Date: 10/23/2023

Fire Department Facility Study by CNH Architects

Proposed Action
Review Facility Study completed by CNH Architects

Overview
At the start of 2023 the Fire Department contracted with CNH Architects to complete a facility study of all four fire stations. The objective of the study is to accommodate 24/7 staffing at all locations. CNH Architects has met with staff monthly, since April, where they have focused on the current and future needs of our department.

The Lakeville Fire Facility Assessment attachment will be presented by CNH Architects.

Supporting Information
1. Lakeville Fire Facility Assessment
2. LFD Study - Council Presentation 2023-10-18

Financial Impact: $ **Budgeted:** No **Source:**
Envision Lakeville Community Values: Safety Throughout the Community
Report Completed by: Michael Meyer

LAKEVILLE
Fire Department Facilities Study

October 12, 2023

Architects CNH

Your success is our inspiration.

CNH Architects
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I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED ARCHITECT UNDER THE LAWS OF THE STATE OF MINNESOTA

PRINT NAME: QUINN HUTSON

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DATE: 10/12/23 LICENSE NO: 21234

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Executive Summary

INTRODUCTION

The Lakeville Fire Department contracted with CNH Architects to perform a study to assess the space needs and facility conditions of their four fire station facilities to meet today's best practices and prepare for the future of the department. The study evaluates a broad series of building and operational attributes to determine whether remodeling and adding on to each facility or demolishing an existing facility and building new on each of the current sites makes the most sense both functionally and financially to meet the department's current and future needs. As part of this study the possibility of combining two existing stations into one single station on a new yet-to-be determined site was evaluated to determine what it would take to move to this approach that would meet the department's current and future needs.

The information provided in this study includes data gathered and analyzed by CNH Architects as well as valuable input provided by the City and fire department staff. The report includes this Executive Summary followed by, supporting data, concept plans, cost estimates, and conclusion.

PROCESS

The study process utilized the following major steps:

- Gather data on existing conditions, current space needs, operational goals, future growth, fire station Best Practices related to health, NFPA standards, and energy efficiency status
- Evaluate existing conditions and short-term dorm needs to determine scope of temporary fix to each station to be able to house new full-time staff
- Develop a building program of space needs for all existing stations as well as combining two existing stations into one single station based on data gathered and comparative square footages used at other fire stations of similar size in the Twin Cities area
- Evaluate building program and existing conditions to determine scope of demolition, remodeling, addition, or new building on current sites that will best meet the needs of the department now and in the future
- Evaluate building program of new building for a combined single station on a generic new site that will best meet the needs of the department now and in the future

DEPARTMENT OPERATIONS

The Lakeville Fire Department is currently made up of paid-on-call firefighters with a small complement of full-time administration staff. Due to the City being one of the fastest growing communities in the state, the department will be making the transition to a hybrid fire department starting in 2024 which will include both full-time and paid-on-call staff firefighters. The department will be adding 18 full-time firefighters to provide a 24 hours a day, 7 days a week response that will complement the paid-on-call firefighters starting

with an initial hiring of 6 full-time firefighters next year and an additional 12 full-time firefighters within the next two years.

IMMEDIATE DORM NEEDS

The department's four fire station facilities are not currently set up to house full-time staff and each station will need remodeling to be able to temporarily house over night staff as a short-term fix for immediate needs until the remaining current and future needs of the department further analyzed in this report can be addressed. For each station to be able to accommodate full-time staff individual dorm rooms with appropriate fire rated walls need to be added along with space for personal lockers, additional refrigerators, residential laundry capabilities and shower facilities. Each facility was evaluated for where these spaces could be located against what existing spaces could be temporarily given up to make room for these short-term dorm needs.

While the short-term remodeling will meet the needs of the department to accommodate over night staff it will not address the lack of Best Practices for fire station design at each station that include training features, carcinogen reduction, and physical and mental health well-being that is critical for firefighter health and retention. The department will also lose the functions of the office and training room spaces that are being re-purposed for the firefighter living quarters. As these fixes are short-term only that are intended for roughly 18-36 months, planning should begin for the remaining current and future needs as appropriately determined by the City.

MAJOR SITE & BUILDING ANALYSIS

Fire Station 1 - Holyoke Station

The study reviewed many aspects of the fire station site and building. Since the station was built in 1985 there have been many changes in standard fire station design and operations. These Best Practices range from updates in National Fire Protection Association (NFPA) design standards to many safety elements including in-station training features as well as the current focus on carcinogen reduction strategies and mental health. As would be anticipated, the current building is significantly lacking in the current Best Practices that are included in typical fire stations in the metropolitan area and across the country.

Since the construction of the current station, there have been many changes in mechanical and electrical systems and design. Not only is the current building lacking in some of the more efficient and cost-effective systems of today, the current systems have reached the end of their life cycle and are due for replacement. There are also maintenance costs associated with upkeep to the station to maintain the current building including items such as roof replacement, caulking, replacement of flooring, and the many other costs related to regular repairs of an older facility.

The existing site consists of 4.25 acres and is located across Holyoke Avenue from City Hall at the roundabout intersection of Holyoke Avenue and 202nd Street West/County Road 50 and borders residential properties to the south. The building is situated on the west half of the site and has adequate street access providing acceptable response times from this location. The public entrance is visible from Holyoke Avenue and there is ample parking available on site, though there is no clear delineation between public and firefighter response parking. Apparatus are unable to move between the west and east sides of the site without exiting onto either Holyoke Avenue or 202nd Street West/County Road 50 to re-enter the site. There is a wetland on the east edge of the property that impacts buildable area on site slightly.

The existing building has many concerns based on the upkeep, maintenance or complete replacement of systems and building elements as well as the undersized building. The building does not meet current Best Practices in station design and firefighter safety elements including considerable issues with poor ventilation, outdated contamination separation, and limited apparatus bay access with only two of the four bays being pull through bays requiring apparatus to back into the building in two bays. The space needs analysis identified a shortage of more than 23,000 square feet of building area for larger apparatus bays, separate turnout gear storage, training space, decontamination spaces, separate fitness area, storage, offices, individual dorms and restrooms.

Due to the size of the site and building, as well as the condition of the building in comparison to the space needs analysis, it was determined that an addition and remodel could be feasible on site that would meet primary needs with some concessions and multiple options were reviewed with city staff with the final options presented in this report. With some of the concessions an addition and remodel pose on this site, a proposed new building was analyzed that would meet all program needs and multiple options were reviewed with city staff with the final options presented in this report.

Fire Station 2 - Dodd Station

The study reviewed many aspects of the fire station site and building. Since the station was built in 1976 and then added on to in 1985 and again in 1991 with a remodel in 2003, there have been many changes in standard fire station design and operations. These Best Practices range from updates in National Fire Protection Association (NFPA) design standards to many safety elements including in-station training features as well as the current focus on carcinogen reduction strategies and mental health. As would be anticipated, the current building is significantly lacking in the current Best Practices that are included in typical fire stations in the metropolitan area and across the country.

Since the construction of the current station, there have been many changes in mechanical and electrical systems and design. Not only is the current building lacking in some of the more efficient and cost-effective systems of today, the current systems have reached the end of their life cycle and are due for replacement. There are also maintenance costs associated with upkeep to the station to maintain the current building including items such as roof replacement, caulking, replacement of flooring, and the many other costs related to regular repairs of an older facility.

The existing site consists of 2.54 acres and is located at the roundabout intersection of Dodd Boulevard and Flagstaff Avenue and is surrounded by residential properties. The building is situated in the center of the site and has adequate street access providing acceptable response times from this location. There is no clear public entrance to the building and while there is ample parking available on site, no parking is located near the entrance labeled with the address whic is intended as the main entrance and there is no clear delineation between public and firefighter response parking. Apparatus are able to move between the northwest and southeast sides of the site without having to leave the site. There is a stormwater retention pond located in the southeast corner of the site. The location of the roundabout intersection impacts the buildable area of the site limiting what can be done in the northwest corner of the site.

The existing building has many concerns based on the upkeep, maintenance or complete replacement of systems and building elements as well as the undersized building. The building does not meet current Best Practices in station design and firefighter safety elements including considerable issues with poor ventilation, outdated contamination separation, lack of showers and limited apparatus bay access with only one of the four bays being pull through bays requiring apparatus to back into the building in three bays. The space needs analysis identified a shortage of more than 24,000 square feet of building area for larger apparatus bays, separate turnout gear storage, training space, decontamination spaces, separate fitness area, storage, offices, individual dorms and restrooms.

Due to the size of the site and building as well as the condition of the building in comparison to the space needs analysis it was determined that an addition and remodel is not feasible on site and that a proposed new building would be needed to meet all program needs with multiple options reviewed with city staff with the final options presented in this report.

Fire Station 3 - Kenrick Station

The study reviewed many aspects of the fire station site and building. Since the station was built in 1988, there have been many changes in standard fire station design and operations. These Best Practices range from updates in National Fire Protection Association (NFPA) design standards to many safety elements including in-station training features as well as the current focus on carcinogen reduction strategies and mental health. As would be anticipated, the current building is significantly lacking in the current Best Practices that are included in typical fire stations in the metropolitan area and across the country.

Since the construction of the current station, there have been many changes in mechanical and electrical systems and design. Not only is the current building lacking in some of the more efficient and cost-effective systems of today, the current systems have reached the end of their life cycle and are due for replacement. There are also maintenance costs associated with upkeep to the station to maintain the current building including items such as roof replacement, caulking, replacement of flooring, and the many other costs related to regular repairs of an older facility.

The existing site consists of 3.17 acres and is located at the roundabout intersection of Kenrick Avenue and 175th Street West and is bordered by residential properties to the north and east with commercial properties to the west and south. The building is situated in the southwest corner of the site and has adequate street access providing acceptable response times from this location. The public entrance to the building is not very visible from the street and while there is ample parking available on site adjacent to the entrance, the entrance is hidden behind a ramp and retaining wall due to the grade change on site and there is no clear delineation between public and firefighter response parking. Apparatus are unable to move between the west and east sides of the site without exiting onto Kenrick Avenue to re-enter the site via a separate drive. There is a communications building owned by Frontier located within the property lines close to the center of the site that significantly impacts buildable area on site. The location of the roundabout intersection impacts access into the site for non-apparatus traffic. The existing building

has many concerns based on the upkeep, maintenance or complete replacement of systems and building elements as well as the undersized building. The building does not meet current Best Practices in station design and firefighter safety elements including considerable issues with poor ventilation, outdated contamination separation, and limited apparatus bay access with only one of the two bays being pull through bays requiring apparatus to back into the building in one of the bays. The space needs analysis identified a shortage of more than 21,000 square feet of building area for larger apparatus bays, separate turnout gear storage, training space, decontamination spaces, separate fitness area, storage, offices, individual dorms and restrooms.

Due to the size of the site and building, placement of the Frontier communications building as well as the condition of the building in comparison to the space needs analysis it was determined that an addition and remodel could be feasible on site that would meet primary needs with some concessions and multiple options were reviewed with city staff with the final options presented in this report. With some of the concessions an addition and remodel pose on this site, a proposed new building was analyzed that would meet all program needs and multiple options were reviewed with city staff with the final options presented in this report.

Fire Station 4 - 185th Station

The study reviewed many aspects of the fire station site and building. Since the station was built in 2002, there have been many changes in standard fire station design and operations. These Best Practices range from updates in National Fire Protection Association (NFPA) design standards to many safety elements including in-station training features as well as the current focus on carcinogen reduction strategies and mental health. As would be anticipated, the current building is significantly lacking in the current Best Practices that are included in typical fire stations in the metropolitan area and across the country.

Since the construction of the current station, there have been many changes in mechanical and electrical systems and design. Not only is the current building lacking in some of the more efficient and cost-effective systems of today, several of the current systems have reached the end of their life cycle and are due for replacement with only one rooftop unit and the generator having been replaced recently. There are also maintenance costs associated with upkeep to the station to maintain the current building including items such as roof replacement, caulking, replacement of flooring, and the many other costs related to regular repairs of an older facility.

The existing site consists of 5.06 acres and is located off of 185th Street West between Ipava Avenue and Dodd Boulevard and is bordered by other city properties to the north and west, commercial properties to the east and a middle school to the south. The building is situated in the west half of the site and has adequate street access providing acceptable response times from this location. The public entrance to the building is only visible from the street as approached from the east and there is ample parking available on site, though there is no clear delineation between public and firefighter response parking. Apparatus are unable to move between the west and east sides of the site without exiting onto a city frontage road to re-enter the site via a separate drive. There is a stormwater retention pond on the east portion of the site as well as a cell tower just northeast of the existing building that impacts buildable area on site.

The existing building has many concerns based on the upkeep, maintenance or complete replacement of systems and building elements as well as the undersized building. The building does not meet current Best Practices in station design and firefighter safety elements including considerable issues with poor ventilation, outdated contamination separation, and limited apparatus bay access with only two of the three and a half bays being pull through bays requiring apparatus to back into the building in one and a half of the bays. The space needs analysis identified a shortage of more than 25,000 square feet of building area for larger apparatus bays, separate turnout gear storage, training space, decontamination spaces, separate fitness area, storage, offices, individual dorms and restrooms.

Due to the size of the site and building as well as the condition of the building in comparison to the space needs analysis it was determined that an addition and remodel could be feasible on site that would meet all program needs and multiple options were reviewed with city staff with the final options presented in this report.

FIRE STATION OPTIONS

Fire Station 1 - Holyoke Station

The existing site was analyzed for meeting the programming needs of the department. The location meets the basic current and future needs of the fire department, however the existing site and building limits the ability to meet all the Best Practices for an efficient and safe fire station design. Two different options were developed based on the programming needs and Best Practices.

Option 1:

In this option, the majority of the existing structure would remain in place with a significant first floor addition to the north. A few concessions need to be made to fit the program determined from the space needs analysis on the site to meet primary needs. In order to re-use the existing apparatus bays that are situated in the southwest corner of the site, the first floor addition is spread out along the north half of the site creating longer than ideal distances from the public entrance to the station office for the ability for firefighters to answer the front door. The firefighter residence area including dorms, patio and indoor/outdoor fitness areas are along the north edge of the property with very little buffer between them and the adjacent Heritage Center. The four existing apparatus bays are not the ideal width or length and apparatus will have to back into two of the five apparatus bays which does not meet Best Practices. The majority of the apparatus bay support spaces are less than ideal in size due to utilizing the existing structure and footprint. Clear separation can be made between the firefighter parking and public parking with separate entrances and parking areas to prevent interference with firefighter response times. The public entrance is situated directly off of the public parking lot but is situated at the far north end of the site making visibility from the street difficult.

Option 2:

In this option, the existing building is demolished and a new building is built in it's place. With an all new building, all Best Practices and programming needs can be met for an efficient and safe fire station design without any concessions. The new building orientation on site allows for the public entrance to be located directly off of Holyoke with separate public parking and the separate firefighter response and parking can be located off of 202 Street West/County Road 50. The overall building layout is much more efficient providing preferred distances between the public spaces and the station office making it easier for firefighters to answer the front door. The dorms, patio and indoor/outdoor fitness areas are more centrally located on the site providing a better buffer to the neighboring Heritage Center. In this layout the apparatus bays are the desired width and length with access on both sides for either pull through bays or to allow for double stacking providing flexibility for apparatus layout within and meeting Best Practices. To remain operational with the new build, the new apparatus bays would need to be built first allowing operations to move into the new bays and support spaces while the existing building is torn down. Once the existing building is demolished then the station office, public spaces and fire residence areas can be completed.

Fire Station 2 - Dodd Station

The existing site was analyzed for meeting the programming needs of the department. The location meets the basic current and future needs of the fire department, however the existing site and building limits the ability to meet all the Best Practices for an efficient and safe fire station design. Due to the conditions of the site and existing building only one option was developed based on meeting all the programming needs and Best Practices.

In this option, the existing building is demolished and a new building is built in it's place. With an all new building, all Best Practices can be met for an efficient and safe fire station design without any concessions. The new building orientation on site allows for the public entrance to be located off of Dodd Boulevard with a shared parking lot for public and firefighters due to tight site constraints with the shape of the site and the roundabout intersection overlapping onto the site. The new building is located in the center of the site with two-story station office and residence on the north half of the building and the apparatus bays are situated to the south. To remain operational with the new build, the two southern most apparatus bays and center support area to be built first allowing operations to then move into that portion of the building before the existing building is torn down and the northern most apparatus bays and two-story portion of the building are built. With this building layout all operational needs of the fire department can be met along with meeting all Best Practices for an efficient and safe fire station design.

Fire Station 3 - Kenrick Station

The existing site was analyzed for meeting the programming needs of the department. The location meets the basic current and future needs of the fire department, however the existing site and building limits the ability to meet all the Best Practices for an efficient and safe fire station design. Two different options were developed based on the programming needs and Best Practices.

Option 1:
In this option, the majority of the existing structure would remain in place with a significant first floor addition to the north and a smaller first floor addition to the southeast. A few concessions need to be made to fit the program determined from the space needs analysis on the site to meet primary needs. In order to re-use the existing building that is situated in the southwest corner of the site, the new building addition had to be split into two portions placed at opposite ends of the existing building to avoid the communications buildings located near the center of the site while providing appropriate access for the apparatus around the site. New apparatus bays would be constructed to the north of the existing building with the existing apparatus bays being re-purposed for station office, restrooms and fitness area. With this layout apparatus are unable to move between the west and east sides of the site without exiting onto Kenrick Avenue to re-enter the site via a separate drive. Due to the arrangement of the additions and utilizing the existing building, the building is quite spread out and the interior spaces are not very efficient. The main public entrance is not visible from the street and enters into the building between the station office and residence areas.

Option 2:
In this option, the existing building is demolished and a new building is built on site. In order to accomplish this due to the location of the communications building, the adjacent site to the east would need to be purchased allowing the majority of the new building to be built on the additional property. This would also allow apparatus response to respond directly onto 175th Street West providing a safer access that avoids the roundabout intersection adjacent to the existing building. With an all new building, all Best Practices can be met for an efficient and safe fire station design without any concessions. The new building orientation on site allows for the public entrance to be visible from the roundabout intersection with the public parking located directly off of the roundabout drive. Firefighters would have a separate drive and parking area accessed off of 175th Street West. The apparatus bays would be situated on the east portion of the combined site with the two-story station office and residence areas to the west. Utilizing the adjacent property would allow for the entire new station to be built with operations moving into the building upon completion and then the existing building could be demolished providing uninterrupted operations throughout the duration of construction

Fire Station 4 - 185th Station

The existing site was analyzed for meeting the programming needs of the department. The location meets the basic current and future needs of the fire department, however the existing site and building does have some minor limitations to be able to meet all the Best Practices and programming needs for an efficient and safe fire station design. Due to the conditions of the site and the existing building being relatively new only one option was developed based on the programming needs and Best Practices.

In this option, the majority of the existing structure would remain in place with a significant first floor addition to the east and smaller addition to the south. A few minor concessions need to be made to fit the program determined from the space needs analysis on the site. In order to re-use the existing apparatus bays there is limited room on site to add additional bays to the south as well as an apparatus bypass drive, creating a southern addition of one apparatus bay that is not as wide as the ideal width to maintain the bypass drive. The existing apparatus bays are not deep enough to meet the needs of the department thus resulting in an addition on the east end of the bays to extend them out the ideal length. Maintaining the existing fitness room as fitness prohibits the use of any exterior fitness opportunities as the existing fitness room is internal. The existing office areas are re-purposed as office areas with additional space in the east addition. The east addition allows for a second floor to be utilized to house the residence area along with a few training features.

Combined Station

As part of the study, the possibility of combing two existing stations into a single combined station was analyzed. A new generic site of an ideal size of 4 to 4.5 acres was used and developed to meet all programming needs of the department. This size meets the basic current and future needs of the fire department as well as all Best Practices for an efficient and safe fire station design.

Due to the challenges that exist with building a new station at the Station 2 location as well as remodeling and adding on to the Station 4 location while keeping both stations operational during construction, a potential new single site was analyzed. If a decision is made to move to a new single site, a combined plan is included in this report which shows a good fit on a generic site incorporating required programming. All potential new sites need to be evaluated to see if they meet the needs of the program as indicated in this report. A new larger site would allow for ideal circulation on site, separate public and firefighter drives and parking, and all programmed spaces to be ideal in size with an efficient layout that meet the operational needs of the fire department.

The existing Central Maintenance Facility site was discussed during this analysis as a possible candidate for the new site location, however this site only provides roughly 2.77 acres of buildable area. For the combined station to properly fit on this site, significant concessions would need to be made to the station which would not meet primary needs nor Best Practices.

Building a new single fire station on a new site would allow the existing stations to remain fully operational while the new fire station is being built. Once the department transitions to the new single station, the existing stations could be used for other city functions or put up for sale.

COST IMPLICATIONS

The multiple variables and options for general cost comparison value are listed below for each station approach. The estimates shown in this study represent current construction costs and will need to be adjusted to future costs at the time of proceeding on any particular approach. Further, these costs represent a mid-point value within a plus or minus 10% range as is relevant for the preliminary stage of the current designs but are relevant for comparison of different approaches to meet the needs of the fire department well into the future.

Station 1: The cost implications vary between the addition/remodel of roughly $15.1 million and all new station at roughly $21.8 million. While this is a noticeable difference in construction cost, there are benefits in the new construction approach that could mitigate the additional costs. These would include the ability to meet all of the ideal operational features for this fire station in an efficient manor.

Station 2: The cost implications for the all new station are roughly $19.2 million.

Station 3: The cost implications vary between the addition/remodel of roughly $16 million and all new station at roughly $17.7 million. While this is a noticeable difference in construction cost, there are benefits in the new construction approach that could mitigate the additional costs. These would include the ability to meet all of the ideal operational features for this fire station in an efficient manor.

Station 4: The cost implications for the addition/remodel are roughly $15.2 million.

Combined Station: The study reviewed the option to combine Station 2 and Station 4 into a combined station on a new site. The cost review of this approach resulted in a construction cost of $25.2 million for this larger single fire station. This combined site construction cost would be less than the total of building a new Station 2 and the remodel/addition of Station 4 of roughly $34.4 million. While land would need to be purchased for the new combined station approach to be more centrally located adding additional cost to the project which is undetermined at this time, there is also opportunity to sell the properties that Station 2 and Station 4 creating revenue for the city or the properties could be re-purposed for other city use.

CONCLUSION

This study indicates that there are significant current issues with all four fire station facilities in the department. The program of space needs found that there is a combined square foot shortage of over 97,000 square feet between all four stations that severely impact the current and future fire department operations, occupant health and safety, as well as future costs to maintain each building. The following recommendations will address significant firefighter health concerns, will fire station design Best Practices as well as position the fire department facilities to meet the long term needs of the City of Lakeville. This report develops recommendations based on the developed concept plans to address each facility which are summarized below:

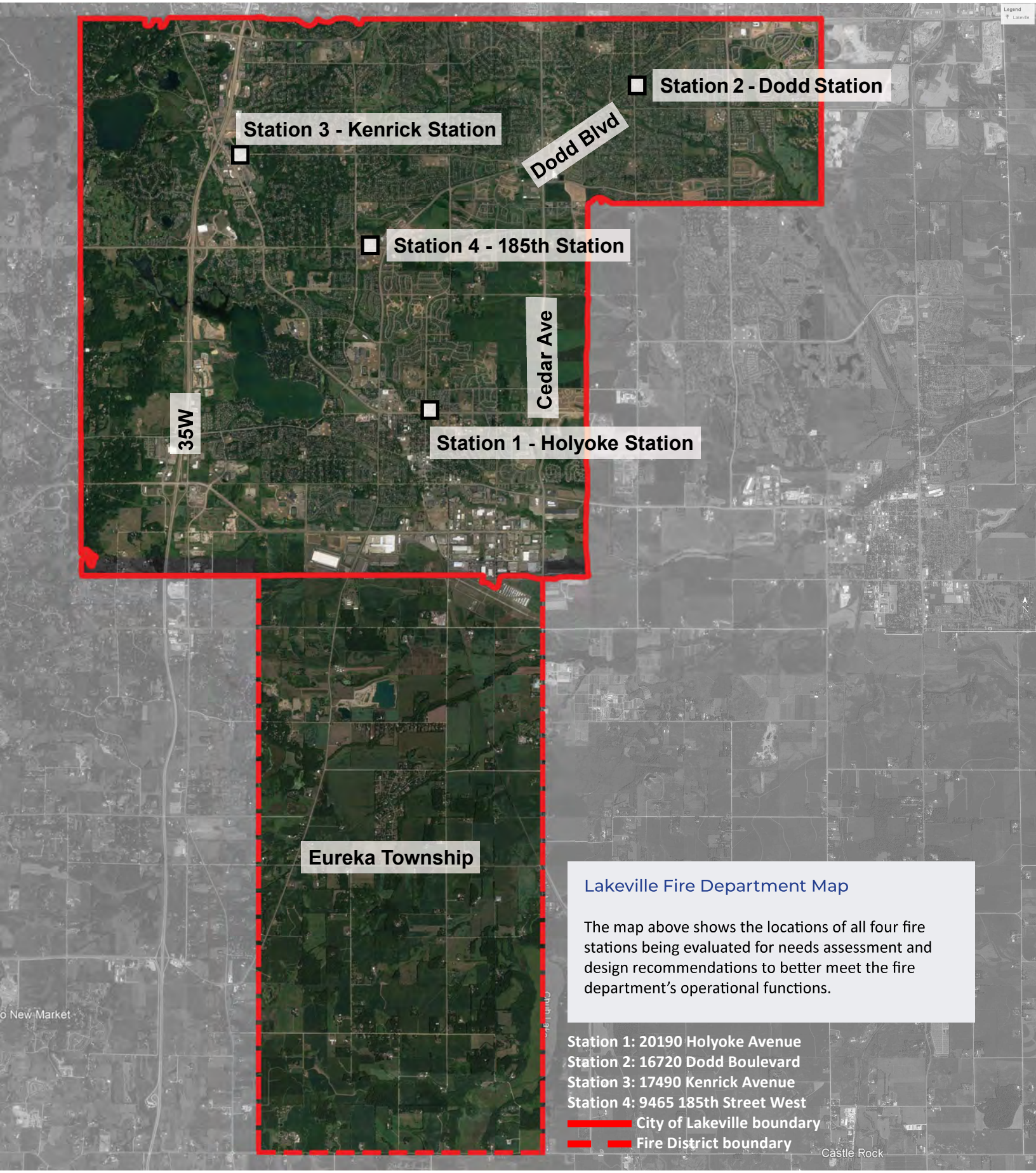
Station 1: While this station would support an addition and remodel or an all new building, the recommendation is to move forward with the addition and remodel approach as this approach is significantly less costly than the all new building approach and would still meet the primary needs of the department for the foreseeable future.

Station 3: While this station would support an addition and remodel or an all new building, the recommendation is to move forward with the addition and remodel approach as this approach is less costly than the all new building approach. While the addition and remodel approach is only slightly less costly than the all new building approach, the need to purchase the adjacent land to make the all new building approach work would add additional cost making the difference in estimated project costs greater. The additional and remodel approach would meet the primary needs of the department for the foreseeable future.

Station 2 & Station 4: The recommendation for Station 2 and Station 4 is to move forward with the combined station approach on a new site. This approach would provide the ability to meet all ideal operational needs including providing appropriate health and safety features critical for firefighters. Relocating both stations to a new site provides a more centralized response within the heavy response traffic area and eliminates response time issues created by the roundabout at the current Station 2 location. Additionally, combining the two stations into one facility is a more fiscally responsible approach as the overall cost of one new facility is less than dealing with each station separately. This is more cost effective both in the sense of initial construction cost as well as in the long term maintenance and operational costs.

The timeline for the above recommendations including the short-term fixes to meet staffing needs should begin with the short-term remodel fix of Station 4 - 185th Station in the coming months and followed by the short-term remodel of Station 1 - Holyoke Station next year. During this period the design process should begin for the all new combined station approach to replace Station 2 and Station 4 followed by the addition and remodel of Station 1 - Holyoke Station and then Station 3 - Kenrick Station. Beginning with the combined station allows room for equipment and staff from Stations 1 and 3 to be temporarily relocated to the newly constructed combined station while those stations are under construction.

Lakeville Fire Department Location Map



Lakeville Fire Department Map

The map above shows the locations of all four fire stations being evaluated for needs assessment and design recommendations to better meet the fire department's operational functions.

Station 1

Holyoke Station

Station 1 is an existing fire station that was built in 1985. The station had a remodel in 1995 and again in 2012. The fire department consists of two levels, a main floor and a second level. The existing square footage of the fire station is 11,760 square feet. The property's current zoning designation is P/OS Public and Open Space District. The site has a gross area of 4.25 acres with 2.11 acres of buildable area. The site is located at the intersection of Holyoke Avenue and 202nd Street West/County Road 50 across the street from City Hall and adjacent to residential properties.

Address

20190 Holyoke Avenue

Building Type
P/OS Public and Open Space District

Gross Area
4.25 Acres

Buildable Area
2.11 Acres

Station 1 - Holyoke Station

Site Analysis

Street Access - Safety

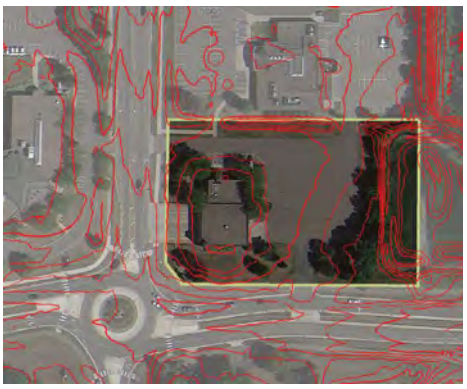
The site is located at the intersection of Holyoke Avenue and 202nd Street West/ County Road 50. There is good visibility of the site for apparatus to exit onto Holyoke Avenue. There is a roundabout at the southwest corner of the site at Holyoke Avenue and 202nd Street West/County Road 50, which does pose a safety issue for apparatus responding as vehicles tend to stop in the roundabout.

Wetlands

There is a wetland located on the east side of the property.

Tree Coverage Map

There is a line of trees along the wetland on the east side of the site. There are trees scattered on site around the building.



Topography

The topography is relatively flat where the existing parking lot and building are located. The topography dips at the north property line. The topography slopes down towards the wetland on the east side of the site.

Buildable Area

The site is approximately 4.25 acres. 2.11 acres are buildable, but the wetland to the east reduces that some.

Infrastructure

The existing site layout does provide adequate circulation and traffic flow. There is a drive that extends from this site directly north to the Heritage Center that does not need to be maintained. The site does have room for building and parking expansion. There is not separate public and firefighter parking. The current public parking is accessed from the same drives used for apparatus returning to the station which is not ideal.

Apparatus are unable to move between the west and east sides of the site without exiting onto either Holyoke Avenue or 202nd Street West/County Road 50 to re-enter the site.

Station Access/Response Time

The apparatus return off of Holyoke Avenue and 202nd Street West/County Road 50. The apparatus respond onto Holyoke Avenue towards the west. There is a roundabout at the intersection of Holyoke Avenue and 202nd Street West/ County Road 50 on the southwest corner of the site. When apparatus have their lights and sirens on, vehicles tend to stop in the roundabout affecting response time. There is a fire truck warning sign north of the station for vehicles heading south on Holyoke Avenue.

Maintenance

The mechanical and electrical systems have reached the end of their life cycle and need to be replaced. The generator does not provide full building coverage, so a new generator with full building coverage is required.

Health & Safety

The existing station raises several health and safety concerns for the firefighters that utilize the station. There is currently cross contamination between spaces and items that contain carcinogens that are directly affecting the health of firefighters. The turnout gear is currently stored in the apparatus bays where the apparatus expels carcinogens directly onto cleaned turnout gear. There is no tailpipe exhaust removal system in the apparatus bays. There is no true separate decontamination area for firefighters to decontaminate or clean gear and equipment. There is a curb between the station area and apparatus bays which is a trip hazard.

Insufficient Space

The existing station has spaces that are currently too small for day-to-day operations including the SCBA, laundry/gear wash/decon, and storage. There is not enough room in the current station to create additional spaces that are needed for operational use such as individual dorms and restrooms, separate turnout gear, separate gear wash/decontamination, separate laundry, decontamination restrooms/showers, training space, and fitness

Fire Department Operations

Day-to-day operations of the fire department have changed over the years and the current fire station does not meet the needs of the department. As the department switches from a paid-on-call model to a hybrid model with some full-time staff, the station is not set up to accommodate dorm rooms and restrooms. There is space for classroom style training, but no space for other types of training. There are four existing apparatus bays, but only two are drive-through bays. The other two apparatus bays are back-in bays which are not ideal.

Existing Site & Conditions Analysis Summary

Fire Station 1 can be remodeled and expanded on site to meet primary needs. The station could remain operational while the additions are added and then the existing portion of the building could be remodeled.

A second approach would be to build a new station on site with the ideal layout and required spaces to meet all program needs. This approach would require phased construction. The existing station could remain operational while the new apparatus bays and center support areas are built and then the existing station could be demolished to finish the new station.

Functionally, this station does not meet current Best Practices for health and safety including carcinogen reduction or on-site training that would be expected in a current fire station. In addition, the station is undersized in many areas and does not have many required spaces. The building does not meet the current and future needs for fire department operations including all drive-through apparatus bays, individual dorms and restrooms, separate turnout gear, separate decontamination, and separate spaces for storage of equipment.

Option 1 Proposed Building Program

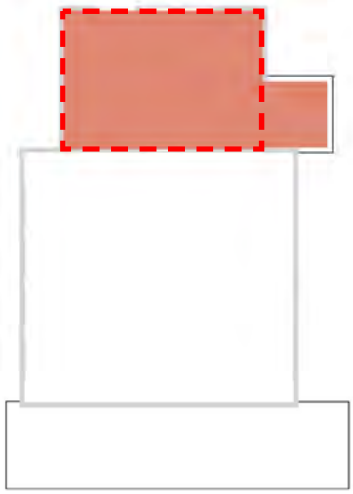
Option 1 Building Program

Public	4,558 SF
Administration	0 SF
Station Office	3,052 SF
Apparatus Bays / Training	11,843 SF
Decontamination	1,098 SF
Support	670 SF
Residence	3,559 SF
Common	1,044 SF
Circulation	3,119 SF
Exterior Walls	2,714 SF
Total Area (Gross SF)	31,657 SF
Existing Area	11,760 SF
Shortage	19,897 SF

This program meets primary needs with some concessions due to the re-use of the existing facility.

Option 1 Proposed Building Layout

First Floor



Second Floor

Building Layout Key

- Apparatus Bays
- Decontamination
- Support
- Public
- Station Offices
- Administration
- Residence
- Common
- Circulation
- Existing Building Footprint

Station 1 - Holyoke Station

Option 1 Proposed Site Layout

Highlights

- Adequate space for firefighter dayroom and dining
- Large fitness room for firefighter health
- Adequate space for individual firefighter dorm rooms and restrooms
- Drive-through bays
- Adequate space for separate support, decontamination, and storage spaces
- Meets primary needs

Station 1 - Holyoke Station

Option 2 Proposed Building Program

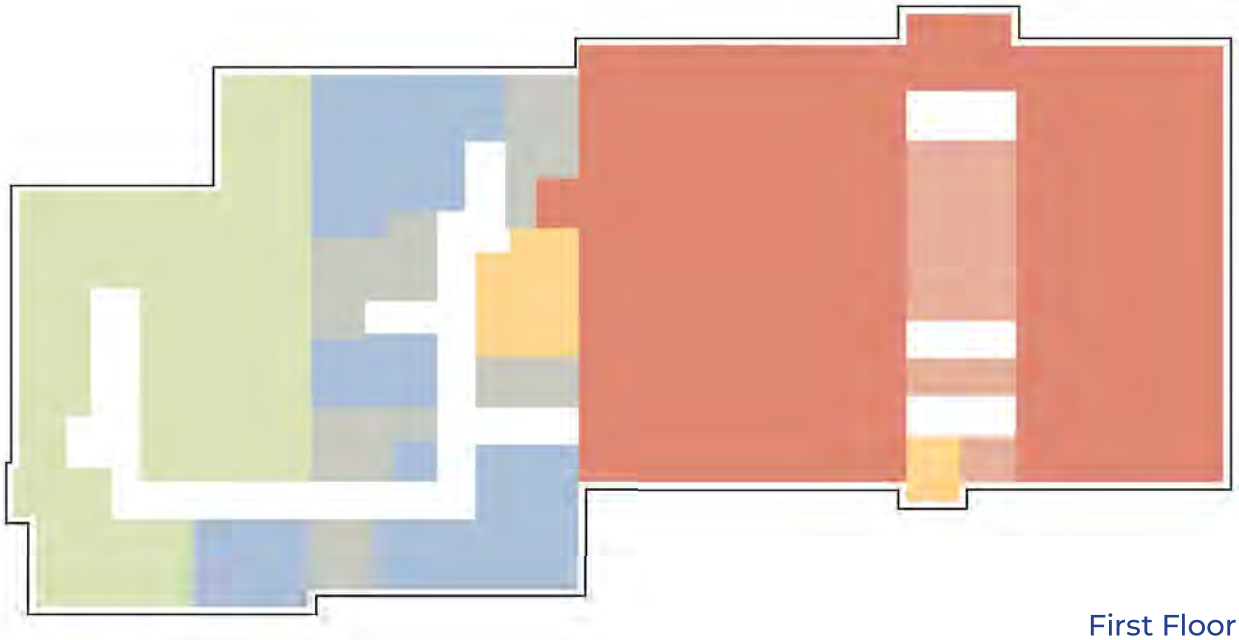
Option 2 Building Program

Public	4,490 SF
Administration	0 SF
Station Office	2,964 SF
Apparatus Bays / Training	12,900 SF
Decontamination	1,221 SF
Support	687 SF
Residence	3,713 SF
Common	2,303 SF
Circulation	3,119 SF
Exterior Walls	3,581 SF
Total Area (Gross SF)	34,978 SF
Existing Area	11,760 SF
Shortage	23,218 SF

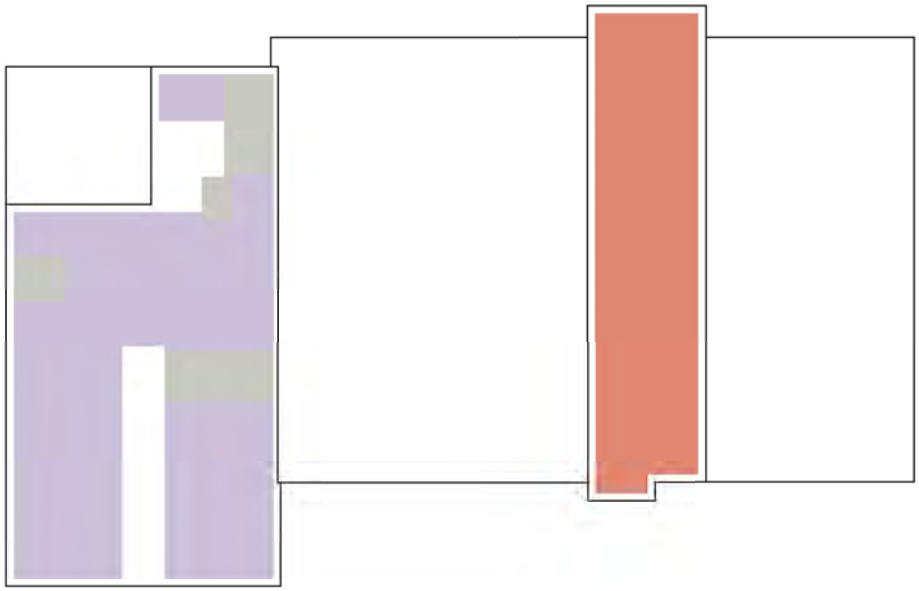
This program meets all program needs and Best Practices.

Station 1 - Holyoke Station

Option 2 Proposed Building Layout



First Floor

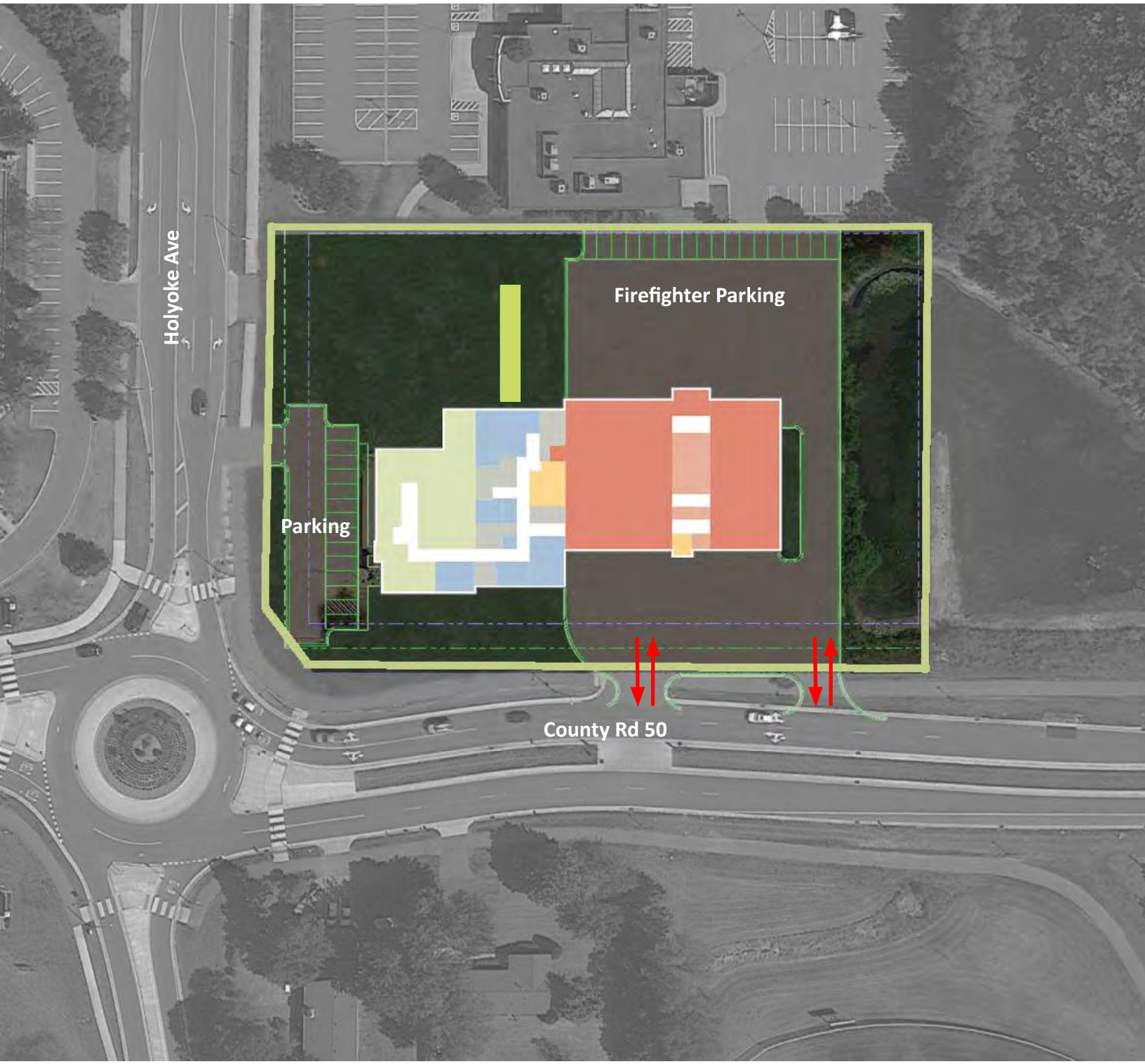


Second Floor

Building Layout Key

- Apparatus Bays
- Decontamination
- Support
- Public
- Station Offices
- Administration
- Residence
- Common
- Circulation

Option 2 Proposed Site Layout



Highlights

- Welcoming public entrance visible from the street with visible parking
- Adequate space for firefighter dayroom and dining
- Large fitness room for firefighter health
- Adequate space for individual firefighter dorm rooms and restrooms
- Adequate space for separate support, decontamination, and storage spaces
- Adequate space for firefighter training
- Meets all program needs

Station 2

Dodd Station

Station 2 is an existing fire station that was built in 1976. The station had an addition in 1985 and again in 1991. In 2003, the station was remodeled. The fire department consists of a main floor. The existing square footage of the fire station is 5,760 square feet. The property's current zoning designation is P/OS Public and Open Space District. The site has a gross area of 2.54 acres with 1.40 acres of buildable area. The site is located at the intersection of Dodd Boulevard and Flagstaff Avenue surrounded by residential properties.

Address

16720 Dodd Boulevard

Building Type
P/OS Public and Open Space District

Gross Area
2.54 acres

Buildable Area
1.40 acres

Station 2 - Dodd Station

Existing Site Analysis

Street Access - Safety

The site is located at the intersection of Dodd Boulevard and Flagstaff Avenue. There is good visibility of the site for apparatus to exit onto Flagstaff Avenue. There is a roundabout at the northwest corner of the site at Dodd Boulevard and Flagstaff Avenue, which does pose a safety issue for apparatus responding as vehicles tend to stop in the roundabout.

Wetlands

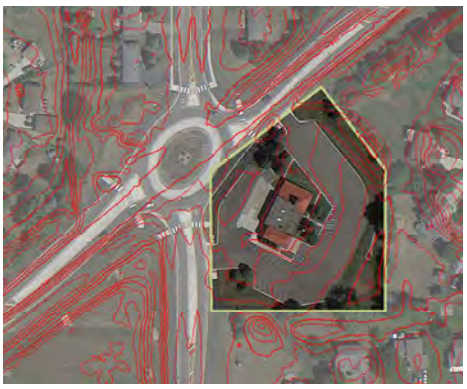
There are no wetlands located on the property.

Wetland Key

- Potential Wetland - HCWI
- Probable Wetland - HCWI
- Probable Wetland - NWI

Tree Coverage Map

There are a few trees scattered on site around the building and parking.



Topography

The topography is relatively flat. The topography dips down in the southeast corner of the property. The topography slopes up on the northeast property line.

Buildable Area

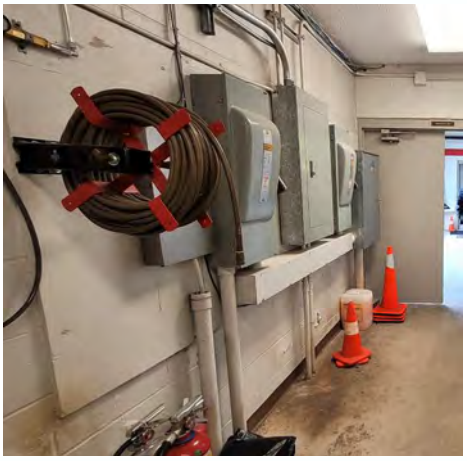
The site is approximately 2.54 acres. 1.40 acres are buildable, but some of that buildable area is part of the roundabout.

Infrastructure

The existing site layout does not provide adequate circulation and traffic flow. The site does have some room for building and parking expansion, but the drive locations are limited due to the location of the roundabout. The current public parking is accessed from the same drives used for apparatus returning to the station which is not ideal.

Station Access/Response Time

The apparatus return off of Dodd Boulevard and Flagstaff Avenue. The apparatus respond onto Flagstaff Avenue towards the west. There is a roundabout at the intersection of Dodd Boulevard and Flagstaff Avenue at the northwest corner of the site. When apparatus have their lights and sirens on, vehicles tend to stop in the roundabout affecting response time. There are fire truck warning signs in both directions on Dodd Boulevard and Flagstaff Avenue.



Maintenance

The mechanical systems consist of a furnace only and no rooftop units. The mechanical and electrical systems have reached the end of their life cycle and need to be replaced. The generator does not provide full building coverage, so a new generator with full building coverage is required.

Health & Safety

The existing station raises several health and safety concerns for the firefighters that utilize the station. There is currently cross contamination between spaces and items that contain carcinogens that are directly affecting the health of firefighters. The turnout gear is currently stored in the apparatus bays where the apparatus expels carcinogens directly onto cleaned turnout gear. There is no tailpipe exhaust removal system in the apparatus bays. There is no true separate decontamination area for firefighters to decontaminate or clean gear and equipment and there is no shower in the station for decontamination. There is a curb between the station area and apparatus bays which is a trip hazard.

Insufficient Space

The existing station has many spaces that are currently too small for day-to-day operations including the apparatus bays, SCBA/laundry/gear wash/decon, and storage. There is not enough room in the current station to create additional spaces that are needed for operational use such as individual dorms and restrooms, separate turnout gear, separate gear wash/decontamination, separate laundry, separate SCBA, decontamination restrooms/showers, training space, and fitness.

Fire Department Operations

Day-to-day operations of the fire department have changed over the years and the current fire station does not meet the needs of the department. As the department switches from a paid-on-call model to a hybrid model with some full-time staff, the station is not set up to accommodate dorm rooms and restrooms. There is space for classroom style training, but no space for other types of training. There are four existing apparatus bays, but only one is a drive-through bay. The other three apparatus bays are back-in bays which is not ideal.

Existing Site & Conditions Analysis Summary

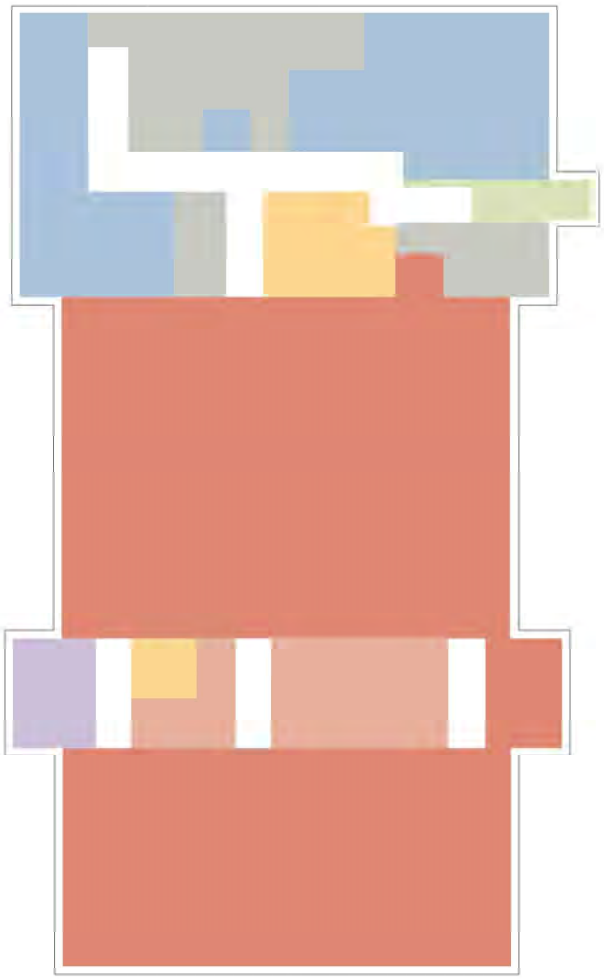
Fire Station 2 cannot be remodeled and expanded on site. Three of the four existing apparatus bays are too short. Due to the existing structure, the three apparatus bays can not be lengthened. For this reason, a new station must be built to meet all program needs. This approach would require phased construction. The existing station could remain operational while two of the five new apparatus bays and a portion of the center support area are built and then the existing station could be demolished to finish construction on the new station.

Functionally, this station does not meet current Best Practices for health and safety including carcinogen reduction or on-site training that would be expected in a current fire station. In addition, the station is significantly undersized in most areas and does not have many required spaces. The buildable area on site is limited and doesn't allow for separate public and firefighter parking and adequate front and back aprons with room for apparatus to maneuver and train easily around the site. The building does not meet the current and future needs for fire department operations including all drive-through apparatus bays of acceptable length, individual dorms and restrooms, separate turnout gear, separate decontamination, and separate spaces for storage of equipment.

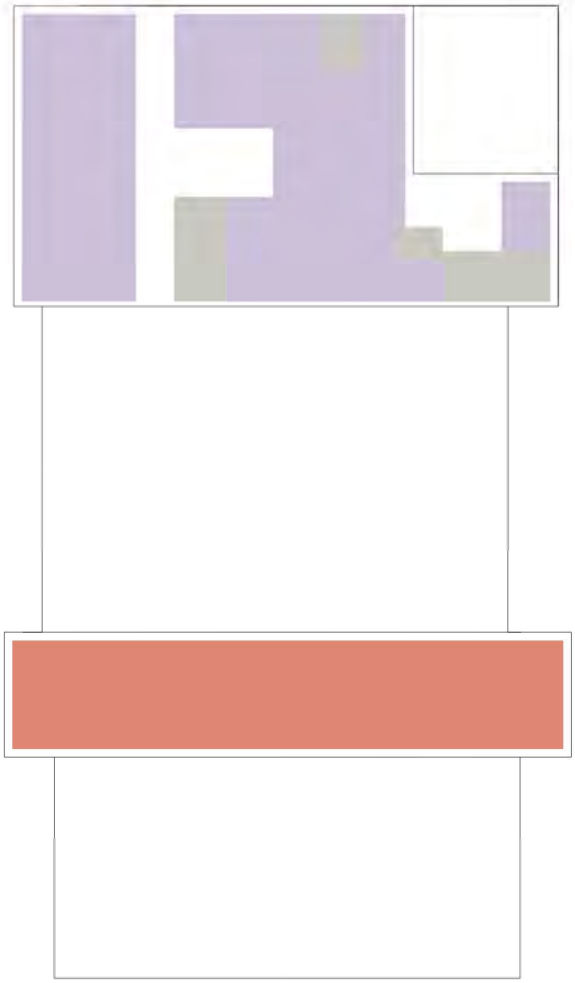
Existing Site Building Program

Public	217 SF
Station Office	2,726 SF
Apparatus Bays / Training	13,274 SF
Decontamination	1,127 SF
Support	690 SF
Residence	4,095 SF
Common	2,326 SF
Circulation	2,322 SF
Exterior Walls	3,658 SF
Total Area (Gross SF)	30,435 SF
Existing Area	5,760 SF
Shortage	24,675 SF

This program meets all program needs and Best Practices.



First Floor



Second Floor

Building Layout Key

- Apparatus Bays
- Decontamination
- Support
- Public
- Station Offices
- Administration
- Residence
- Common
- Circulation

Station 2 - Dodd Station

Proposed Site Layout

Highlights

- Adequate space for firefighter dayroom and dining
- Large fitness room for firefighter health
- Adequate space for individual firefighter dorm rooms and restrooms
- Adequate space for separate support, decontamination, and storage spaces
- Adequate space for firefighter training
- Meets all program needs

Station 3

Kenrick Station

Station 3 is an existing fire station that was built in 1988. The fire department consists of a main floor. The existing square footage of the fire station is 5,341 square feet. The property's current zoning designation is C-3 General Commercial District/Freeway Corridor District. The site has a gross area of 3.17 acres with 1.80 acres of buildable area. The site is located off of Kenrick Avenue and 175th Street West with commercial properties to the south and west and residential properties to the east.

Address
17490 Kenrick Avenue

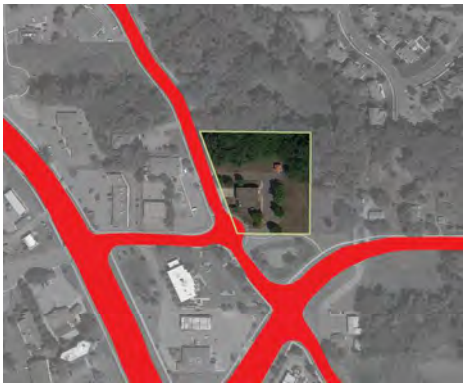
Building Type
C-3 General Commercial District/ Freeway Corridor District

Gross Area
3.17 acres

Buildable Area
1.80 acres

Station 3 - Kenrick Station

Existing Site Analysis



Street Access - Safety

The site is located at the intersection of Kenrick Avenue and 175th Street West. There is good visibility of the site for apparatus to exit onto Kenrick Avenue. There is a roundabout at the southwest corner of the site at Kenrick Avenue and 175th Street West, which does pose a safety issue for apparatus responding as vehicles tend to stop in the roundabout.

Wetlands

There are no wetlands located on the property.

Wetland Key

- Potential Wetland - HCWI
- Probable Wetland - HCWI
- Probable Wetland - NWI

Tree Coverage Map

There are a few trees scattered on site around the building. There is a line of trees just east of the parking lot. There is a heavily treed area on the north portion of the property.

Topography

The topography dips down in the southwest corner of the property between the building and roundabout. The topography slopes up east of the parking lot. The topography slopes down north of the parking lot.

Buildable Area

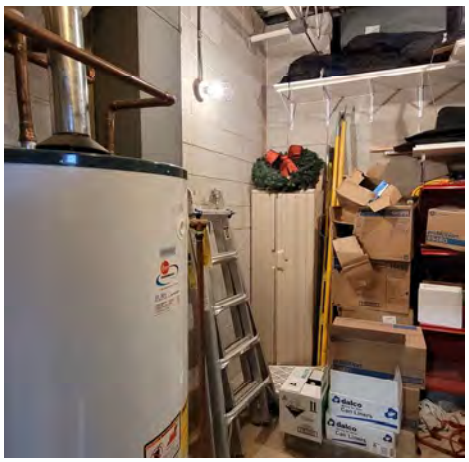
The site is approximately 3.17 acres. 1.80 acres are buildable. There is an existing communications building located on the site northeast of the station. The location of the communications building makes it difficult to build on the north and east portions of the site.

Infrastructure

The existing site layout does provide adequate circulation and traffic flow. The site does have room for building and parking expansion, but the existing communications building restricts where the expansions can be. The drive locations are limited due to the location of the roundabout and the pond just south of the site. The current public parking is accessed from the same drives used for apparatus returning to the station which is not ideal. Apparatus are unable to move between the west and east sides of the site without exiting onto Kenrick Avenue to re-enter the site via a separate drive.

Station Access/Response Time

The apparatus return and respond off of Kenrick Avenue towards the west. There is a roundabout at the intersection of Kenrick Avenue and 175th Street West at the southwest corner of the site. When apparatus have their lights and sirens on, vehicles tend to stop in the roundabout affecting response time. There are fire truck warning signs with lights in both directions on Kenrick Avenue and one heading east on 175th Street West.

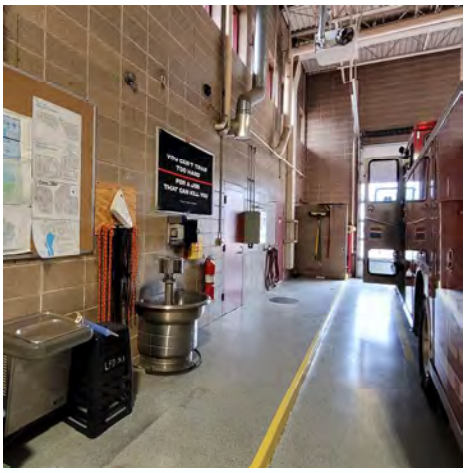


Maintenance

The mechanical and electrical systems have reached the end of their life cycle and need to be replaced. The generator does not provide full building coverage, so a new generator with full building coverage is required.

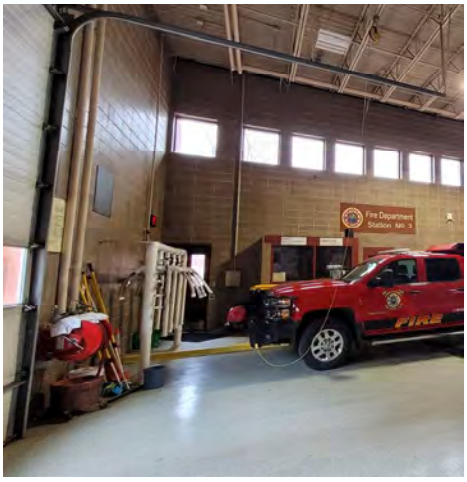
Health & Safety

The existing station raises several health and safety concerns for the firefighters that utilize the station. There is currently cross contamination between spaces and items that contain carcinogens that are directly affecting the health of firefighters. The turnout gear is currently stored in the apparatus bays where the apparatus expels carcinogens directly onto cleaned turnout gear. There is no tailpipe exhaust removal system in the apparatus bays. There is no true separate decontamination area for firefighters to decontaminate or clean gear and equipment. There is a curb between the station area and apparatus bays which is a trip hazard.



Insufficient Space

The existing station has many spaces that are currently too small for day-to-day operations including the SCBA/laundry/gear wash/decon, dayroom, and storage. There is not enough room in the current station to create additional spaces that are needed for operational use such as individual dorms and restrooms, separate turnout gear, separate gear wash/decontamination, separate laundry, separate SCBA, decontamination restrooms/showers, training space, and fitness.



Fire Department Operations

Day-to-day operations of the fire department have changed over the years and the current fire station does not meet the needs of the department. As the department switches from a paid-on-call model to a hybrid model with some full-time staff, the station is not set up to accommodate dorm rooms and restrooms. There is space for classroom style training, but no space for other types of training. There are two existing apparatus bays, but only one is a drive-through bay and the other apparatus bay is a back-in bay which is not ideal.

Existing Site & Conditions Analysis Summary

Fire Station 3 can be remodeled and expanded on site to meet primary needs, although the site and building layouts are not ideal due to the existing communications building. The station could remain operational while the additions are added and then the existing portion of the building could be remodeled.

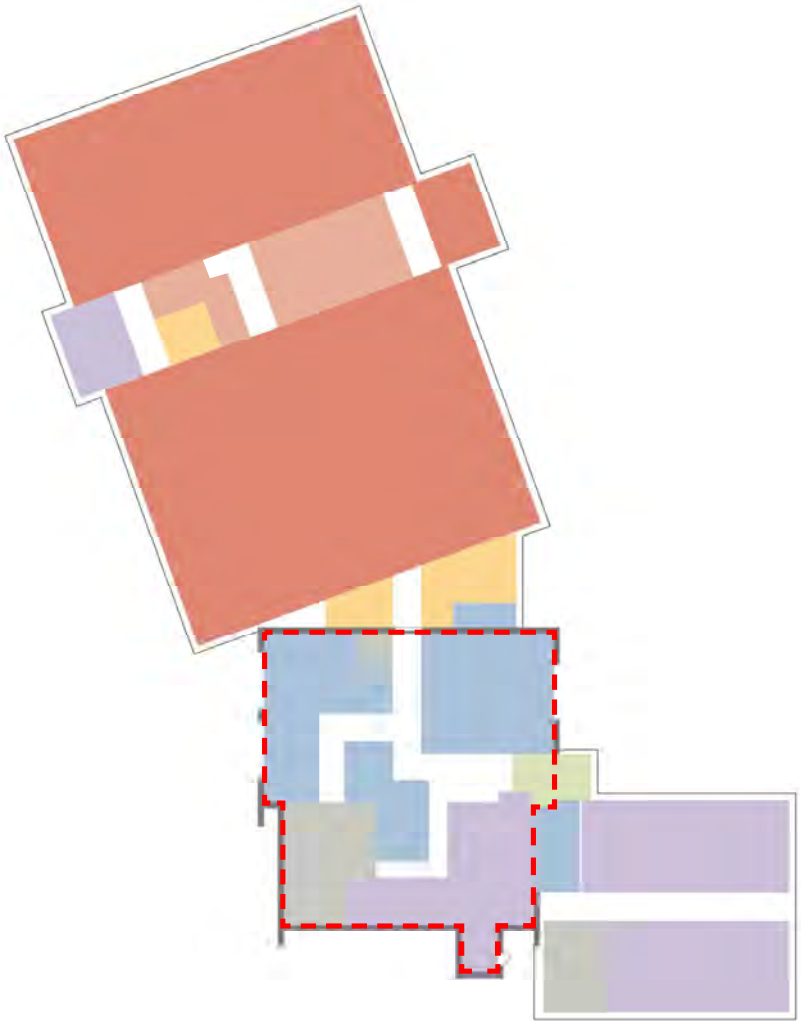
A second approach would be to build a new station on site to meet all program needs. With the location of the existing communications building and the location of the roundabout, it is difficult to locate a new building on site in an ideal layout that would meet all program needs. As response south onto 175th Street West would be ideal to avoid the roundabout completely, this approach would required purchasing the vacant property directly east of the current fire station property. This would allow for a new fire station to be built while the existing fire station remains fully operation. Once the new fire station is complete, the existing fire station could be demolished. In this approach the existing communications building does not interfere with fire operations.

Functionally, this station does not meet current Best Practices for health and safety including carcinogen reduction or on-site training that would be expected in a current fire station. In addition, the station is significantly undersized in many areas and does not have many required spaces. The building does not meet the current and future needs for fire department operations including all drive-through apparatus bays, individual dorms and restrooms, separate turnout gear, separate decontamination, and separate spaces for storage of equipment.

Existing Site Building Program

Public	205 SF
Station Office	2,627 SF
Apparatus Bays / Training	13,178 SF
Decontamination	1,127 SF
Support	657 SF
Residence	3,724 SF
Common	1,050 SF
Circulation	2,313 SF
Exterior Walls	2,128 SF
Total Area (Gross SF)	27,009 SF
Existing Area	5,341 SF
Shortage	21,668 SF

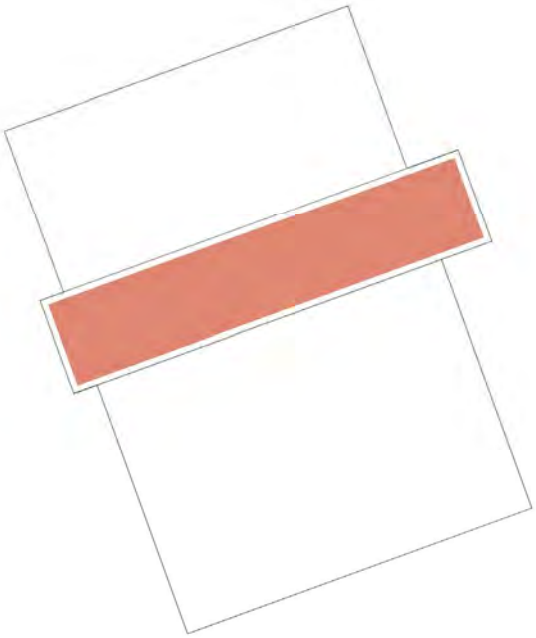
This program meets primary needs with some concessions due to the re-use of the existing facility.



First Floor

Building Layout Key

- Apparatus Bays
- Decontamination
- Support
- Public
- Station Offices
- Administration
- Residence
- Common
- Circulation
- Existing Building Footprint



Second Floor

Option 1 Proposed Site Layout

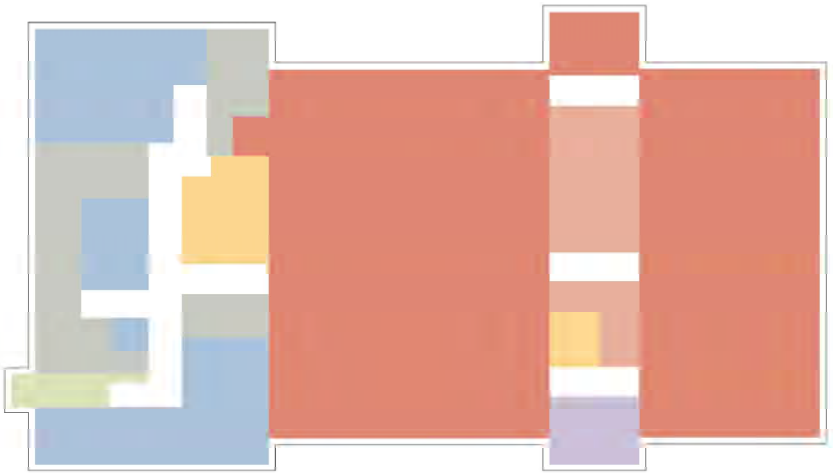
Highlights

- Adequate space for firefighter dayroom and dining
- Large fitness room for firefighter health
- Adequate space for individual firefighter dorm rooms and restrooms
- Adequate space for separate support, decontamination, and storage spaces
- Adequate space for firefighter training
- Meets primary needs

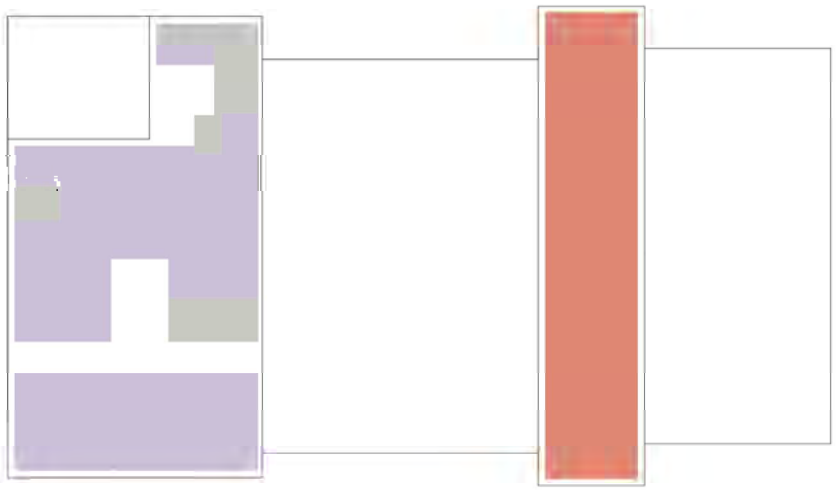
Existing Site Building Program

Public	214 SF
Station Office	2,714 SF
Apparatus Bays / Training	13,260 SF
Decontamination	1,127 SF
Support	690 SF
Residence	4,082 SF
Common	2,271 SF
Circulation	2,313 SF
Exterior Walls	2,720 SF
Total Area (Gross SF)	29,391 SF
Existing Area	5,341 SF
Shortage	24,050 SF

This program meets all program needs and Best Practices.



First Floor

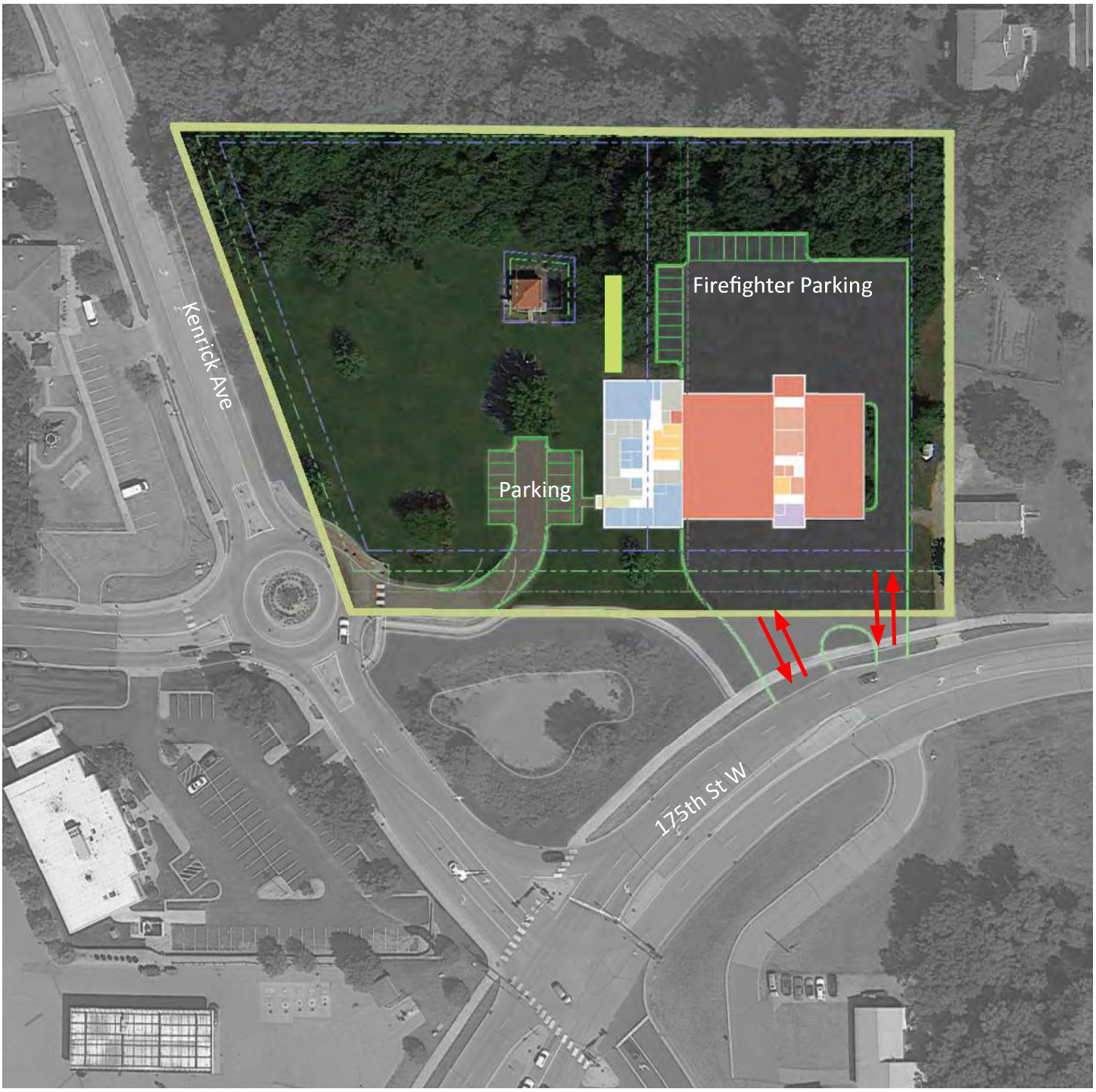


Second Floor

Building Layout Key

- Apparatus Bays
- Decontamination
- Support
- Public
- Station Offices
- Administration
- Residence
- Common
- Circulation

Option 2 Proposed Site Layout



Highlights

- Adequate space for firefighter dayroom and dining
- Large fitness room for firefighter health
- Adequate space for individual firefighter dorm rooms
- Adequate access to street for quick response times
- Meets current response time goals
- Separate public parking from firefighter parking
- Adequate front and back aprons for apparatus to maneuver and train around site
- Allows for additional space for public programming if desired
- Meets all program needs

Station 4

185th Station

Station 4 is an existing fire station that was built in 2002. The station had a remodel in 2012. The fire department consists of a main floor. The existing square footage of the fire station is 12,632 square feet. The property's current zoning designation is P/OS Public and Open Space District. The site has a gross area of 5.06 acres with 4.04 acres of buildable area. The site is located on the north side of 185th Street West between Ipava Avenue and Dodd Boulevard adjacent to commercial properties.

Address

9465 185th Street West

Building Type
P/OS Public and Open Space District

Gross Area
5.06 acres

Buildable Area
4.04 acres

Station 4 - 185th Station

Existing Site Analysis

Street Access - Safety

This site is located on the north side of 185th Street West between Ipava Avenue and Dodd Boulevard. There is good visibility of the site for apparatus to exit onto 185th Street West. 185th Street West is a four lane divided road with surmountable curb for apparatus to respond east or west.

Wetlands

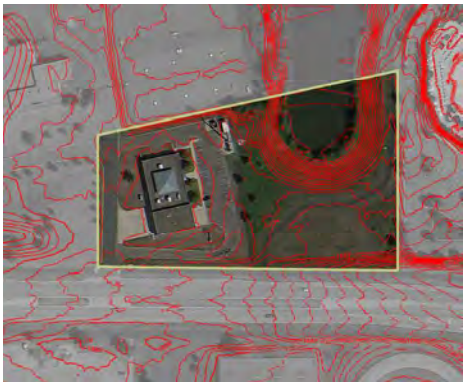
There is a wetland located on a portion of the northeast corner of the property.

Wetland Key

- Potential Wetland - HCWI
- Probable Wetland - HCWI
- Probable Wetland - NWI

Tree Coverage Map

There are a few trees scattered on site around the building and east of the parking lot. There is a line of trees around the wetland.



Topography

The topography if fairly flat across the site where the building and parking lot are. The topography slopes down at the north property line and towards the wetland.

Buildable Area

The site is approximately 5.06 acres. 4.04 acres are buildable although the wetland takes up a portion of this buildable space. The size of the buildable area provides room to expand towards the east.

Infrastructure

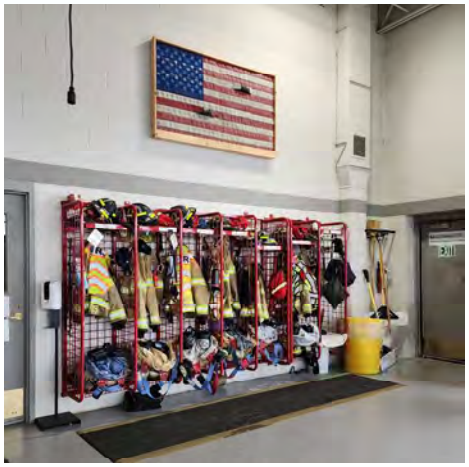
The existing site layout does provide adequate circulation and traffic flow. The site does have room for building and parking expansion. There is not separate public and firefighter parking and the current public parking is accessed from the same drives used for apparatus returning to the station which is not ideal.

Station Access/Response Time

The apparatus return and respond off of the drive to the west of the station. When responding, the apparatus head south on the drive to 185th Street West where there is surmountable curb for the divided four lane road to respond east or west. There are fire truck warning signs in both directions on 185th Street West.

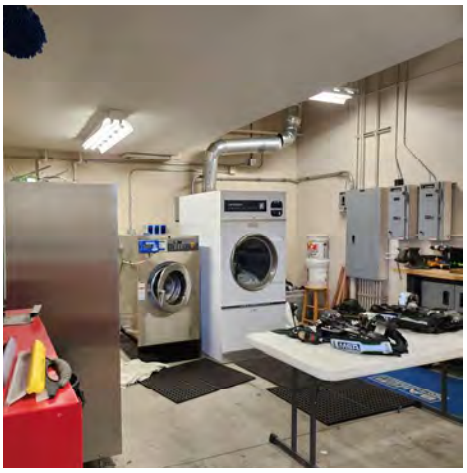
Maintenance

The mechanical and electrical systems have reached the end of their life cycle and need to be replaced. The generator does not provide full building coverage, but is more than likely not sized appropriately to cover additional loading that would occur with expanding the building size and would need to be replaced.



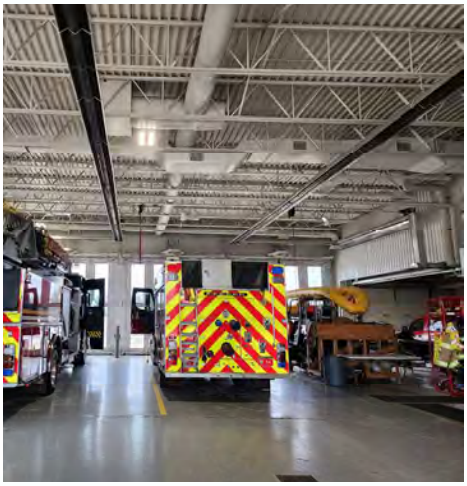
Health & Safety

The existing station raises several health and safety concerns for the firefighters that utilize the station. There is currently cross contamination between spaces and items that contain carcinogens that are directly affecting the health of firefighters. The turnout gear is currently stored in the apparatus bays where the apparatus expels carcinogens directly onto cleaned turnout gear. There is no tailpipe exhaust removal system in the apparatus bays. There are no decontamination showers for firefighters to decontaminate.



Insufficient Space

The existing station has many spaces that are currently too small for day-to-day operations including the two short bays, SCBA/laundry/gear wash/decon, and storage. There is not enough room in the current station to create additional spaces that are needed for operational use such as individual dorms and restrooms, separate turnout gear, separate gear wash/decontamination, separate laundry, separate SCBA, and decontamination restrooms/showers.



Fire Department Operations

Day-to-day operations of the fire department have changed over the years and the current fire station does not meet the needs of the department. As the department switches from a paid-on-call model to a hybrid model with some full-time staff, the station is not set up to accommodate dorm rooms and restrooms. There is space for classroom style training, but no space for other types of training. There are four existing apparatus bays, but only two are drive-through bays and the other two are short back-in bays which are not ideal.

Existing Site & Conditions Analysis Summary

Fire Station 4 can be remodeled and expanded on site to meet all program needs. The station could remain operational while the additions are added and then the existing portion of the building could be remodeled.

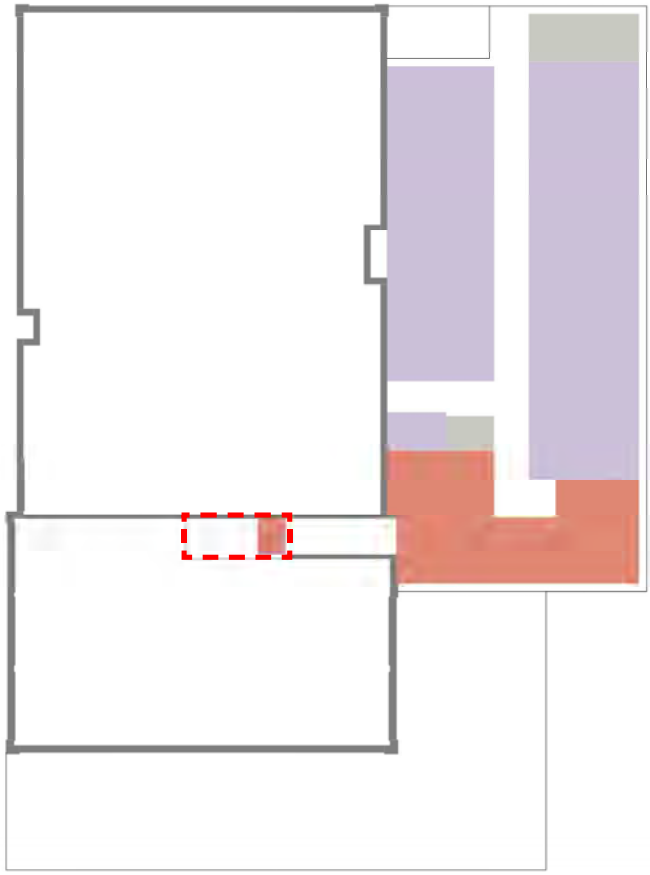
Functionally, this station does not meet current Best Practices for health and safety including carcinogen reduction or on-site training that would be expected in a current fire station. In addition, the station is undersized in some areas and does not have some required spaces. The building does not meet the current and future needs for fire department operations including all drive-through apparatus bays, individual dorms and restrooms, separate turnout gear, separate decontamination, and separate spaces for storage of equipment.

Existing Site Building Program

Public	1,657 SF
Administration	2,908 SF
Station Office	3,644 SF
Apparatus Bays / Training	8,924 SF
Decontamination	1,228 SF
Support	845 SF
Residence	3,680 SF
Common	1,456 SF
Circulation	2,824 SF
Exterior Walls	3,369 SF
Total Area (Gross SF)	30,535 SF
Existing Area	5,341 SF
Shortage	25,194 SF

This program meets all program needs and Best Practices.

First Floor



Second Floor

Building Layout Key

- Apparatus Bays
- Decontamination
- Support
- Public
- Station Offices
- Administration
- Residence
- Common
- Circulation
- Existing Building Footprint

Proposed Site Layout

Highlights

- Adequate space for classroom
- Adequate space for firefighter dayroom and dining
- Large fitness room for firefighter health
- Adequate space for individual firefighter dorm rooms and restrooms
- Adequate space for separate support, decontamination, and storage spaces
- Adequate space for firefighter training
- Meet all programs needs

Combined Station 2 & 4

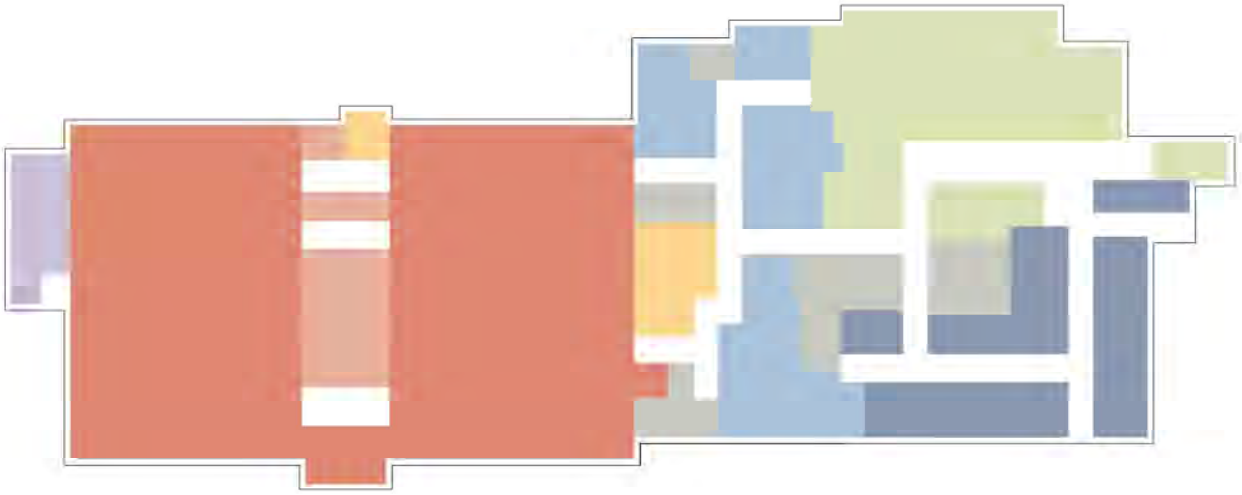
The Fire Department has had discussions regarding switching from two separate stations for stations 2 and 4 to one larger combined station. The site for station 2 is not ideal and the building cannot be remodeled and expanded due to existing structure, so a new station is needed. Water treatment is looking for additional space and the existing station 4 location could be ideal as it is located adjacent to the fire station. A combined station would streamline fire department operations and reduce maintenance costs as there would only be one station to maintain. The new site would need to be centrally located between the existing station 2 and 4 locations to provide acceptable response times to the existing areas of coverage.


ONE WAY


STATION No. 2
16720
1
2
3
4
city-wide
blood drive
AUGUST 9-10

Existing Site Building Program

Public	3,961 SF
Administration	2,919 SF
Station Office	3,041 SF
Apparatus Bays / Training	14,740 SF
Decontamination	1,208 SF
Support	808 SF
Residence	5,425 SF
Common	2,410 SF
Circulation	3,783 SF
Exterior Walls	3,918 SF
Total Area (Gross SF)	42,213 SF

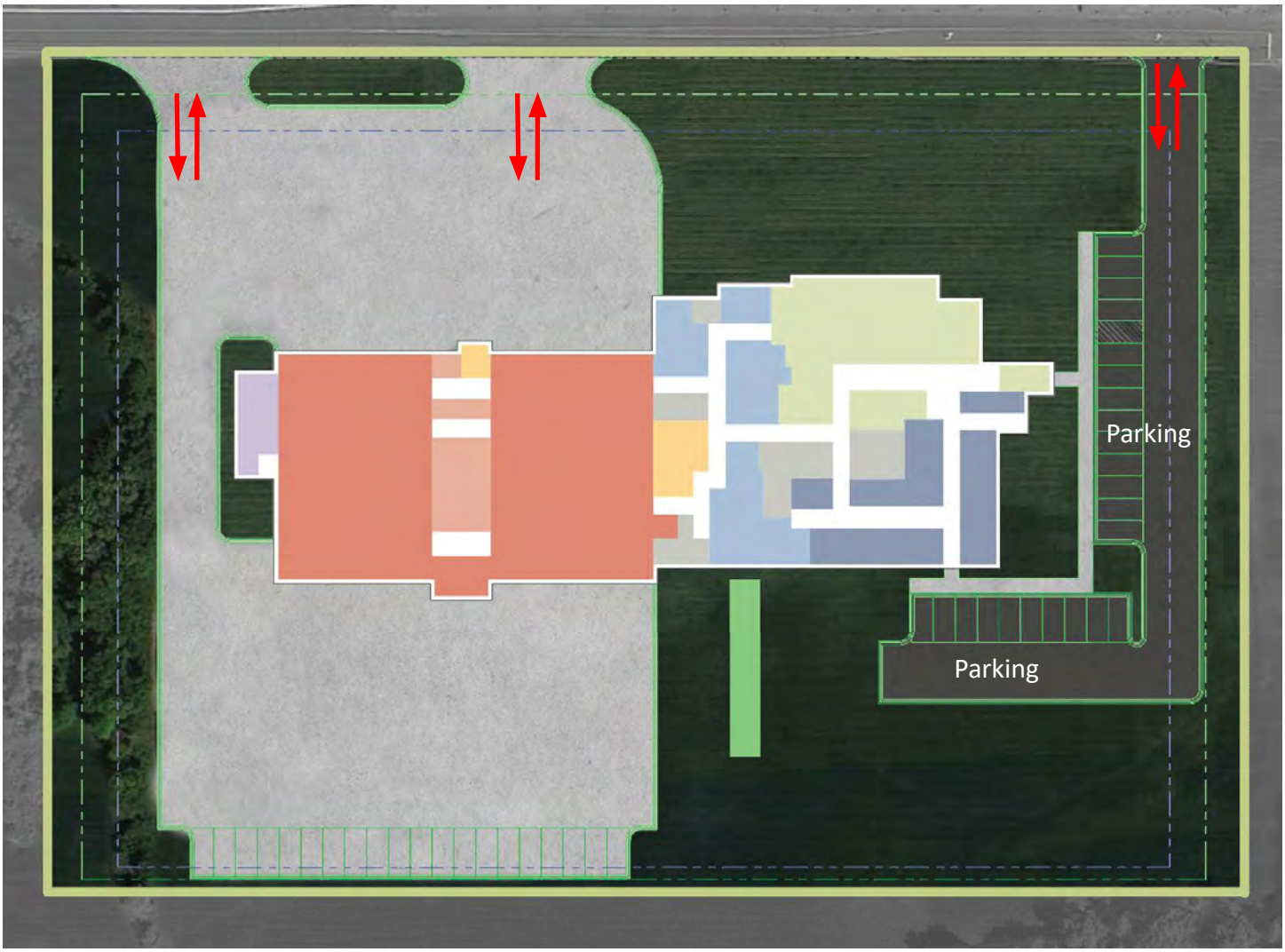


First Floor

Second Floor

Building Layout Key

- Apparatus Bays
- Decontamination
- Support
- Public
- Station Offices
- Administration
- Residence
- Common
- Circulation



Highlights

- Adequate space for classroom
- Adequate space for firefighter dayroom and dining
- Large fitness room for firefighter health
- Adequate space for individual firefighter dorm rooms and restrooms
- Adequate space for separate support, decontamination, and storage spaces
- Adequate space for firefighter training
- Adequate space for circulation and training on site
- Meets all program needs

Designing for the Future

Adapting to Change
As more cities and fire departments are transitioning to service models that include added firefighters and staff living and training on site, station designs must also adapt.

Modern Station Design
Designing individual, private dorm suites, along with providing spaces for firefighter wellness are key components of modern station designs.

Multi-Use Spaces
Developing spaces that can serve more than one function allow flexibility and an opportunity for growth and changing operational needs.

Examples include:
- Classrooms (Training / EOC)
- Conference / Community Rooms
- Collaborative Public Spaces
- Spaces Allocated for Future Growth

Physical & Mental Health

Higher Standards
Mental health is critical to firefighter overall health and should be factored into today's fire station designs.

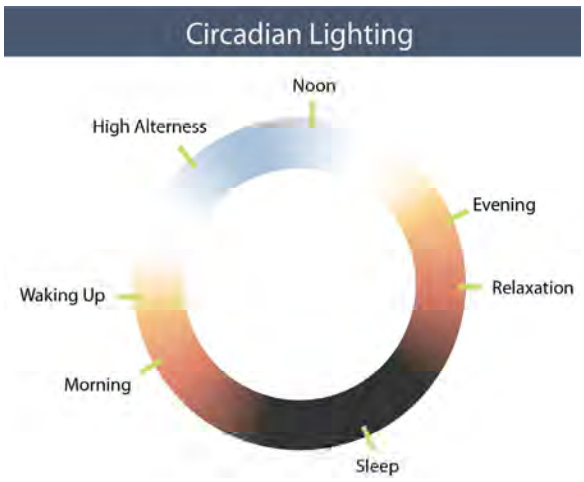
Space for Reflection
The development of spaces in and outside of the station for quiet reflection including interior wellness rooms and exterior meditation plazas and patios.

Sound Separation
Multiple layers of sound isolation maximize firefighter sleep. Development of a “dorm suite” design reduces sleep disruption between firefighters during the night and at shift change.

Mental Release
Comprehensive fitness areas for improved physical conditioning and mental release include both interior and connected exterior physical training areas.

Lighting
The “startle response" uses ramped lighting and paging systems while lighting design also maintains firefighter night vision as they progress from dorm room to apparatus bay. Use of circadian lighting within residential areas reinforces natural sleep cycles and promotes relaxation. Throughout the day, the color temperature of the light changes to mimic the natural lighting outside.

- Morning light tends to be warmer in color and helps promote waking up
- Midday light is cooler in color and helps promote high alertness
- Evening light tends to be warmer in color and helps promote relaxation



Training Elements

There are many benefits to providing training opportunities within a fire station design. These include reduced external training costs, increased training availability, and maintaining firefighter availability for calls during training sessions.

- Ground Ladder Training / Evolutions
- Confined Space Rescue
- Hose Advancement / Stairwell Evolutions
- High Rise Training
- Fire Attack
- Forcible Entry Prop
- Wall & Floor Breach
- Advanced Technical Rescue (Rope Rescue / Rappelling)
- Search & Rescue Maze
- Positive Pressure Ventilation & Vertical Ventilation
- Vehicle Extraction Plaza
- Aerial Ladder Truck
- Exterior Rappelling
- Hose Advancement – Hydrant / FDC
- Alarm Panel Training
- Sprinkler System Training

Carcinogen Reduction

Reducing Exposure
Cancer is a leading cause of death among firefighters due to the toxins they are exposed to while fighting fires. Fire station zoning is critical and there are many working strategies to implement that reduce exposures to harmful chemicals.

Carcinogen Reduction
For every 5° that body temperature rises, skin absorption rates of carcinogens increase by as much as 400% .

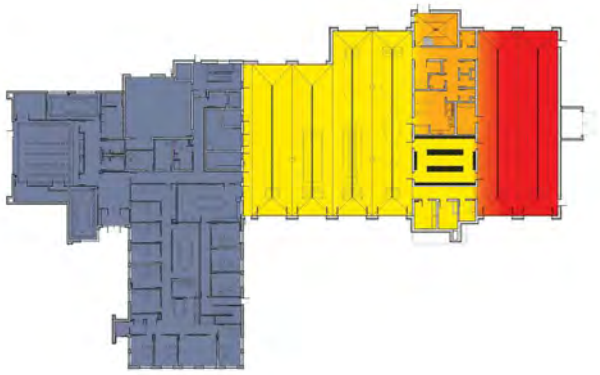
Proper HVAC prevents cross contamination between “Hot” zones with ramped exhaust and “Cold” zones with positive pressure.

Eliminating formaldehyde and other chemicals from building materials and controlling radon gas exposure are also critical in carcinogen reduction.

Material Selection
Selecting durable, easy-to-clean finishes allow for contaminates to be thoroughly removed.

Gear Decon
Hazardous carcinogens, biological contaminates, and airborne toxins can cause cancer.

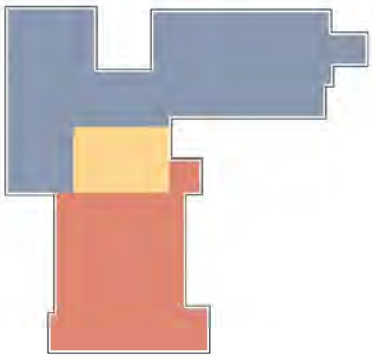
Positioning a gear decon within the decontamination route is crucial in removing these toxins in a timely manner and keeping firefighters safe.



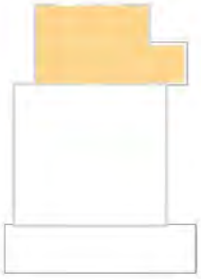
Decontamination Route
The map above displays a decontamination flow for staff, gear, and apparatus. This flow starts with the "hot" apparatus entering a designated washdown bay, moving to designated decon showers and gear decon rooms, and back to the operationally clean side of the apparatus bays.

All decontamination areas and bays have constant negative pressure routing toxins directly out to the exterior.

Station 1 - Option 1

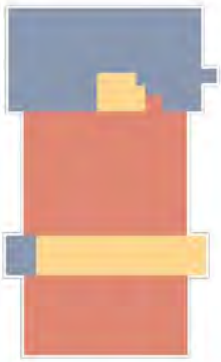


First Floor



Second Floor

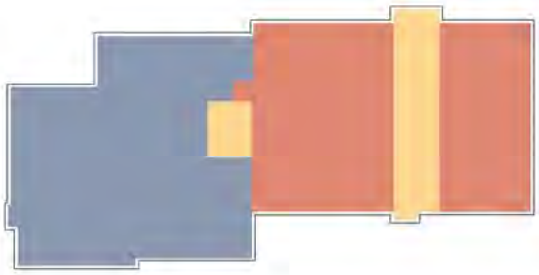
Station 2 - Option 2



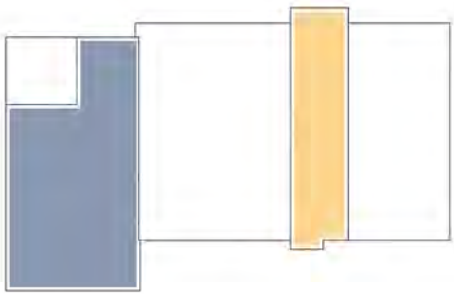
First Floor

Second Floor

Station 1 - Option 2

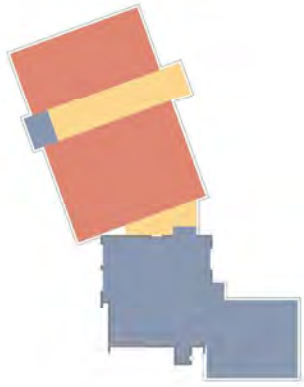


First Floor

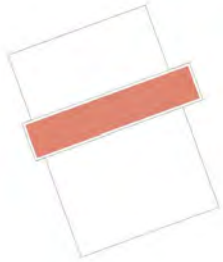


Second Floor

Station 3 - Option 1

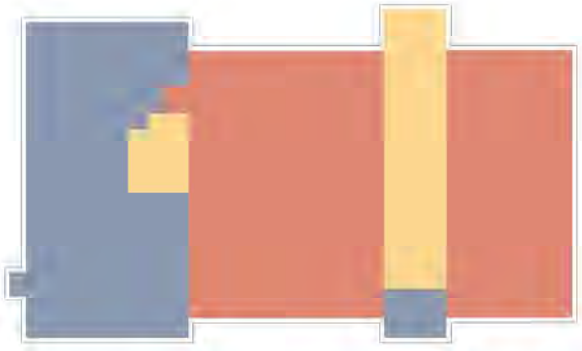


First Floor

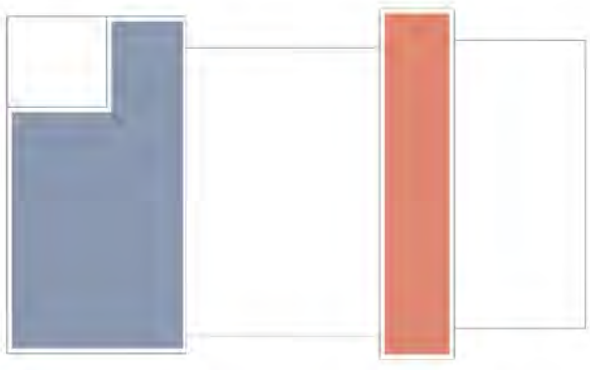


Second Floor

Station 3 - Option 2



First Floor



Second Floor

Fire Station Zoning Types

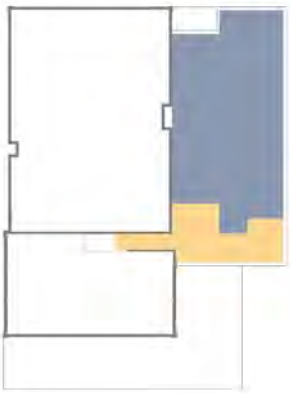
- Hot = High Hazard Zone
- Transition = Moderate Hazard Zone
- Cold = Low Hazard Zone

Remove & Isolate Physical Sources

- Contain and remove the contaminants
  - Organize to minimize paths to decontamination areas
  - Provide highly cleanable surfaces
  - Provide commercial gear washers and dryers
  - Provide proper SCBA, PPE and equipment storage allowing airflow
- Separate Occupants and contaminants
  - Separate entrances to regularly occupied spaces
  - Include all cold zone function to be self-sufficient
- Prevent crossover contamination
  - Include all functions and equipment needed in area
  - Separate toilet, laundry, and janitor closet
  - Centralize decontamination areas
  - Address transitions between contaminated areas and other areas
- Enhanced decontamination strategies
  - Enclosed PPE storage room
  - Clean personal locker room
  - Decontamination toilet / shower rooms
  - Contaminated non-gear laundry (separate from dorm laundry)
  - Ice maker/ ice bin separate from contaminated areas
- PPE and decontamination areas
  - Separate from apparatus bays in enclosed rooms
  - Provide good circulation in lockers and storage rooms
  - Dedicated mechanical systems with direct exhaust
  - Negative pressure to prevent contaminating other zones

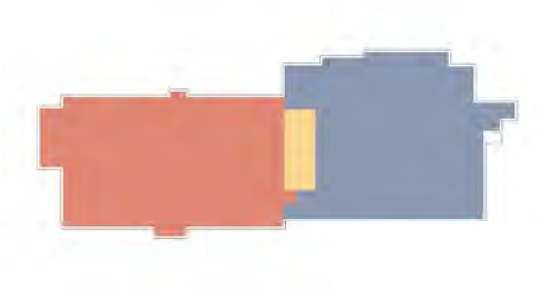
Station 4

First Floor

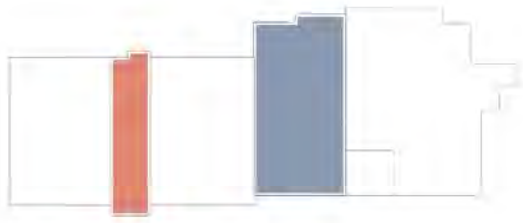


Second Floor

Combined Station



First Floor



Second Floor

Fire Station Zoning Types

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Transition = Moderate Hazard Zone

Cold = Low Hazard Zone

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  - Provide highly cleanable surfaces
  - Provide commercial gear washers and dryers
  - Provide proper SCBA, PPE and equipment storage allowing airflow
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  - Clean personal locker room
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  - Ice maker/ ice bin separate from contaminated areas
- PPE and decontamination areas
  - Separate from apparatus bays in enclosed rooms
  - Provide good circulation in lockers and storage rooms
  - Dedicated mechanical systems with direct exhaust
  - Negative pressure to prevent contaminating other zones

Station 1 - Holyoke Station & Station 2 - Dodd Station

Cost Estimates - Short Term Dorm Remodel

Station 1 - Holyoke Station
Short-Term Dorm Remodel

Hard Costs

Description	Qty	Unit	Cost/Unit	Total
Dorm Rooms	364	SF	$110	$40,040
Lockers	21	Ea	$200	$4,200
Refrigerator & Washer / Dryer	3	Ea	$400	$1,200
Sub-total				**$45,440**
Occupied Facility / Phasing Factor (3%)				$1,363
Sub-total				**$46,803**
Contingency (10%)				**$4,680**
Total Construction Cost				$51,484

The above estimate pricing includes creating fire rated walls at the dorms, replacing some doors to be fire rated, adding lockers, adding a washer/dryer, adding 2 additional refrigerators, HVAC upgrades, lighting changes and some interior finish work

The existing spaces being eliminated to incorporate the above changes include three offices. Additionally the dayroom and storage/gear wash/decon spaces are impacted as these rooms need to give up space to house lockers, refrigerators and a washer and dryer for dorm laundry.

Station 2 - Dodd Station
Short-Term Dorm Remodel

Hard Costs

Description	Qty	Unit	Cost/Unit	Total
Dorm Rooms	335	SF	$180	$60,300
Laundry / Janitor	54	SF	$200	$10,800
Shower	1	Ea	$8,000	$8,000
Lockers	21	Ea	$200	$4,200
Refrigerator	2	Ea	$400	$800
Sub-total				**$84,100**
Occupied Facility / Phasing Factor (3%)				$2,523
Sub-total				**$86,623**
Contingency (10%)				**$8,662**
Total Construction Cost				$95,285

The above estimate pricing includes creating all new fire rated walls at the dorms, new laundry/janitor room, adding lockers, adding a shower, adding 2 additional refrigerators, HVAC upgrades, lighting changes and some interior finish work.

The existing spaces being eliminated to incorporate the above changes include the classroom training area and janitor closet. Additionally the kitchen space is impacted as this room needs to give up space to house the additional refrigerators needed.

Station 3 - Kenrick Station Short-Term Dorm Remodel

Hard Costs

Description	Qty	Unit	Cost/Unit	Total
Dorm Rooms	390	SF	$180	$70,200
Lockers	21	Ea	$200	$4,200
Refrigerator & Washer / Dryer	3	Ea	$400	$1,200
Sub-total				**$75,600**
Occupied Facility / Phasing Factor (3%)				$2,268
Sub-total				**$77,868**
Contingency (10%)				**$7,787**
Total Construction Cost				$85,655

The above estimate pricing includes creating all new fire rated walls at the dorms, adding a washer/dryer, adding lockers, adding 2 additional refrigerators, HVAC upgrades, lighting changes and some interior finish work.

The existing spaces being eliminated to incorporate the above changes include three offices. Additionally the classroom training and storage/gear wash/decon spaces are impacted as these rooms need to give up space to house lockers, refrigerators and a washer and dryer for dorm laundry.

Station 4 - 185th Station Short-Term Dorm Remodel

Hard Costs

Description	Qty	Unit	Cost/Unit	Total
Dorm Rooms	543	SF	$125	$67,875
Restroom Remodel	1	Ea	$6,500	$6,500
Lockers	6	Ea	$200	$1,200
Refrigerator	1	Ea	$400	$400
Sub-total				**$75,975**
Occupied Facility / Phasing Factor (3%)				$2,279
Sub-total				**$78,254**
Contingency (10%)				**$7,825**
Total Construction Cost				$86,080

The above estimate pricing includes creating fire rated walls at the dorms along with some new walls, replacing some doors to be fire rated, adding a laundry/locker room, adding one additional refrigerator, revising the pantry storage area, expanding one existing restroom to include a urinal and a new door, HVAC upgrades, lighting changes and some interior finish work.

The existing spaces being eliminated to incorporate the above changes include two offices and the classroom/ training area. Additionally the pantry and one apparatus bay restroom are impacted as these rooms need to give up space to house lockers, a washer and dryer for dorm laundry and the restroom re-purposed for the dorm area.

These estimates do not include soft costs that will be a part of any project including architectural/engineering design, testing, permits, furniture, and equipment.

The prices shown above are as of August 1, 2023. Construction cost inflation should be added to the project hard costs above from the date listed to projected project construction midpoint at a rate of 5% per year.

Station 1 - Holyoke Station

Cost Estimates

Option 1 Addition/Remodel	
Facility Size at Time Estimate (Gross SF)	31,657 SF
Hard Costs	
New Addition	$8,803,350
Heavy Remodel	$1,175,400
Light Remodel	$1,093,950
Demolition	$0
Site Work	$550,000
Phasing Factor***	$697,362
Preliminary Hard Cost Estimate	**$12,320,062**
Soft Costs	
Owner FFE*	$550,000
Technology and Security	$400,000
Moving Costs (two moves)	$20,000
Land Acquisition Cost	$0
Existing Land & Building Value Credit	$0
Architectural & Engineering Fee	$985,605
Attorney's Fee (estimate)	$6,000
Site Survey	$9,000
Geotechnical Testing & Report	$8,000
Special Inspections and Testing allowance	$50,000
Metropolitan Council SAC Fee (6 units estimated)	$14,910
Sub-total - Soft Costs	**$2,043,515**
Contingency (10%)	**$1,436,358**
Total Estimated Project Cost	$15,799,935

Option 2 All New	
Facility Size at Time Estimate (Gross SF)	34,978 SF
Hard Costs	
New Addition	$16,439,660
Heavy Remodel	$0
Light Remodel	$0
Demolition	$94,080
Site Work (included in new addition cost)	$0
Phasing Factor***	$992,024
Preliminary Hard Cost Estimate	**$17,525,764**
Soft Costs	
Owner FFE*	$600,000
Technology and Security	$450,000
Moving Costs (two moves)	$20,000
Land Acquisition Cost	$0
Existing Land & Building Value Credit	$0
Architectural & Engineering Fee	$1,174,226
Attorney's Fee (estimate)	$6,000
Site Survey	$9,000
Geotechnical Testing & Report	$8,000
Special Inspections and Testing allowance	$70,000
Metropolitan Council SAC Fee (8 units estimated)	$19,880
Sub-total - Soft Costs	**$2,357,106**
Contingency (10%)	**$1,988,287**
Total Estimated Project Cost	$21,871,157

Additional savings could be achieved in the all new approach in reduced maintenance for the first 10 years compared to a remodel option. Further the all new approach meets all program needs and Best Practices where the addition/remodel approach only meets primary program needs.

All New

Facility Size at Time Estimate (Gross SF)	30,435 SF
Hard Costs	
New Addition	$14,304,450
Heavy Remodel	$0
Light Remodel	$0
Demolition	$46,080
Site Work (included in new addition cost)	$0
Phasing Factor***	$861,032
Preliminary Hard Cost Estimate	**$15,211,562**
Soft Costs	
Owner FFE*	$700,000
Technology and Security	$400,000
Moving Costs (two moves)	$20,000
Land Acquisition Cost	$0
Existing Land & Building Value Credit	$0
Architectural & Engineering Fee	$1,019,175
Attorney's Fee (estimate)	$6,000
Site Survey	$9,000
Geotechnical Testing & Report	$8,000
Special Inspections and Testing allowance	$70,000
Metropolitan Council SAC Fee (10 units estimated)	$24,850
Sub-total - Soft Costs	**$2,257,025**
Contingency (10%)	**$1,746,859**
Total Estimated Project Cost	$19,215,445

*The Owner FFE estimates include furniture, station altering, vehicle exhaust, etc. and are based on costs developed by fire department staff and CNH Architects based on historic FFE costs from past fire stations.

**The value of the existing land and building sale would need to be determined by the city for potential city use at both Station 2 and Station 4.

***The phasing factor applied at Station 1 - Options 1 & 2 and Station 2 pertains to the existing facility maintaining some form of occupancy during construction preventing the entire facility from being worked on at the same time and necessitating the construction to have one or more phases for the duration of construction to maintain operations for the department. Phasing increases the time contractors are on site or required contractors to complete portions of work and then return to site at a later date to complete the remaining portions of work thus incurring additional costs.

The prices shown above are as of August 1, 2023. Construction cost inflation should be added to the project hard costs above from the date listed to projected project construction midpoint at a rate of 5% per year.

Station 3 - Kenrick Station

Cost Estimates

Option 1 Addition/Remodel	
Facility Size at Time Estimate (Gross SF)	27,009 SF
Hard Costs	
New Addition	$9,609,300
Heavy Remodel	$1,464,000
Light Remodel	$44,100
Demolition	$0
Site Work	$925,000
Phasing Factor***	$481,696
Preliminary Hard Cost Estimate	**$12,524,096**
Soft Costs	
Owner FFE*	$500,000
Technology and Security	$400,000
Moving Costs (two moves)	$20,000
Land Acquisition Cost	$0
Existing Land & Building Value Credit	$0
Architectural & Engineering Fee	$1,001,928
Attorney's Fee (estimate)	$6,000
Site Survey	$9,000
Geotechnical Testing & Report	$8,000
Special Inspections and Testing allowance	$60,000
Metropolitan Council SAC Fee (8 units estimated)	$19,880
Sub-total - Soft Costs	**$2,024,808**
Contingency (10%)	**$1,454,890**
Total Estimated Project Cost	$16,003,794

Option 2 All New	
Facility Size at Time Estimate (Gross SF)	29,391 SF
Hard Costs	
New Addition	$13,813,770
Heavy Remodel	$0
Light Remodel	$0
Demolition	$42,728
Site Work (included in new addition cost)	$0
Phasing Factor***	$0
Preliminary Hard Cost Estimate	**$13,856,498**
Soft Costs	
Owner FFE*	$700,000
Technology and Security	$400,000
Moving Costs (two moves)	$10,000
Land Acquisition Cost	$158,400
Existing Land & Building Value Credit	$0
Architectural & Engineering Fee	$928,385
Attorney's Fee (estimate)	$6,000
Site Survey	$9,000
Geotechnical Testing & Report	$8,000
Special Inspections and Testing allowance	$60,000
Metropolitan Council SAC Fee (8 units estimated)	$19,880
Sub-total - Soft Costs	**$2,299,665**
Contingency (10%)	**$1,615,616**
Total Estimated Project Cost	$17,771,780

Due to the significant amount of heavy remodeling and the large phasing factor amount required in Option 1 the overall total estimated project cost is only slightly less costly than the total estimate project cost for Option 2. Additional savings could be achieved in the all new approach in reduced maintenance for the first 10 years compared to a remodel option. Further the all new approach meets all program needs and Best Practices where the addition/remodel approach only meets primary program needs.

Station 4 Addition/Remodel	
Facility Size at Time Estimate (Gross SF)	30,535 SF
Hard Costs	
New Addition	$7,803,450
Heavy Remodel	$1,167,300
Light Remodel	$1,198,200
Demolition	$0
Site Work	$800,000
Phasing Factor***	$658,137
Preliminary Hard Cost Estimate	**$11,627,087**
Soft Costs	
Owner FFE*	$700,000
Technology and Security	$450,000
Moving Costs (two moves)	$20,000
Land Acquisition Cost	$0
Existing Land & Building Value Credit	$0
Architectural & Engineering Fee	$930,167
Attorney's Fee (estimate)	$6,000
Site Survey	$9,000
Geotechnical Testing & Report	$8,000
Special Inspections and Testing allowance	$60,000
Metropolitan Council SAC Fee (8 units estimated)	$19,880
Sub-total - Soft Costs	**$2,203,047**
Contingency (10%)	**$1,383,013**
Total Estimated Project Cost	$15,213,147

Combined Station All New	
Facility Size at Time Estimate (Gross SF)	42,213 SF
Hard Costs	
New Addition	$19,840,110
Heavy Remodel	$0
Light Remodel	$0
Demolition	$155,000
Site Work	$0
Preliminary Hard Cost Estimate	**$19,995,110**
Soft Costs	
Owner FFE*	$800,000
Technology and Security	$600,000
Moving Costs (one moves)	$30,000
Land Acquisition Cost	$0
Existing Land & Building Sale**	$0
Architectural & Engineering Fee	$1,339,672
Attorney's Fee (estimate)	$6,000
Site Survey	$9,000
Geotechnical Testing & Report	$8,000
Special Inspections and Testing allowance	$90,000
Metropolitan Council SAC Fee (12 units estimated)	$27,335
Sub-total - Soft Costs	**$2,910,007**
Contingency (10%)	**$2,290,512**
Total Estimated Project Cost	$25,195,629

*The Owner FFE estimates include furniture, station altering, vehicle exhaust, etc. and are based on costs developed by fire department staff and CNH Architects based on historic FFE costs from past fire stations.

**The value of the existing land and building sale would need to be determined by the city for potential city use at both Station 2 and Station 4.

***The phasing factor applied at Station 3 - Option 1 and Station 4 pertains to the existing facility maintaining some form of occupancy during construction preventing the entire facility from being worked on at the same time and necessitating the construction to have one or more phases for the duration of construction to maintain operations for the department. Phasing increases the time contractors are on site or required contractors to complete portions of work and then return to site at a later date to complete the remaining portions of work thus incurring additional costs.

The prices shown above are as of August 1, 2023. Construction cost inflation should be added to the project hard costs above from the date listed to projected project construction midpoint at a rate of 5% per year.

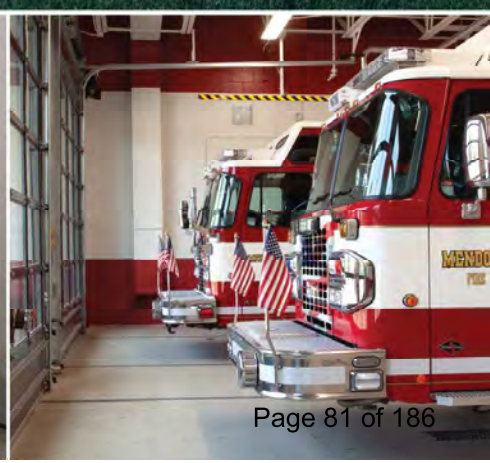
October 23, 2023

Lakeville Fire Department Facility Study

Quinn Hutson, AIA – Principal
Brooke Jacobson, AIA – Principal

Who We Are

- Full service, mid-sized firm
- 50+ years of experience
- Leaders in public safety design
- Strong design; quality work throughout
- Engaged representation



Information Gathering

- Staff interviews
- Site & Building review
- City ordinance
- Fire station design standards

CNH ARCHITECTS

Station 1 - Holyoke

Built	1985
Remodeled	1995, 2012
Age	38 years
Total Area	11,760 SF
Apparatus	4 apparatus bays (2 back-in)

Station 2 - Dodd

Built	1976
Remodeled	1985, 1991, 2003
Age	47 years
Total Area	5,760 SF
Apparatus	4 apparatus bays (3 back-in)

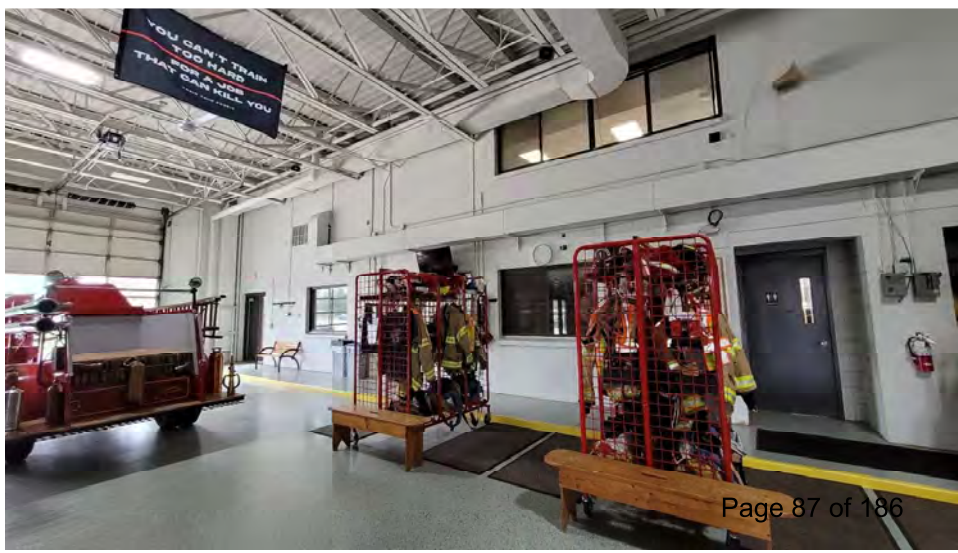
Station 3 - Kenrick

Built	1988
Remodeled	N/A
Age	35 years
Total Area	5,341 SF
Apparatus	2 apparatus bays (1 back-in)

Station 4

Built	2002
Remodeled	2012
Age	21 years
Total Area	12,632 SF
Apparatus	3 apparatus bays (1 back-in)

Stations 1 - 4 Existing Conditions



Firefighter Health

Does Not Meet Need For:

- Carcinogen separation
- Vehicle exhaust extraction

Firefighter Health

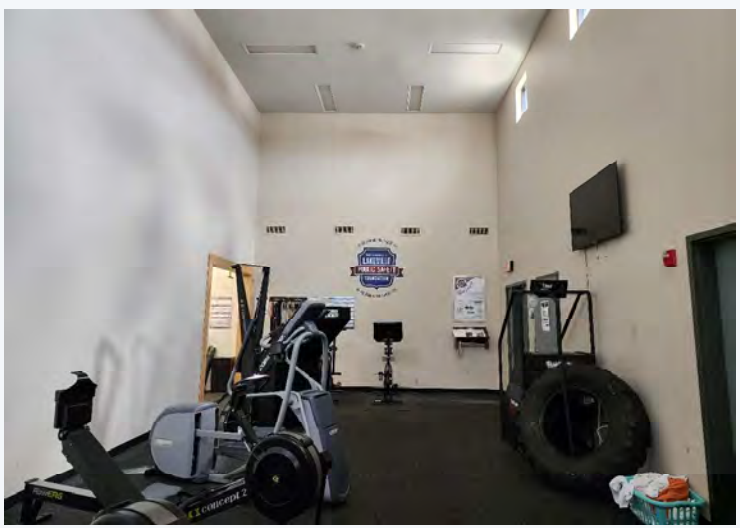
Does Not Meet Need For:

- Adequate decontamination
- Separate turnout gear space

Firefighter Health

Does Not Meet Need For:

- Mental health support
- Indoor / outdoor fitness space



Firefighter Health

Does Not Meet Need For:

- Lack of dorms
- Controlled lighting transitions

Safety

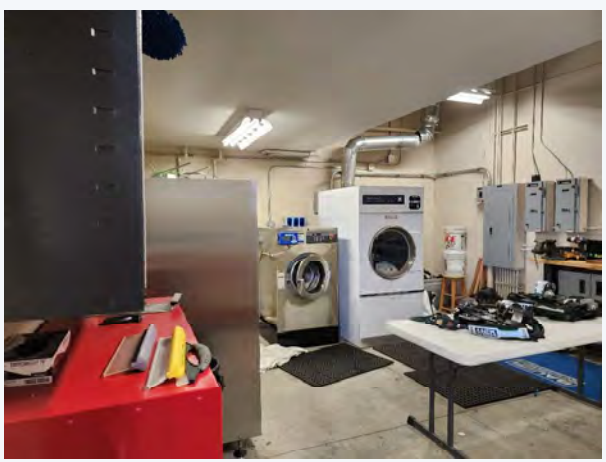
Does Not Meet Need For:

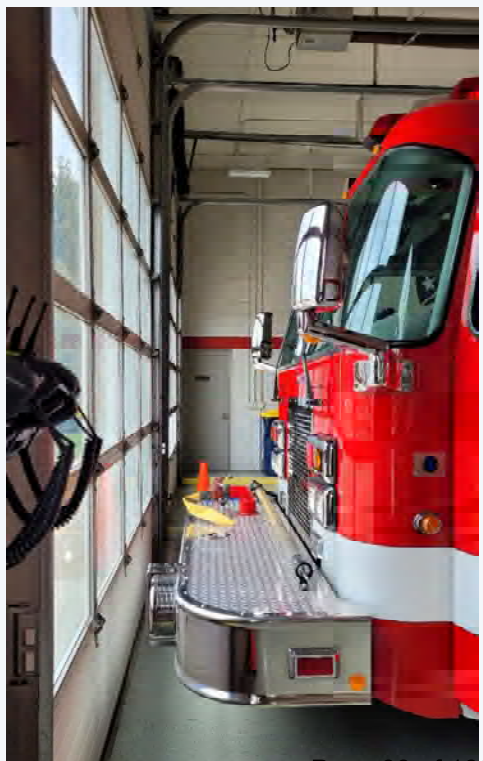
- Drive-through bays
- Separation of apparatus & public traffic

Safety

Does Not Meet Need For:

- Station design Best Practices
- Current building codes
- Sufficient clearance around apparatus

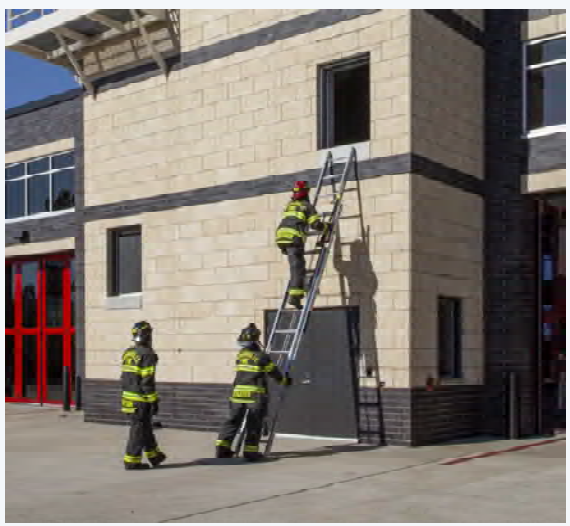


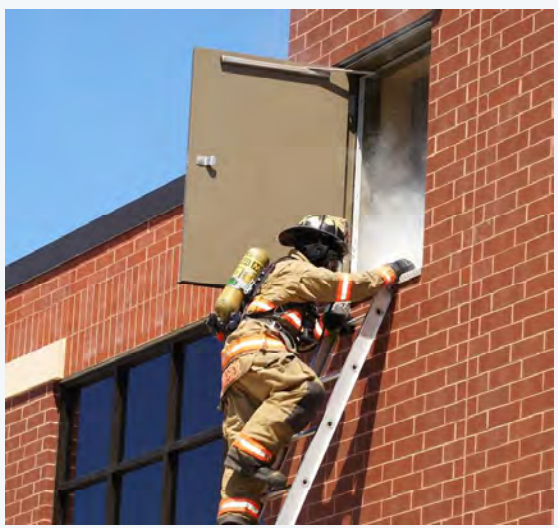


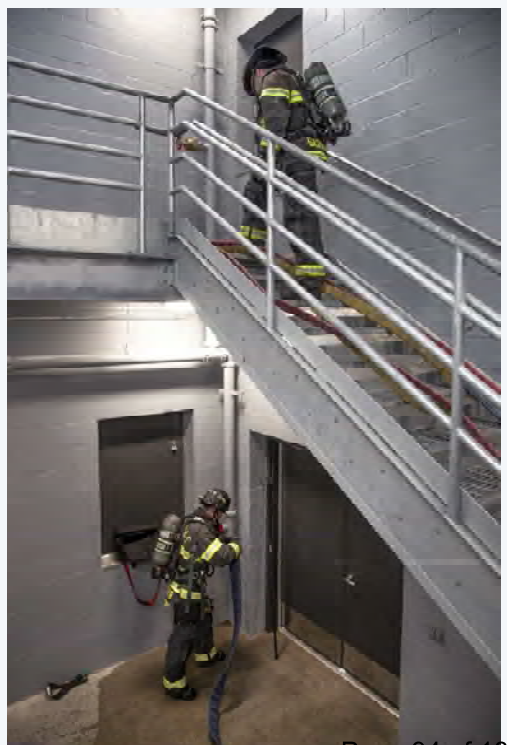
Training

Does Not Meet Need For:

- Ground ladder training/evolutions
- Hose advancement/stair evolutions



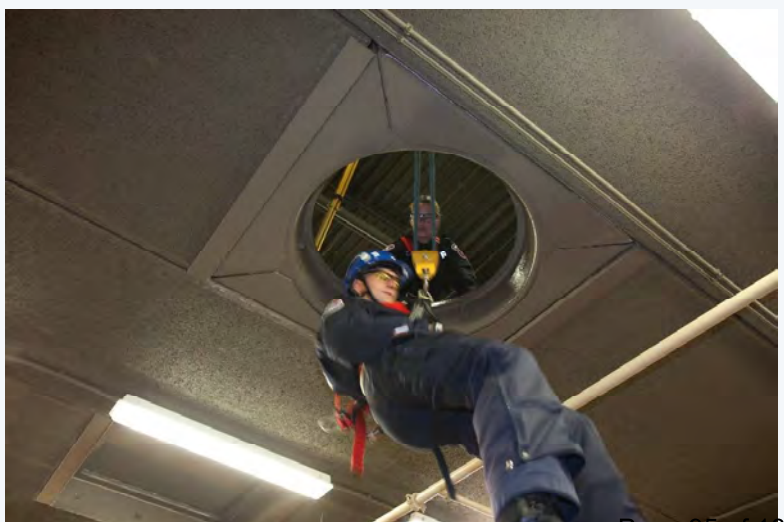




Training

Does Not Meet Need For:

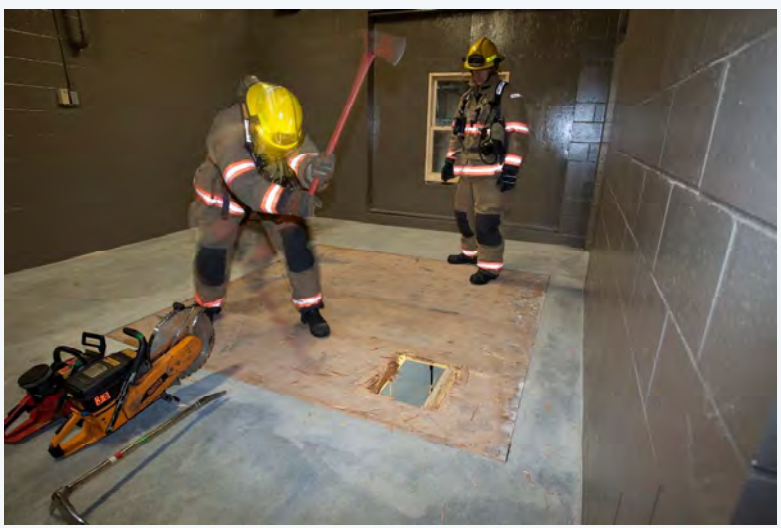
- Confined space rescue
- Search + rescue maze



Training

Does Not Meet Need For:

- High rise training
- Wall/floor breach



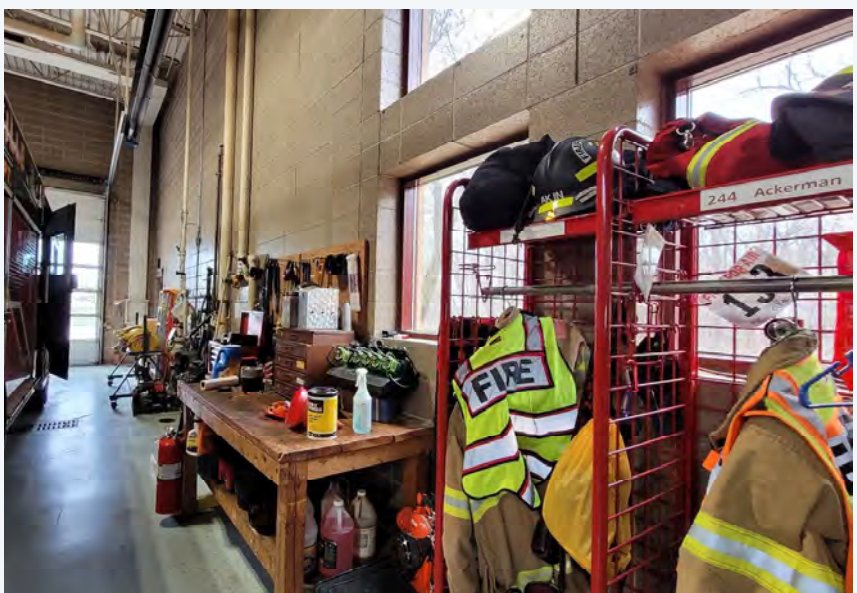
Training

Does Not Meet Need For:

- Advanced technical rescue (rope rescue/rappelling)
- Alarm panel/sprinkler system

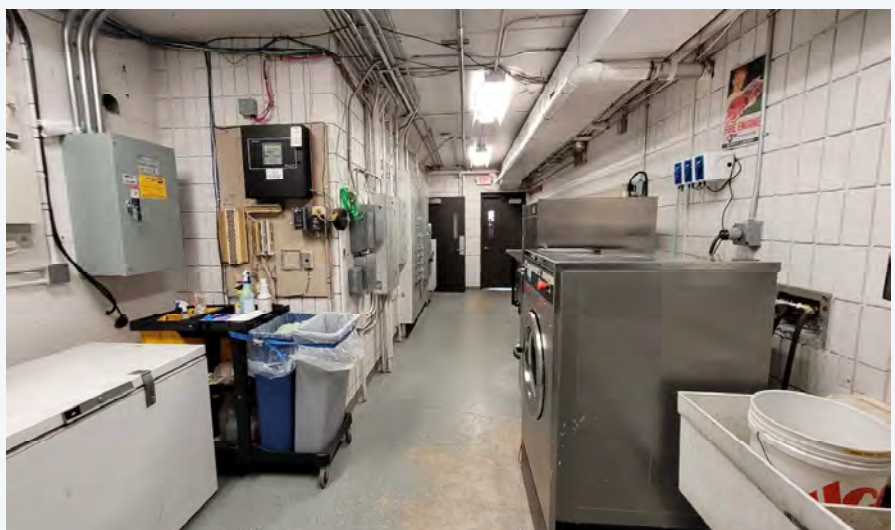
Shortage of Space

- Does not allow for all current & future needs
- No flexibility incorporated for current uses



Shortage of Space

- Site & building not functionally organized
- Inefficient operational flow



Sustainability

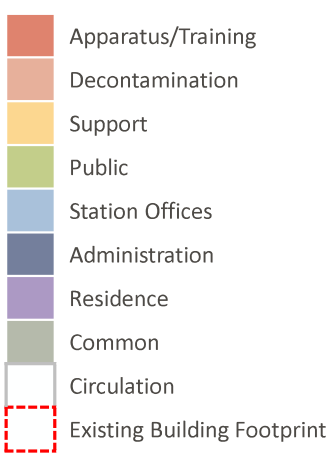
Does not meet current LEED strategies

- Low-efficiency mechanical systems
- Lighting not fully LED or controlled
- Poor thermal exterior envelope
- No stormwater treatment
- Poor indoor air quality

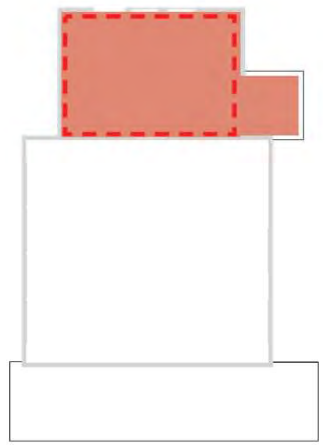
High energy use

Station Options

Station 1 – Option 1



First Floor



Second Floor

Station 1 – Option 1

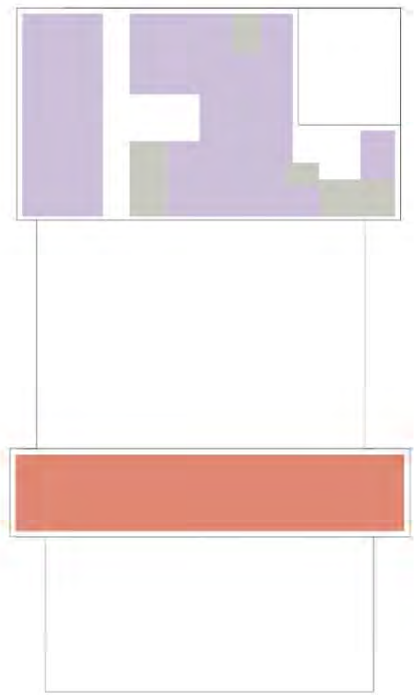
Station 1 – Option 2

Station 1 – Option 2

Station 2

- Apparatus/Training
- Decontamination
- Support
- Public
- Station Offices
- Administration
- Residence
- Common
- Circulation

First Floor

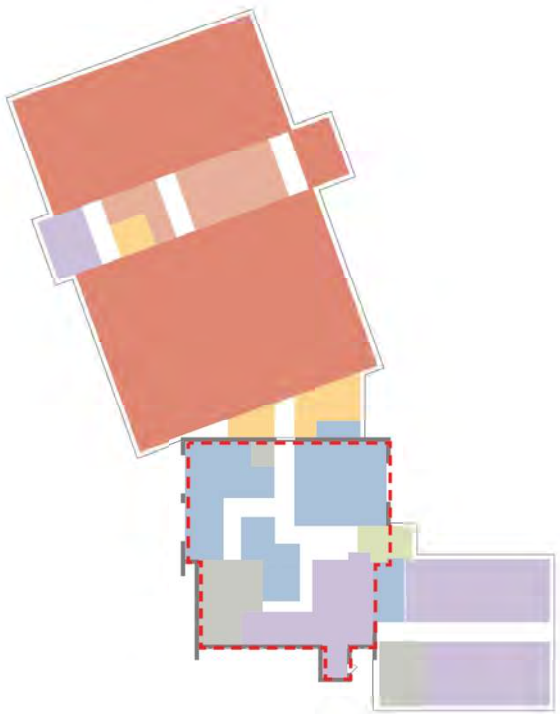


Second Floor

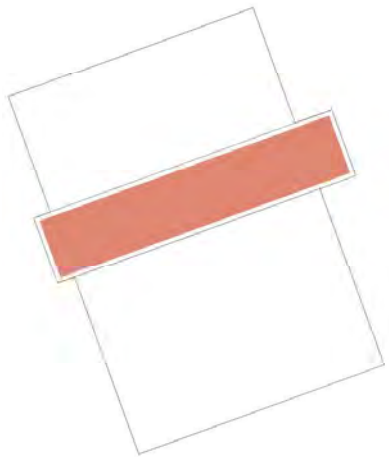
Station 2

Station 3 – Option 1

- Apparatus/Training
- Decontamination
- Support
- Public
- Station Offices
- Administration
- Residence
- Common
- Circulation
- Existing Building Footprint



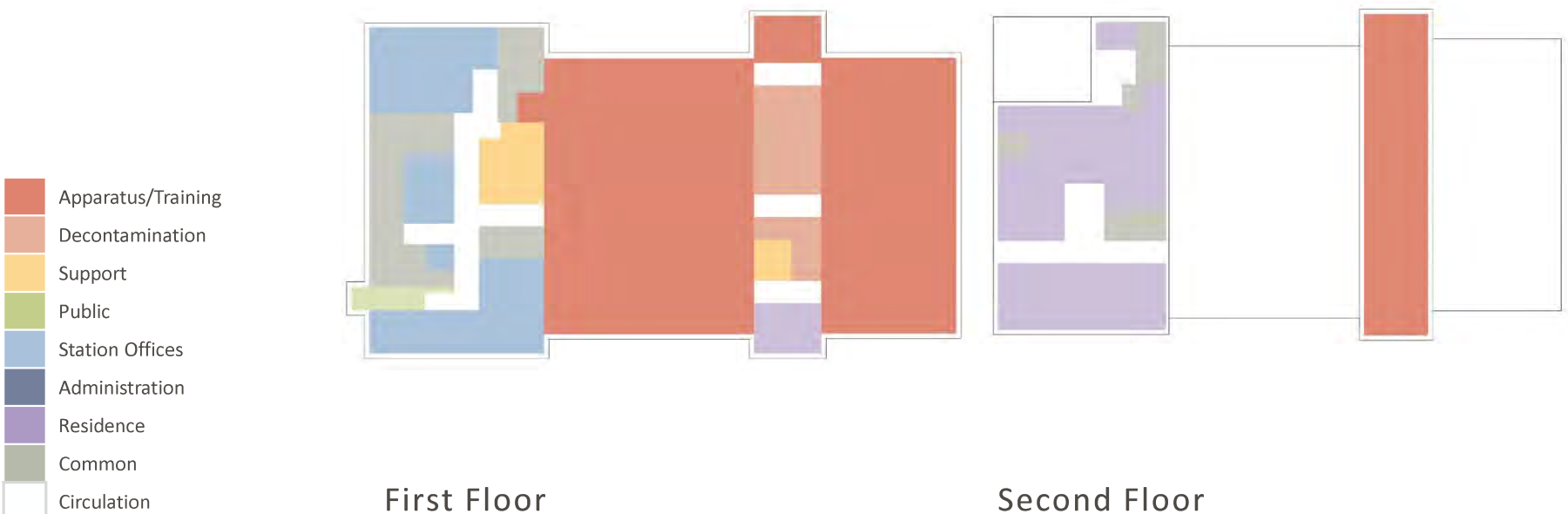
First Floor



Second Floor

Station 3 – Option 1

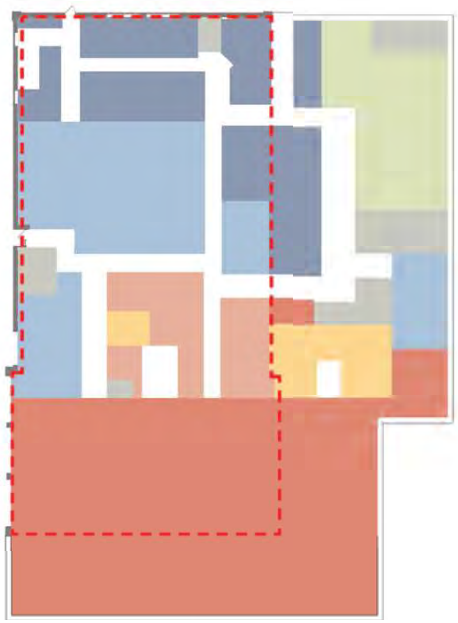
Station 3 – Option 2



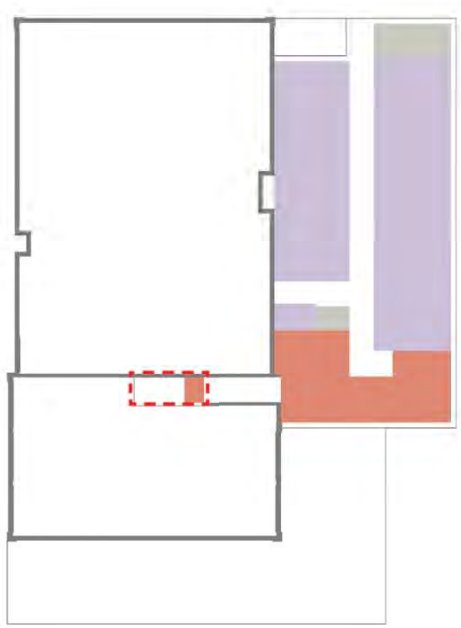
Station 3 – Option 2

Station 4

- Apparatus/Training
- Decontamination
- Support
- Public
- Station Offices
- Administration
- Residence
- Common
- Circulation
- Existing Building Footprint



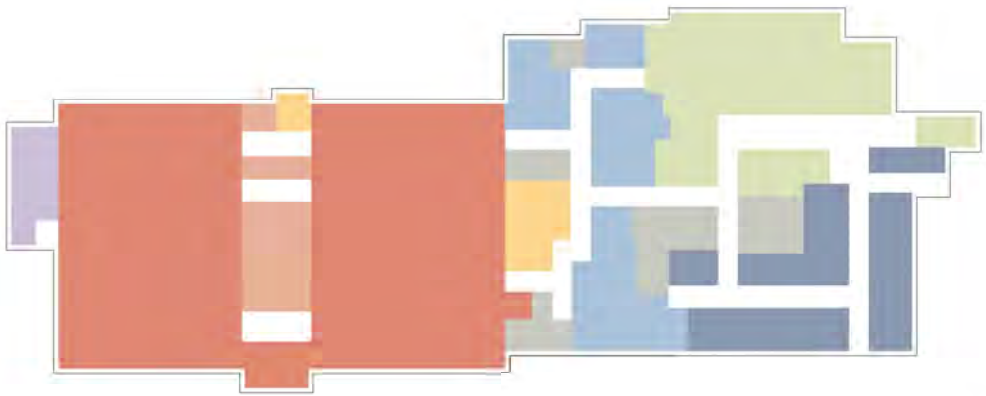
First Floor



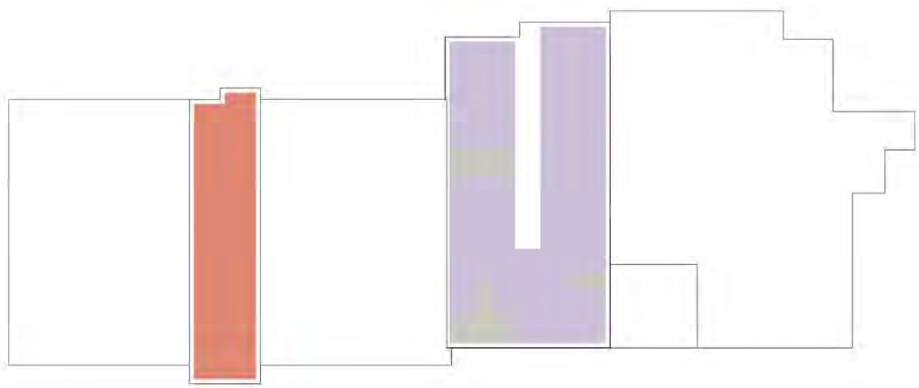
Second Floor

Station 4

Combined Station

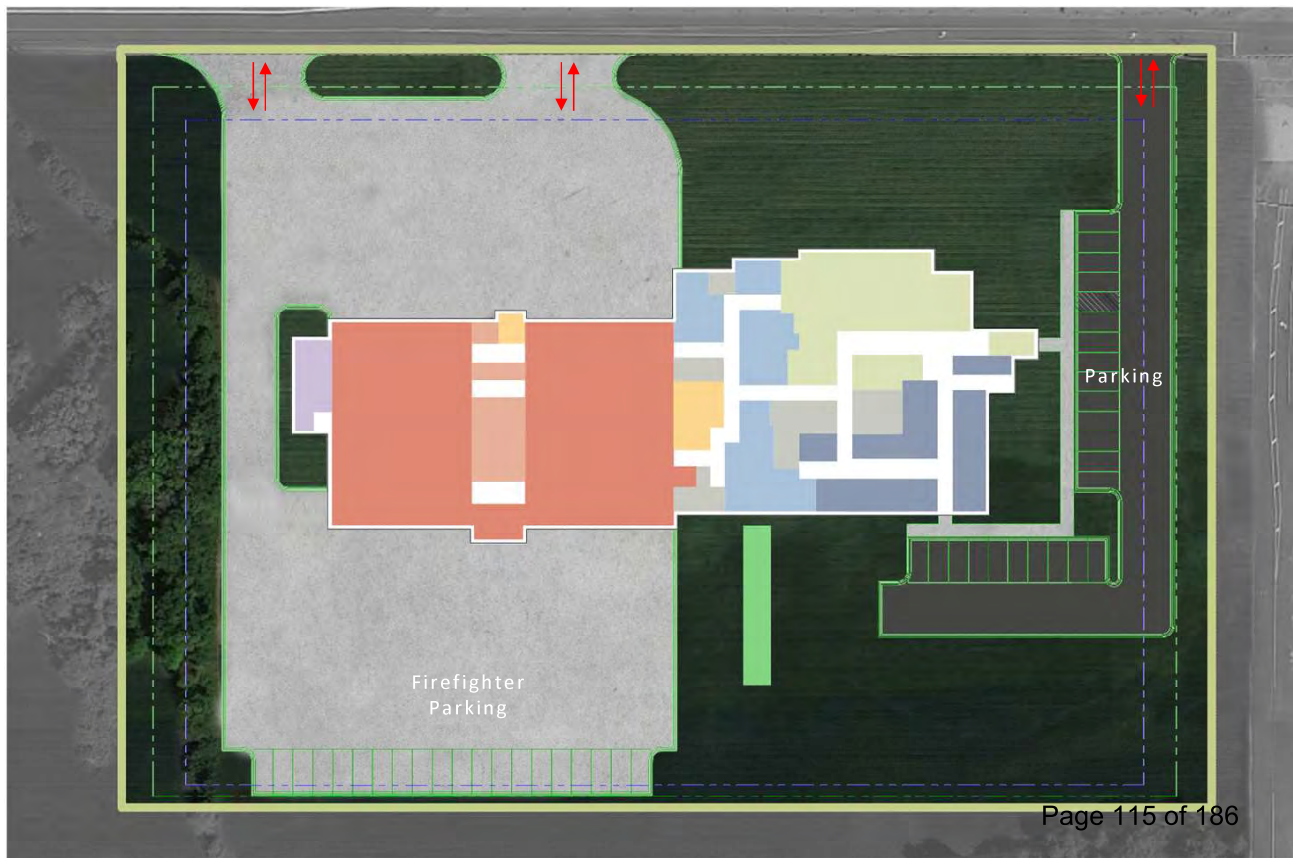


First Floor



Second Floor

Combined Station



Cost Estimates – Short-Term

Station 1

Hard Cost	$45,440
Occupied Facility / Phasing Factor	$1,363
Sub-total	$46,803
Contingency (10%)	$4,680
Total Cost	$51,484

Station 2

Hard Cost	$84,100
Occupied Facility / Phasing Factor	$2,523
Sub-total	$86,623
Contingency (10%)	$8,662
Total Cost	$95,285

Prices shown above are as of August 1, 2023. Construction cost inflation should be added to the project hard costs above from the date listed to projected project construction midpoint at a rate of 5% per year.

Cost Estimates – Short-Term

Station 3

Hard Cost	$75,600
Occupied Facility / Phasing Factor	$2,268
Sub-total	$77,868
Contingency (10%)	$7,787
Total Cost	$85,655

Station 4

Hard Cost	$75,975
Occupied Facility / Phasing Factor	$2,279
Sub-total	$78,254
Contingency (10%)	$7,825
Total Cost	$86,080

Prices shown above are as of August 1, 2023. Construction cost inflation should be added to the project hard costs above from the date listed to projected project construction midpoint at a rate of 5% per year.

Cost Estimates

Station 1 - Option 1

Hard Cost	$11,622,700
Phasing Factor	$697,362
Soft Cost	$2,043,515
Sub-total	$14,363,577
Contingency (10%)	$1,436,358
Total Cost	$15,799,935

Station 1 – Option 2

Hard Cost	$16,533,740
Phasing Factor	$992,024
Soft Cost	$2,357,106
Sub-total	$19,882,870
Contingency (10%)	$1,988,287
Total Cost	$21,871,157

Prices shown above are as of August 1, 2023. Construction cost inflation should be added to the project hard costs above from the date listed to projected project construction midpoint at a rate of 5% per year.

Cost Estimates

Station 2

Hard Cost	$14,350,530
Phasing Factor	$861,032
Soft Cost	$2,257,025
Sub-total	$17,468,587
Contingency (10%)	$1,746,859
Total Cost	$19,215,445

Prices shown above are as of August 1, 2023. Construction cost inflation should be added to the project hard costs above from the date listed to projected project construction midpoint at a rate of 5% per year.

Cost Estimates

Station 3 – Option 1

Hard Cost	$12,042,400
Phasing Factor	$481,696
Soft Cost	$2,024,808
Sub-total	$14,548,904
Contingency (10%)	$1,454,890
Total Cost	$16,003,794

Station 3 – Option 2

Hard Cost	$13,856,498
Phasing Factor	$0
Soft Cost	$2,299,665
Sub-total	$16,156,163
Contingency (10%)	$1,615,616
Total Cost	$17,771,780

Prices shown above are as of August 1, 2023. Construction cost inflation should be added to the project hard costs above from the date listed to projected project construction midpoint at a rate of 5% per year.

Cost Estimates

Station 4

Hard Cost	$10,968,950
Phasing Factor	$658,137
Soft Cost	$2,203,047
Sub-total	$13,830,134
Contingency (10%)	$1,383,013
Total Cost	$15,213,147

Combined Station

Hard Cost	$19,995,110
Phasing Factor	$0
Soft Cost	$2,910,007
Sub-total	$22,905,117
Contingency (10%)	$2,290,512
Total Cost	$25,195,629

Prices shown above are as of August 1, 2023. Construction cost inflation should be added to the project hard costs above from the date listed to projected project construction midpoint at a rate of 5% per year.

Study Recommendations

- Short-Term Fix: Remodel Station 4, then Station 1
- Stations 2 & 4: Combined all new station approach
- Station 1: Addition and remodel approach
- Station 3: Addition and remodel approach

CNH ARCHITECTS

Questions