



To **North Liberty City Council**
From **Ryan Heiar, City Administrator**
Date **December 5, 2022**
Re **Fire Station No. 2 Site Location**

Executive Summary

City staff has been evaluating locations for a future second fire station as called for in our strategic plan to improve our fire response as our community continues to grow. This strategic plan reflects the findings from an independent consultant, who evaluated the needs of the fire department and found that second fire station would need to be built. Staff has considered several potential sites, although, some were more easily disregarded for reasons described in this memo.

During selection, we look to balance several considerations including:

- Response times and the 1.5-mile coverage radius from current and potential future stations. This impacts the City's ability to rapidly respond to high-need and high-call-volume facilities and the ability to quickly backup headquarters in cases of concurrent calls
- Land and other development cost
- Compatibility with current and future land uses and minimizing impacts to surrounding properties
- Community and neighborhood feedback
- Ability to enhance other public spaces

Staff has identified two potential sites that balance fire station siting best practices as well as other identified considerations, both along the northside of St. Andrews Drive across from Centennial Park:

1. Across from Centennial Park's eastern access drive.
2. Across from Centennial Park's western access drive.

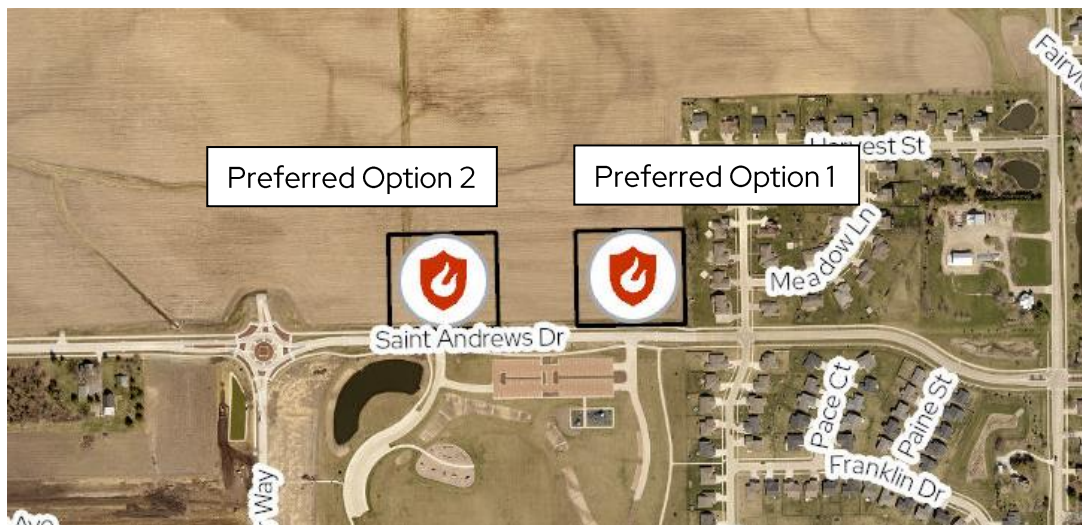


Figure 1. Fire Station No. 2 Preferred Option 1 and Preferred Option 2.

The 1.5-Mile Station Radius and Four-Minute (or Less) Response Time.

Insurance Services Office (ISO) creates ratings for fire departments. These ratings calculate how well positioned fire departments are to put out fires within the community. ISO provides this score, often called the “ISO fire score,” to homeowners’ insurance companies. Insurers then use it to help set homeowners insurance rates. The better equipped and positioned the fire department is to put out a fire, the less likely a house is to burn down. That makes homes less risky, and therefore, less expensive to insure.

The entire ISO score is a rating reflective of fire suppression services, the water distribution system and emergency communications. Specific to fire suppression deployment, ISO recommends an engine company be able to provide services to an area within a 1.5-mile radius of the fire station. It also recommends an engine company meet the National Fire Protection Association (NFPA) 1710 standard criteria, which specifically calls for positioning resources for the first-due response zones to ensure a 240-second (4-minute) or less response time for the arrival of the first engine company at a fire. The 1.5-mile coverage radius and the 4-minute response time analysis are both best-practice approaches and both were used in the City’s determination for the preferred location.

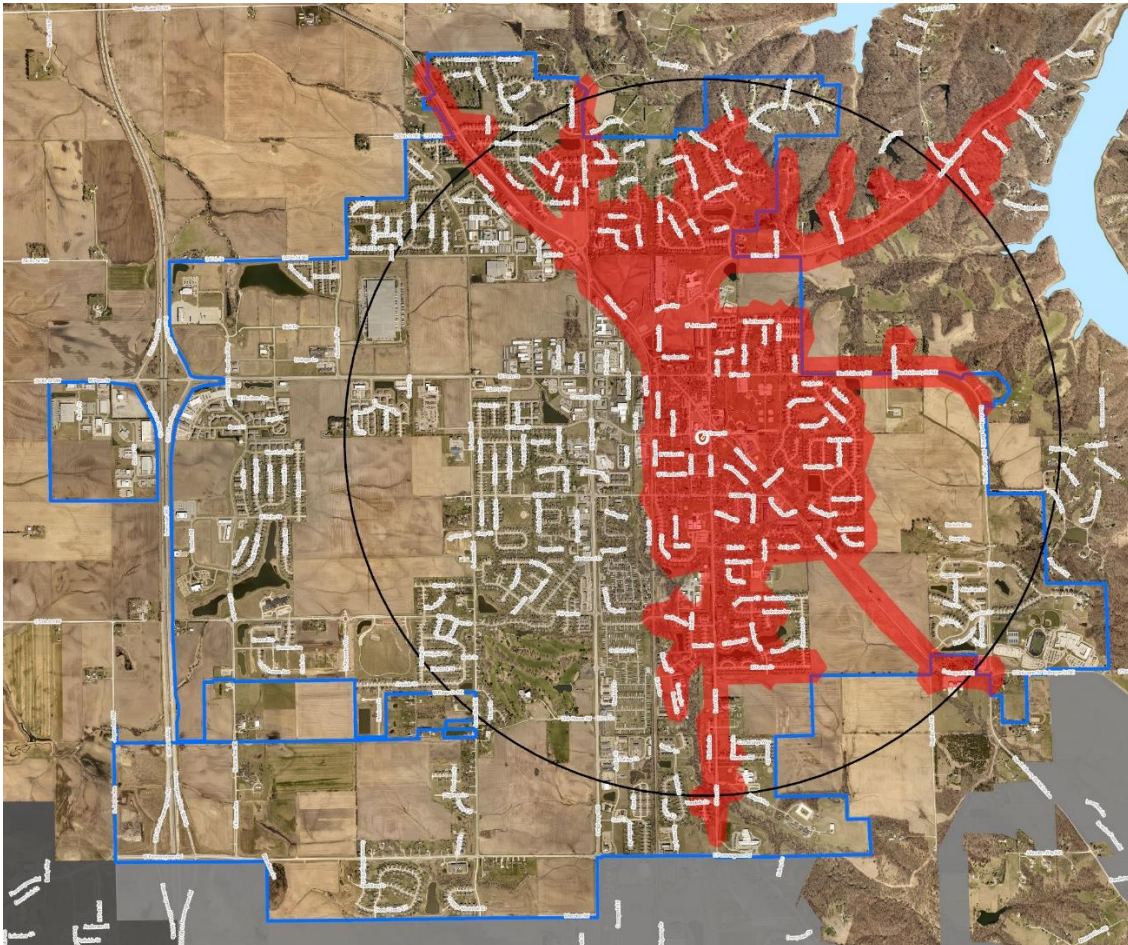


Figure 2. 1.5-mile coverage radius and 4-Minute Response Time Analysis from Fire Station No. 1.

The 1.5-mile coverage radius and 4-minute response time analysis from Fire Station No. 1 informs us that there is a need in the west and south part of the city. With respect to the 1.5-mile coverage radius, the ideal location for Fire Station No. 2 would cover the identified gaps and would overlap the 1.5 radius from Fire Station No. 1 since Fire Station No. 2 would support that station and vice versa. Overlap of the 4-minute response time is less ideal as first responders are trying to minimize the amount of time to every location in the city.

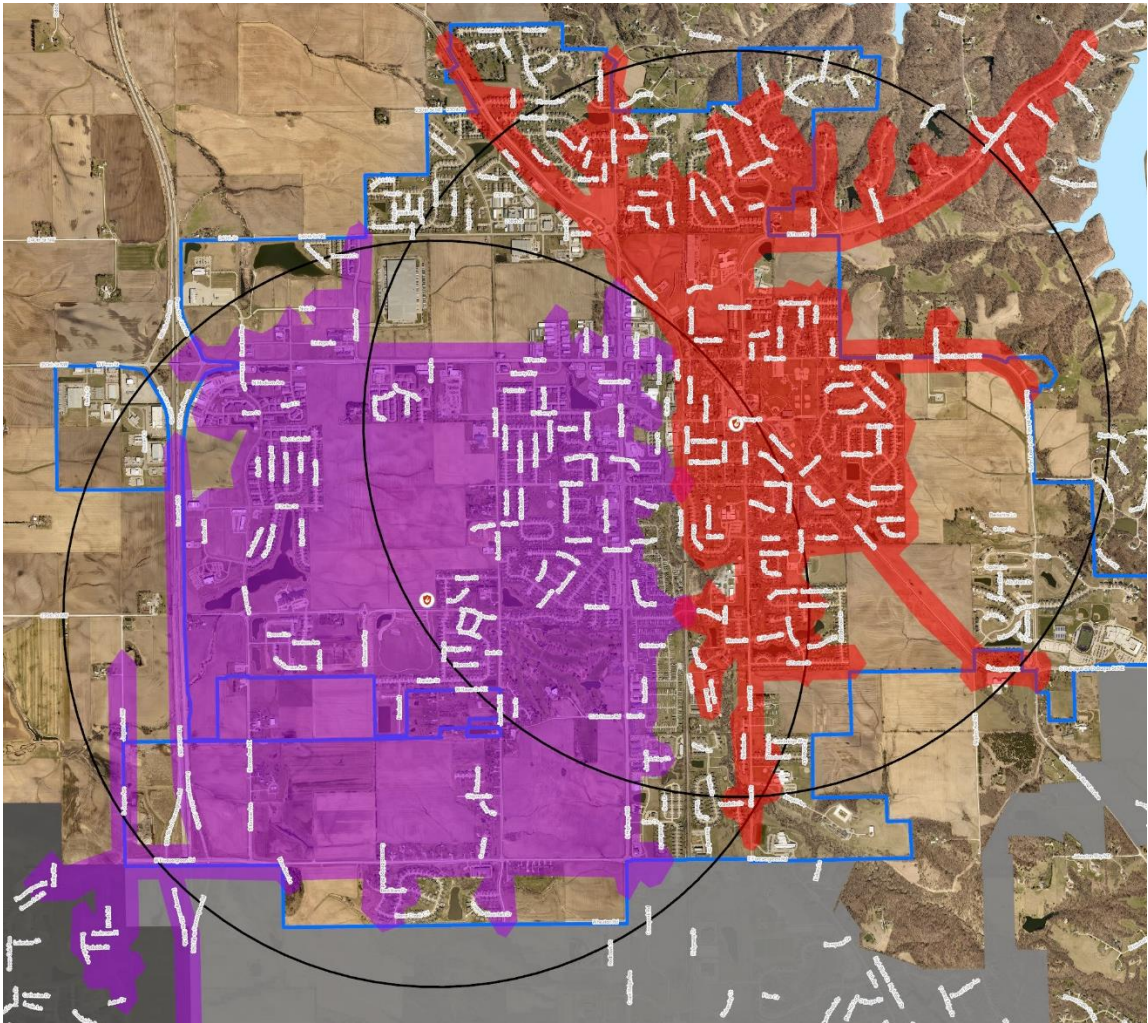


Figure 3. 1.5-mile coverage radius and 4-Minute Response Time Analysis from Fire Station #1 and Fire Station No. 2 Preferred Option 1. Preferred Option 2 is similarly mapped.

Land and other development cost

The cost of property acquisition is a primary concern. Additionally, Fire Station No. 2 will need to be served by water, sanitary sewer and have direct access to the City's roadway network. Extending public utilities to the site and/or upgrading streets to City standards increases the cost of construction and presents technical challenges such as adequate sanitary sewer depth and out of sequence development, which is not the most efficient method of developing from a land use perspective.

Compatibility with current and future land uses and minimizing impacts to surrounding properties

The preliminary Fire Station No. 2 concept proposes three acres of land area to accommodate the fire station, related infrastructure, stormwater management and perimeter landscape buffering. Both sites have direct access to Saint Andrews Drive. It was never a consideration to have an access through an existing or proposed neighborhood street. The preliminary design has two access points, which would allow fire department vehicles to enter the property from one access and drive into the fire station from the back and drive out of the building and property on a separate access during emergencies. This would minimize noise associated with the vehicle backup warning system. However, there would be a higher impact of noise from the front of the building as vehicles are leaving the fire station when responding to emergency calls. Therefore, it is staff's opinion that the preferred location would not be across from existing or proposed residences.

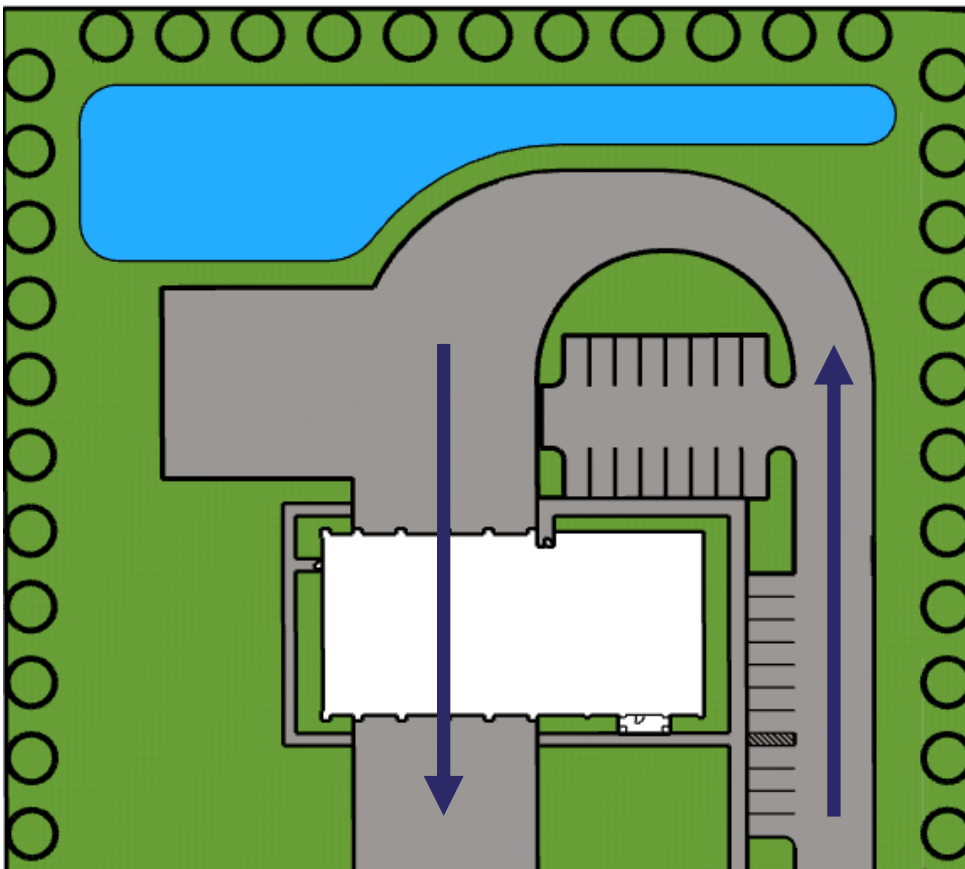


Figure 4. Concept for Fire Station No. 2.

The rationale behind preferred Option 1 vs. preferred Option 2 is the location of sanitary sewer, which is located at the west terminus of Harvest Street. Preferred Option 2 adds approximately \$170,000 to the cost of development due to the need to extend sanitary sewer service across the existing property. Such sewer, once installed, would be relatively shallow (6 feet +/-) at the fire station site and unlikely to provide significant benefit for future development with basements. The property owner will also need to be fairly compensated for the temporary and permanent easements needed to accommodate the sewer service. The cost of such easements will be established by an appraiser and can vary substantially depending on whether they pose an impediment to future development.

Other Considerations

Some residents in Harvest Estates expressed concerns about locating the fire station site immediately adjacent to their neighborhood during earlier council meetings, a neighborhood meeting held on Oct. 17 and in other correspondence. Concerns were tied primarily to impacts from fire apparatus running calls, such as noise and smells. Any future development will come with similar impacts, but landscaping buffers, how the building is located on the site, the plan for pull-through station is expected to help mitigate these impacts, while Preferred Option 2 offers additional separation from the homes to its east.

Being connected to Centennial Park offers many benefits, especially with it being such a large community gathering space. First, being across from Centennial Park means that Fire Station No. 2 would be highly visible public space. Touring the fire station and then visiting the park would be a great way for community members to experience both public spaces. Second, the fire station would serve as a visible place of safety. If any community member feels threatened, they can come to the fire station as a place of refuge. It could also provide for a weather shelter should park users find themselves in inclement weather. Additionally, as the city hosts festivals and events in the park, a command post at the fire station could ensure proper control of both small and large emergencies. Last, the vision is to incorporate a community room into Fire Station No. 2, providing a community gathering space for meetings, birthday parties, and other small gatherings would allow the building to be more than just a fire station.

Other Sites Considered

Adjacent to North Bend Elementary School Site

This location achieves consistency with the 4-minute response time but causes a gap in coverage at the southeast portion of the city. There is public water and sanitary sewer in close proximity to the site.

In addition to the gap in coverage, this site was not identified as a preferred location due to the existing home sites within The Preserve neighborhood. Additionally, the City expects the 9.15 acre Ten Eick property across the street to be redeveloped at some point with residential development. It is staff's opinion that there would be a higher impact of noise to adjacent and future residential development as emergency vehicles are leaving the fire station.



Figure 5. Adjacent to North Bend Elementary School Site.



Figure 6. 1.5-mile coverage radius and 4-minute response time analysis from Fire Station No. 1 and Adjacent to the North Bend Elementary School Site.

Ten Eick Site

This location achieves consistency with the 4-minute response time but causes a gap in coverage at the southeast portion of the city. There is public water and sanitary sewer in close proximity to the site.

In addition to the gap in coverage, this site was not identified as a preferred location due to the larger than needed land area (9.15 acres) and the City expects the property across the street to be redeveloped at some point with residential development. It is staff's opinion that there would be a higher impact of noise to future residential development as emergency vehicles are leaving the fire station. Additionally, placement here would result in the front of the station having a northern exposure which is problematic during the winter months.



Figure 7. Ten Eick Site.

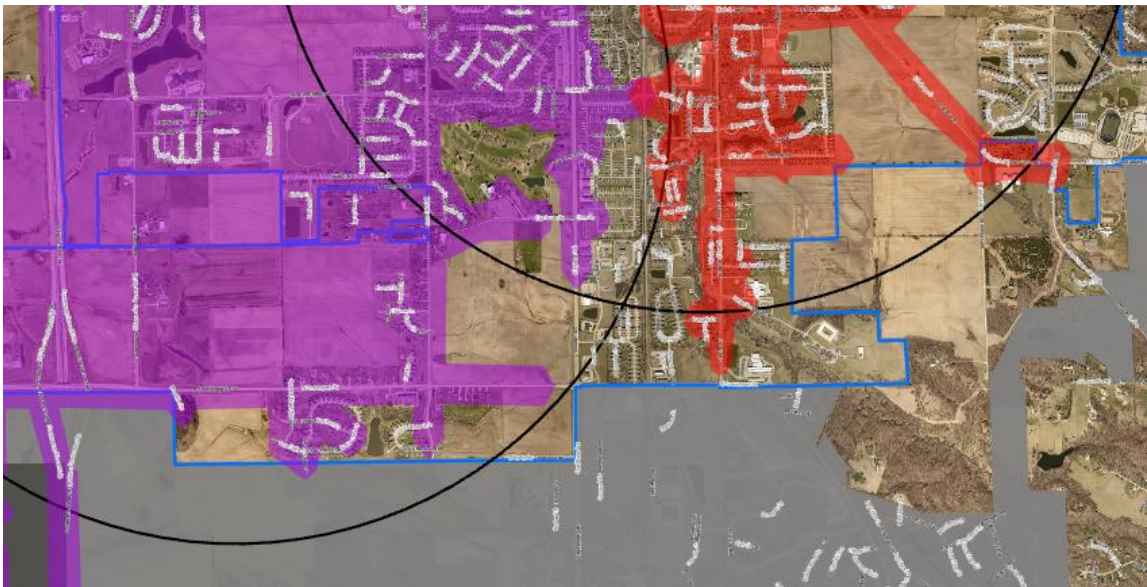


Figure 8. 1.5-mile coverage radius and 4-minute response time analysis from Fire Station No. 1 and Ten Eick Site.

Smalley Site

The Smalley site began to demonstrate to City staff the impact of moving Fire Station No. 2 too far west. The forthcoming UIHC Hospital would be outside of the 1.5-mile coverage radius and there would be a gap along the west side of Ranshaw Way with respect to the 4-minute response time.

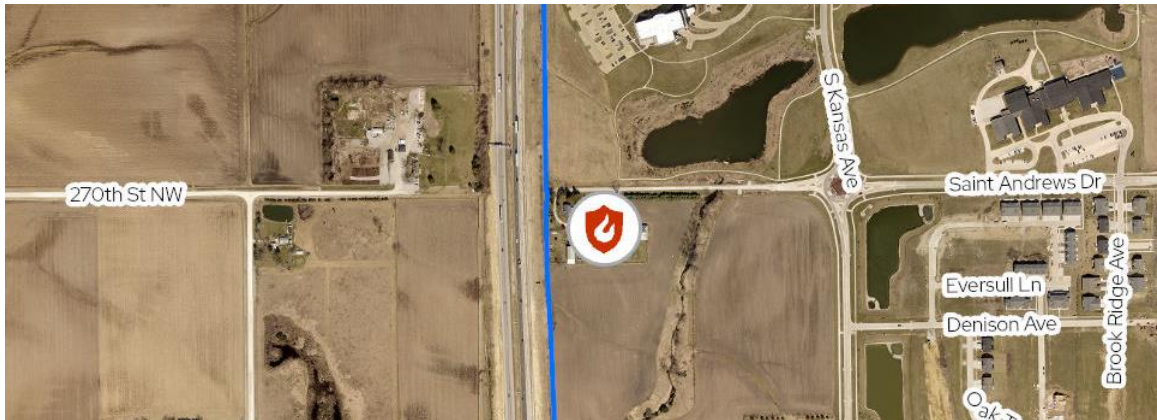


Figure 9. Smalley Site

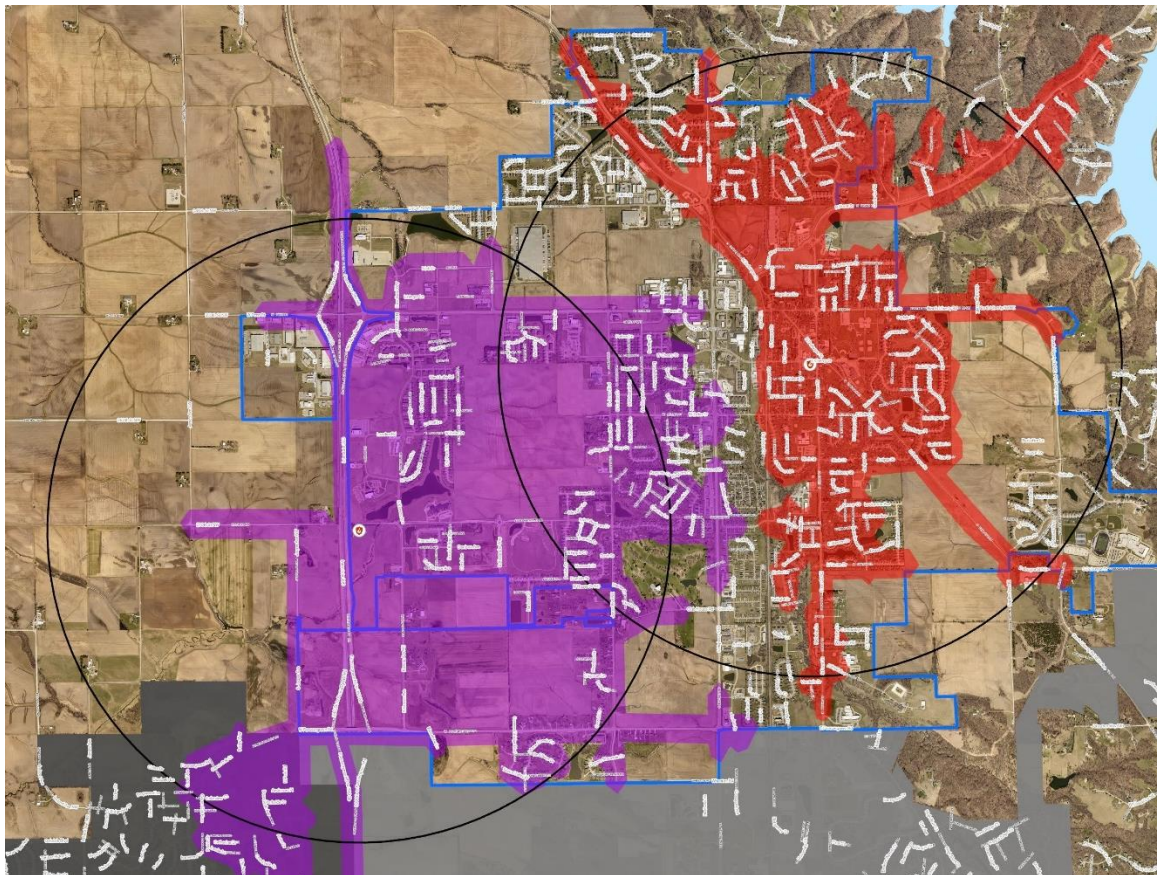


Figure 10. 1.5-mile coverage radius and 4-minute response time analysis from Fire Station No. 1 and Smalley Site.

Saint Andrews Drive west of South Kansas Avenue is not improved to City standards. Also, sanitary sewer would need to be extended approximately ½ mile from the south. The February 2021 cost estimate to improve Saint Andrews Drive and extend sanitary sewer site was \$1,611,000. Some of this cost would be recouped upon development of the Smalley property, but it would take years for the City to be reimbursed.

Deatsch Site

Similar to the Smalley site, the Deatsch site would be too far west. Also similar to the Smalley site, sanitary sewer would need to be extended to the property. Notably, this property was sold in 2021 for \$735,000 (\$161,538/acre).

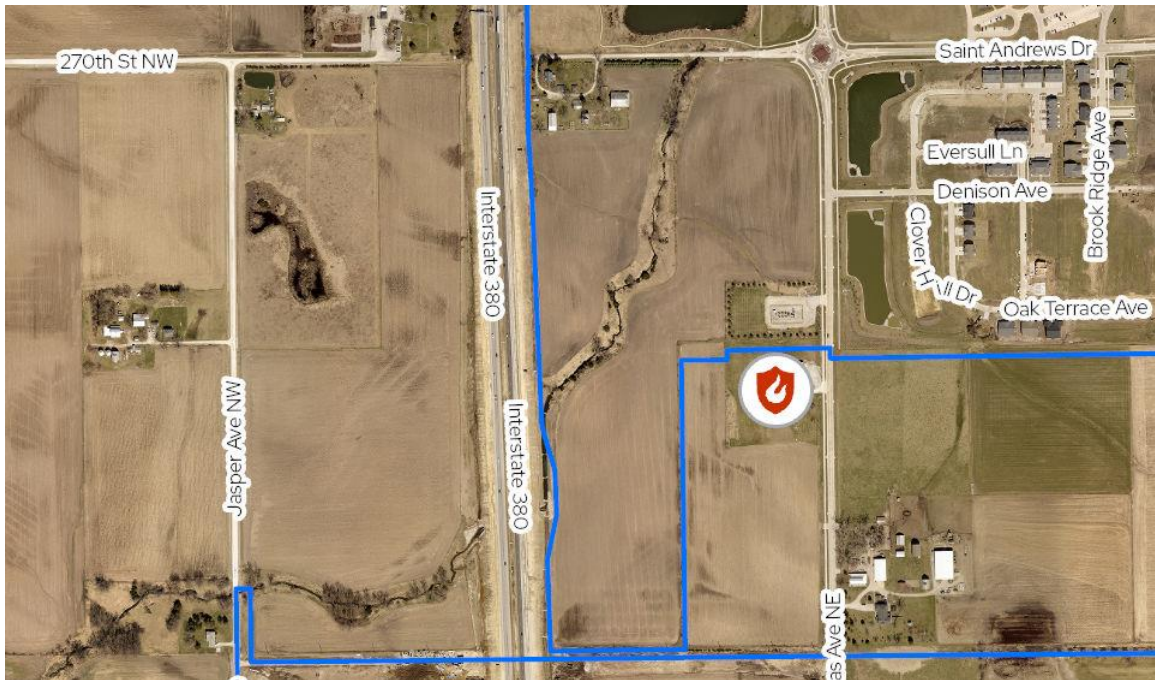


Figure 11. Deatsch Site.

South Kanas Avenue/Landon Road Site

Similar to the Smalley and Deatsch sites, the South Kansas Avenue/Landon Road site would be too far west. Additionally, the property is currently listed for sale at \$901,605 for 5.24 acres (\$172,062/acre). Therefore, this property was never given serious consideration based on the land cost alone.

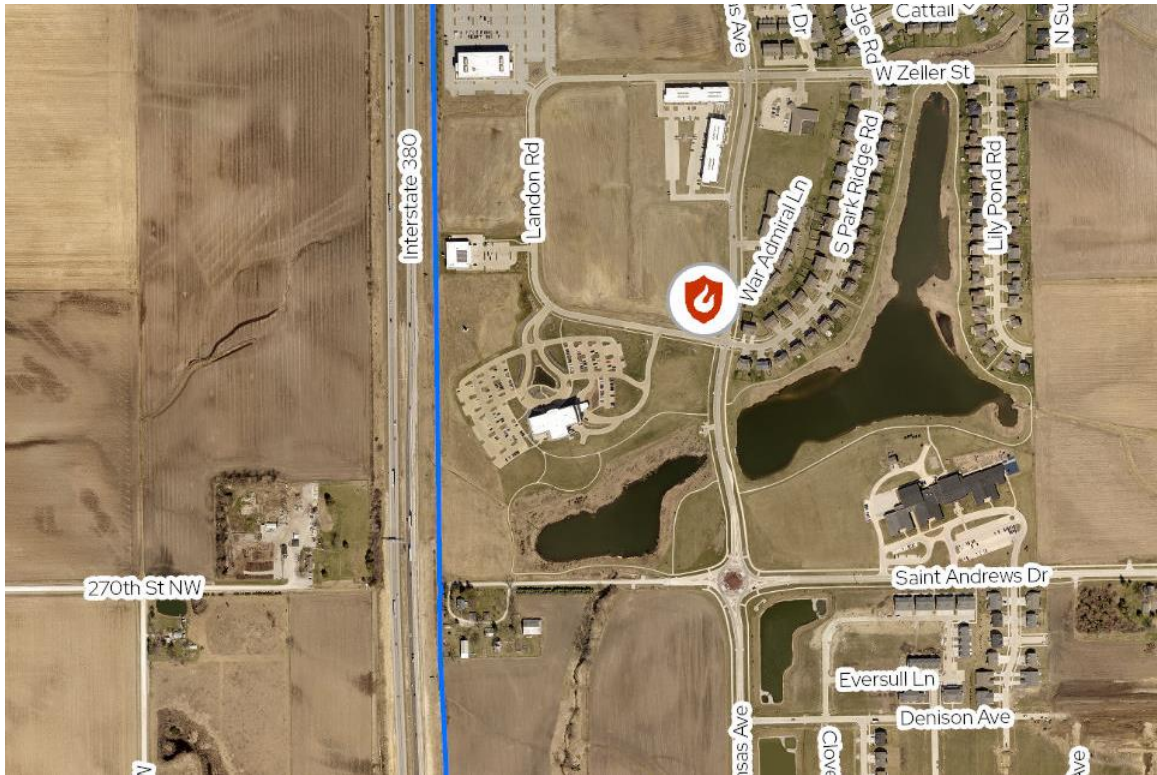


Figure 12. South Kanas Avenue/Landon Road Site.

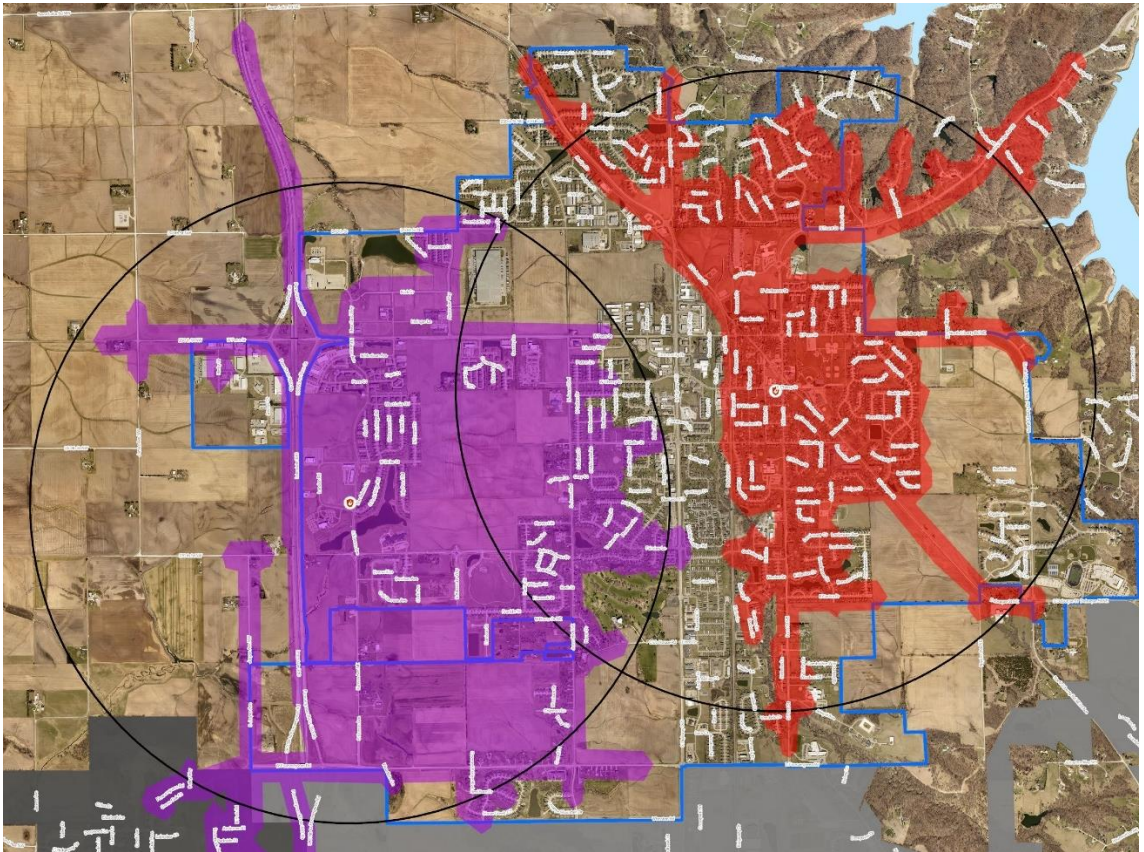


Figure 13. 1.5-mile coverage radius and 4-minute response time analysis from Fire Station No. 1 and South Kanas Avenue/Landon Road Site.