



PUBLIC SAFETY BUILDING NEEDS COMMITTEE AGENDA

CITY OF NOVI

March 20, 2024 | 5:30 PM

Council Conference | Novi Civic Center | 45175 Ten Mile Road
(248) 347-0460

CALL TO ORDER

ROLL CALL – Mayor Justin Fischer, Council Member Priya Gulumurthy, Council Member Dave Staudt, Bob Gatt, Scott Olson, Ted Zuchlewski, David Landry, David Molloy

APPROVAL OF AGENDA

- [1.](#) March 20, 2024 Agenda

APPROVAL OF MINUTES

- [1.](#) October 4, 2023 Minutes

PURPOSE OF THE MEETING

- [1.](#) Updated Study from Redstone Architects
- [2.](#) Fire Station Location Analysis
3. Discussion of Next Steps

AUDIENCE COMMENT

ADJOURNMENT

NOTICE: *People with disabilities needing accommodations for effective participation in this meeting should contact the City Clerk (248) 347-0456 at least two working days in advance of the meeting. An attempt will be made to make reasonable accommodations.*



CITY OF NOVI
Public Safety Building Needs Committee
March 20, 2024, 5:30 p.m.
Council Conference | 45175 Ten Mile Road
(248) 347-0445

CALL TO ORDER

ROLL CALL: Mayor Justin Fischer, Council Member Priya Gurumurthy, Council Member Dave Staudt, Bob Gatt, Scott Olson, Ted Zuchlewski, David Landry, David Molloy

STAFF LIAISON: Victor Cardenas, City Manager

ALSO PRESENT: Scott Baetens, Assistant Police Chief
Danielle Mahoney, Assistant City Manager
John Martin, Fire Chief
Rob Petty, Chief Information Officer
Erick Zinser, Director of Public Safety and Police Chief

APPROVAL OF AGENDA

APPROVAL OF MINUTES – October 4, 2023

PURPOSE OF THE MEETING

1. Updated Study from Redstone Architects
2. Fire Station Location Analysis
3. Discussion of Next Steps

AUDIENCE COMMENTS

ADJOURNMENT



CITY OF NOVI
Public Safety Building Needs Committee

October 4, 2023, 5:30 p.m.

Police Training Center | Novi Civic Center | 45175 Ten Mile Road
(248) 347-0445

CALL TO ORDER 5:30 p.m.

ROLL CALL: Mayor Bob Gatt, Mayor Pro Tem Dave Staudt, Council Member Justin Fischer, Scott Olson, Ted Zuchlewski, David Landry, David Molloy

PRESENT: Mayor Bob Gatt, Mayor Pro Tem Dave Staudt, Scott Olson, Ted Zuchlewski, David Landry

David Molloy arrived after Roll Call at approximately 5:40 p.m.

ABSENT: Council Member Justin Fischer

STAFF LIAISON: Victor Cardenas, Interim City Manager

ALSO PRESENT: Erick Zinser, Director of Public Safety and Police Chief
John Martin, Fire Chief
Scott Baetens, Assistant Chief of Police
Dan Redstone, Redstone Architects

APPROVAL OF AGENDA

Motion: Zuchlewski, Seconded: Staudt, minutes approved 4:0

APPROVAL OF MINUTES – February 6, 2023

Motion: Zuchlewski, Seconded: Staudt, minutes approved 4:0

PURPOSE OF THE MEETING

1. Review of Study from Redstone Architects

Mayor Gatt introduced Mr. Dan Redstone of Redstone Architects and invited him to start his presentation of the study.

Mr. Redstone began by stating the firm had started this process last year with an assessment of the current Police building which was then tabled. This new report is for a new Police/Public Safety Building well as Fire Stations 1, 2, and 3. Redstone Architects sat down with representatives from the Police and Fire Departments, as well as the City

Administration in order to build a space needs assessment from all levels. Reviewing all these needs and developing a consensus would become the report presented.

Mr. Redstone then proceeded to go through the report, overall plan, and the new Public Safety Headquarters plan.

Following the review of the report Mayor Gatt thanked Mr. Redstone for the report and work performed to date. He also spoke of his vision for a single building that houses Police, Fire, and a Public Safety museum. He inquired if such a building had been considered or would be possible. Mr. Redstone indicated that it would be difficult to configure such a building due to Fire Egress needs as well as the existing utilities on the Lee Begole property.

Mayor Gatt then noted that, at past meetings, the committee had wondered if more Fire Stations around the City would be needed and if Redstone had looked into that matter in the course of this report. Mr. Redstone replied that such analysis had not been part of the current report as they had understood the current needs of the City to be met. Mayor Gatt then asked the Committee if they were comfortable moving forward as is or if they thought, as he did, that performing a run-time analysis would be beneficial. Mr. Redstone added that such an analysis should not take overly long given the data is likely already available from the Fire Department.

Fire Chief Martin reminded the Committee that any additional stations would also require additional recruitment as well as Fire Apparatuses (I.E. Fire Trucks/Fire Engines).

Mr. Molloy said that, in his experience, the southwest and northwest corners of the City create the greatest challenges in emergency response times. He would support looking further into that information so that the Committee has all the necessary answers to address the needs not just for the City currently but the City as it will be in 10 – 15 years and beyond.

Mr. Zuchlewski agrees that given the increasing density in the areas noted by Mr. Molloy and the overall increasing population we should have the analysis performed.

Mr. Olson also agreed with the other Committee members and would be in favor of a runtime analysis.

Mayor Pro Tem Staudt stated that he thinks we should have six Fire Stations but believes the needs of the individual stations may vary. He has heard that residents in the southwest of the City are concerned regarding runtimes. As Novi has a unique EMS model that will be building new hubs there is the possibility of piggybacking these locations and having both “heavy” and “light” stations spread around the city.

Mr. Landry agrees with everything that has been said so far. This is an opportunity as a relatively young City that continues to expand. He thinks it would be an error to *not* do a runtime assessment, saying “if we are going to do this, do it right”.

Mayor Gatt thanked the Committee members for their input and agrees, he would like to move forward with the runtime assessment.

Police Chief Zinser acknowledged that they did not ask Redstone to look into alternate locations for Fire Stations as part of the current report. He does think Station #2 should be moved and that another station in the northwest will almost certainly be needed; many residents in the have approached him about an additional station in the southwest as well. Chief Zinser further stated that he believes each Fire Station needs an apparatus and that, in addition to necessary accessories and staffing will have a large price tag. He agrees that a runtime study should be pursued.

Chief Martin thinks the City should look into getting additional land for Stations.

Assistant Police Chief Baetens agrees with the current and past chiefs on their statements.

Mr. Zuchlewski asks if, due to the time and money needed, if the process should be approached in phases as opposed to trying to lock everything down at one? He suggests starting with the three existing Stations needing attention and then planning out the others in a future phase.

Mayor Gatt respectfully disagrees because as we are approaching City of Novi residents we should have the whole of the data, and the whole bottom line for the voters. He believes it is best to go to votes once, not multiple times. He then turned the conversation back to Mr. Redstone.

Mr. Redstone will go forward with the following:

1. A design for the Lee Begole location with a one building solution
2. A runtime analysis for today and tomorrow's needs, additionally identifying potential additional Fire Station sites.

AUDIENCE COMMENTS - none

ADJOURNMENT 6:45 p.m.

Motion: Molloy, Seconded: Landry, minutes approved 5:0



REDSTONE ARCHITECTS INC.

Specialists in Law Enforcement, Justice, and Public Safety Architecture

ESTABLISHED 1937



Public Safety Feasibility Study
Public Safety Building Needs Committee
Novi, Michigan
January 02, 2024
Updated January 29, 2024



Public Safety Feasibility Study
Public Safety Building Needs Committee
Novi, Michigan
January 02, 2024
Updated January 29, 2024

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Redstone Architects Inc.

SECTION A

EXECUTIVE SUMMARY

CITY OF NOVI PUBLIC SAFETY DEPARTMENT CAPITAL IMPROVEMENT STUDY

HISTORY:

2022: The City of Novi initially engaged Redstone Architects in 2022 to study the possibility of renovating the existing Public Safety Building to accommodate a number of deficiencies identified by the department. The current facility contains about 38,000 square feet. An internal 2021 departmental study identified a number of space and operational deficiencies.

Submitted in December 2022, the study included the development of a Space Needs Assessment for the Police Department that identified current needs and future needs, as well as identifying spaces that the City wanted to maintain in the building for other departments within the city.

The first option included the renovation of the existing Public Safety Building to accommodate the police department's space needs. This option was deemed not to be viable.

Redstone was then asked to look at adding an addition to the north side of the Public Safety Building (option 2). The Initial cost projection to implement the second option (renovation plus an addition) was approximately \$7,000,000.

Spring, 2023: In the Spring of 2023 Redstone was asked to develop a Space Needs Assessment for a **new** Public Safety Building ("PSB"), which would also include Fire Station #1. Most of the police needs were identified in the prior renovation study, which was updated. In addition, Redstone was asked to identify the space needs to replace Fire Stations #1, #2 and #3 with new facilities. Redstone worked with the City to identify the needs of the three facilities, and to develop test fits for potential locations for the facilities.

October 2023: Redstone met with the Public Safety Committee and presented its initial findings for the needs of a new Public Safety Building and for Fire Stations #1, #2, and #3. Presented were diagrammatic site plans, which included keeping the existing Lee BeGole Drive because of utilities. ***The Committee asked that Redstone develop a new layout that combines the PSB and Fire Station #1 into one building.***

In addition, the Committee requested that Redstone provide a Run Time Analysis (RTA) for the entire City to determine potential locations for future fire stations to serve the community in the future. Redstone engaged Beckett and Raeder to accomplish this effort. The City provided potential locations for the possible new stations, one of which would serve the southwest corner of Novi and the second to serve the northwest section of Novi. ***The RTA showed that approximately 93% of existing calls and 89% of the responses to future calls for service would be within five (5) minutes.*** A copy of the RTA is attached to this report.



SPACE NEEDS ASSESSMENT for a NEW PUBLIC SAFETY BUILDING:

Working with members of the police and fire departments, an updated space needs assessment was developed for the new PSB, which resulted in the following summary:

Public Safety Building Campus:

- Police and Administrative Operations, including shared spaces: 53,776 sf;
- Fire Station #1 Operations- 18,942 sf. (Four-Bay Station)
- Fleet Maintenance Garage: 6,398 sf.

Station #1 is planned to have four, single-deep bays, and will also include a Captain's suite and a Fire Inspector. No public access to station operations is anticipated.

Fire Station #2 and #3: Each station is programmed for three, single-deep bays. Each station is estimated to need approximately 14,500 sf. Included are sleep rooms for five, on-duty personnel. Station 2 is also programmed to include a Lieutenant's office and separate sleep room. Three Sleep Rooms are provided for Superior EMS staff at both proposed stations.

CONFIRMATION OF SITE CAPACITIES:

Site information was provided for three potential sites, as follows:

1. **Public Safety Building Site:** a new site on the northwest corner of Lee BeGole Drive and 11 Mile Road. This site is to be combined with the City's existing property on the Northeast corner of the intersection. It is contemplated that Lee BeGole Drive will be relocated as part of this development.
2. **Station #2 Site.** A new facility on the existing property located at 13 Mile Road and Paramount Street, approximately 0.64 acres.
3. **Station #3 Site.** A new facility on a parcel on Venture Drive north of Nine Mile Road. of approximately, 1.76 acres

Redstone then developed block diagrams for each site to confirm that the sites were sufficient to accommodate the new facilities.

PUBLIC SAFETY BUILDING CAMPUS SITE (including Fire Station 1)

The City currently owns the property on the Southeast corner of 11 Mile Road and Lee BeGole Road. It has acquired the property on the Northwest corner of that intersection. The intention of the city is to reroute Lee BeGole and to create a roundabout to the east. Redstone was given the combined sites to determine the feasibility of a new, Public Safety Building and Fire Station #1 at this location.

At the October 2023 committee meeting, Redstone presented a concept that showed two buildings, a relocated Fire Station #1, and the Public Safety Building. After combining the two facilities into one building, the new square footage is projected to be about 72,240sf, about

4,500sf less than two separate buildings. Please note that Station #1 is programmed to be a four-bay station.

FEMA maps and other reference material are included. There is a creek running from the northwest to the southeast of the property. This creek is few hundred feet north of 11 Mile, and its eastern portion is considered to be in a flood plain. The buildings need to be located south of the flood plain areas.

The existing utilities in the Lee BeGole ROW/street will need to be relocated as part of the road relocation to allow for this site to be developed properly.

We were subsequently asked to present two cost options for the PSB/Fire Station 1 scenario. The two options are:

1. Separate Fire Station #1 from the BSP Building on the Lee Begole site, similar to the site plan presented in October 2023.

A copy of the site plan showing two separate buildings has been added. At this point in time, site development costs should be similar for either option at the lee BeeGole site.

2. Build a new PSB at Lee BeGole Drive and Station #1 at its current location on Grand River.

The existing Station #1 is a 10,000sf facility that sits on a site that is approximately 45,000 to 50,000sf, or a little over one acre in size.

Based on the current space needs program of almost 19,000sf for a new Station 1, any new station built on the site would, at a minimum, require a two-story facility. A two-story design would require a minimum increase of about 1,000sf for fire stairs and utility shafts.

In addition, the new program calls for four apparatus bays, which will increase required ingress and egress apron widths from the existing three bays and will impact curb cuts on on both Grand River and the south ingress access to the west of Main Street.

We believe this site to be too small for an efficient design for a new fire station.

STATON 2 SITE. The site dimensions are 102' x 271', or about 0.64 acres. It was anticipated by the City that the station would be torn down and a new, two-story station could be accommodated on this site.

Our Initial site investigation indicates that only a two- bay station of approximately 13,000 square feet could 'fit' on this site regardless of whether it is a one or two-story building.

A one-story site and building layout is attached for review and discussion. This solution has a number of drawbacks, including minimal setbacks, public parking access through apparatus egress lanes, etc.



A two-story solution would necessitate two means of egress from the second floor, effectively adding a minimum of two, 12' x 30' stairwells, or another 700sf to the building requirements. More importantly, due to the narrowness of the lot, there is no convenient place to locate the stairwells next to the apparatus bay.

In both scenarios public visitors will need to access the site via the apparatus ingress approach.

Redstone's opinion is that the existing site should not be considered as the site for the new station #2. The city's potential investment of \$7,500,000 is too significant to be put on such a small site. This site is too small for an efficient fire station site that incorporates the space needs site and that also provides for fire fighter parking and occasional (and non-conflicting) public access with appropriate parking.

A new site for Station #2 of approximately two or more acres is strongly recommended.

STATION 3 SITE.

The proposed site for Station #3 is on Venture Drive, north of Nine Mile Road. The dimensions are approximately 308 x 245' or about 1.73 acres.

The requirements identified in the Space Needs Assessment can be accommodated on this site. A conceptual site and floor plan are attached to this study.

This concept also confirms that approximately two acres or more would be needed for any new sites being considered.

PROJECT COSTS

Based on our recent project cost projections and information obtained at the 2023 Station Design Conference, we have developed a high-level Project Budget for the new facilities.

In addition, O'Brien Construction Company was engaged to provide an initial construction cost estimate for a combined PSB/Fire Station #1 on the Le BeGole site as well as an initial estimate for the Maintenance Building.

Timetable Assumptions:

- Voter Approval in the Spring of 2024.
- Design efforts: through 2024.
- Bidding: late 2024- Early 2025
- Construction: 2025- 2026 (18-24 months)

PROJECT COST ASSUMPTIONS:

Project Costs include Construction Costs (including contractor OH & profit) plus Soft Costs.

Soft costs are an allowance (percentage of construction costs) that include:

- Professional fees
- Furniture, Fixtures and Equipement
- Owner Costs
- Security and Technology

For Public Safety Buildings we recommend a soft cost allowance of 20 to 22%.

Our preliminary project cost projections following the assumptions listed above (for 2024 approval and design with 2025- 2026 construction) use our current and historical data from recent projects and studies, as well as estimates provided by O'Brien Construction for the combined PSB/Fire Station #1 and maintenance garage:

1. Fire Stations: (Historic Data) 2023 projection: \$400/sf + 20% soft costs = \$480/sf;
 - *Projected to 2025-2026- 15% = \$550/sf*
2. Public Safety Building including Fire Station #1. O'Brien Construction Estimate: \$450/sf plus 22% soft costs = \$550/sf:
 - *Projected to 2025-2026 +15% = \$633/sf.*
3. 2023 Fire Station (Historic Data) new Construction Project Budget- (2024-2025 construction); \$550-600/sf.
 - *Projected to 2025-2026 += 5% + \$625/sf.*
4. Fire Stations: (Current Data) Recently Completed Study: \$460 + 20% soft costs = \$550/sf;
 - *Assumes Spring 2025 construction start*
5. Maintenance Building. O'Brien Construction Estimate: \$250/sf + 20% soft costs= \$300/sf.
 - *Projected to 2025-2026 + 15% = \$345/sf; Use \$350/sf*



PROJECT FUNDING RECOMMENDATIONS:

For Bonding or Voter Approval purposes, we recommend using the following Project Budget Estimates, which include hard and soft costs for 2025-2026 construction:

- PSB, including Fire Station 1: \$650/sf.
- Fire Stations #2 & #3: \$560/sf
- Maintenance Building: \$350/sf.
- For new stations in SW & NW Novi: \$650/sf. (site and date of construction unknown)

Building	SNA Projected Sq. Footage	Construction Time Period (18-24 months)	Estimated PROJECT Cost/SF (Hard + Soft Costs)	ESTIMATED COST PER PROJECT
New, Combined Public Safety Building and Fire Station #1	72,240	2025-2026	\$650.00	\$46,956,000
Mtnce. Garage	6,400	2025-2026	350.00	2,240,000
PSB Site Development	+/- 8.1 acres	2025-2026	Included above	
Fire Station #2	14,500	2025-2026	\$560.00	8,120,000
Fire Station #3	14,500	2025-2026	\$560.00	8,120,000
New SW Fire Station	14,500 (assumed)	TBD	\$650.00	9,425,000
New NW Fire Station	14,500 (assumed)	TBD	\$650.00	9,425,000
SUBTOTAL				84,286,000
Owner Budget and Timing Contingency		10%		8,428,600
TOTAL PROJECTED PUBLIC SAFETY PROJECT COSTS 2025-2026 CONSTRUCTION (18-24 months), INCLUDES PROJECTED COSTS TO REPLACE THREE EXISTING STATIONS AND TO ADD TWO NEW STATIONS				\$92,714,600
OPTION 1. SEPARATE Public Safety Building and Station #1 AT LEE BEGOLE SITE: (per October presentation) Compare to Line one above at \$46,956,000				
NEW PSB (two-story at 29,000sf/floor)	58,000sf	2025-2026	\$650.00	\$37,700,000
NEW FS #1	18,942sf +/-	2025-2026	\$560.00	\$10,607,520
Subtotal:				\$48,307,520
Potential Increase				\$1,351,520
Plus: Owner timing and contingency@ 10%				\$131,500
Option 1. Total Potential Increase to Project Cost Projection				\$1,483,000
OPTION 2. BUILD A PSB BUILDING ON LEE BEGOLE SITE and a NEW STATION #1 AT EXISTING LOCATION & Note: Existing site is small and will require a two-story structure. Compare to Line one above at \$46,956,000				
NEW PSB	58,000sf	2025-2026	\$650.00	\$37,000,000
NEW FS #1	20,000sf +/-	2025-2026	\$560.00	\$11,200,000
(1,000sf added for 2-story)			Subtotal:	\$48,200,000
Potential Increase (not including Demo of Station 1)				\$1,244,444
Plus: Owner timing and contingency@ 10%				\$124,400
Option 2. Total Potential Increase to Project Cost Projection				\$1,368,400



Redstone Architects Inc.

SECTION B

RUN TIME ANALYSIS

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City of Novi Fire Study

Initial: 11/20/2023

Revised: 12/07/2023

B R ⓘ
Beckett&Raeder

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Data Used in the Study

- Calls from Jan. 2017 – Nov. 2023
- 28,612 total calls



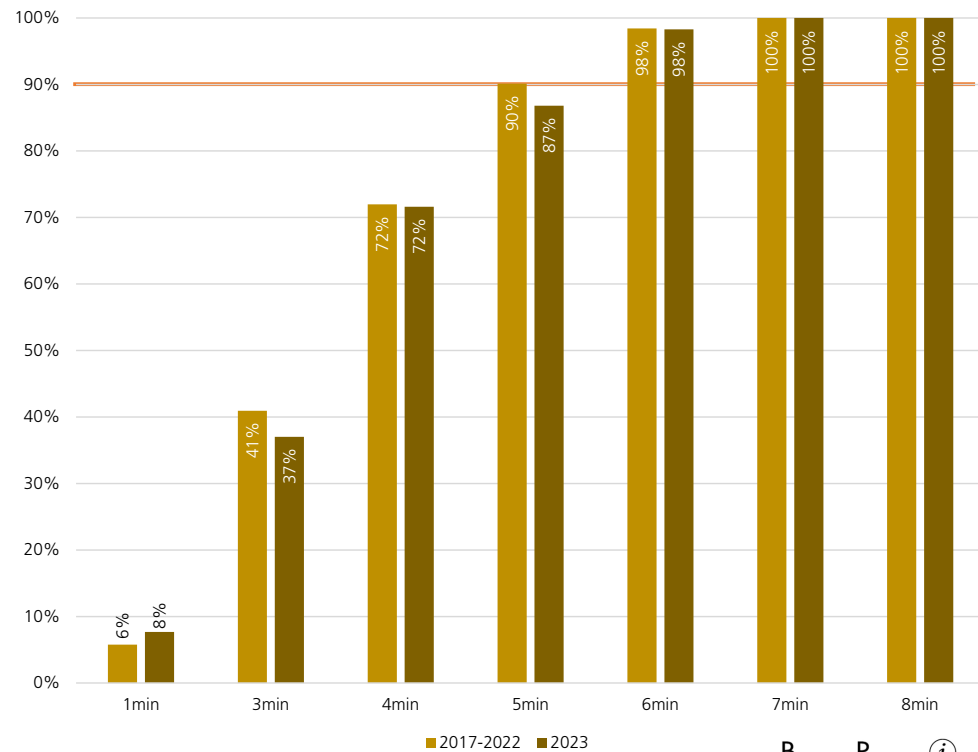
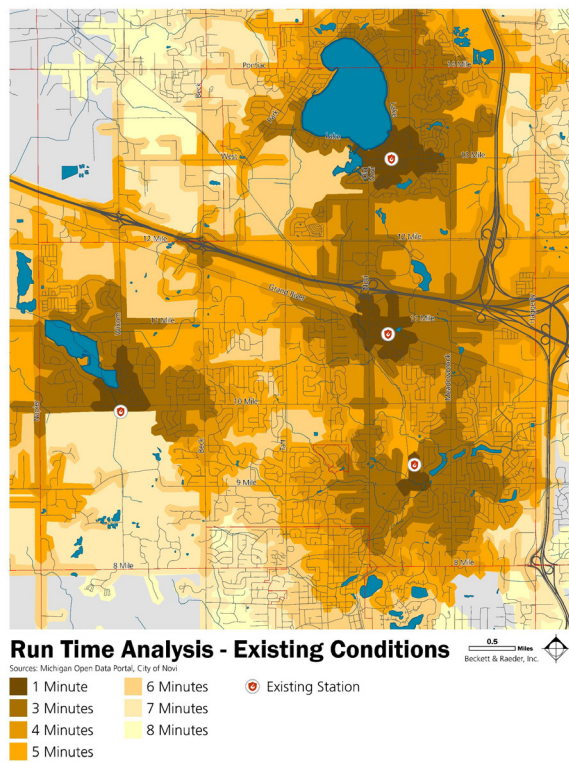
Variables

- 10mph over speed limit
- Ignore traffic lights and stop signs, but slow down at intersections
- Routes **allowed** outside City limits
- Freeway use **allowed**
- U-turns at intersections **allowed**
- Use of private roads **allowed**

Variables - Traffic

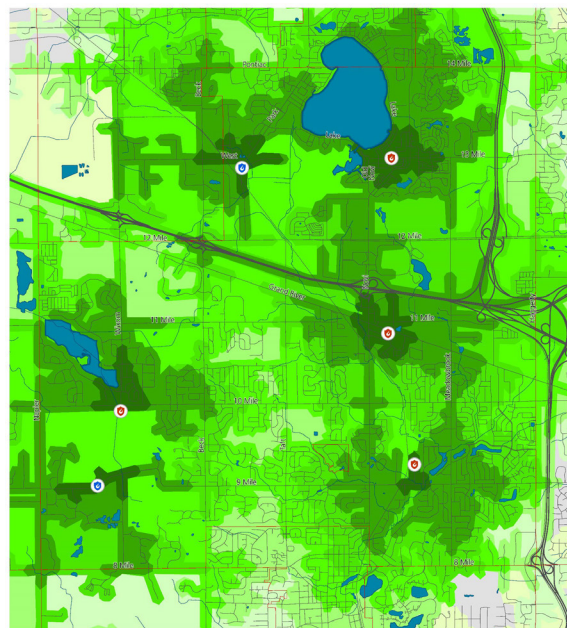
- Modeled at 1 time: Monday afternoon rush hour
 - Free Flowing: 85% - 100% flow speed
 - Moderate: 65% - 75% flow speed
 - Slow: 45% - 65% flow speed
 - Stop & Go: 0% - 45% flow speed
- [ESRI World Traffic Service](#) (HERE.com)
 - GPS, cell phone, user sensor, toll-tag data

Existing Conditions



Scenario 1

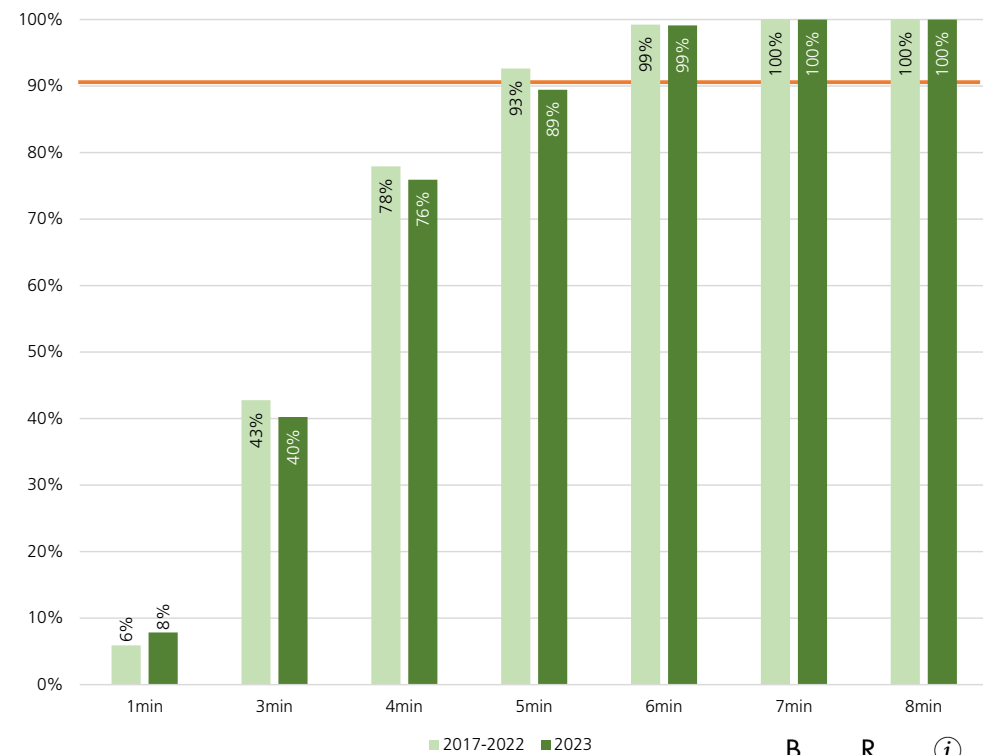
- All 4 Existing Stations
- Two Proposed New Stations – Nine Mile & Garfield Road; West Park & West Road



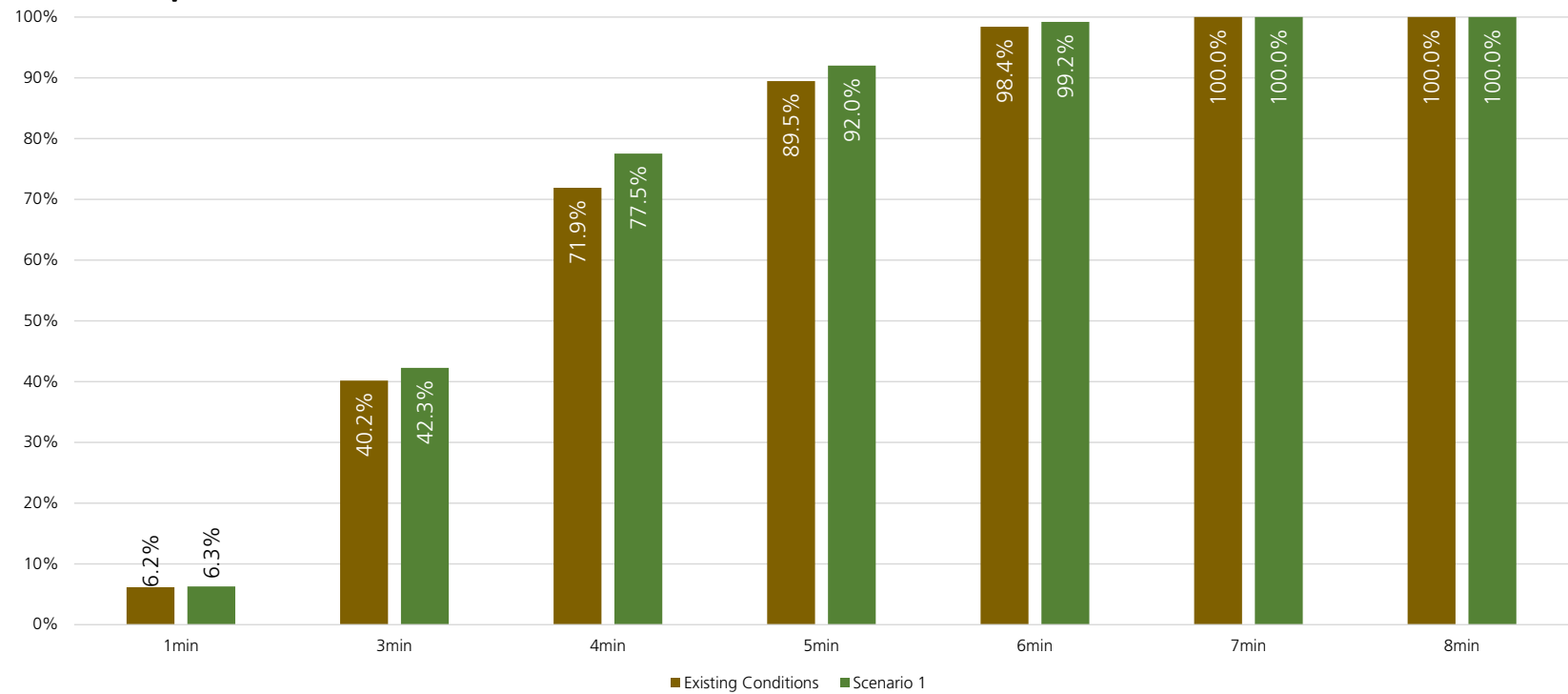
Run Time Analysis - Scenario 1

Sources: Michigan Open Data Portal, City of Novi
 Beckett & Raeder, Inc.

1 Minute
 3 Minutes
 4 Minutes
 5 Minutes
 6 Minutes
 7 Minutes
 8 Minutes
 Existing Station
 Proposed Station



Comparison





Redstone Architects Inc.

SECTION D

COST PROJECTIONS



Quote: 1334 / Date: 12/7/2023
Project Number: PC-22013

O'Brien Construction Company, Inc
966 Livernois
Troy, MI
48083, US
(248) 334-2470

Prepared By:
Mike Brown
(248) 334-2470
mbrown@obriencc.com

Project: Novi Police & Fire

Scope of Work

Public Safety Building: No bonds, permits, tap fees, utility fees, or other municipal fees are included. No communications tower is included in this estimate. All pricing is based on OCC's historical pricing and provided conceptual drawings and is subject to change as the design is further developed.

01-000 - General Requirements

	Quantity	Unit Cost	Total Cost
01-302 General Liability	1 ea	\$ 125,000.00	\$ 125,000.00
01-500 Quality Testing	1 ea	\$ 25,000.00	\$ 25,000.00
01-600 Temporary Services	1 ea	\$ 95,000.00	\$ 95,000.00
01-816 Site Layout	1 ea	\$ 25,000.00	\$ 25,000.00
01-914 Dumpsters	82 ea	\$ 550.00	\$ 45,100.00
	--	--	\$ 315,100.00

03-000 - Concrete

	Quantity	Unit Cost	Total Cost
03-300 Concrete Foundations	2,200 ea	\$ 250.00	\$ 550,000.00
03-310 Concrete Slabs On Grade SD	38,300 ea	\$ 9.50	\$ 363,850.00
03-310 Concrete Slabs On Grade HD	10,300 ea	\$ 12.50	\$ 128,750.00
03-310 Concrete Slabs On Deck	23,700 ea	\$ 12.50	\$ 296,250.00
	--	--	\$ 1,338,850.00

04-000 - Masonry

	Quantity	Unit Cost	Total Cost
04-544 CMU Walls	32,400 ea	\$ 38.00	\$ 1,231,200.00

	Quantity	Unit Cost	Total Cost
04-520 Brick Veneer	23,800 ea	\$ 28.00	\$ 666,400.00
	--	--	\$ 1,897,600.00

05-000 - Metals

	Quantity	Unit Cost	Total Cost
05-510 Metal Stairs	3 ea	\$ 35,000.00	\$ 105,000.00
05-200 Structural Steel	23,700 ea	\$ 40.00	\$ 948,000.00
05-400 Cold Formed Metal Framing	48,600 ea	\$ 35.00	\$ 1,701,000.00
	--	--	\$ 2,754,000.00

06-000 - Carpentry

	Quantity	Unit Cost	Total Cost
01-922 Final Clean-Up	72,300 ea	\$ 1.25	\$ 90,375.00
06-200 Rough Carpentry Material - Misc. Allowance	72,300 ea	\$ 1.50	\$ 108,450.00
06-204 Rough Carpentry Labor - Misc. Allowance	72,300 ea	\$ 1.50	\$ 108,450.00
06-450 Finish Carpentry Material	62,000 ea	\$ 2.50	\$ 155,000.00
06-460 Finish Carpentry Labor	72,300 ea	\$ 4.00	\$ 289,200.00
	--	--	\$ 751,475.00

07-000 - Thermal & Moisture Protection

	Quantity	Unit Cost	Total Cost
07-200 Waterproofing	2 ea	\$ 10,500.00	\$ 21,000.00
07-210 Insulation	72,300 ea	\$ 3.50	\$ 253,050.00
07-500 Pitched Roofing	326 ea	\$ 1,200.00	\$ 391,200.00
07-500 Flat Membrane Roofing	23,700 ea	\$ 24.00	\$ 568,800.00
07-800 Fire Proofing and Fire Safing	23,700 ea	\$ 1.50	\$ 35,550.00
07-900 Caulking and Sealants	72,300 ea	\$ 1.50	\$ 108,450.00
	--	--	\$ 1,378,050.00

08-000 - Openings

	Quantity	Unit Cost	Total Cost
08-200 Doors, Frames, Hardware Allowance	1 ea	\$ 315,000.00	\$ 315,000.00
08-310 Access Doors and Panels Allowance	1 ea	\$ 5,000.00	\$ 5,000.00
08-330 Apparatus Bay Doors	10 ea	\$ 25,000.00	\$ 250,000.00
08-330 Sally Port & Forensic Garage Overhead Doors	5 ea	\$ 7,500.00	\$ 37,500.00
08-400 Aluminum Storefronts	850 ea	\$ 50.00	\$ 42,500.00

	Quantity	Unit Cost	Total Cost
08-400 Aluminum Storefronts - Door Slabs & Hardware	6 ea	\$ 6,000.00	\$ 36,000.00
08-500 Windows Allowance	1 ea	\$ 250,000.00	\$ 250,000.00
08-116 Detention Equipment Allowance	1 ea	\$ 575,000.00	\$ 575,000.00
	--	--	\$ 1,511,000.00

09-000 - Finishes

	Quantity	Unit Cost	Total Cost
09-200 Gypsum Board Assemblies - Partitions & Drywall	30,000 ea	\$ 34.00	\$ 1,020,000.00
09-200 Gypsum Board Assemblies - Furring & Drywall	17,900 ea	\$ 5.00	\$ 89,500.00
09-200 Gypsum Board Assemblies - Ceilings	72,300 ea	\$ 4.00	\$ 289,200.00
09-300 Hard Tile - Floors	730 ea	\$ 18.00	\$ 13,140.00
09-300 Hard Tile - Walls	900 ea	\$ 22.00	\$ 19,800.00
09-510 Acoustical Ceiling Tile	36,400 ea	\$ 5.50	\$ 200,200.00
09-650 Resilient Flooring	62,000 ea	\$ 6.00	\$ 372,000.00
09-670 Epoxy Flooring	10,300 ea	\$ 9.00	\$ 92,700.00
09-900 Painting, Staining and Finishing	72,300 ea	\$ 5.00	\$ 361,500.00
	--	--	\$ 2,458,040.00

10-000 - Specialties

	Quantity	Unit Cost	Total Cost
10-202 Signage	1 ea	\$ 25,000.00	\$ 25,000.00
10-210 Toilet Partitions Allowance	1 ea	\$ 6,500.00	\$ 6,500.00
10-280 Toilet and Bath Accessories	12 ea	\$ 650.00	\$ 7,800.00
10-440 Fire Protection Specialties	25 ea	\$ 400.00	\$ 10,000.00
10-510 Lockers and Benches - Allowance	1 ea	\$ 25,000.00	\$ 25,000.00
10-550 Postal Specialties	1 ea	\$ 2,000.00	\$ 2,000.00
10-560 Closet and Storage Shelving	1 ea	\$ 3,500.00	\$ 3,500.00
10-750 Flagpoles	3 ea	\$ 3,000.00	\$ 9,000.00
	--	--	\$ 88,800.00

11-000 - Appliances

	Quantity	Unit Cost	Total Cost
11-300 Laundry Equipment	1 ea	\$ 20,000.00	\$ 20,000.00
11-310 Appliances	1 ea	\$ 25,000.00	\$ 25,000.00
	--	--	\$ 45,000.00



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12-000 - Furnishings

	Quantity	Unit Cost	Total Cost
12-210 Window Treatments Allowance	1 ea	\$ 25,000.00	\$ 25,000.00
12-300 Casework/ Cabinets	5 ea	\$ 4,000.00	\$ 20,000.00
12-360 Countertops	5 ea	\$ 3,000.00	\$ 15,000.00
	--	--	\$ 60,000.00

14-000 - Elevators

	Quantity	Unit Cost	Total Cost
14-240 Elevators and Escalators	4 ea	\$ 38,000.00	\$ 152,000.00
14-240 Elevators and Escalators - Inspection Allowance	2 ea	\$ 15,000.00	\$ 30,000.00
	--	--	\$ 182,000.00

21-000 - Fire Suppression

	Quantity	Unit Cost	Total Cost
21-200 Fire Protection	72,300 ea	\$ 6.00	\$ 433,800.00
	--	--	\$ 433,800.00

22-000 - Plumbing

	Quantity	Unit Cost	Total Cost
22-200 Plumbing	72,300 ea	\$ 13.50	\$ 976,050.00
	--	--	\$ 976,050.00

23-000 - HVAC

	Quantity	Unit Cost	Total Cost
23-200 HVAC	72,300 ea	\$ 25.00	\$ 1,807,500.00
	--	--	\$ 1,807,500.00

26-000 - Electrical

	Quantity	Unit Cost	Total Cost
26-200 Electrical	72,300 ea	\$ 28.00	\$ 2,024,400.00
26-200 Electrical - Generator Allowance	1 ea	\$ 150,000.00	\$ 150,000.00
	--	--	\$ 2,174,400.00

27-000 - Communications

	Quantity	Unit Cost	Total Cost
27-200 Communications	72,300 ea	\$ 4.00	\$ 289,200.00

	Quantity	Unit Cost	Total Cost
	--	--	\$ 289,200.00

28-000 - Security

	Quantity	Unit Cost	Total Cost
28-200 Access Control	72,300 ea	\$ 2.00	\$ 144,600.00
28-400 Video Surveillance	72,300 ea	\$ 2.50	\$ 180,750.00
	--	--	\$ 325,350.00

31-000 - Earthwork & Utilities

	Quantity	Unit Cost	Total Cost
31-200 Earthwork	8.1 ea	\$ 200,000.00	\$ 1,620,000.00
31-200 Earthwork - Bad Soils & Wetland Allowance	1 ea	\$ 500,000.00	\$ 500,000.00
	--	--	\$ 2,120,000.00

32-000 - Exterior Improvements

	Quantity	Unit Cost	Total Cost
32-200 Asphalt Paving	95,000 ea	\$ 5.50	\$ 522,500.00
32-230 Concrete Pavement(Drives and Walks) - Std Duty	42,300 ea	\$ 8.50	\$ 359,550.00
32-230 Concrete Pavement(Drives and Walks) - Heavy Duty	30,100 ea	\$ 12.50	\$ 376,250.00
32-300 Fences and Gates	1,500 ea	\$ 50.00	\$ 75,000.00
32-300 Fences and Gates - Vehicle Gates w/Operators	2 ea	\$ 20,000.00	\$ 40,000.00
32-800 Irrigation	1 ea	\$ 80,000.00	\$ 80,000.00
32-930 Landscaping	1 ea	\$ 190,000.00	\$ 190,000.00
	--	--	\$ 1,643,300.00

33-000 - Utilites

	Quantity	Unit Cost	Total Cost
33-200 Site Utilities	8.1 ea	\$ 175,000.00	\$ 1,417,500.00
	--	--	\$ 1,417,500.00

90-000 - Contingency & General Conditions

	Quantity	Unit Cost	Total Cost
90-125 Design Contingency	0.1 ea	\$ 23,967,015.00	\$ 2,396,701.50
90-125 Construction Contingency	0.1 ea	\$ 26,363,716.50	\$ 2,636,371.65
90-700 - General Conditions	0.06 ea	\$ 29,000,088.15	\$ 1,740,005.29



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	Quantity	Unit Cost	Total Cost
	--	--	\$ 6,773,078.44

Notes

Summary

Subtotal	\$ 30,740,093.44
Fee (6%)	\$ 1,844,405.61

\$ 32,584,499.05

Accepted By

Date

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Redstone Architects Inc.

SECTION E

SPACE NEEDS ASSESSMENT PUBLIC SAFETY BUILDING FIRE STATION #1 FIRE STATION #2 & #3

Department or Space Type						Current Staff	Future Staff	Req'd Sq. Ft.
1. Public Areas						0	0	6,817
2. Staff Common Areas						0	0	7,391
3. Police Administration- Including Fire						9	10	3,884
4. Records						5	6	1,851
5. Communications						15	17	2,203
6. Detective Bureau (Plus Task Force members- 16)						19	23	5,981
7. Uniform Operations - Including Cadets						63	75	4,954
8. Holding						0	0	6,330
9. Property						0	0	3,610
10. Training						1	1	193
12. Building Support Areas						0	0	3,540
13. Secure Parking						0	0	0
Total						112	132	
Subtotal								46,753
15% Gross-Up Factor (Common circulation, structure, shafts, etc.)								
(Use additional 5% Gross-Up Factor for Renovation)								7013
Total Main Building Area								53766
11. Fleet Maintenance Garage						1	2	5,563
15% Gross-Up Factor (Common circulation, structure, shafts, etc.)								
(Use additional 5% Gross-Up Factor for Renovation)								834
Total Maintenance Building								6,398

Space	Description	Staff		Space Needs			Req'd Net	Comments / *Adjacencies
		Current	Planned	Qty	Size	Reference Pg #	Sq. Ft.	
1. Public Areas								
Public Vestibule & Lobby SHARED	Vestibule			1	100		100	Locked & Buzz in after hours
	Floor Mat							
	BabyDrop-off	x		1	20		20	
	Intercom / Buzzer	x						
	After Hrs. 911 Phone	x						
	Lobby			1	800		800	
	2nd floor lobby			1	200		200	
	Waiting Area	x					0	
	Report Writing Counter/ Kiosk	x		1	10		10	
	Chairs	5		5	5		25	
	Display area/ bulletins	x					0	
	Brochure Rack	x					0	
	Drinking Fountain	x					0	
	Overhead Monitors	x					0	
	Subtotal:						1,155	
Front Desk SHARED	<u>PD Dispatch Public Counter:</u>						0	*Public Lobby
	Linear ft. Public Counter (3)			1	12		12	*Records
	ADA Counter Linear ft. (3)			1	12		12	
	<u>PD Records Public Counter: Separate</u>							
	Linear ft. Public Counter (3)	1 ADA		2	40		80	Two Windows for Records Counter; Separate from Police Window; like Livonia Lobby
	<u>FD Public Counter:</u>						0	
	Linear ft. Public Counter (3)			1	12		12	Might be combined with PD Front Desk; depends on layout
							0	
		Subtotal:						116

Public Report Writing Room(s)	Report Writing Room (public side)				1	100		100	Public Side Room only; large enough to watch video arraignments
	Locate Room(s) on secure side				1	100		100	*Front Desk
	Built-in Table and Chairs							0	
	Live Scan in One				1	25		25	
	Subtotal:							225	
Communicating Stair-PUBLIC	Open Stairwell				1	400		400	CONNECT PUBLIC LOBBY ON BOTH FLOORS
	Subtotal:							400	200sf /floor
Community Room/Training/ EOC 100 if shared with Police and Fire; 75 if used by Public and PD only	Training Room				1	1,800	06.02a	1,800	*Lobby
	Movable room divider	no						0	*Public Toilets
	Coffee Bar	x						0	*Table/Chair Storage
								0	*Mat Storage
	Audio/Visual Closet	x						0	*Shared with public
	Seating:								
	w/tables	130						0	
	w/o tables							0	
	Equipment:								Existing Training Room @ PD ~ 52'x34'
	Overhead Projectors	x						0	
	Projector Screens	x						0	
	TV Monitors	x						0	
	Voice/Data Outlets:								
	Perimeter Walls							0	
	Floor Mounted							0	
	Subtotal:							1,800	
Alternate PSAP in Storm Shelter Area	Pre-function Area				1	200		200	Outside training room
								0	
	Subtotal:							200	
Alternate PSAP in Storm Shelter Area	EOC Kitchenette				1	200		200	*Training Room / Community Room
								0	
	Subtotal:							200	
Alternate PSAP in Storm Shelter Area	EOC PSAP Workstation				1	200		200	*Training Room / Community Room
								0	
								200	
	Subtotal:								

Space	Description		Staff		Space Needs			Req'd Net Sq. Ft.	Comments / *Adjacencies
			Current	Planned	Qty	Size	Reference Pg #		
	EOC Toilet				1	77		77	
								0	
	Subtotal:							77	
Breakout Rooms/ Conference Rooms	Conference Room	6-8			2	150	5.06	300	*Training / Community Room
								0	
								0	
	Subtotal:							300	
Public Toilet(s)	Public Unisex Toilet				4	77		308	
								0	
	Subtotal:							308	
Training Supplies Storage	Storage Room							0	
	Training Supplies							0	
	Subtotal:							0	
EMS Storage	Storage Room				1	200		200	
	Tables and Chairs							0	
								0	
	Subtotal:							200	
Equipment Storage	Storage Room				1	200		200	*Training Room / Community Room
	Stuff							0	
								0	
	Subtotal:							200	
CERT Storage	EMS Storage Room				1	100		100	*Training Room / Community Room
								0	
								0	
	Subtotal:							100	
Wellness Check Room	CERT Storage				2	100		200	
								0	
								0	
	Subtotal:							200	
Net Area								5,681	
20% Internal Circulation Factor								1136	
Subtotal: Public Areas			0	0				6,817	

Space	Description	Staff		Space Needs			Req'd Net Sq. Ft.	Comments / *Adjacencies	
		Current	Planned	Qty	Size	Reference pg #			
02. Staff Commons									
Staff Vestibule & Lobby	Vestibule			1	80		80		
	Floor Mat	x					0		
	Prox. Access Control						0		
	Mud Room			1	50		50		
	Staff Lobby			1	100		100		
	Staff Elevator	X					0	See Staff Support Areas	
	Open Stair	X					0	see below	
	Display Area	X					0	On Wall	
	Mailbox						0		
	Drinking Fountain						0		
		Subtotal:						230	
Communicating Stair-Police	Stairwell			1	400		400	OPEN STAIR TO CONNECT BOTH FLOORS	
		Subtotal:					400	200sf /floor	
Lunch Room / Hub	Lunch/Hub			1	500	7.01b	500	Hub-Zone Configuration with counter top seating	
	Kitchenette:						0		
	Refrigerator						0		
	Counter w/ sink						0		
	TV/Monitor						0		
	Vending Machines						0		
	Oven/Stove						0		
	Tables	4					0		
	Chairs	16-20					0		
	TV						0		
	Microwave						0		
		Subtotal:						500	

Space	Description		Staff		Space Needs			Req'd Net Sq. Ft.	Comments / *Adjacencies
			Current	Planned	Qty	Size	Reference pg #		
Staff Toilets	Unisex- Two per floor				7	77		539	
								0	
		Subtotal:						539	- One set per floor
Wellness Rooms/ Decompression	Quiet Room				2	100		200	
	Chair							0	
	Sofa							0	
	Fridge								
	Counter w/ sink								
								0	
		Subtotal:						200	
Exercise Room	Exercise Room				1	1,200	7.09a or b	1,200	Exposed or 12' Ceiling
SHARED	Universal Gym							0	Possible open to City Employees???
	Secure Storage							0	
	Athletic Flooring							0	
	Exercise Equipment							0	
	Exercise machines							0	
	Treadmills	6						0	
	Free weights							0	
		Subtotal:						1,200	
Open Locker Area	Locker Room							0	*Shower Room
MSP 5-6 10 CADETS	12x24x72 Lockers	5			5	5		25	*Exercise Room
VISITING /	24x24x72 Lockers	20			20	10		200	Includes Cadet Lockers
HOTELING	36x24x72 Lockers	3			0	15		0	
	Changing/Shower Rm	2			2	77		154	
	Separate Gear Bags							0	
		Subtotal:						379	

Space	Description		Staff		Space Needs			Req'd Net Sq. Ft.	Comments / *Adjacencies
			Current	Planned	Qty	Size	Reference pg #		
MEN'S LOCKER ROOM;	Mens Lockers	90			90	15		1,350	*Exercise Room
	36x24x72 Lockers								
	Toilets w/ ADA	4			4	15		60	
	Urinals	4			4	15		60	
	Lavatories	4			4	10		40	
	Showers	4			4	25		100	
	Battery Chargers	X						0	
	Bunk Room(s)							0	
	Separate Gear Bags							0	
	Subtotal:							1,610	
WOMEN'S LOCKER ROOM;	36x24x72 Lockers	30			30	15		450	*Exercise Room
	Toilets w/ ADA	3			3	15		45	
	Lavatories	3			3	19		57	
	Showers	3			3	25		75	
	Battery Chargers							0	
	Bunk Room(s)							0	
	Separate Gear Bags							0	
	Subtotal:							627	
Net Area								5,685	
30% Internal Circulation Factor								1706	
Subtotal: Staff Common Areas			0	0				7,391	

Space	Description		Staff		Space Needs			Req'd Net Sq. Ft.	Comments / *Adjacencies
			Current	Planned	Qty	Size	Reference pg #		
3. Public Safety Administration TO									
BE CENTRAL IN BUILDING									
Public Safety Director/Chief of Police	Private Office		1	1	1	500	3.01	500	*Executive Secretary
	Conf. Table Chairs	6-8						0	
	Guest Chairs	2						0	
	Sofa								
	Four-Shelf Bookcase							0	
	Two-Drawer File Cabinet							0	
		Subtotal:						500	
Assistant Chief of Police	Private Office		1	1	1	225	3.02	225	*Executive Secretary
	Sm. Conf. Table	4						0	*Admin. Conference Room
	Guest Chairs	2						0	
	Four-Shelf Bookcase							0	
	Two-Drawer File Cabinet							0	
		Subtotal:						225	
PD COMMANDERS	Private Office		2	2	2	180	3.03	360	*Executive Secretary
	Guest Chairs	2						0	
	Four-Shelf Bookcase							0	
	Two-Drawer File Cabinet							0	
		Subtotal:						360	
Administrative Assistant Area	Private Office								*File Room
	Open Office	1	1	2	2	48		96	included in this space
	Guest Chairs								*Chief of Police
	File Cabinet Area 4 x 3 high lateral files				4	6		24	
	Four-shelf bookcase							0	*Admin. Conference Room
	Two-drawer file							0	*Waiting Area/Entry
		Subtotal:						120	

Space	Description		Staff		Space Needs			Req'd Net Sq. Ft.	Comments / *Adjacencies
			Current	Planned	Qty	Size	Reference pg #		
BUDGET ANALYST	Private Office		1	1	1	180	3.03	180	located in Admin
	Guest Chairs							0	
	Four-Shelf bookcase							0	
	Two-drawer file							0	
	Desk w/ credenza							0	
	Subtotal:							180	
Fire Chief	Private Office		1	1	1	225	3.02	225	*Executive Secretary
	Sm. Conf. Table							0	*Admin. Conference Room
	Conf. Table Chairs							0	
	Guest Chairs							0	
	Four-Shelf Bookcase							0	
	Two-Drawer File Cabinet							0	
	Subtotal:							225	
Assistant Fire Chief	Private Office		1	1	1	180	3.03	180	*Executive Secretary
	Guest Chairs	2						0	
	Four-Shelf Bookcase							0	
	Two-Drawer File Cabinet							0	
	Subtotal:							180	
Fire Marshal	Private Office		1	1	1	180	3.03	180	
	Desk	1						0	*Clerical
	Plan Review Table	1						0	*Conference Room
	Guest chairs	2						0	
	Four-shelf bookcase							0	
	Two-drawer file cabinet							0	
								0	
	Subtotal:							180	

Space	Description		Staff		Space Needs			Req'd Net Sq. Ft.	Comments / *Adjacencies
			Current	Planned	Qty	Size	Reference pg #		
Emergency Management Coordinator	Private Office		1	1	1	180	3.03	180	*Executive Secretary
	Guest Chairs	2						0	
	Four-Shelf Bookcase							0	
	Two-Drawer File Cabinet							0	
		Subtotal:						180	
File Room (Police and Fire Together)	File Room				1	150		150	Administrative Ass't Area
	File Cabinets							0	
	Lateral							0	
	Vertical							0	
	Worktop							0	
		Subtotal:						150	

Space	Description		Staff		Space Needs			Req'd Net Sq. Ft.	Comments / *Adjacencies
			Current	Planned	Qty	Size	Reference pg #		
Work Room	Work Room				1	100		100	
	Open shelving							0	In Admin Staff area
	Floor Cabinet							0	
	Wall Cabinet							0	
	<u>Equipment:</u>								
	Copier/Scanner/Fax							0	
		Subtotal:						100	
AdminConference Rm.	Conference Room				1	504	5.02a	504	*Waiting Area/Entry
	Seating for	12						0	*Chief of Police
	Wet Bar								*Executive Secretary
	Hi -Tech- White Bd							0	*Unisex Toilet
		Subtotal:						504	
Admin. Waiting Area / Entry	Waiting Area				1	50		50	
	Guest chairs	4						0	
	Coffee table	1						0	
		Subtotal:						50	
Admin Coat closet	Closet				1	35		35	
		Subtotal:						35	
Admin Supply Closet	Closet				1	67		67	for Give aways
		Subtotal:						67	
Unisex Toilet	Visitor Toilet (ADA accessible)				1	56		56	
	Staff Toilet (ADA accessible)				1	56		56	
		Subtotal:						112	
Net Area								2,988	
30% Internal Circulation Factor								896	
Subtotal: Public Safety Administration			9	10				3,884	

Space	Description	Staff		Space Needs			Req'd Net	Comments / *Adjacencies
		Current	Planned	Qty	Size	Reference pg #	Sq. Ft.	
4. Records								
ADMIN. LT.	Private Office			1	180		180	*Records Clerk
	Desk w/ credenza						0	
	Guest Chairs						0	
	File Cabinets						0	
	Equipment:						0	
	Computer						0	
	Subtotal:						180	
Records Counter	Public Counter						0	*Public Lobby
	Linear feet	five ft.		0	0		0	*Records Clerks
	Position	2					0	TWO WINDOWS; ONE ADA
	Bullet Resistant						0	SEE PUBLIC AREAS
	Public						0	
	Equipment:							
	Computers						0	
	Shared						0	
	Cash safe						0	
	Subtotal:						0	
Records Clerks	workstations	5	6	6	64		384	*Public Lobby
	File						0	
	Equipment:							
	Computer						0	
	Printer						0	
	Subtotal:						384	

Space	Description	Staff		Space Needs			Req'd Net	Comments / *Adjacencies
		Current	Planned	Qty	Size	Reference pg #	Sq. Ft.	
Fingerprinting Room	Area			1	80		80	Close to records
	3 chairs and a machine						0	
	For ink Prints						0	
	On secure side of Public Lobby						0	
	Subtotal:						80	
System Administrator (IT Officer)	Private Office			1	130	03.05	130	PLEASE CONFIRM OFFICE LOCATION; Comm or Records
	Guest Chairs						0	
	Two-drawer file cabinet						0	
	Desk (lockable) w/ credenza						0	
	Work counter surface (for repairs)						0	
	Software storage						0	
	Equipment:						0	
	Computer						0	
	Subtotal:						130	
Work Area	Work Room			1	100		100	included in Clerks area
	Open Space						0	
	Equipment:						0	
	Multifunction Printer						0	
	Special Equipment Shredder						0	
	Subtotal:						100	
Office Supply Room	Supply Closet			1	100		100	included in clerks area
	Open Area						0	
	Subtotal:						100	

Space	Description	Staff		Space Needs			Req'd Net Sq. Ft.	Comments / *Adjacencies
		Current	Planned	Qty	Size	Reference pg #		
Active Files	Open Area			1	200		200	*Records Clerks two- high density units- 6' wide; currently about 12 4-drawers included in clerks area
	Space Saver Storage							
	System							
	File Cabinets							
	Fingerprint Cards							
	Gun Registration							
	Accident Reports							
	Warrants & add paperwork							
	Misc. Files							
	Subtotal:						200	
Archives (Records Vault)	Archives Room			1	250		250	high density storage
	File Cabinets							
	<u>Storage System:</u>							
	Manual							
	Subtotal:						250	
Net Area							1,424	
30% Internal Circulation Factor							427	
Subtotal: Records		5	6				1,851	

Space	Description		Staff		Space Needs			Net Sq. Ft.	Comments / *Adjacencies
			Current	Planned	Qty	Size	Reference pg #		
5. Communications (Dispatch) Primary									
Security Vestibule	Vestibule				1	50		50	
	Interlocking Doors							0	
	Subtotal:							50	
Communications Manager	Private Office	x	1	1	1	225	3.02	225	
	Workstation	x			0	0		0	
	Guest Chairs							0	
	Conference Table	x							
	File cabinet							0	
	Equipment:							0	
	Computer							0	
	Subtotal:							225	
Toilet Room (Unisex)	Toilet Room with Urinal				1	77	7.05b	77	*Communications Operations (but not direct into room)
								0	
	Subtotal:							77	
Communications Operations	Workstation		14	16	6	100	4.05a	600	
	Console	x						0	Xybex Workstations
	Raised Floor	yes						0	
	Common Reference Area	x							Center Lighting over each workstation so that each station is individually controlled
	Manual Kiosk (1 per 4 stations)				1	10		10	
	Backup Radio							0	
	Multifunction Printer	x			1	10		10	
	File Cabinets	x							
	Media / Monitor Wall	x							Back Lot; TV,Fire Responses, Etc
	Prisoner Monitoring Screens	x							
	Subtotal:							620	

Space	Description		Staff		Space Needs			Net Sq. Ft.	Comments / *Adjacencies
			Current	Planned	Qty	Size	Reference pg #		
Communications Break Room / Kitchen	Break Room				1	160	7.01d Similar	160	*Communications Operations
	TV Area							0	Possible Galley Kitchen
	<u>Kitchenette:</u>								
	Refrigerator	x						0	
	Counter w/ Sink	x						0	
	Range	x						0	
	Stove Top	x						0	
	Microwave	x						0	
	Dining Table	1						0	
	Dining Chairs	4						0	
	Vending Machine							0	
	Dishwasher							0	
	Subtotal:							160	
Private Locker Area	full length Lockers	20			1	150		150	12"- 18" wide for Coats: Changing in Toilet Rooms
	Subtotal:							150	
Lactation / Quiet Room	Room				1	100		100	
	Subtotal:							100	
Open Copier Area	Printer	x			1	100		100	
	Shredder	x						0	
	Office Supplies	x							supplies in cabinets
	Double Length File Cabinets	x							
	Mailboxes	20						0	
	Subtotal:							100	
(Server Room)	Server Room				1	150		150	- One central Server Room for entire building- Accessible but not a part of Communications Suite
	911 Communications Server							0	
	Computer/Keyboard work stand							0	They want separate server room 12'x12' for dispatch
	Subtotal:							150	
Net Area								1,632	
35% Internal Circulation Factor								571	
Subtotal: Communications (Dispatch)			15	17				2,203	

Space	Description		Staff		Space Needs			Net Req'd Sq. Ft.	Comments
			Current	Planned	Qty	Size	Reference Pg #		
6. Detective Bureau									
Detective Sergeant	Private Office		1	1	1	130		130	
	Guest chairs							0	
	Two-drawer file cabinet							0	
	Desk w/ credenza							0	
	Equipment:								
	Computer							0	
	Subtotal:							130	
Detectives	Private Office		8	12	10	130	3.06	1,300	Lockable desk drawer
	File Cabinets							0	
								0	
								0	
								0	
								0	
	Subtotal:							1,300	
SGT. Training and Standards	Private Office		1	1	1	130		130	Reports to Adm. Lt.
	Guest Chairs							0	
	Four-Shelf bookcase							0	
	Two-drawer file							0	
	Desk w/ credenza							0	
	Subtotal:							130	
School Resource Officers	Workstation	2	2	2	2	130		260	
	Equipment:								
	Computer							0	
	Printer							0	
	Subtotal:							260	

Space	Description		Staff		Space Needs			Net Req'd Sq. Ft.	Comments
			Current	Planned	Qty	Size	Reference Pg #		
Detectives Storage Room for DUTY BAGS	Storage Room				1	16		16	In the detective suite but not in the office.
	2x2x3deep	12						0	
	Subtotal:							16	
Juvenile Detective INCLUDED ABOVE	Room	1			0	0		0	included above
	Four-drawer file cabinet							0	
	<u>Equipment:</u>								
	Computer							0	
	Printer							0	
	Subtotal:							0	
Conference Room/TASK FORCE CASE ROOM	Conference Room				2	250	5.02b	500	
	Coat Closet						similar	0	
	Coffee Station							0	
	Storage Closet							0	
	Seating	10-12						0	
	Conference Table							0	
	Credenza							0	
	Flat Screen							0	
	White Board							0	
	<u>Equipment:</u>								
	Projector							0	
	Projection Screen							0	
	TV/DVD							0	
	Subtotal:							500	

Space	Description		Staff		Space Needs			Net Req'd Sq. Ft.	Comments
			Current	Planned	Qty	Size	Reference Pg #		
Work Area	Work Area				1	80		80	
	Floor Cabinets							0	
	Wall Cabinets							0	
	Coffee Station								
	Equipment:								
	C/S/F machine							0	
	Subtotal:							80	
Huddle Zone	Open area				1	100		100	
								0	
								0	
	Subtotal:							100	
SONIC/DEA(3)/ FBI HOTELING	Workstation		5	5	5	24		120	
	Guest Chairs							0	
	Four-Shelf bookcase							0	
	Two-drawer file							0	
	Desk w/ credenza							0	
	Subtotal:							120	
Secret Service Supervisor Offices	Private Office		2	2	2	130	03.06	260	
	Guest Chairs							0	
	Four-Shelf bookcase							0	
	Two-drawer file							0	
	Desk w/ credenza							0	
	Subtotal:							260	
TASK FORCE WORKSTATIONS	Workstation				16	48	04.04B	768	
	Work table							0	
	Work counter							0	
	Coat Closet							0	
	White Board							0	
	Subtotal:							768	
DIGITAL FORENSIC LAB- IT	Crime Lab Room				1	400		400	Anti-static carpet
	Work counter							0	
	Shelving storage							0	
	Subtotal:							400	

Space	Description		Staff		Space Needs			Net Req'd Sq. Ft.	Comments
			Current	Planned	Qty	Size	Reference Pg #		
Interview Suite (s) ADDED									
Interview Rooms	Interview Room	1			1	100		100	Controlled access from public lobby
	Interview Table	1						0	
	Interview Chairs	3						0	
	A/V Recording	x						0	
	Gun Lockers (located outside)	x						0	
	Sound-proof walls and ceiling	x						0	
	Subtotal:							100	
Soft Interview Room	Interview Room	1			1	120		120	*Waiting area
	Interview Table	x						0	
	Interview Chairs	3						0	
	Seat							0	
	Sofa	x						0	
	Coffee Table							0	
	TV							0	
	A/V Recording	x						0	
	Gun Lockers (located outside)	x						0	
	Sound proof walls and ceiling	x						0	
	Subtotal:							120	
Waiting Area	Waiting Area	1			1	80		80	
	chairs							0	
	Coffee Table							0	
	Subtotal:							80	
Visitor Toilet (Unisex)	Toilet (ADA Accessible)				1	66		66	
	Subtotal:							66	
Net Area								4,430	
35% Internal Circulation Factor-								1551	
Subtotal: Detective Bureau			19	23				5,981	

Space	Description		Staff		Space Needs			Req'd Net Sq. Ft.	Comments / *Adjacencies
			Current	Planned	Qty	Size	Reference pg #		
7. UNIFORM OPERATIONS									
Patrol Lieutenants A & B Shifts	Private Office		2	4	4	180	3.07a	720	
	File Cabinet						similar	0	
	Conference Area							0	
	Tables	1							
	Chairs	2							
	Closed Shelving								
	Equipment:								
	Computer							0	
	Printer								
	Stand Up Desks							0	
	Subtotal:							720	
Patrol Commander	Private Office		1	1	1	225	3.02	225	*Chief of Police
	Sm. Conf. Table							0	
	Conf. Table Chairs							0	
	Guest Chairs							0	
	Four-Shelf Bookcase							0	
	Two-Drawer File Cabinet							0	
	Desk w/ credenza							0	
		Subtotal:							225
Patrol Sergeants A & B	Road Patrol Area		8	8	1	500		500	8 workstations
	Workstations	8						0	shared desks
	Work Area							0	
	Shared Conference Table	x							
	Bookcase/shelves	x							
	File Cabinet	x						0	
	Subtotal:							500	
Patrol Officers	Road Patrol		40	50					Each to have document storage
		Subtotal:						0	
Police Cadets	Police Cadets		12	12					
		Subtotal:						0	
Duty Gear Bag Storage	Duty Gear Bag				8	6		48	for patrol sgts - in their office
		Subtotal:						48	
Juvenile Room	Room				1	100		100	Not Lockable
								0	Sight and sound seperated
									next to report writing
		Subtotal:						100	

Space	Description		Staff		Space Needs			Req'd Net Sq. Ft.	Comments / *Adjacencies
			Current	Planned	Qty	Size	Reference pg #		
Work Area / Office Supplies	Work Room				1	80		80	*Shift Lieutenant / Sergeant Offices
	Office Supplies							0	
	Secure Storage Closet							0	
	Floor Cabinets							0	
	Wall Cabinets							0	
	Cofee Bar							0	
								0	
	Subtotal:							80	
Mailboxes	Mailboxes 8.5x11x 3"				1	80		80	In each department area-not in any rooms
	Boxes							0	
	Work Counter							0	
	Location:								
	Central Open area							0	
	Secure Office area							0	
	Subtotal:							80	
Briefing Room	Briefing Room	10-15			1	500	6.04a similar	500	
	Counter surface w/ cabinets							0	
	Tables	x						0	
	Chairs	x						0	
	Desk/Lectern							0	
	Voice/Data/Power:								
	Perimeter Walls							0	
	Floor Mounted							0	
	Equipment:								
	A/V Cabinet							0	
	Full Electronics							0	
	Monitor							0	
	Flat screen for CAD session							0	
	White Board							0	
	Smart Board							0	
	Subtotal:							500	

Space	Description		Staff		Space Needs			Req'd Net Sq. Ft.	Comments / *Adjacencies
			Current	Planned	Qty	Size	Reference pg #		
Equipment Storage	Room				1	80		80	
	Shelving							0	
	Charging							0	
	Subtotal:							80	
SWAT READY ROOM	Room				1	274		274	near swat vehicle
	Open Lockers behind swipe door	12							
	Huddle Table								
	Changing Rooms	4						0	
								0	
								0	
	Subtotal:							274	
Patrol Storage/ Riot Gear					1	400		400	shelving: PV, AED, Flares,
								0	crowd control
	Subtotal:							400	
Report Writing Room	Report writing room				6	35		210	*Staff Lobby
	Carrels							0	*Briefing Room
	Computer Terminals							0	*Shift Lieutenant / Sgt Offices
	Docking Stations							0	
	Shared Printer				1	24		24	
	Desk							0	
	Work Surface				1	12		12	For evidence layout
	Bookshelves							0	
	Subtotal:							246	
Duty Gear Bags	Storage Room				9	12		108	Need space for duty gear and riot gear
	shelving	73						0	All sworn officers need cubbie
								0	
								0	
								0	
	Subtotal:							108	

Space	Description		Staff		Space Needs			Req'd Net Sq. Ft.	Comments / *Adjacencies
			Current	Planned	Qty	Size	Reference pg #		
Armory SMALL	Armory				1	150		150	Rifle rack
	Extra weapons (guns and rifles)							0	cabinet for hand guns
	Professional gun discharge box							0	tasers - extra
	Subtotal:							150	
Uniform Storage/ Quartermaster	Storage				1	100		100	
	Open Shleiving							0	
	Returned Uniforms							0	
	Returned Equipment							0	
	Subtotal:							100	
Kennel (two dogs now; four in future)	Kennel				1	100		100	One dog in dog run at time
	Dog Cages	2						0	
	training equipment/ suite								
	Air-conditioned space							0	
	Subtotal:							100	
K-9 Officer Storage/Dog Run	Kennel				1	100		100	Outdoor
								0	
	Air-conditioned space							0	
	Subtotal:							100	
Net Area								3,811	
30% Internal Circulation Factor								1143	
Subtotal: Road Patrol			63	75				4,954	

Space	Description		Staff		Space Needs			Net Sq. Ft.	Comments / *Adjacencies
			Current	Planned	Qty	Size	Reference pg #		
8. Holding & Sallyport									
Sallyport	Sallyport				1	2,000		2,000	prisoner van or abmulance
	Enclosed Space							0	
	Vehicles	4						0	
		Subtotal:						2,000	
Prisoner Intake Vestibule	Vestibule	1			1	80		80	* Sally Port
	Gun Lockers - Outside							0	* Prisoner processing area
	Gun Lockers - Inside							0	
	Interlocking Doors							0	
		Subtotal:						80	
Interrogation Rooms/Video Arrangement	Interrogation Room	1			1	80		80	
	Secure Table							0	
	Secure Stools							0	
		Subtotal:						80	

Space	Description		Staff		Space Needs			Net Sq. Ft.	Comments / *Adjacencies
			Current	Planned	Qty	Size	Reference pg #		
Prisoner Processing Area	Room				1	400		400	* Command Desk
	Pre-Processing holding tank							0	
	Toilet & Shower w/ privacy	x						0	
	Secure Counter	x						0	
	Secure Cuff Bench	4						0	
	Hose Bib	x						0	
	Floor Drain	x						0	
	Lockers 18x18	50							
	<u>Equipment:</u>								
	Log Book terminal (secure)	x						0	
	Live Scan palm/prints	x						0	
	Printer	3						0	
	Distress button	x						0	
	CLEMIS Camera (mug shots)							0	
	Subtotal:							400	
Strip Search/ Shower	Decon Shower				1	80		80	*off processing
								0	*next to Sally Port
	Subtotal:							80	
Internal Vestibule Man Trap	Vestibule				1	80		80	
	Part of internal circulation							0	
	Subtotal:							80	
Staff Toilet	Unisex Room				1	80		80	
	Subtotal:							80	
Holding Cells	Cells (1 ADA)				1	100		100	
	Single Occupancy	x			9	80		720	
	8"H X 27"W Concrete Curb							0	
	Lavatory/Toilet Fixture	x						0	
	36" -40"H Sloping privacy wall	x						0	
	Floor Drain	x						0	
	Subtotal:							820	

Space	Description		Staff		Space Needs			Net Sq. Ft.	Comments / *Adjacencies
			Current	Planned	Qty	Size	Reference pg #		
Isolation Cell	Cell (ADA)	x			2	100		200	Note:
	Single Occupancy	x						0	For intoxicated / violent prisoners
	Padded Walls	x			2	80		160	
	8"H X 27"W Concrete Curb	x						0	
	Lavatory/Toilet Fixture	x						0	
	36" -40"H Sloping Privacy Wall	x						0	
	Floor Drain	x						0	
	Subtotal:							360	
Kitchen / Meal Preparation	Kitchen				1	100		100	fridge
	Pantry							0	chest freezer
	Kitchen:								
	Refrigerator/Freezer							0	
	Counter w/ sink							0	
	Microwave							0	
	Floor & Wall Cabinet							0	
	Subtotal:							100	
Janitor's Closet	Closet				1	60		60	
	Mop Sink							0	
	Floor Drain							0	
	Subtotal:							60	
Supplies Storage	Storage Room				1	80		80	
	Open shelving							0	
	Subtotal:							80	
Net Area								4,220	
50% Internal Circulation Factor								2110	
Subtotal: Holding & SallyPort			0	0				6,330	

Space	Description	Staff		Space Needs			Req'd Net Sq. Ft.	Comments / *Adjacencies
		Current	Planned	Qty	Size	Reference Pg #		
9. Property (under investigations)								
Evidence Preparation Area	Prep Area			1	200		200	
	Work Counter (bagging & tagging)						0	Needs counter space
	Sink w/ eyewash						0	
	Floor & Wall Cabinet						0	
	Equipment:							
	Computer						0	
	Printer						0	
	Video Monitoring						0	
	Subtotal:						200	
Evidence Two-way Lockers	Locker Space			3	36		108	* Evidence Prep Area
	3' Wide modular locker units						0	* Property Officer
	Compartment number & sizes						0	
	Long gun/rifle						0	
	Large Bulk item						0	
	Medium size						0	
	Small size						0	
	Refrigerated unit	No					0	
	Two-way lockers						0	
	Drop Box (for envelopes etc.)						0	
	Keyless access control						0	
	Subtotal:						108	
	Property Officer	Private Office			1	120		120
Workstation							0	
File Cabinets							0	*Evidence Processing
Equipment:								*Evidence Lockers
Computer							0	
Printer							0	
Subtotal:							120	

Space	Description		Staff		Space Needs			Req'd Net Sq. Ft.	Comments / *Adjacencies
			Current	Planned	Qty	Size	Reference Pg #		
Supplies Storage	Storage Room				1	80		80	*Evidence Processing
	Lockable Cabinets							0	
	Open Shelving							0	*Property Officer
	Evidence Supplies							0	
	Subtotal:							80	
Drying Room	Drying Room				1	100		100	*Property officer used in evidence storage
	Drying Enclosure							0	
	Hose bib							0	
	Floor Drain (filtered separately)							0	
	Vented Separately							0	
	Subtotal:							100	
Evidence Storage Room	Storage Room				1	900		900	
	High Density Storage System	x						0	
	Weapon Storage				1	200		200	
	Wall Space							0	
	Cabinets							0	
	Drug Storage (room)	x			1	100		100	
	Cash Safe	x						0	
	Humidity-Control Refrigerator	x						0	
	Work Area (desk & Chair)							0	
	Open Isle Shelving							0	
	Return Lockers (for checking in/out evidence used in trial)							0	
	Vented Separately	x						0	
	Subtotal:							1,200	
Forensic Garage	Storage Room				1	700		700	
	Subtotal:							700	
Bulk Evidence Storage	Storage Room				1	500		500	
	Subtotal:							500	
Evidence Release	Evidence Release							0	Possible side door to release
	Subtotal:							0	
Net Area								3,008	
20% Internal Circulation Factor								602	
Subtotal: Property			0	0				3,610	

Space	Description		Staff		Space Needs			Net Sq. Ft.	Comments / *Adjacencies
			Current	Planned	Qty	Size	Reference Pg #		
10. Training									
Training Officer	Private Office		1	1	1	130	3.07a	130	*Training Room
	Workstations							0	
	Guest Chairs							0	*Police Administration
	File Cabinets							0	
	Equipment:								
	Computer							0	
		Subtotal:						130	
Training Files	File Room				0	0		0	Files in Administration Suite
	Cash Safe							0	
		Subtotal:						0	
Individual Training Study Carrels	Area for Carrels							0	*Training Officers
	Small Study Carrels for self-study	4			4	6		24	Could be near Dispatch or near Report Writing Area
		Subtotal:						24	
Net Area								154	
25% Internal Circulation Factor								39	
Subtotal: Training			1	1				193	

Space	Description	Staff		Space Needs			Net Sq. Ft.	Comments / *Adjacencies
		Current	Planned	Qty	Size	Reference Pg #		
11. Fleet Maintenance Garage								
Fleet Maintenance / Garage	Garage						0	*Evidence Storage Room
	Bays	5		6	600		3,600	*Evidence Processing Area
	Vehicle lift system	x					0	
	Air-conditioned Space						0	
	Electrical for welders and equipment	x					0	
	Air compressed air plumbed throughout shop	x					0	
	Tire air / balance	x						
	Hazmat cabinet - lockable	x						
	Plenty of LED lights	x					0	
	Oil Drum	x						
	Workbench for each bay	x						
	Tire Storage							
	Drums of cleaning juice							
	Clean air filter/dirty air evacuation system						0	
		Subtotal:						3,600
Toilet	Area			1	56		56	
	Subtotal:						56	

Space	Description		Staff		Space Needs			Net Sq. Ft.	Comments / *Adjacencies
			Current	Planned	Qty	Size	Reference Pg #		
Eye wash/shower	Area				1	10		10	
		Subtotal:						10	
Maintenance Office	Office		1	2	1	300		300	
		Subtotal:						300	
Parts Room					1	500		500	*Off of security Staff Parking
								0	
								0	
								0	
								0	
		Subtotal:						500	
Vehicle Storage									
SWAT Van									
Patrol Bikes EXISTING- IN GARAGE AREA	Area	10			10	15		150	Hang on Wall
		Subtotal:						150	
Motorcycles	Area	2			2	10		20	*Off of security Staff Parking
		Subtotal:						20	
Bulk Evidence Storage - Fence in Sally Port	Storage Room							0	*Off of security Staff Parking
	Large-item Property							0	
	Found property							0	
	Bicycles							0	
	Misc. Large items							0	
		Subtotal:						0	
Net Area								4,636	
20% Internal Circulation Factor								927	
Subtotal: Miscellaneous Spaces			1	2				5,563	

Space	Description		Staff		Space Needs			Req'd Net Sq. Ft.	Comments / *Adjacencies
			Current	Planned	Qty	Size	Reference Pg #		
12. Building Support Areas									
Public Elevator	Elevator Space				1	200		200	*Public Lobby
	Floor stops for public	x						0	*Controlled access
								0	
	Subtotal:							200	
Elevator Mech. Room	Room				1	100		100	*Elevator
	Subtotal:							100	
Staff Elevator	Elevator Space	x			1	200		200	*Public Lobby
	Floor stops for staff							0	*Controlled access
	Subtotal:							200	
Elevator Mech. Room	Room				1	100		100	*Elevator
	Subtotal:							100	
Mechanical Room	Room				1	500		500	for main building
	Subtotal:							500	
Electrical Room	Room				1	300		300	for main building
	Subtotal:							300	
Building Supply Storage	Room				1	150		150	
	Accessible Ceiling Space							0	
	Climate-Controlled							0	
	Open shelves							0	
	Subtotal:							150	

Space	Description		Staff		Space Needs			Req'd Net Sq. Ft.	Comments / *Adjacencies	
			Current	Planned	Qty	Size	Reference Pg #			
Event Storage Room	Room				1	100		100	Out of sight	
	Accessible Ceiling Space							0		
	Climate-Controlled							0		
	Open shelves							0		
	Subtotal:							100		
IT Closets	Room				2	100		200	Including low-voltage	
	Subtotal:							200	1 per floor	
Server Room	Room				0	250		0	See Communications	
	Workbench for IT Repairs								- One central Server Room for entire building-	
	Equipment:								Accessible but not a part of Communications Suite	
	Electronics							0		
	Radio							0		
	Computer Servers							0		
								0		
	Subtotal:							0		
Custodian's Storage	Storage Room				1	200		200	*Police Staff Lobby	
	Misc. Item Storage							0		
	Laundry tub									
	Double-door entryway							0		
	Subtotal:							200		

Space	Description		Staff		Space Needs			Req'd Net Sq. Ft.	Comments / *Adjacencies	
			Current	Planned	Qty	Size	Reference Pg #			
Janitor's Closet	Closet				2	50		100	*Toilets	
	Mop Sink							0	Note:	
	Floor Drain							0	1 per floor	
	Shelving for Supplies							0		
	Subtotal:							100		
Computer Maintenance Area	Area							0		
	Computer Maintenance							0		
	Subtotal:							0		
Fire Exit Stairs	Stairwell				2	400		800	Note: Min. No. of fire exit	
	Stairs and Basement								stairs required by code	
	Subtotal:							800		
Net Area								2,950		
20% Internal Circulation Factor								590		
Subtotal: Building Support Areas			0	0				3,540		

Redstone Architects, Inc.
Public Safety Consultant

Public Safety Building - NEW
BUILDING

Novi, MI
3709.00

Parking Requirements:		Spaces
Peak demand for secure parking		
Secure Impound parking needs		0
Other outdoor parkin		
Staff Parking		0
Trailer Parking (Inside)		
Trailer Parking (Outside)		
Public (Visitor) Parking		12
Total Spaces		0

Fire Station 1 Operations Building Area Calculations	Current Staff	Planned Staff	Area Required
1. Public Spaces	0	0	252
2. Fire Administration	1	1	387
3. Cold Zone Suppression Operations	1	1	675
4. Cold Zone Staff Commons	6	20	4,101
5. Warm Zone	0	0	2,431
6. Hot Zone Apparatus Bay (Four Bays)	0	0	8,084
7. Optional Mezzanine/Basement Area	0	0	0
8. Physical Training Tower	0	0	0
9. Building Support Area	0	0	540
Total	8	22	
Subtotal			16,472
15% Gross-Up Factor (Common circulation, structure, shafts, etc.) (Use additional 5% Gross-Up Factor for Renovation)			2,471
Total Station #1 Building Area			18,942

Space	Description		Staff		Space Needs			Net Sq. Ft.	Comments / *Adjacencies
			Current	Planned	Qty	Size	Reference Pg#		
1. Public Areas									
Public Vestibule & Lobby	Lobby				1	100		100	Locked and Buzz in after hours
								0	
	Subtotal:							100	
Front Counter	Counter				1	10		10	
	Subtotal:							10	
Public Unisex Toilet	Unisex toilet				1	77		77	
								0	
	Subtotal:							77	
Net Area								187	
35% Internal Circulation Factor								65	
Subtotal: Public Areas			0	0				252	

Space	Description		Staff		Space Needs			Net Sq. Ft.	Comments / *Adjacencies
			Current	Planned	Qty	Size	Reference Pg#		
2. Fire AdministrationWITH PUBLIC SAFETY ADMINSTRATON									
Fire Inspector	Private Office		1	1	1	130	03.06	130	
	Desk w/ credenza							0	
	Guest Chairs							0	
	Four-shelf bookcase							0	
	Two-drawer file cabinet							0	
	Subtotal:							130	
Work Area	Counter				1	80		80	
	Storage								
	Multifunction printer								
	Coffee Bar							0	
	Subtotal:							80	
Staff Unisex Toilet	Unisex Staff Toilet				1	77		77	
	ADA								
	w/ Urinal								
	Subtotal:							77	
Net Area								287	
35% Internal Circulation Factor								100	
Subtotal: Fire Administration			1	1				387	

Space	Description		Staff		Space Needs			Net Sq. Ft.	Comments / *Adjacencies
			Current	Planned	Qty	Size	Reference Pg #		
3.Cold Zone Suppression Operations									
Captain	Private Office		1	1	1	130		130	
	Sleep Room:				1	100		100	
	Bed							0	
	Locker 2' X 3' X 6'							0	
		Subtotal:						230	
Watch Desk	Office				1	270		270	*App Bay
	Report writing Carrels	4						0	*Day Room
	File Cabinets							0	
	Chairs	4							
	Radio Equipment							0	
		Subtotal:						270	
Net Area								500	
35% Internal Circulation Factor								175	
Subtotal: Cold Zone Suppression Operations			1	1				675	

Space	Description	Staff		Space Needs		Net Sq. Ft.	Comments / *Adjacencies	
		Current	Planned	Qty	Size			Reference Pg #
4.Cold Zone Spaces								
Staff Vestibule & Lobby	Vestibule			1	80		80	
	Lobby			1	100		100	
	Mud Room						0	
	Staff Elevator						0	
	Open Stair						0	
	Display Area						0	
	Mailbox						0	
	Drinking Fountain						0	
	Floor Mat						0	
	Prox. Access Control						0	
Subtotal:							180	
Station 1 firefighters			4	18				
Firefighters' Sleep Rooms	Private Room 6/shift; shared by two shifts			6	110		660	to accommodate up to 6/shift: Captain has own sleeproom
	POC		2	2				on duty; included in count above
	Bed						0	
	Subtotal:							660
Wellness Room	Private Room			1	120		120	
	Future Sleep Rms							
	Training area						0	
							0	
							0	
							0	
	Subtotal:							120
Fire Simulator Room	Dedicated Room			1	200		200	
	Driving Simulator							
	Subtotal:							200
Locker Alcove (additional lockers)	Locker Alcove			1	240		240	
	Locker 4'x2'x6'	10					0	
							0	
	Subtotal:							240

Space	Description		Staff		Space Needs			Net Sq. Ft.	Comments / *Adjacencies
			Current	Planned	Qty	Size	Reference Pg #		
Shower Rooms	Shower Room				3	77		231	Cold Zone
	Shower Room (ADA)							0	
	All to include:								
	Bench	x						0	*Locker Alcove
	Toilet	x						0	
	Sink	x						0	
	Shower	x						0	
	Subtotal:							231	
Day Room	Day Room							0	*Kitchen
	Chairs	8			1	250		250	*Dining Room
	Telephone							0	
	TV							0	
	Subtotal:							250	
Exercise Room	Exercise Room				1	500	07.09C	500	
	Subtotal:							500	
Kitchen	Kitchen				1	450		450	*Day Room
	Food Pantry	3						0	*Dining Room
	Cabinets							0	* Access to Patio
	Countertop w/ sink							0	Counter w/ stools in kitchen
	Commercial-grade Microwave	1						0	
	Commercial Range	1						0	6 burners
	Commercial Hood w/ fire suppression	1						0	
	Dishwasher	1						0	
	Commercial Freezer	1						0	
	Commercial Freezer	1							
	Commercial Refrigerator Double Door	1							
	Subtotal:							450	
Dining Room	Dining Room				1	250		250	*Kitchen
	Table - size of table							0	
	Chairs	10						0	
								0	
	Subtotal:							250	
Custodial Storage	Area				1	80		80	
	Metal shelves							0	
	Subtotal:							80	
Laundry Room	Room				1	120		120	Wash/Dry large enough for bedding

Space	Description		Staff		Space Needs			Net Sq. Ft.	Comments / *Adjacencies
			Current	Planned	Qty	Size	Reference Pg #		
	Residential Washer								
	Residential Dryer								
	Wash tub								
	Base Cabinets								
	Wall Cabinets							0	
		Subtotal:						120	
Net Area								3,281	
25% Internal Circulation Factor								820	
Subtotal: Cold Zone Staff			6	20				4,101	

Space	Description		Staff		Space Needs			Net Sq. Ft.	Comments / *Adjacencies
			Current	Planned	Qty	Size	Reference Pg #		
5. Warm Zone									
Personal Decon Room	Warm Zone Room				1	500		500	
	18" stackable lockers	25						0	
	Shower Rooms	2							
	Stackable Washer/ Dryer (contaminated clothes)	1							
	Toilet Room	2							
	Dry Decon Cabinet	2 person							
	Subtotal:							500	
Turn Out Gear Room	Gear Room				1	700		700	*Apparatus Bay
	Mesh Open Racks (3'x2')	40							*Decon Room
									2 sets of gear per Fire Fighter
								0	
		Subtotal:							700
Laundry and Equipment Decon	Positive pressure Room				1	400		400	*Apparatus Bay
	Stackable Residential Washer & Dryer (Rags)	x						0	
	Laundry Tub	x						0	
	Shelving (Soap and Cleaning Supplies)	x						0	
	Mop Sink	x						0	
	Wash/Extract (60lb)	x						0	
	3 Tub Sink (SS)	x							
	Eye Wash	x						0	
	Gear Dryer	x							
	Mask/Tank washer	x							
		Subtotal:							400
EMS Supplies/Storage Secure Storage	Area shelving				1	150		150	*Apparatus Bay
	Sink for future							0	
	Refrigerator small							0	
	Counter space							0	
		Subtotal:							150
Hot/Warm Zone Transition vestibule	Area				1	120		120	*Apparatus Bay
	Storage Space w/ Locking Fence							0	
	Sink for future							0	
								0	
	Subtotal:							120	
Net Area								1,870	
30% Internal Circulation Factor								561	
Subtotal: Staff Commons			0	0				2,431	

Space	Description		Staff		Space Needs			Net Sq. Ft.	Comments / *Adjacencies
			Current	Planned	Qty	Size	Reference Pg #		
6. Apparatus Bay (Hot Zone)									
Apparatus Bay (18'x65') Single deep (18'x80') double deep	Apparatus Bay	18x65			4	1,440	12.06 sim	5,760	4 Pull Through Bays @ Station 1
	14'x14' Bi-fold							0	4 fold in front and sectional in back
	Apparatus	Length							
	Engine 5	30' 8"			1			0	
	New Engine	34'							
	Tower 1								
	48'6"L x 12'11"W x 11'6"H	48' 6"			1			0	
	Squad 1	26'			1			0	
	519 Command	18'							
	MEP								
	Space Ventilation							0	
	Vehicle Exhaust Connection							0	
	2" Fill & Washing Connection							0	
	Compressed Air Lines over each bay							0	
	Hose Bibs & Reels							0	
	Oil Interceptor							0	
	Trench Drain							0	
	Infrared Linear Ceiling							0	
	Radiant Heat Floor								
	Radiant Heat Approach								
	Subtotal:						5,760		
Hose Drying and Storage	Area				1	120		120	*Apparatus Bay
	Dehumidification Room							0	
	Storage Racks for Hoses							0	
	Exhaust Fan							0	
	Hose Washer				1	120		120	
	Floor Drain							0	
	Subtotal:						240		

Space	Description	Staff		Space Needs			Net Sq. Ft.	Comments / *Adjacencies
		Current	Planned	Qty	Size	Reference Pg #		
Toilet	Unisex Toilet			1	77		77	*Apparatus Bay
							0	
	Subtotal:						77	
SCBA Maintenance	Clean Room			1	160		160	*Apparatus Bay
							0	
							0	
	Subtotal:						160	
SCBA Cascade Room	Room			1	200		200	*Apparatus Bay
	Oxygen Filling Station						0	
	Oxygen Bottles Storage						0	
	Air Bottles Storage						0	
	Explosion proof container						0	
	Subtotal:						200	
Parts/shop	Shop			1	300		300	*Apparatus Bay
	Station Compressor						0	
	Fire Cabinet						0	
	Subtotal:						300	
Net Area							6,737	
20% Internal Circulation Factor							1347	
Subtotal: Apparatus Bay		0	0				8,084	

Space	Description		Staff		Space Needs			Net Sq. Ft.	Comments / *Adjacencies
			Current	Planned	Qty	Size	Reference Pg #		
7. Optional Mezzanine Area									
Mezzanine Area								0	*Apparatus Bay
	Subtotal:							0	See picture
Net Areas								0	
Circulation Factor								0	
Subtotal: Optional Mezzanine/Basement Area			0	0				0	

Space	Description	Staff		Space Needs			Net Sq. Ft.	Comments / *Adjacencies
		Current	Planned	Qty	Size	Reference Pg #		
8. Physical Training Tower								
Training Tower	Optional						0	Separate Facility
	Subtotal:						0	
Live Burn Tower	Optional						0	Separate Facility
							0	
	Subtotal:							
Net Areas							0	
25% Internal Circulation Factor							0	
Subtotal: Physical Training Tower		0	0				0	

Space	Description	Staff		Space Needs			Net Sq. Ft.	Comments / *Adjacencies
		Current	Planned	Qty	Size	Reference Pg #		
9. Building Support Areas								
Mechanical Room	Room			1			250	
	Subtotal:						250	
Electrical/Server Room	Room			1			200	
	Subtotal:						200	
Net Area							450	
20% Internal Circulation Factor							90	
Subtotal: Building Support Areas		0	0				540	

Parking Requirements:		Spaces
Other outdoor parking		
Staff Parking		20
Public (Visitor) Parking		none
Total Spaces		20

Building Area Calculations	Current Staff	Planned Staff	Area Required
1. Public Spaces	0	0	270
3. CZ- Suppression Operations	1	1	702
4. CZ- Living	10	10	3,696
5. Warm Zone	0	0	1,924
6. Apparatus Bay (Hot Zone)	0	0	5,396
7. Building Support Area	0	0	696
Total	11	11	
Subtotal			12,685
15% Gross-Up Factor (Common circulation, structure, shafts, etc.) (Use additional 5% Gross-Up Factor for Renovation)			1,903
Total Main Building Area			14,587

Space	Description		Staff		Space Needs			Net Sq. Ft.	Comments / *Adjacencies
			Current	Planned	Qty	Size	Reference Pg#		
1. Public Areas									
Public Vestibule & Lobby	Vestibule				1	100		100	
	Lobby				1	100		100	baby can be dropped off in drop off in Lobbyly
	Subtotal:							200	
Front Window (no counter)	Counter							0	Window to Command Desk (sim to existing Station 2)
	Subtotal:							0	
Blood Draw/Pressure Check	Area in Lobby				1				
	Subtotal:							0	
Net Area								200	
35% Internal Circulation Factor								70	
Subtotal: Public Areas			0	0				270	

Space	Description		Staff		Space Needs			Net Sq. Ft.	Comments / *Adjacencies
			Current	Planned	Qty	Size	Reference Pg #		
3. CZ- Suppression Operations									
Lieutenant (Station 2 only)	Private Office		1	1	1	130	03.06	130	
	Sleep Room:				1	100	*sim 07.07	100	
	Bed							0	
	Locker 2' X 3' X 6'							0	
	Equipment:								
	Computer							0	
	Multifunction printer							0	
		Subtotal:						230	
Watch Desk (Window to Lobby)	Office				1	270		270	
	Carrels	2			2	10		20	reports
	computer	2						0	
	Radio Equipment								
		1						0	
		Subtotal:						290	
Net Area								520	
35% Internal Circulation Factor								182	
Subtotal: Cold Zone Suppression Operations			1	1				702	

Space	Description		Staff		Space Needs			Net Sq. Ft.	Comments / *Adjacencies
			Current	Planned	Qty	Size	Reference Pg #		
4. C Z - Living									
Firefighers' Sleep Rooms	Private Room		10	10	4	120	7.10	480	2 FT and 2 POC
	Bed							0	
	Lockers							0	
	Linen Storage							0	
								0	
		Subtotal:						480	
Wellness Room	Private Room				1	100		100	
	Future Sleep Rms								
	Bed							0	
	Lockers							0	
	Linen Storage							0	
								0	
	Subtotal:						100		
Locker Alcove	Locker Alcove				1	50		50	10 at 2
	4'x2'x6'	10						0	8 at 3
		Subtotal:						50	
Superior EMS Sleep + Shower Rooms	Private Room				2	100	7.10	200	
	Future Sleep Rms								
	Bed							0	
	Lockers							0	
	Linen Storage							0	
	Shower Room				1	100	7.07a	100	
	Subtotal:						300		
Firefighter Shower Rooms	Shower Room				2	100	7.07.b	200	*Apparatus Bay
	Shower Room (ADA)							0	
	All to include:								
	Bench							0	*Locker Alcove
	Toilet							0	
	Sink							0	
	Shower							0	
		Subtotal:						200	

Space	Description		Staff		Space Needs			Net Sq. Ft.	Comments / *Adjacencies
			Current	Planned	Qty	Size	Reference Pg #		
Toilet	Toilet Room				1	77	7.05b	77	*Apparatus Bay
	Urinal							0	
	Toilet								
	Sink							0	*Locker Alcove
								0	
	Subtotal:							77	
Day Room	Day Room				1	250		250	*Kitchen
	Study Chairs	6						0	*Dining Room
	Telephone							0	
	TV							0	
	Subtotal:							250	
Exercise Room	Exercise Room				1	500	7.09c	500	
	Weight Rack								
	Dumbbell Rack								
	Treadmill	1							
	Elliptical	1							
	TRX Equipment	1							
	Mirrors	1							
	Sound Walls/Floor								
	Monitors/TV								
	Bluetooth speakers								
	Stair Master	1							
	Subtotal:							500	
Kitchen	Kitchen				1	400		400	*Day Room
	Walk-in Food Pantry	3						0	*Dining Room
	Cabinets							0	* Access to Patio
	Countertop w/ sink							0	Counter w/ stools in kitchen
	Refrigerators	2						0	One Supreior, One Fire
	Commercial-grade Microwave	1						0	
	Commercial Range	1						0	
	Commercial Hood w/ fire suppression	1						0	
	Dishwasher	1						0	
	Commercial Freezer	1						0	
	Subtotal:							400	

Space	Description		Staff		Space Needs			Net Sq. Ft.	Comments / *Adjacencies
			Current	Planned	Qty	Size	Reference Pg #		
Dining Room	Dining Room				1	250		250	*Kitchen
	Table - size of table	10-12						0	
	Chairs							0	
								0	
	Subtotal:							250	
Custodial Storage	Area				1	80		80	
	Metal shelves							0	
	Subtotal:							80	
Small Training / Reading Room	Table for 6				1	150	05.03	150	
	computer stations	2						0	
	Book Case/Library								
								0	
	Subtotal:							150	
Laundry Room	Room				1	120		120	Wash/Dry large enough for bedding
	Residential Washer								
	Residential Dryer								
	Wash tub								
	Base Cabinets								
	Wall Cabinets							0	
	Subtotal:							120	
Net Area								2,957	
25% Internal Circulation Factor								739	
Subtotal: Cold Zone Staff			10	10				3,696	

Space	Description	Staff		Space Needs			Net Sq. Ft.	Comments / *Adjacencies
		Current	Planned	Qty	Size	Reference Pg #		
5. Warm Zone								
Personal Decon Room	Warm Zone Room			1	300		300	
	18" stackable lockers	20					0	
	Shower Rooms	2						
	Stackable Washer/ Dryer (contaminated clothes)	1						
	Toilet Room	2						
	Dry Decon	2 person						
		Subtotal:						300
Turn Out Gear Room	Gear Room			1	470		470	*Apparatus Bay
	Mesh Open Racks (2'x3')	30						*Decon Room
								2 sets of gear per Fire Fighter
								Doubles as storm shelter
							0	Separate Vent & Supply
	Subtotal:						470	
Laundry and Equipment Decon	Positive pressure Room			1	350		350	*Apparatus Bay
	Commercial Stackable Washer & Dryer (Rags)	1					0	
	Laundry Tub	1					0	
	Shelving (Soap and Cleaning Supplies)	1					0	
	Mop Sink	1					0	
	Wash/Extract (60lb)	1					0	
	3 Tub Sink (SS)	1						
	Eye Wash	1					0	
	Gear Dryer	1						
	Mask/Tank washer	1						
	Subtotal:						350	
EMS Supplies/Storage Secure Storage	Area			2	120		240	*Apparatus Bay
	Sink for future storage shelves						0	One for Superior one for FF
							0	
		Subtotal:					240	
Hot/Warm Zone Transition vestibule	Area			1	120		120	*Apparatus Bay
							0	one per entry
							0	
		Subtotal:					120	
Net Area							1,480	
30% Internal Circulation Factor							444	
Subtotal: Staff Commons		0	0				1,924	

Space	Description		Staff		Space Needs			Net Sq. Ft.	Comments / *Adjacencies
			Current	Planned	Qty	Size	Reference Pg #		
6. Apparatus Bay (Hot Zone)									
Apparatus Bay (18'x65') Single deep (18'x80') double deep	Apparatus Bay		18x65		1	3,800	12	3,800	Station #2 three bay pull thru w/boat.
	14'x14' Bi-fold							0	Station #3 three bay pull thru
	Apparatus Length								Bi-fold doors front, Oh'd rear
	Engine 2	31' 11"			1			0	Station 2
	Squad 2	26'			1			0	Station 2
	529 Command	19' 5"			1			0	Station 2
	Boat on trailer	16'			1			0	Station 2
	Squad 2	26'			1			0	Station 2
	Engine 3	32' 1"			1			0	Station 3
	Rescue 3	18' 2"			1			0	Station 3
	Ambulance	22'-0"			1			0	Station 3
	MEP								
	Space Ventilation	x						0	Plimavent
	Under vehicle wash	x							
	Vehicle Exhaust	x						0	
	2" Fill & Washing Connection	x						0	
	Compressed Air Lines over each bay	x						0	
	Hose Bibs & Reels	x						0	
	Oil Interceptor	x						0	
	Trench Drain	x						0	
	Infrared Linear Ceiling							0	
	Subtotal:						3,800		
Battery Charging area	Area				1			0	*Apparatus Bay
	2hr rated room							0	
	Charges Li batteries							0	
								0	
	Subtotal:							0	

Space	Description		Staff		Space Needs			Net Sq. Ft.	Comments / *Adjacencies
			Current	Planned	Qty	Size	Reference Pg #		
Hose Drying and Storage	Area				1	120		120	*Apparatus Bay
								0	
	Storage Racks for Hoses	x						0	
	Hose Washer	x						0	
	Floor Drain	x						0	
	Dry Cabinet	x						0	
	Subtotal:							120	
Toilet	Unisex Toilet				1	77		77	*Apparatus Bay
								0	
	Subtotal:							77	
SCBA Maintenance	Clean Room				1	100		100	*Apparatus Bay
								0	
								0	
								0	
	Subtotal:							100	
SCBA Cascade Room	Room				1	150		150	*Apparatus Bay
	Air Bottles Storage							0	
	Working Counter							0	
	Writing Desk							0	
	Subtotal:							150	
Parts/shop	Room				1	150		150	*Apparatus Bay
								0	
								0	
								0	
	Subtotal:							150	
Station Compressor Room	Room				1	100		100	INCLUDE IN PARTS/SHOP?
	Fresh Air Intake							0	
	Exhaust build up heat to outside							0	
	Concrete pad							0	
	Subtotal:							100	
Net Area								4,497	
20% Internal Circulation Factor								899	
Subtotal: Apparatus Bay			0	0				5,396	

Space	Description		Staff		Space Needs			Net Sq. Ft.	Comments / *Adjacencies
			Current	Planned	Qty	Size	Reference Pg #		
9. Building Support Areas									
Mechanical Room	Room				1	300		300	
		Subtotal:						300	
Electrical Room	Room				1	200		200	
		Subtotal:						200	
Server Room	Room				1	80		80	
		Subtotal:						80	
Net Area								580	
20% Internal Circulation Factor								116	
Subtotal: Building Support Areas			0	0				696	

Parking Requirements:		Spaces
Other outdoor parking		?
Staff Parking		
Public (Visitor) Parking		See Shared Spaces
Total Spaces		0



Redstone Architects Inc.

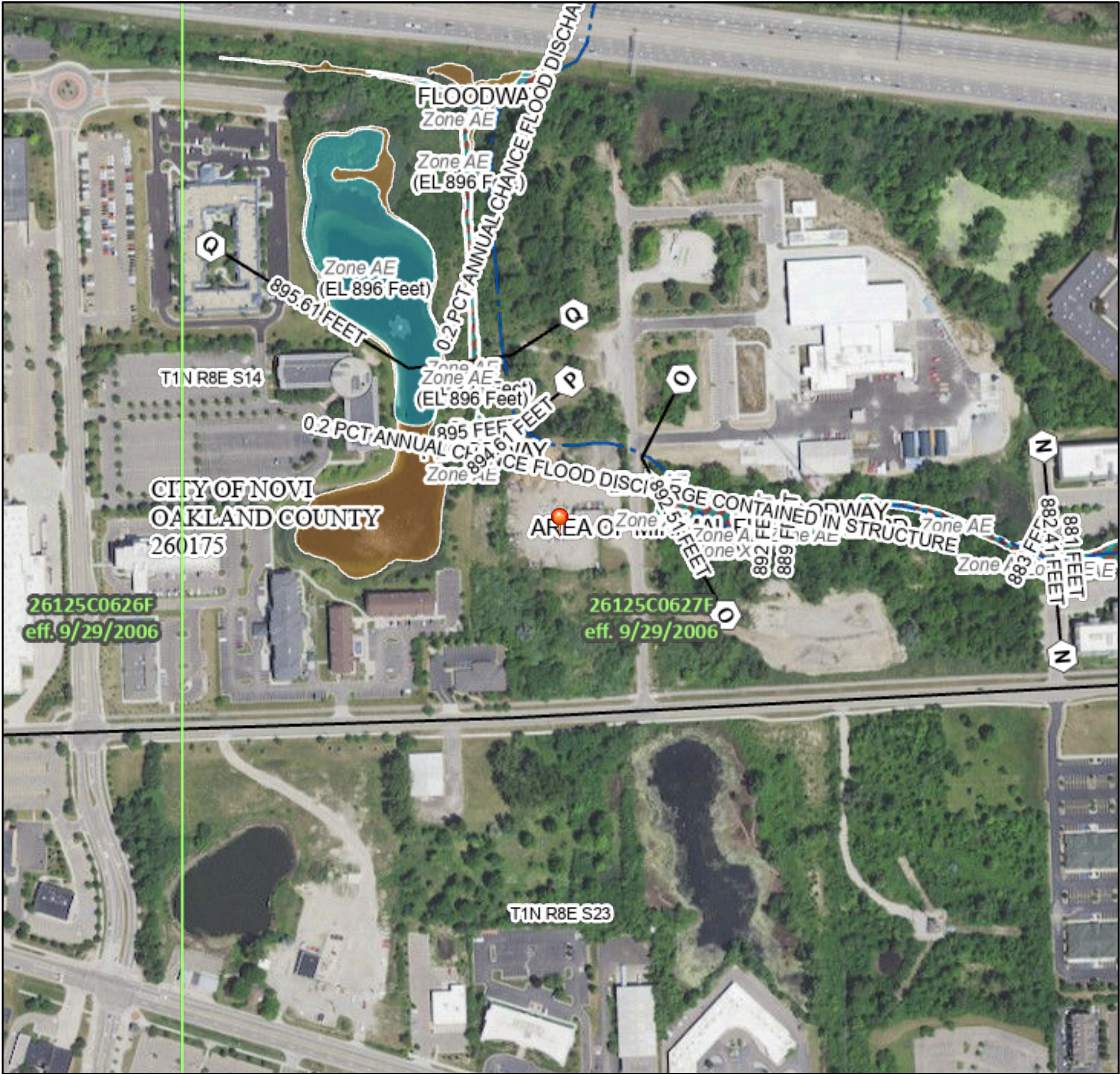
SECTION F

SITE PLAN + BLOCK DIAGRAM

National Flood Hazard Layer FIRMMette



83°28'14"W 42°29'10"N



Legend

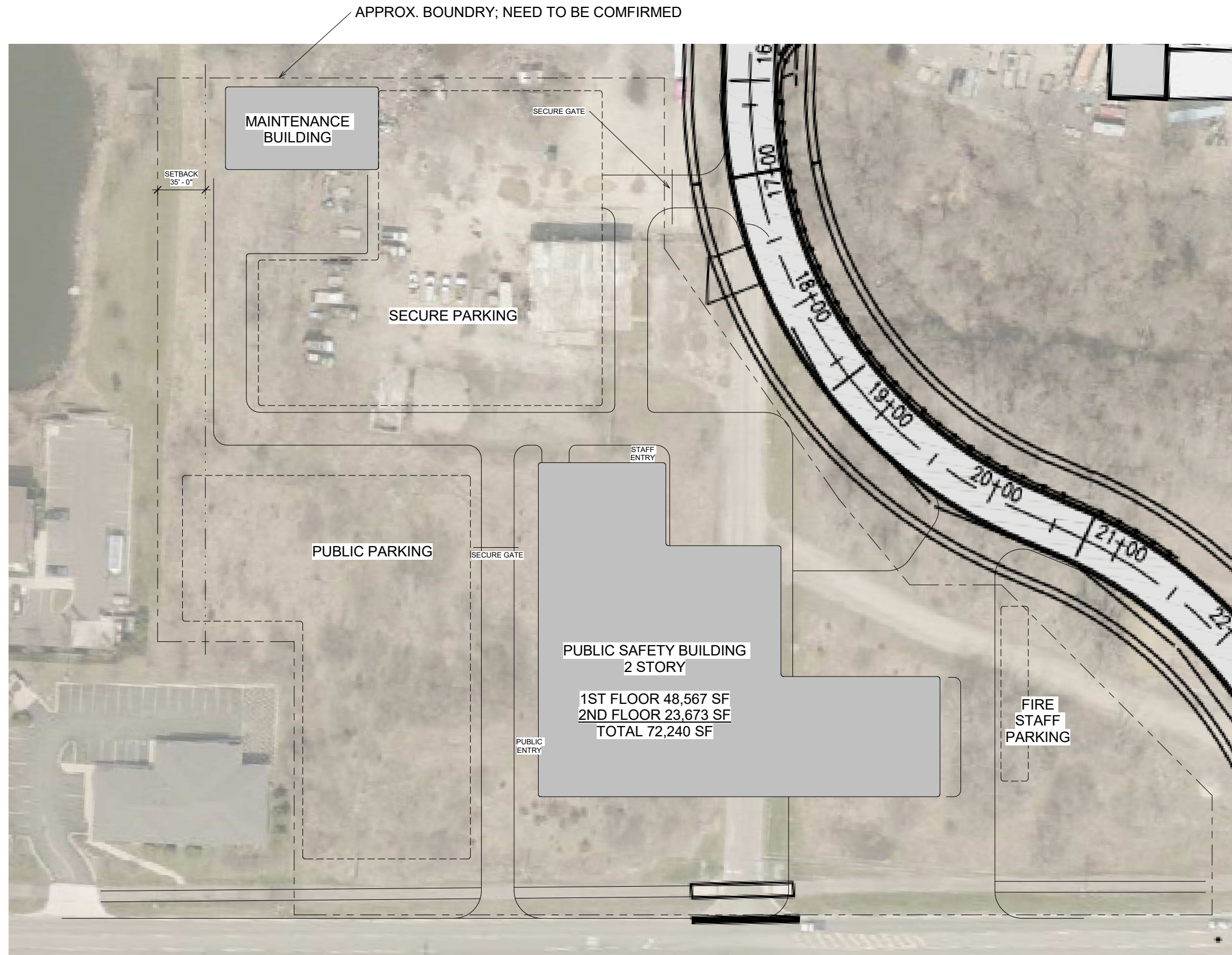
SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS		Without Base Flood Elevation (BFE) Zone A, V, A99
		With BFE or Depth Zone AE, AO, AH, VE, AR
OTHER AREAS OF FLOOD HAZARD		0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile Zone X
		Future Conditions 1% Annual Chance Flood Hazard Zone X
		Area with Reduced Flood Risk due to Levee. See Notes. Zone X
		Area with Flood Risk due to Levee Zone D
OTHER AREAS		Area of Minimal Flood Hazard Zone X
		Effective LOMRs
GENERAL STRUCTURES		Area of Undetermined Flood Hazard Zone D
		Channel, Culvert, or Storm Sewer
OTHER FEATURES		Levee, Dike, or Floodwall
		Cross Sections with 1% Annual Chance Water Surface Elevation
MAP PANELS		Coastal Transect
		Base Flood Elevation Line (BFE)
		Limit of Study
		Jurisdiction Boundary
		Coastal Transect Baseline
		Profile Baseline
		Hydrographic Feature
		Digital Data Available
		No Digital Data Available
		Unmapped
		The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 8/16/2023 at 2:21 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

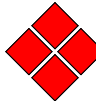


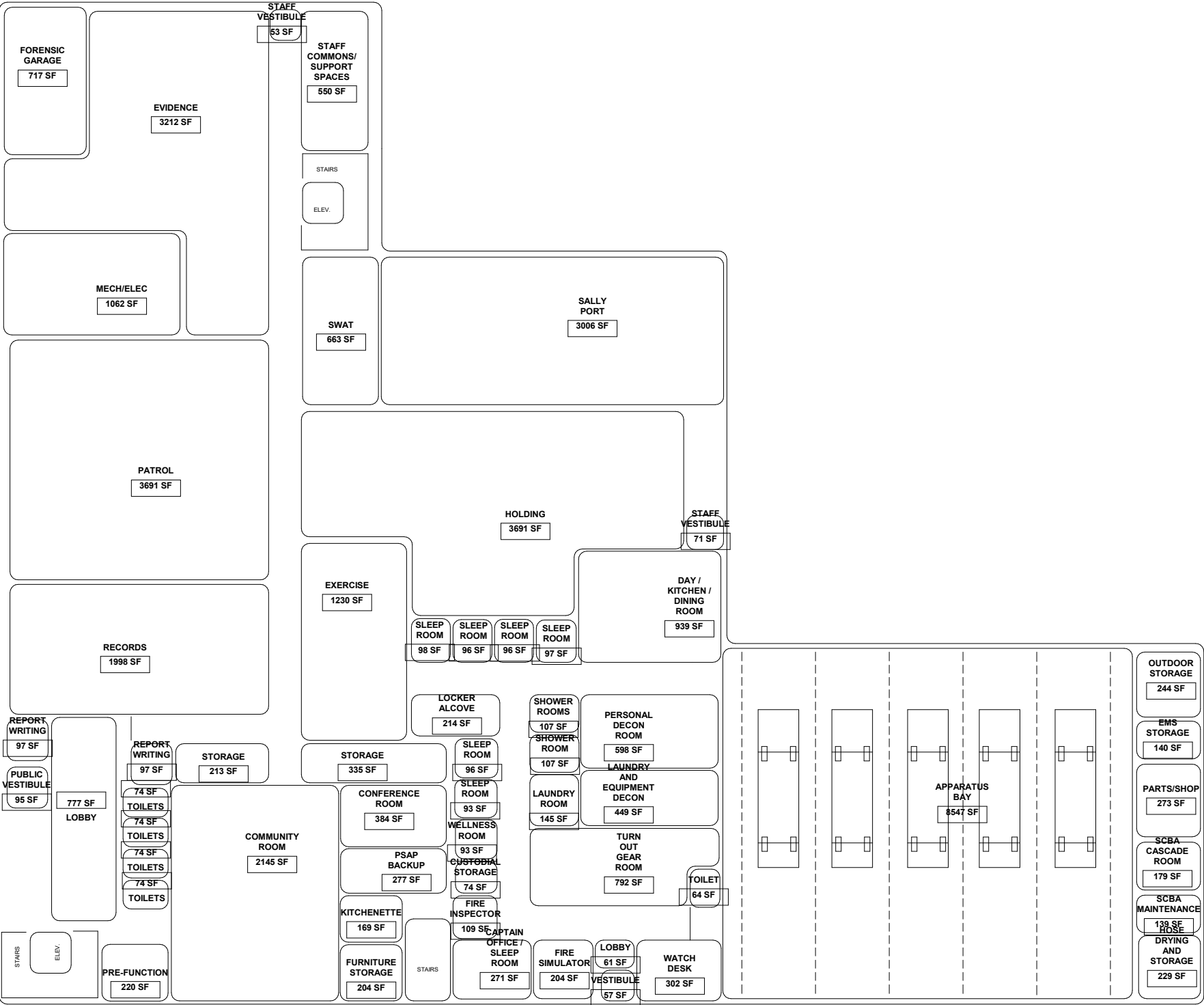
BLOCK DIAGRAM CONCEPT

November 21, 2023

City of Novi
Public Safety Building

 **Concept Site Plan**
Scale: 1" = 40'- 0"

 **Redstone Architects, Inc.**
Law Enforcement - Justice - Public Safety - Municipal



BLOCK DIAGRAM CONCEPT

November 21, 2023

BLOCK DIAGRAM CONCEPT

City of Novi
Public Safety Building

November 21, 2023



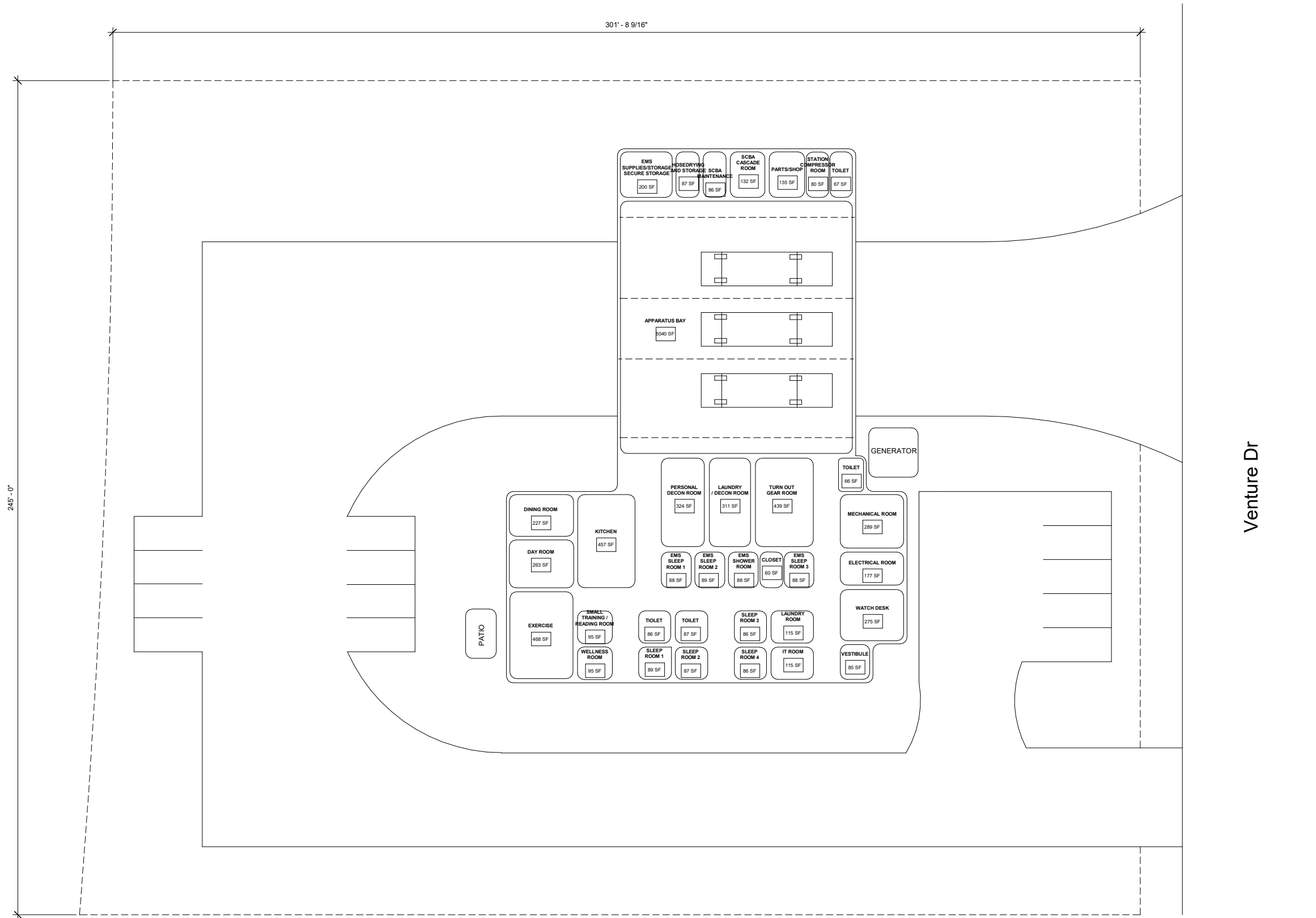
Concept Plan - Level 2

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



Redstone Architects, Inc.
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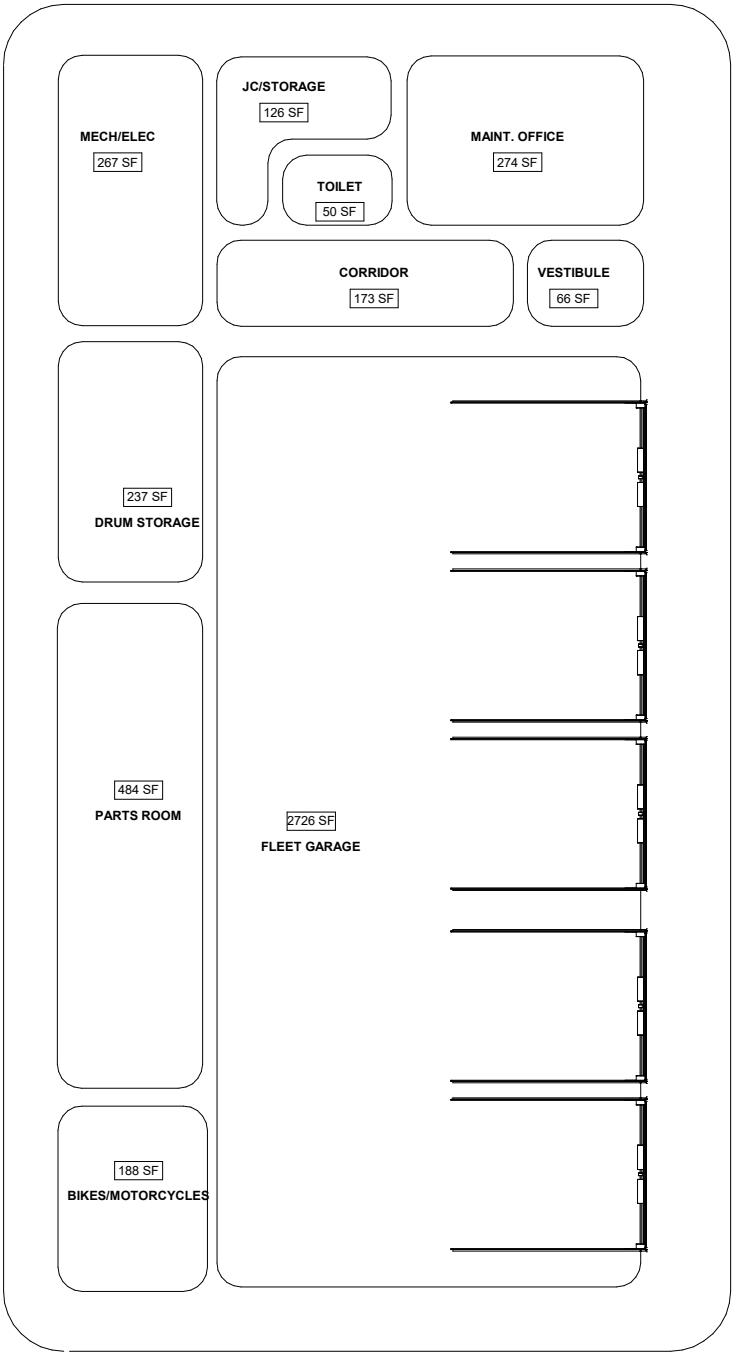




 **Concept Plan**
Scale: 1/16" = 1'- 0"

BLOCK DIAGRAM CONCEPT

September 28, 2023

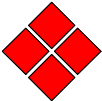


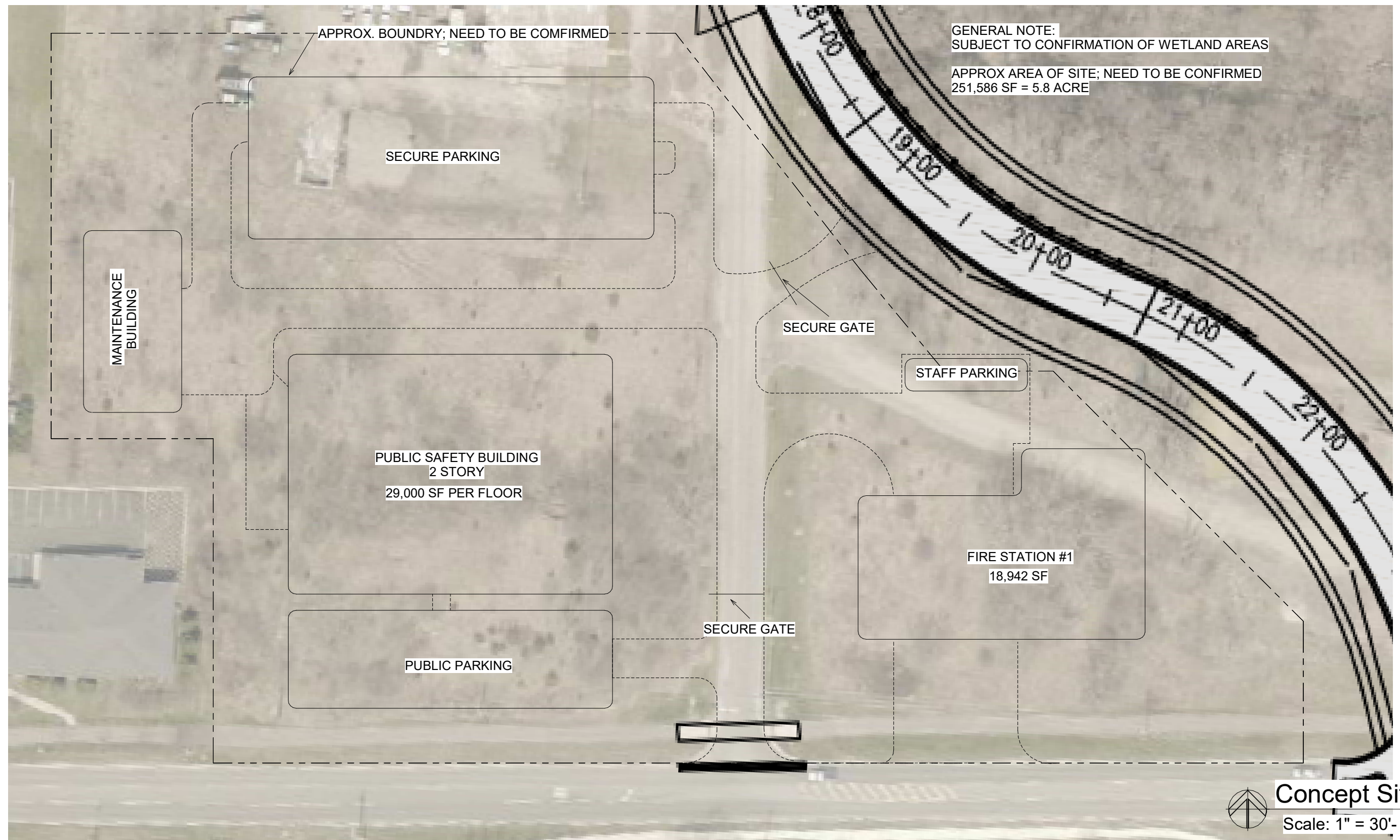
Concept Plan - Fleet Maintenance Garage

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

BLOCK DIAGRAM CONCEPT

September 28, 2023



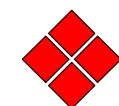


BLOCK DIAGRAM CONCEPT

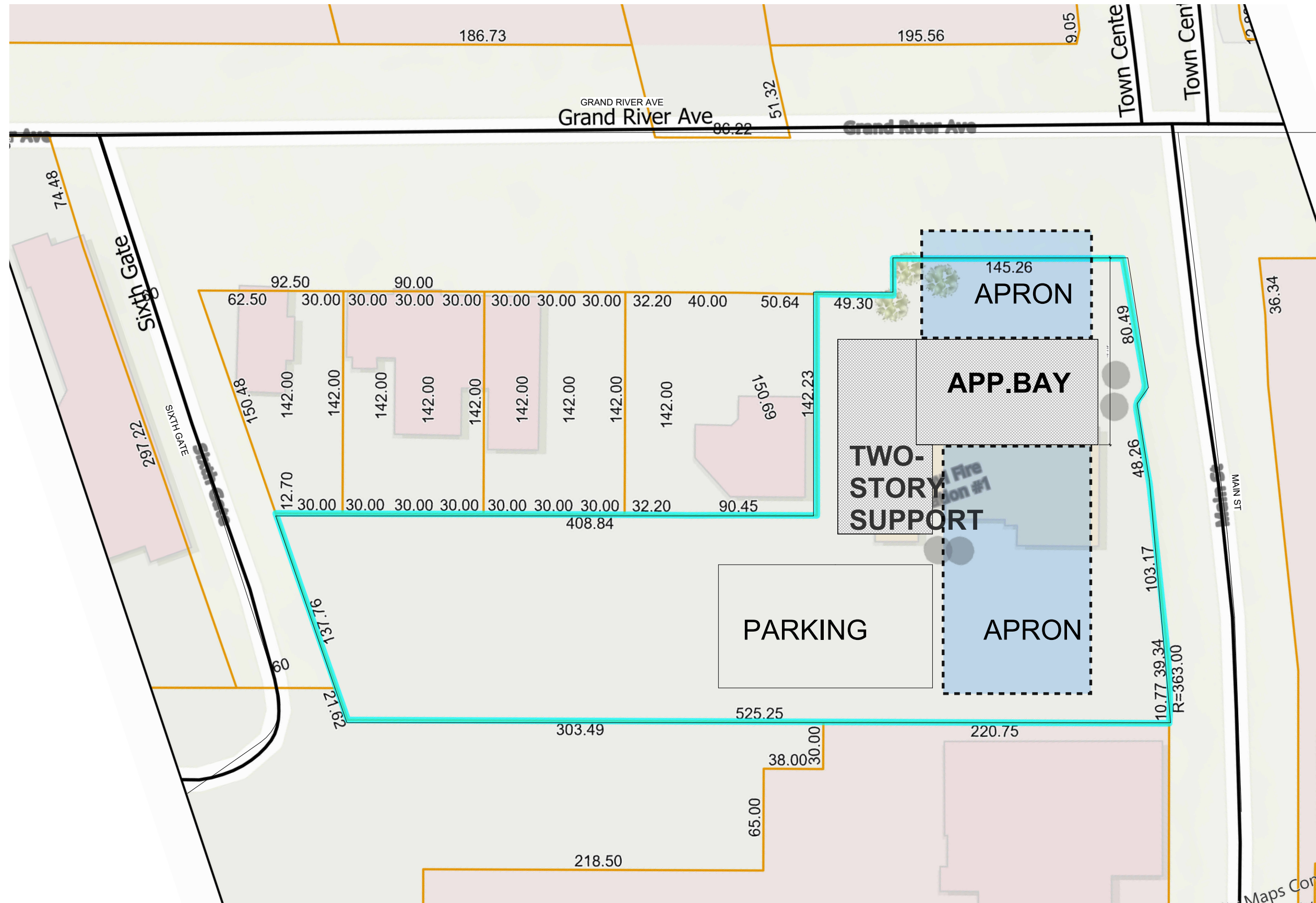
FINAL REPORT - LEE BEGOLE SITE OPTION 1 - SEPARATE BUILDINGS - JANUARY 2024

September 28, 2023

City of Novi
Public Safety Building



Redstone Architects, Inc.
Law Enforcement - Justice - Public Safety - Municipal



OPTION 2: NEW STATION #1 ON EXISTING SITE - REQUIRES A TWO-STORY PORTION

Fire Station Location Analysis

Initial Report: 1/18/2024



Data Used in the Analysis:

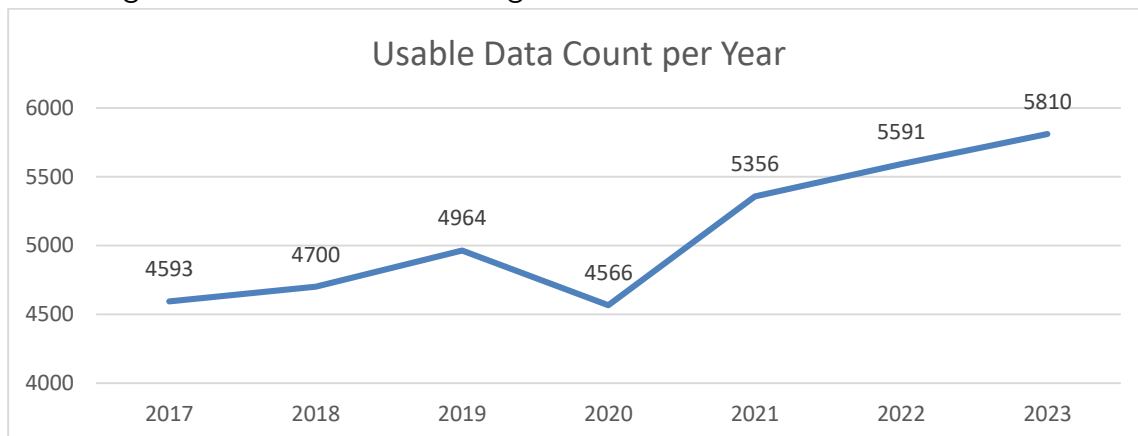
- Fire Incidents from 1/1/2017-12/31/2023 provided by the Fire Department.
 - 35,580 total priority runs that could be mapped
- Existing Streets GIS layer provided by SEMCOG and updated to include newly built streets, one way indicator, and speed limit for existing streets.
 - Used in baseline drive time analysis.
- Proposed Streets GIS layer updated to include proposed streets: Lee BeGole Dr connection to Crescent Blvd, new roundabout on 11 Mile Rd at Lee BeGole Dr, and new street between 11 Mile Rd and Grand River Ave.
 - Used in each scenario analysis that includes proposed fire stations.
- Fire Stations GIS layer that includes existing stations and proposed stations.

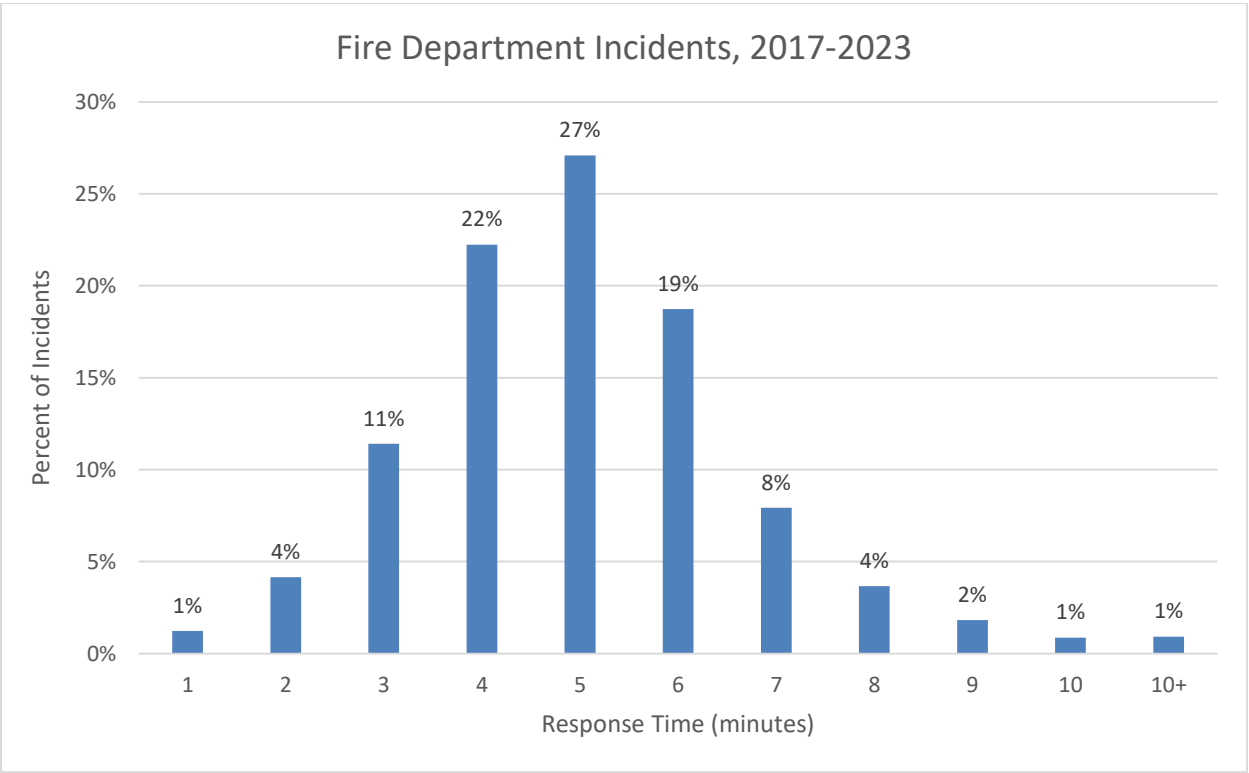
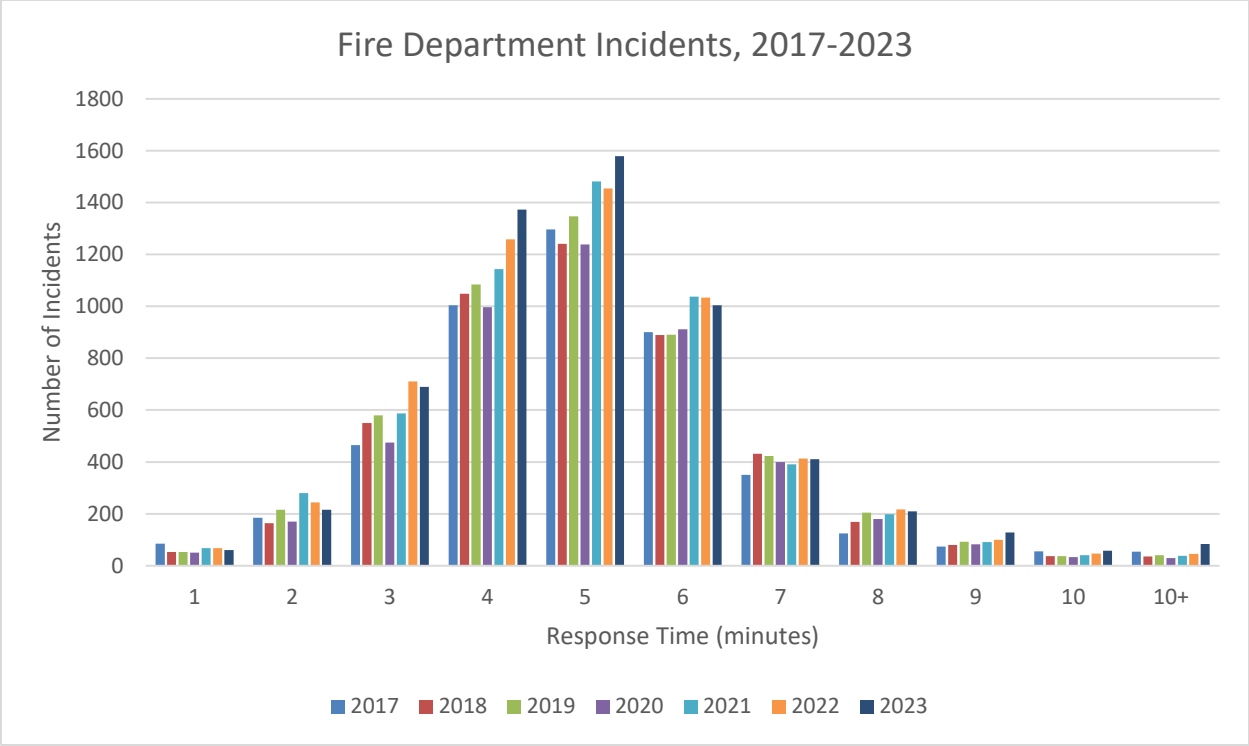
Variables:

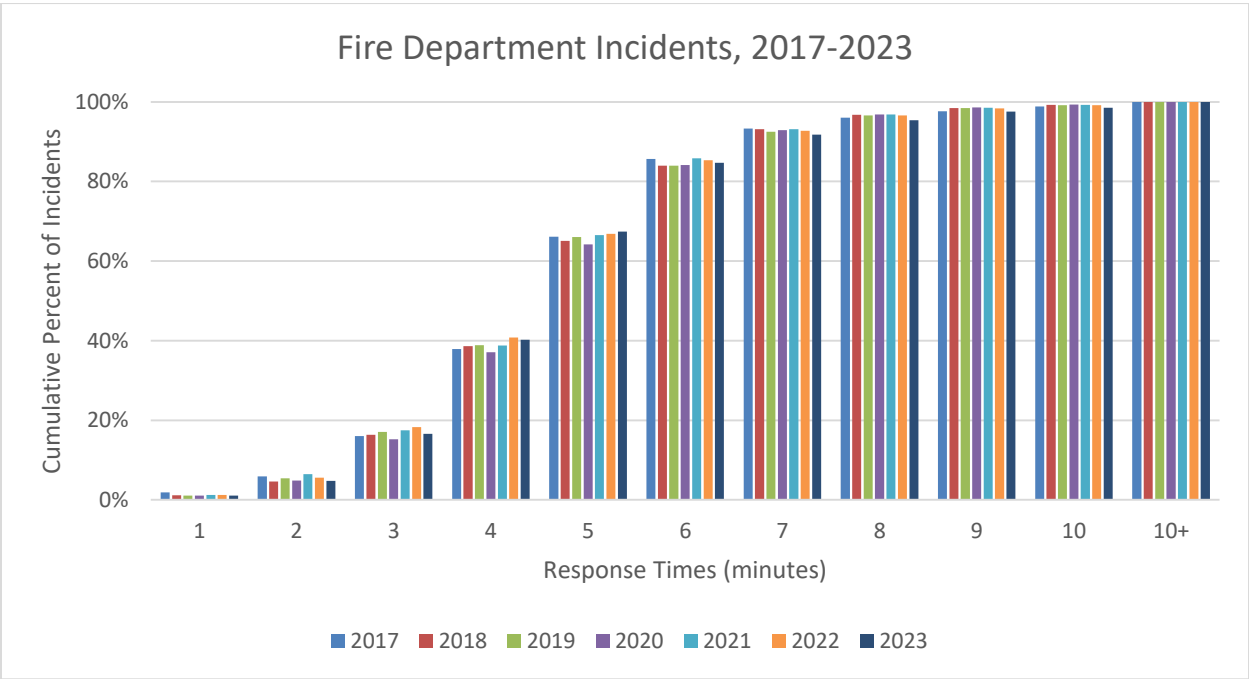
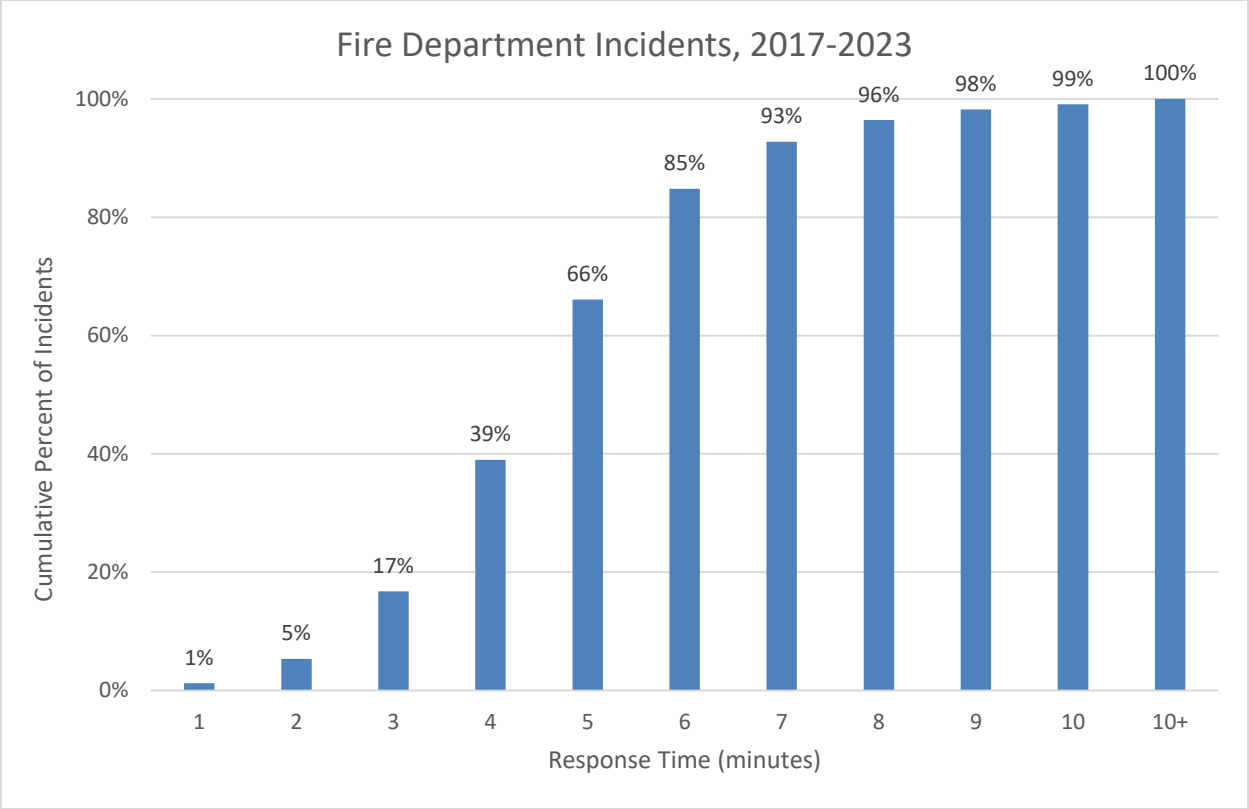
- Posted speed limit.
- Routes allowed outside city limits.
- Freeway use allowed.
- U-turns are allowed at road dead-ends only.
- Average turn-out time assigned to each station:
 - Station 1 = 1:59 minutes
 - Station 2 = 1:55 minutes
 - Station 3 = 1:52 minutes
 - Station 4 = 1:49 minutes
 - Proposed Stations = 1:54 minutes

Fire Incident Analysis:

The following charts illustrate the existing conditions based on the fire incident data:



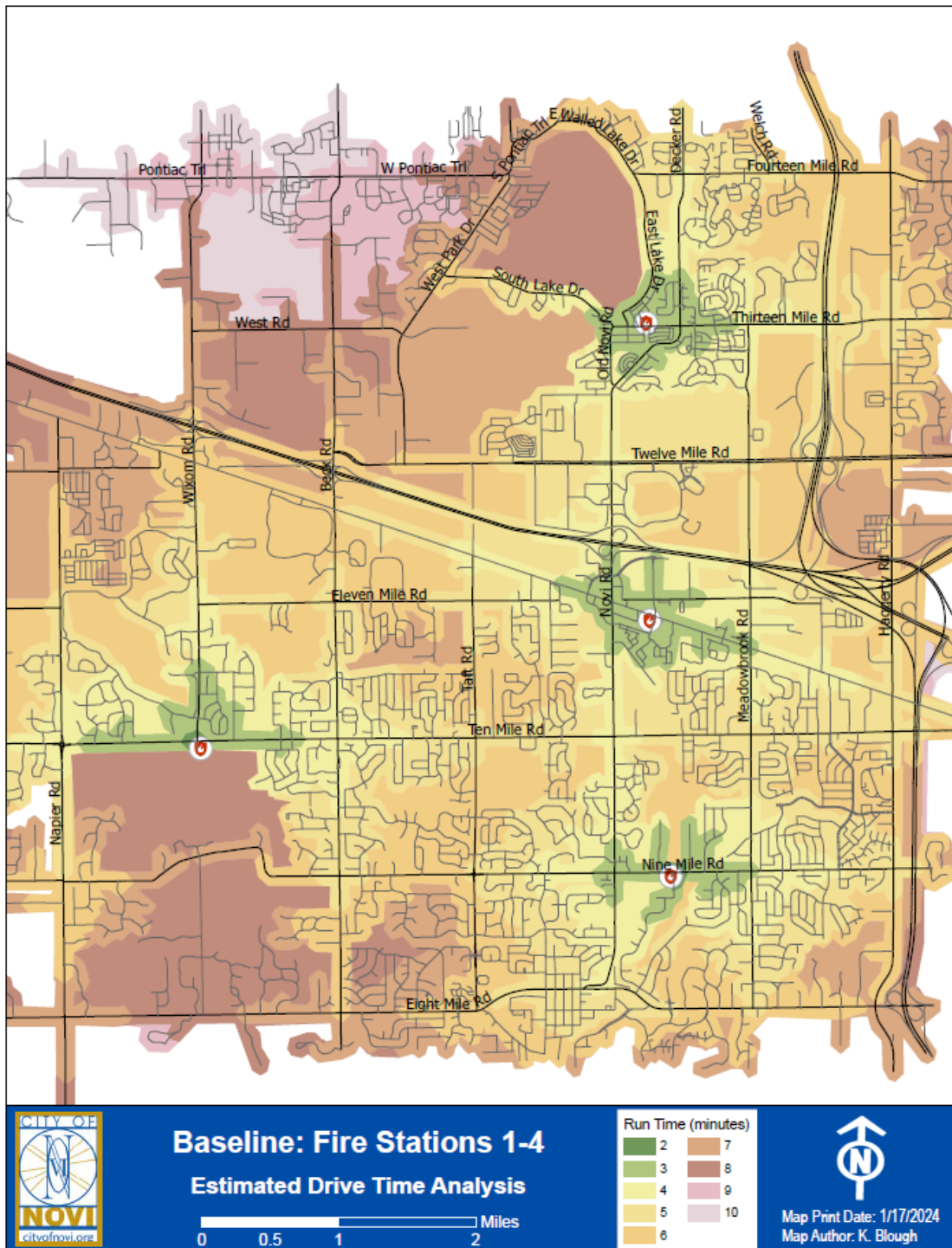




Baseline Drive Time Analysis:

- Existing Fire Stations 1-4

A drive time analysis produces polygons that represent *estimated* response time based on the variables described on Page 1. The resulting map shows how long it takes to reach all parts of the city from the four existing fire stations.



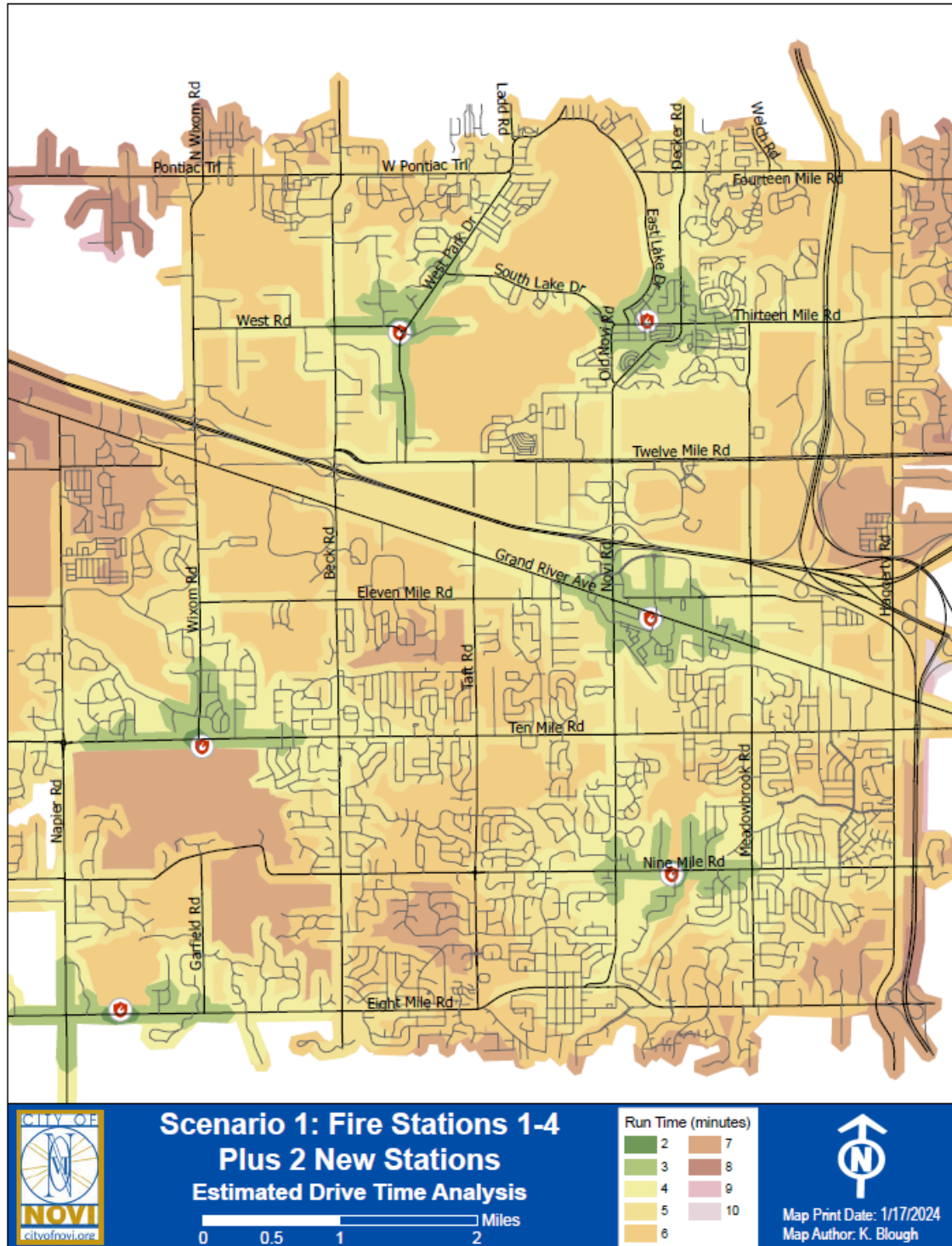
Model Validity:

Since a drive time analysis produces estimated run times, it is important to understand if the model reflects the actual run times as accurately as possible. The average run time for incidents located within each drive time area was calculated and summarized in the table below.

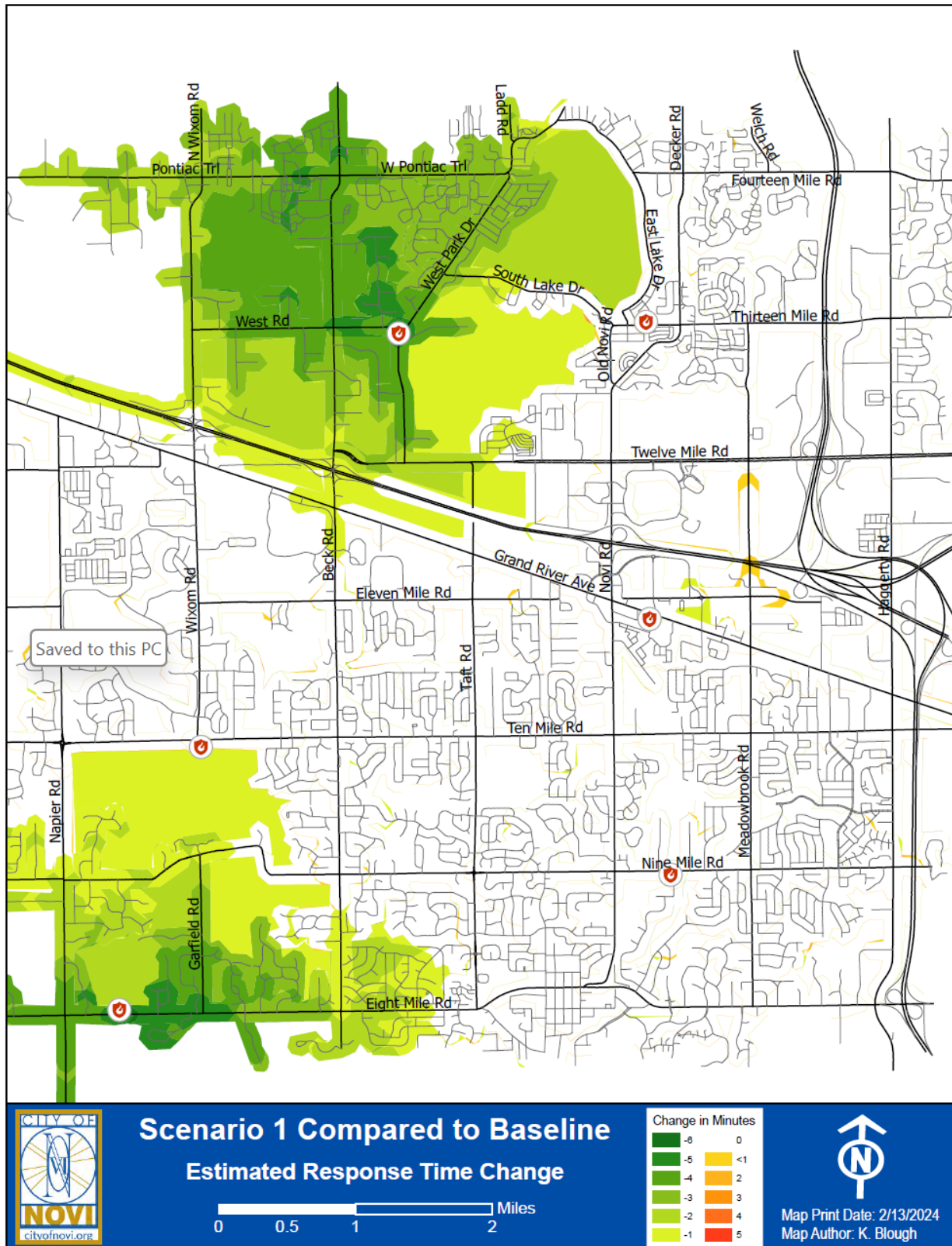
Drive Time Area Minutes	Actual Incident Average Minutes
2	3.74
3	3.58
4	4.31
5	4.94
6	5.42
7	6.56
8	6.40
9	7.88

Scenario 1 Drive Time Analysis:

- Existing Fire Stations 1-4
- Two Proposed Fire Stations:
 - West Rd at West Park Dr
 - Eight Mile Rd East of Napier Rd

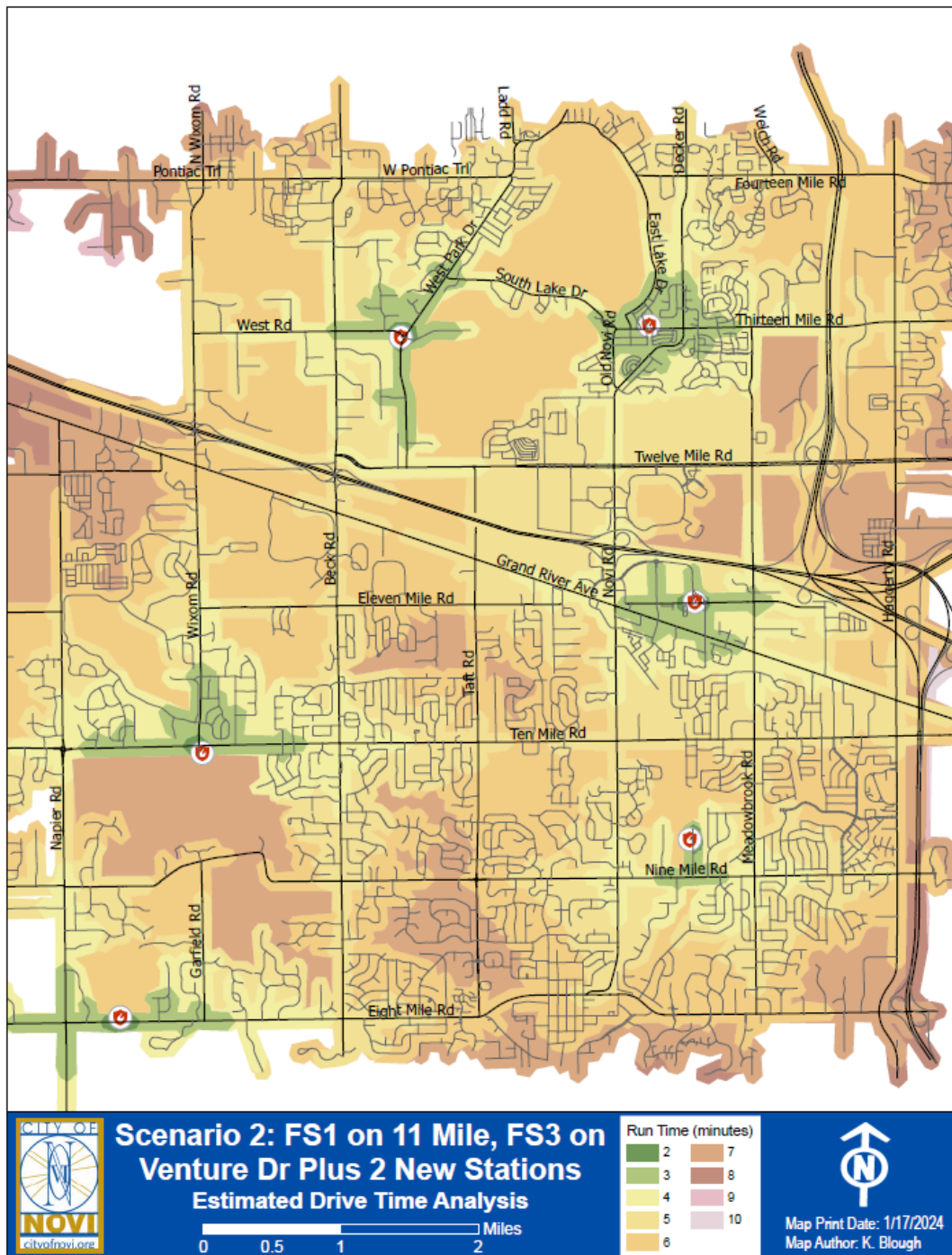


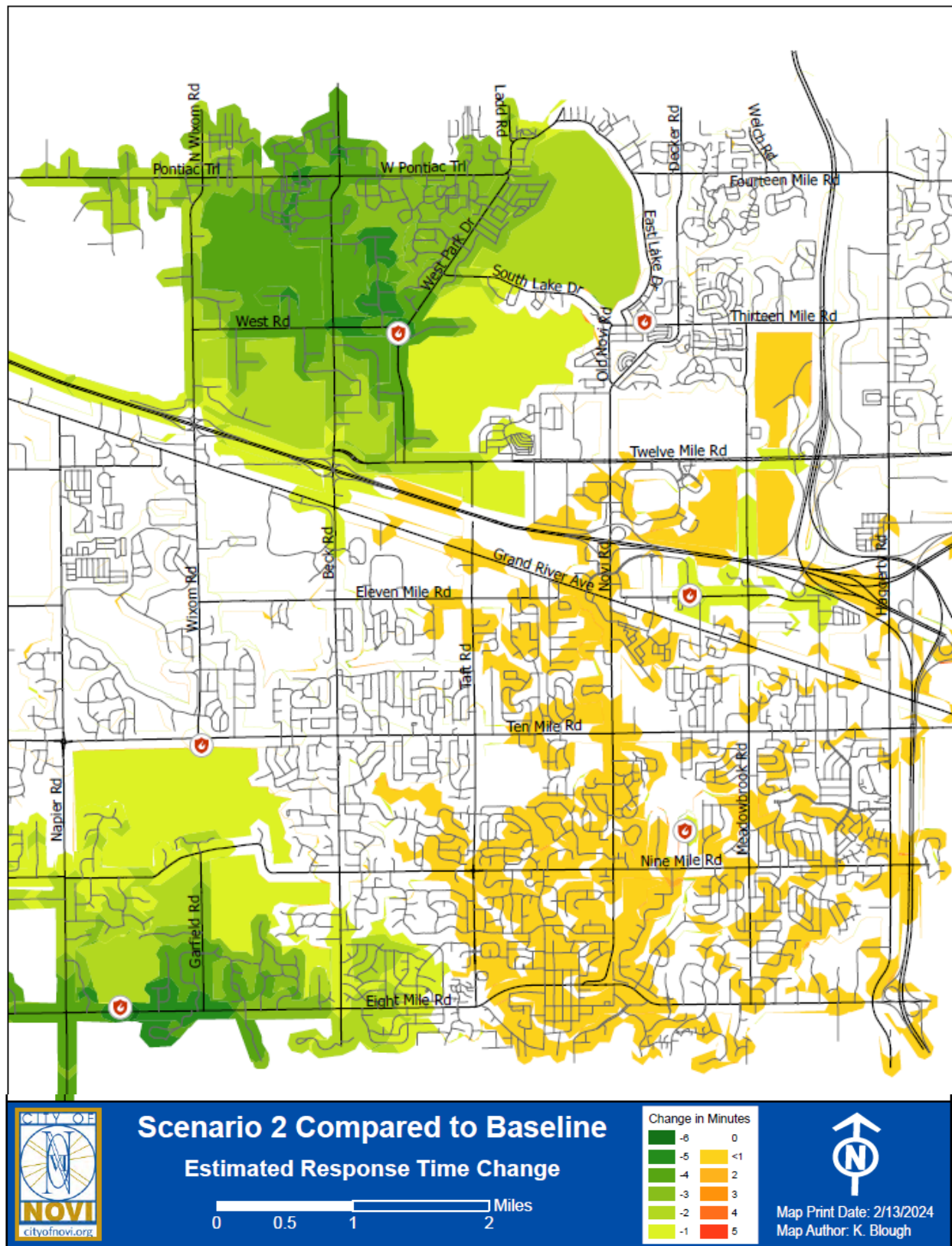
Comparing the drive time areas created by the scenario variables to the baseline polygons shows where the results vary, either decreasing or increasing the response times. Note: The areas where response times increase by more than 2 minutes are located at the edge of the map and are so small that they are not visible on the map.



Scenario 2 Drive Time Analysis:

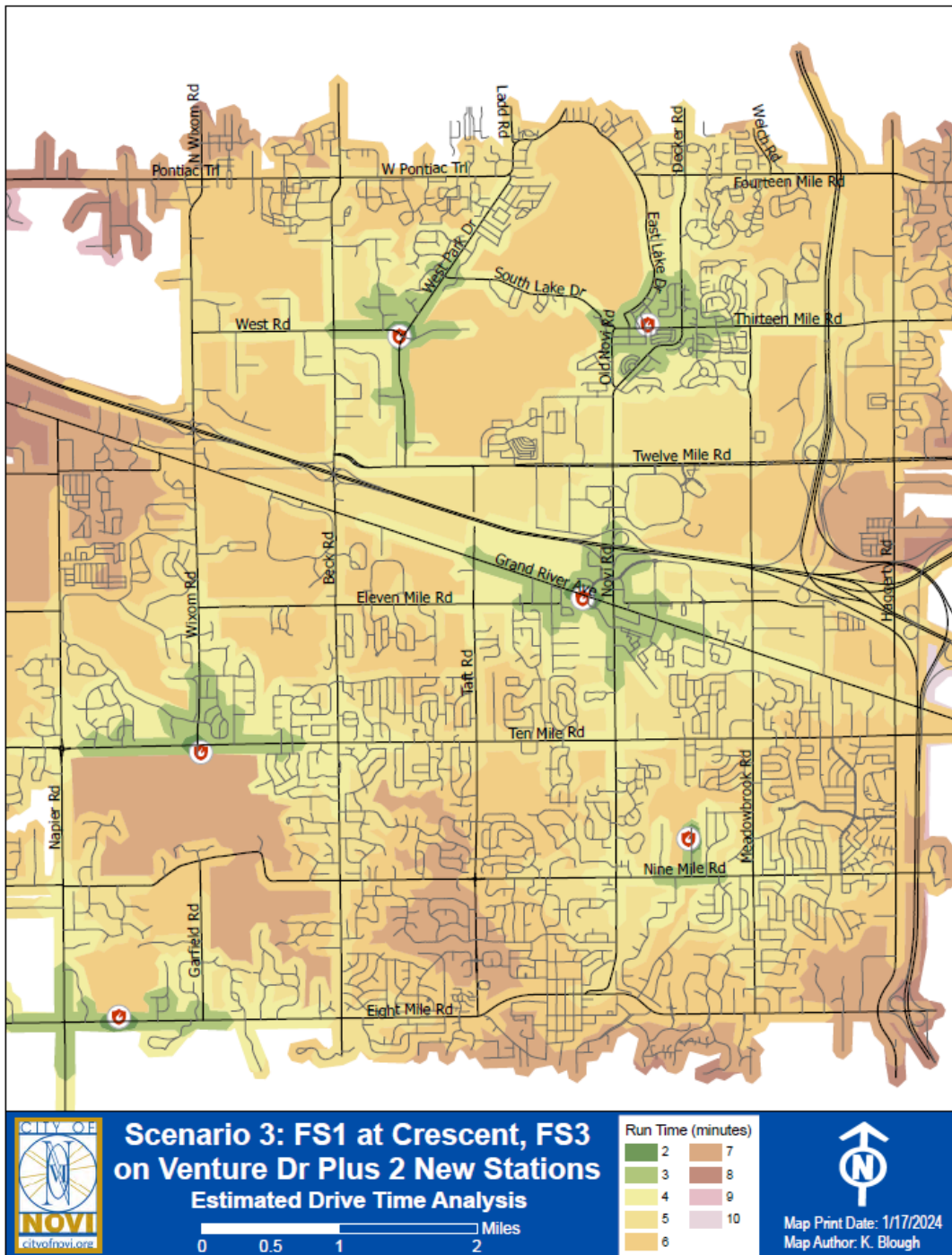
- Existing Fire Stations 2 & 4
- Four Proposed Fire Stations:
 - Fire Station 1 – Eleven Mile Rd at Lee BeGole Dr
 - Fire Station 3 – Venture Dr
 - West Rd at West Park Dr
 - Eight Mile Rd East of Napier Rd

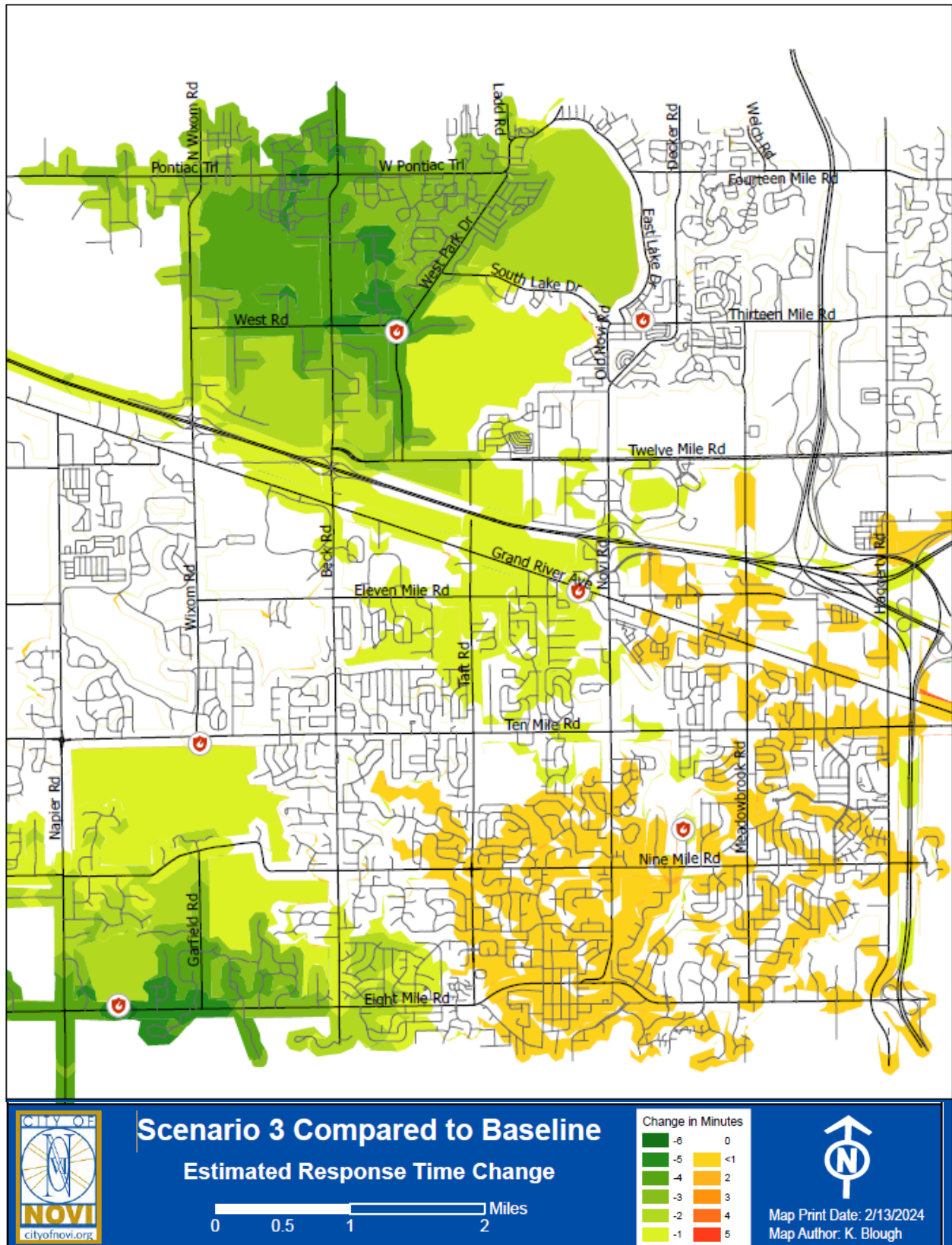




Scenario 3 Drive Time Analysis:

- Existing Fire Stations 2 & 4
- Four Proposed Fire Stations:
 - Fire Station 1 – Grand River Ave at Crescent Blvd
 - Fire Station 3 – Venture Dr
 - West Rd at West Park Dr
 - Eight Mile Rd East of Napier Rd





Scenarios Summary:

Each fire incident was assigned a new response time based on each scenario's drive time areas. The number of incidents per scenario response time is summarized in the chart below.

