electrical Spaces	4,477 SF	2,555 SF	2,722 SF
TOTAL PROGRAM – EACH:	34,322 SF	19,586 SF	16,332 SF
TOTAL PROGRAM COMBINED:	70,240 SF		
OMIT SHARED PROGRAM:	3,007 SF *		
FINAL PROGRAM	67,233 SF		



*SHARED SPACE INCLUDES IS ROUGHLY
5% OF TOTAL SF SAVINGS

PRELIMINARY PROGRAMMING:

EXISTING SITE CONFIGURATION

What it doesn't fix:

- Operational flow
- No drive-through bays
- Where to go during construction
- Limited apparatus configuration
- Grade Issues
- Limited configuration of building due to site shape
- Lack of Parking
- Overall Congestion
- Multiple Stories

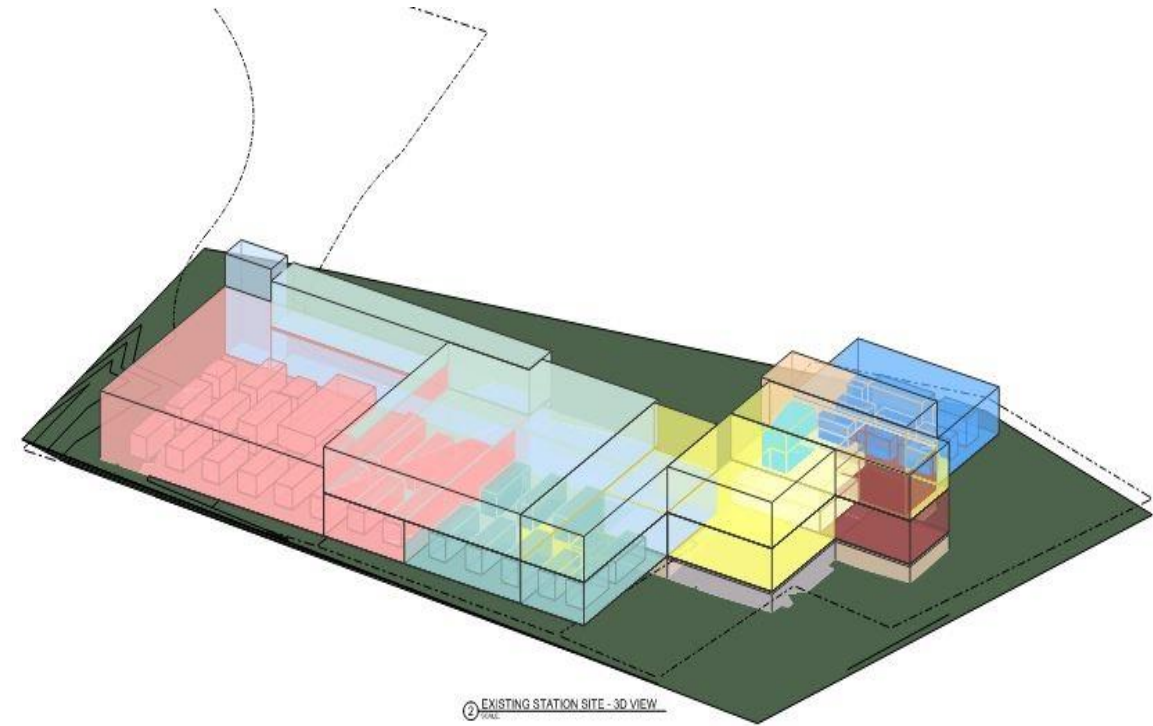


PRELIMINARY PROGRAMMING:

EXISTING SITE CONFIGURATION

What it doesn't fix:

- Operational flow
- No drive-through bays
- Where to go during construction
- Limited apparatus configuration
- Grade Issues
- Limited configuration of building due to site shape
- Lack of Parking
- Overall Congestion
- Multiple Stories

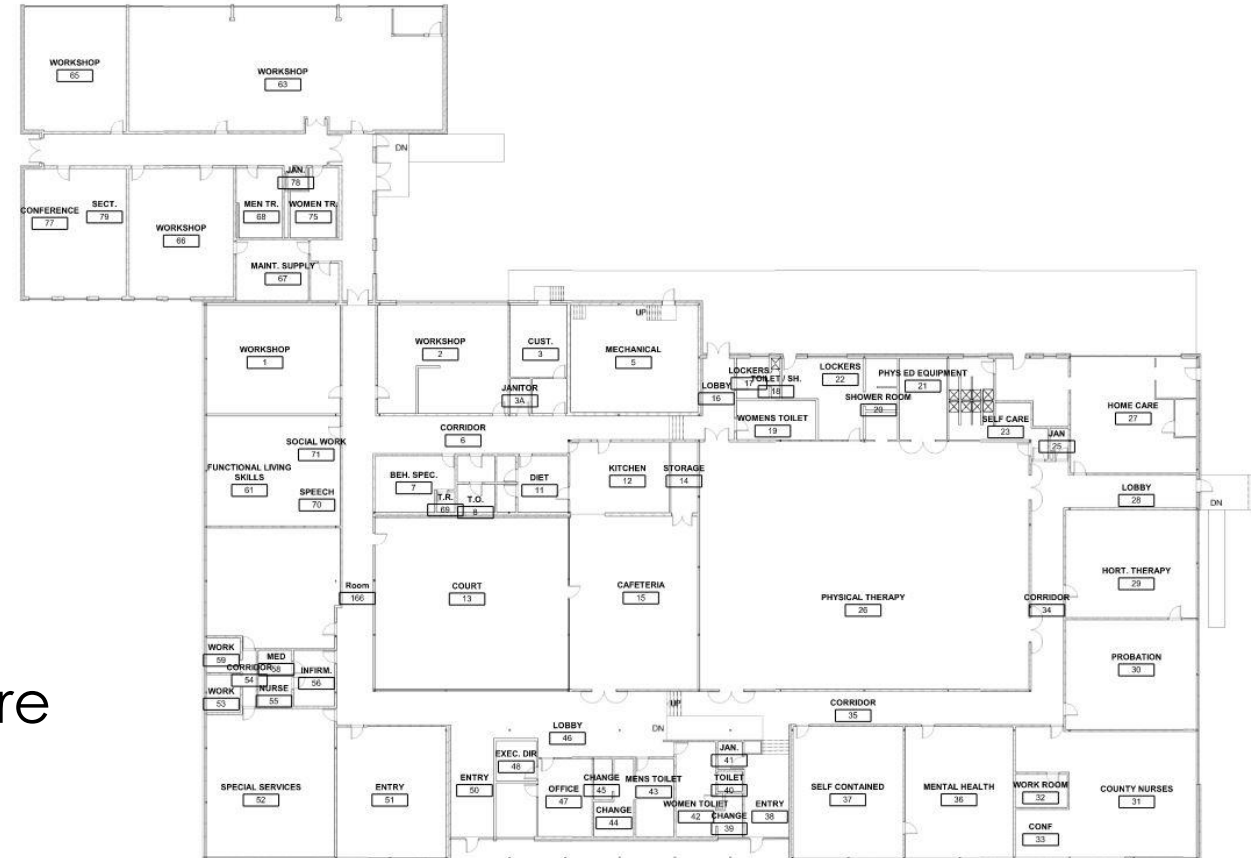


PRELIMINARY PROGRAMMING:

PIUS SCHOOL OPTION

Statistics:

- Constructed in 1959
- 38,820 SF
- 15-acre site
- Potential Purchase Price of \$350,000 (\$9 per SF)
- Needs infrastructure updates, but is structurally sound
- Steel beam, column and joist structure
- Exterior and Interior Masonry
- 6' high crawl space under facility



PRELIMINARY PROGRAMMING:

PIUS SCHOOL OPTION



CONCEPTUAL DESIGNS:

PIUS SCHOOL OPTION – PROGRAM VS. CONCEPT

PROGRAM SPACE	FIRE	RESCUE	POLICE
TOTAL PROGRAM – EACH:	34,322 SF	19,586 SF	16,332 SF
TOTAL PROGRAM COMBINED:	70,240 SF		
OMIT SHARED PROGRAM:	3,007 SF		
FINAL PROGRAM:	67,233 SF		

CONCEPT SPACE	FIRE	RESCUE	POLICE
TOTAL CONCEPT – EACH:	25,891 SF	13,413 SF	11,028 SF
TOTAL CONCEPT COMBINED :	50,332 SF		
SHARED CONCEPT:	19,668 SF *		
FINAL CONCEPT:	70,000 SF		

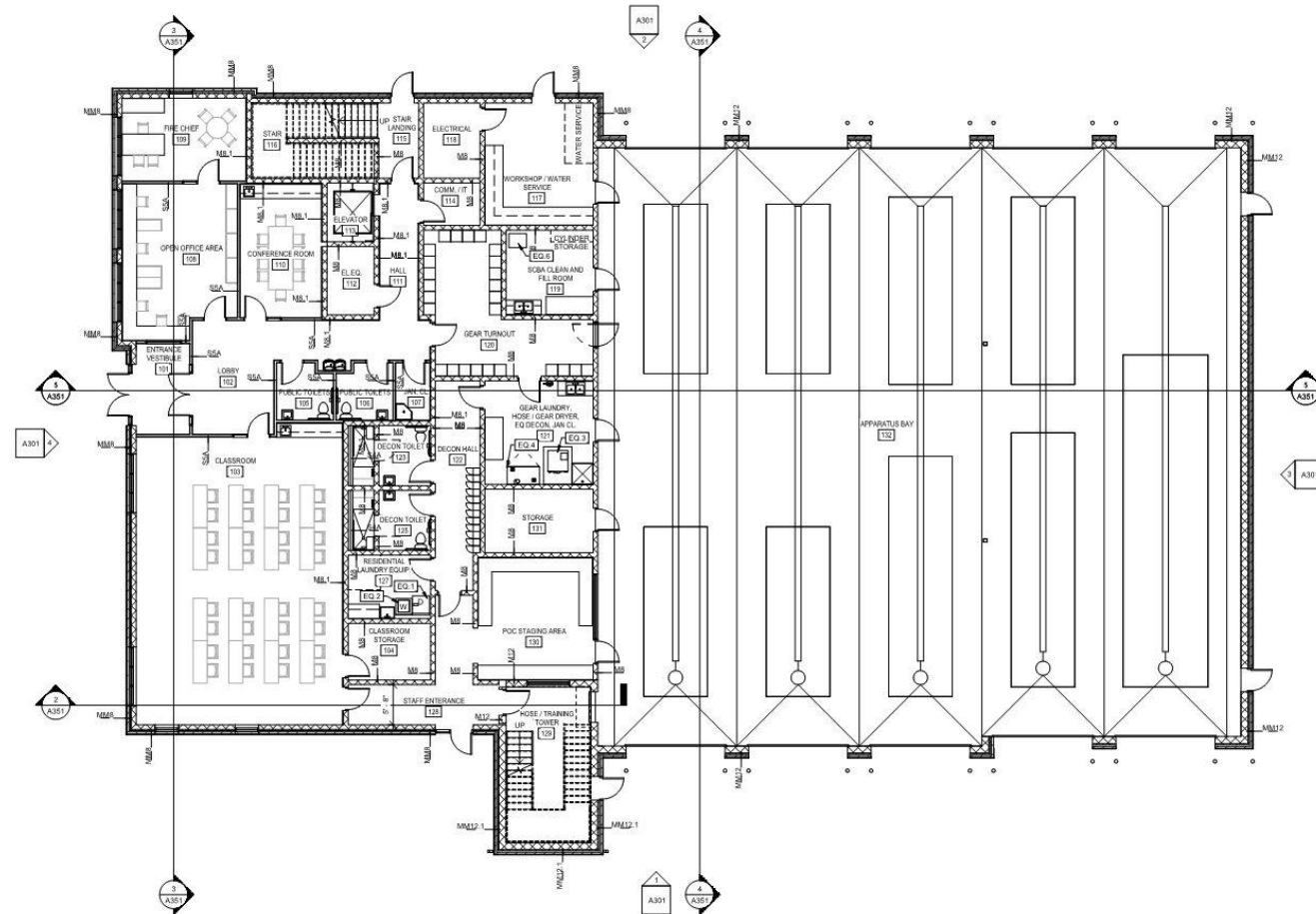


*SHARED SPACE INCLUDES

- 5,219 SF EXISTING GYM
- 2,128 SF LOBBY
- 2,103 SF EXISTING MECHANICAL SPACE
- 9,450 TOTAL

CONCEPTUAL DESIGN:

CONCEPT VS FINAL – A CASE STUDY



Suamico Fire Station

Programmed S.F. = 36,846 S.F.

Completed S.F. = 22,050 S.F.

Greenville Fire Station

Programmed S.F. = 30,000 S.F.

Completed S.F. = 24,680 S.F.

Binghamton

Programmed S.F. = 22,465 S.F.

Completed S.F. = 20,159 S.F.

Williamstown

Programmed S.F. = 28,407 S.F.

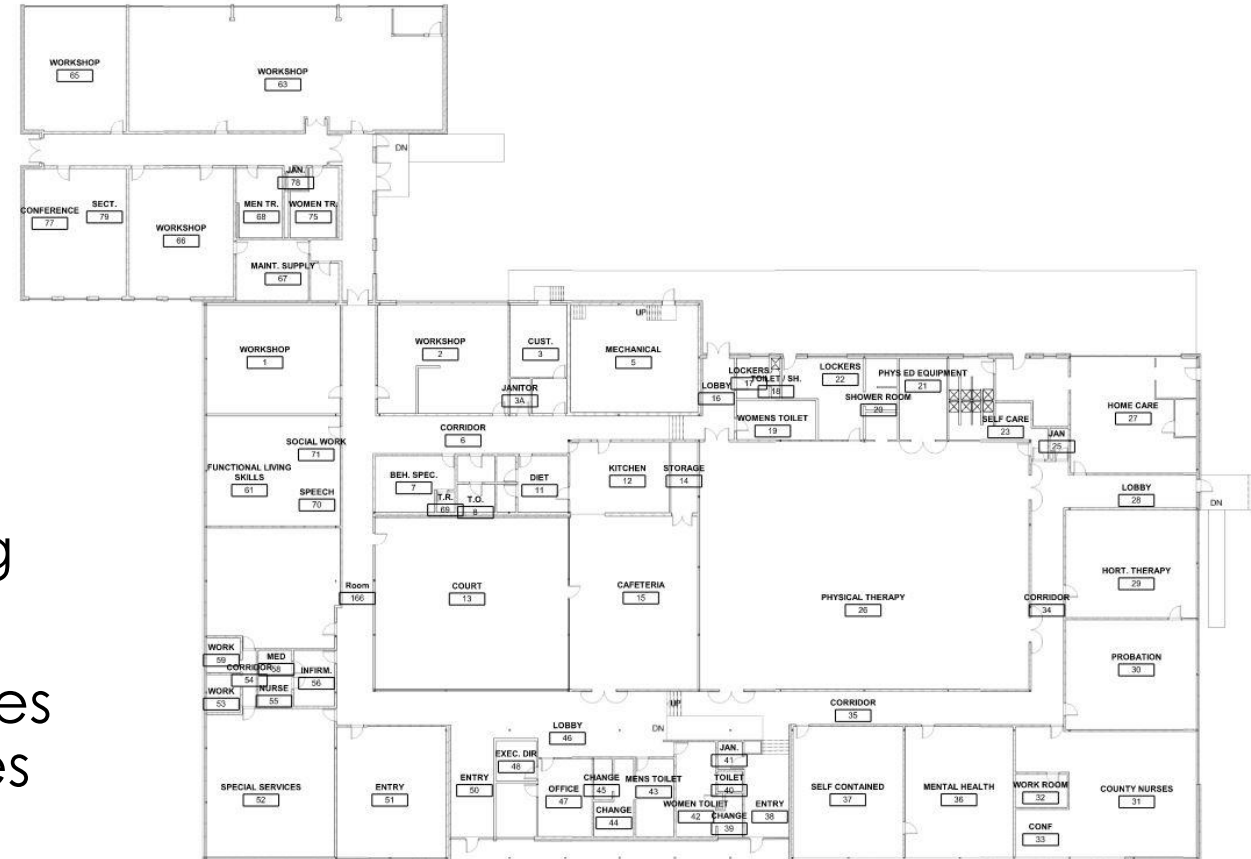
Completed S.F. = 22,485 S.F.

PROS & CONS:

PIUS SCHOOL OPTION

Pros:

- Structurally sound
- Adaptive reuse
- 38,820 SF at \$9 per SF
- Existing crawl space allows for economical remodel
- 15-acre site with potential for training and sustainable energy alternatives
- Remain in existing emergency services facilities while construction progresses
- Removes emergency services from congested downtown areas



PRELIMINARY COSTING:

CONCEPTUAL ESTIMATING

Five Bugles Design. ESTIMATE OF PROBABLE COSTS

Project: VILLAGE OF SARANAC LAKE EMERGENCY SERVICE FACILITY
 Location: VILLAGE OF SARANAC LAKE, NY Date: 1-Mar-23

Potential Costs		FIRE STATION AS PROGRAMMED		Additional	Remarks
I. Site Acquisition					
Preferred Site Acquisition			\$0		
	Sub-Total		\$0		
II. Site Work					
Overall Site Work			\$200,000		
	Sub-Total		\$200,000		
III. Building Construction Costs					
New Apparatus Support Construction	Size (sf)	Cost/SP	\$15,444,900		
	34,322	\$450			
	Sub-Total		\$15,444,900		
IV. Furniture, Fixtures and Equipment					
FF&E (estimated at 3% of Cost of Work)			\$463,347		
Others			\$18,442,900		
	Sub-Total		\$18,906,247		
V. Communications and Technology					
Radio Alerting System			\$0		
Access Security			\$0		
Network Equipment			\$0		
Computers, Phones, IT			\$0		
Copier, Scanner, Etc.			\$0		
	Sub-Total		\$0		
VI. Contingencies, Inflation and Other Costs					
Inflation Contingency			\$0		
Design / Construction Contingency			\$0		
	Sub-Total		\$0		
VII. Professional Fees and Legal					
Architectural/Engineering			\$100,000		
Geotechnical Studies			\$100,000		
Site Survey			\$100,000		
Unavailable Solls Contingency			\$100,000		
Power to Site			\$100,000		
Site to Site			\$100,000		
LEED/Sustainability			\$100,000		
Hardware, Materials, Substrates			\$100,000		
Testing and Inspections			\$100,000		
	Sub-Total		\$700,000		
TOTAL BASE BID			\$16,647,147		

Five Bugles Design. ESTIMATE OF PROBABLE COSTS

Project: VILLAGE OF SARANAC LAKE EMERGENCY SERVICE FACILITY
 Location: VILLAGE OF SARANAC LAKE, NY Date: 1-Mar-23

Potential Costs		EMERGENCY SERVICES FACILITY (NEW)		Additional	Remarks
I. Site Acquisition					
Preferred Site Acquisition			\$0		
	Sub-Total		\$0		
II. Site Work					
Overall Site Work	Size (sf)	Cost/SP	\$1,114,000		
	65,355	\$170			
	Sub-Total		\$1,114,000		
III. Building Construction Costs					
New Apparatus Support Construction			\$200,000		
	Sub-Total		\$200,000		
IV. Furniture, Fixtures and Equipment					
FF&E (estimated at 3% of Cost of Work)			\$17,000		
Others			\$18,000		
	Sub-Total		\$35,000		
V. Communications and Technology					
Radio Alerting System			\$1,000		
Access Security			\$1,000		
Network Equipment			\$1,000		
Computers, Phones, IT			\$1,000		
Copier, Scanner, Etc.			\$1,000		
	Sub-Total		\$5,000		
VI. Contingencies, Inflation and Other Costs					
Inflation Contingency			\$0		
Design / Construction Contingency			\$0		
	Sub-Total		\$0		
VII. Professional Fees and Legal					
Architectural/Engineering			\$100,000		
Geotechnical Studies			\$100,000		
Site Survey			\$100,000		
Unavailable Solls Contingency			\$100,000		
Power to Site			\$100,000		
Site to Site			\$100,000		
LEED/Sustainability			\$100,000		
Hardware, Materials, Substrates			\$100,000		
Testing and Inspections			\$100,000		
	Sub-Total		\$700,000		
TOTAL BASE BID			\$2,966,000		

Five Bugles Design. ESTIMATE OF PROBABLE COSTS

Project: VILLAGE OF SARANAC LAKE EMERGENCY SERVICE FACILITY
 Location: VILLAGE OF SARANAC LAKE, NY Date: 1-Mar-23

Potential Costs		EMERGENCY SERVICES FACILITY (PLUS BUILDING)		Additional	Remarks
I. Site Acquisition					
Preferred Site Acquisition			\$0		
	Sub-Total		\$0		
II. Site Work					
Overall Site Work	Size (sf)	Cost/SP	\$1,114,000		
	65,355	\$170			
	Sub-Total		\$1,114,000		
III. Building Construction Costs					
New Apparatus Support Construction			\$200,000		
	Sub-Total		\$200,000		
IV. Furniture, Fixtures and Equipment					
FF&E (estimated at 3% of Cost of Work)			\$17,000		
Others			\$18,000		
	Sub-Total		\$35,000		
V. Communications and Technology					
Radio Alerting System			\$1,000		
Access Security			\$1,000		
Network Equipment			\$1,000		
Computers, Phones, IT			\$1,000		
Copier, Scanner, Etc.			\$1,000		
	Sub-Total		\$5,000		
VI. Contingencies, Inflation and Other Costs					
Inflation Contingency			\$0		
Design / Construction Contingency			\$0		
	Sub-Total		\$0		
VII. Professional Fees and Legal					
Architectural/Engineering			\$100,000		
Geotechnical Studies			\$100,000		
Site Survey			\$100,000		
Unavailable Solls Contingency			\$100,000		
Power to Site			\$100,000		
Site to Site			\$100,000		
LEED/Sustainability			\$100,000		
Hardware, Materials, Substrates			\$100,000		
Testing and Inspections			\$100,000		
	Sub-Total		\$700,000		
TOTAL BASE BID			\$2,966,000		

- Stand Alone Fire Station
- Stand Alone Rescue Facility
- Stand Alone Police Facility
- New Emergency Services Facility
- Additions and Remodel to Existing PIUS School for an Emergency Services Facility



PRELIMINARY COSTING:

SAVINGS OF COMBINING EMERGENCY SERVICES FACILITIES

SCENARIO: CONSTRUCT FACILITIES SEPARATE

	CONSTRUCTION COST	SAVINGS	NOTES
BUILDING EXAMPLE A - ALONE (20,000 S.F)	\$10,000,000.00		
DESIGN FEES (8%):	\$800,000.00		
CM GENERAL CONDITIONS :	\$372,000.00		\$31,000 PER MONTH AT 12 MONTHES
CM or GC FEES (3.5%):	\$350,000.00		
TOTAL:	\$11,522,000.00		
BUILDING EXAMPLE B - ALONE (20,000 S.F)	\$10,000,000.00		
DESIGN FEES (8%):	\$800,000.00		
CM GENERAL CONDITIONS):	\$372,000.00		\$31,000 PER MONTH AT 12 MONTHES
CM or GC FEES (3.5%):	\$350,000.00		
TOTAL:	\$11,522,000.00		
TOTAL OVER 2 YEARS	\$23,044,000		1 PROJECT AT A TIME

SCENARIO: CONSTRUCT FACILITIES TOGETHER

	CONSTRUCTION COST	SAVINGS	NOTES
BUILDING A&B - TOGETHER (38,000 S.F)	\$19,000,000.00	\$1,000,000	
ECONOMY OF SCALE (3%):	-\$600,000.00	\$600,000.00	
CONSERVATIVE INFLATION SAVINGS (3%):	-\$582,000.00	\$582,000.00	
DESIGN FEES (7%):	\$1,358,000.00	\$242,000.00	
CM GENERAL CONDITIONS):	\$434,000.00	\$310,000.00	\$31,000 PER MONTH AT 14 MONTHES
CM FEES (2.5%):	\$485,000.00	\$215,000.00	
TOTAL OVER 1 YEAR:	\$20,095,400.00	\$2,949,000.00	2 PROJECTS AT ONCE

PRELIMINARY COSTING:

SAVINGS OF EXISTING REHAB VS. NEW CONSTRUCTION

SCENARIO A: CONSTRUCT FACILITIES SEPARATE

		CONSTRUCTION COST
BUILDING A– NEW FIRE		34,322 s.f.
	Cost Total with Contingencies and Escalation:	\$18,451,635
	Direct Costs including fees and FFE:	\$2,109,164
	TOTAL:	\$20,560,799
BUILDING B – NEW RESCUE		19,586 s.f.
	Cost Total with Contingencies and Escalation:	\$10,825,755
	Direct Costs including fees and FFE:	\$1,346,576
	TOTAL:	\$12,172,331
BUILDING C – NEW POLICE		16,333 s.f.
	Cost Total with Contingencies and Escalation:	\$9,142,328
	Direct Costs including fees and FFE:	\$1,178,233
	TOTAL:	\$10,320,560
TOTAL OF THREE FACILITIES:		\$43,053,690

SCENARIO B: CONSTRUCT FACILITIES TOGETHER

		CONSTRUCTION COST
BUILDING D – EMERGENCY SERVICES FACILITY		67,233 s.f.
	Cost Total with Contingencies and Escalation:	\$36,356,100
	Direct Costs including fees and FFE:	\$3,899,610
TOTAL OF SINGLE FACILITY:		\$40,255,710*

*\$2,797,980 COST DIFFERENCE BETWEEN SCENARIO A AND B

PRELIMINARY COSTING:

SAVINGS OF EXISTING REHAB VS. NEW CONSTRUCTION

SCENARIO C: REMODEL AND ADDITIONS (PIUS BUILDING)

	CONSTRUCTION COST
BUILDING E- REMODELED AND ADDITIONS – NEW EMERGENCY SERVICES FACILITY	70,000 s.f.
I. SITE ACQUISITION:	\$350,000
II. SITE WORK:	\$1,000,000
III. BUILDING CONSTRUCTION COSTS:	\$20,008,750
IV. FURNITURE, FIXTURES AND EQUIPMENT:	\$600,263
V. COMMUNICATION AND TECHNOLOGY:	\$312,000
VI. CONTINGENCIES, INFLATION AND OTHER COSTS:	\$3,151,313
VII. PROFESSIONAL FEES AND LEGAL:	\$2,100,744
TOTAL:	\$27,523,070

*\$15,530,620 COST DIFFERENCE BETWEEN SCENARIO A AND C

WHAT'S NEXT?:

POTENTIAL TIMELINE

We Are Here:



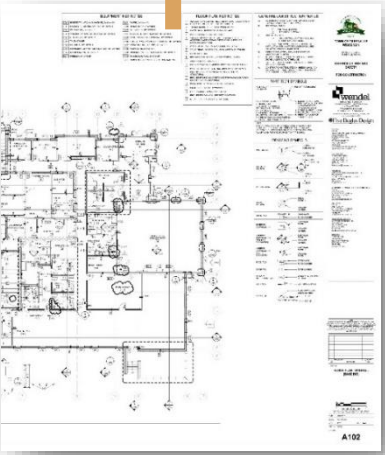
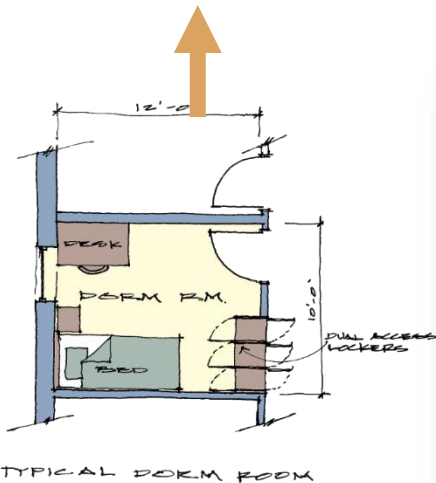
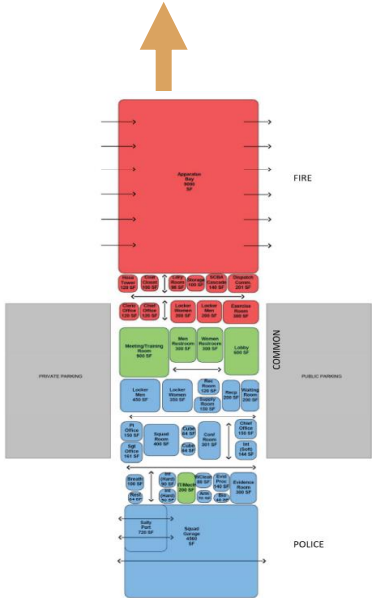
Concepts
(Estimate)

Review & Finalize
Needs/Wants
+
Schematic
Designs
(Estimate)

Design
Development
(Estimate)

Construction
Documents
(Estimate)

Bidding
Construction
Occupancy



Site Design

- Minimize Community and Response Interaction
 - Apparatus Dispatch
 - Apparatus Return
 - Staff parking
 - Volunteer parking
 - Community parking
- Controlled Entry into facility
- Stormwater management
- Extrication Training Pad





The New Gateway to the City at the Corner of Broad & Main



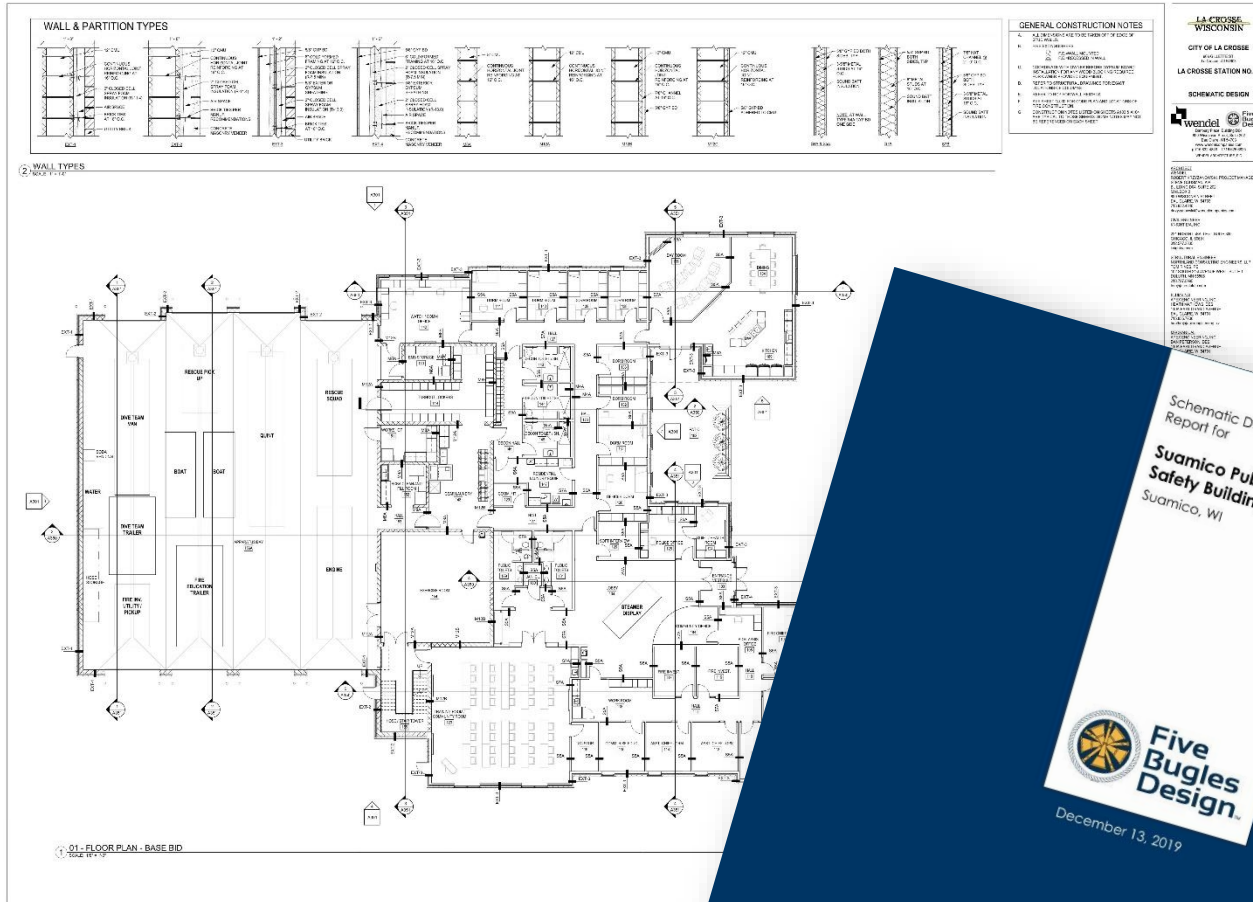
Chippewa Falls Fire Department

Visualization Tools



Riverside Fire District

Schematic Design



- Move from bubble diagrams to Building Modeling, including walls, doors, windows
- Initial site design and continue further dialogue with various agencies having jurisdiction
- Complete a certified site survey
- Complete wetland delineation
- 3D scan of the entire existing facility
- Building massing, aesthetic benchmarking & initial exterior elevations
- Begin to consider:
 - Construction materials
 - System types
- SD Estimate
- Deliverable: Schematic Design Report

Thank you.



