# SITE INVENTORY & ANALYSIS

202 FAIRGROUND AVE. WAYNE, NE

ARCH 360 - Michael Harpster ARCH 311 - Steven Hardy

Spring 2023

### PROJECT **01**

SITE INVENTORY & ANALYSIS

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### PROJECT **01**SITE INVENTORY

SITE INVENTORY & ANALYSIS

Steven Hardy Studio 311 - Situate

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CONTRIBUTORS

### PROJECT **01**

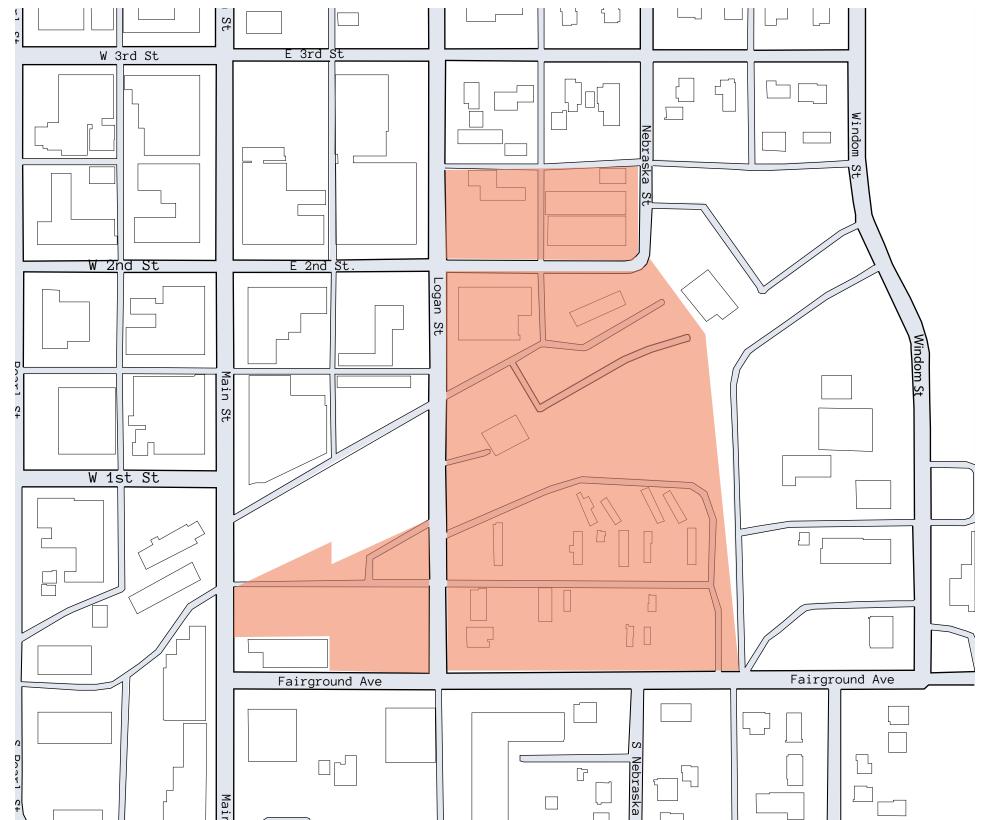
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202 Fairground Ave. & 121 Logan St.

\*Option for additional land at 113 S. Main St. & 211 Logan St.

Wayne, NE 68787

GPS: 42.2301, -97.01600



LOCATION & EXTENTS

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REGIONAL & LOCAL CONTEXT

## PROJECT **01**SITE INVENTORY & ANALYSIS

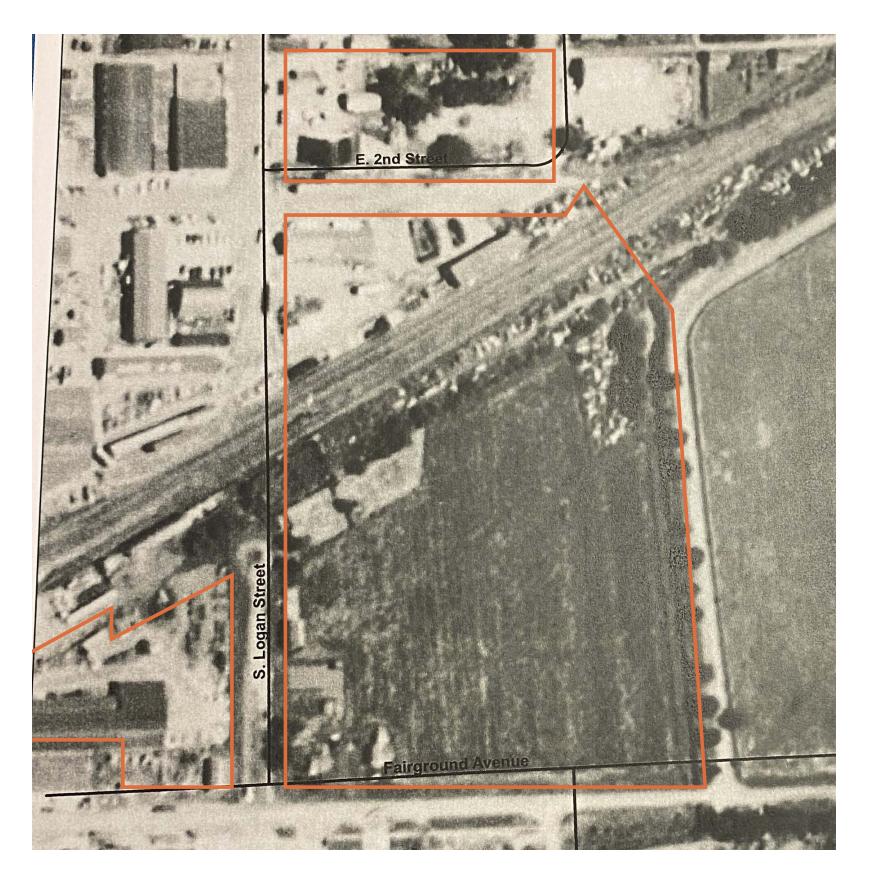
### Site Features

Through our research we have found that the Site itself has had the same purpose of trailer housing since being purchased by the Owners family. There are few bike paths, and little to no public transportation networks within Wayne. However, most places of interest are within a short walk from the location of our site. We are allowed to design for the entirety of the site and will have no implications with designing around any of the buildings currently on the site.

NARRATIVE SUMMARY

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The site has been in the family since the 1860's when BJ's family first moved to the United States. The site has been home to his Grandmother's house, and there was at one point another house next to it. The site has for most of its time been used as a trailer park. Since the college in Wayne has grown there are students who will rent out these trailers as well as some permanent residents, a few of which are Elderly. The site used to have a garden area which had small plots leased out to the residents so that they could have their own garden space. The north end of the site is where the old railroad used to run through the town and currently has a few storage facilities for the lumber yard next to the site.



HISTORY

1.1

1960's Aerial View of Site

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PEDESTRIAN
TRANSPORTATION
NETWORK

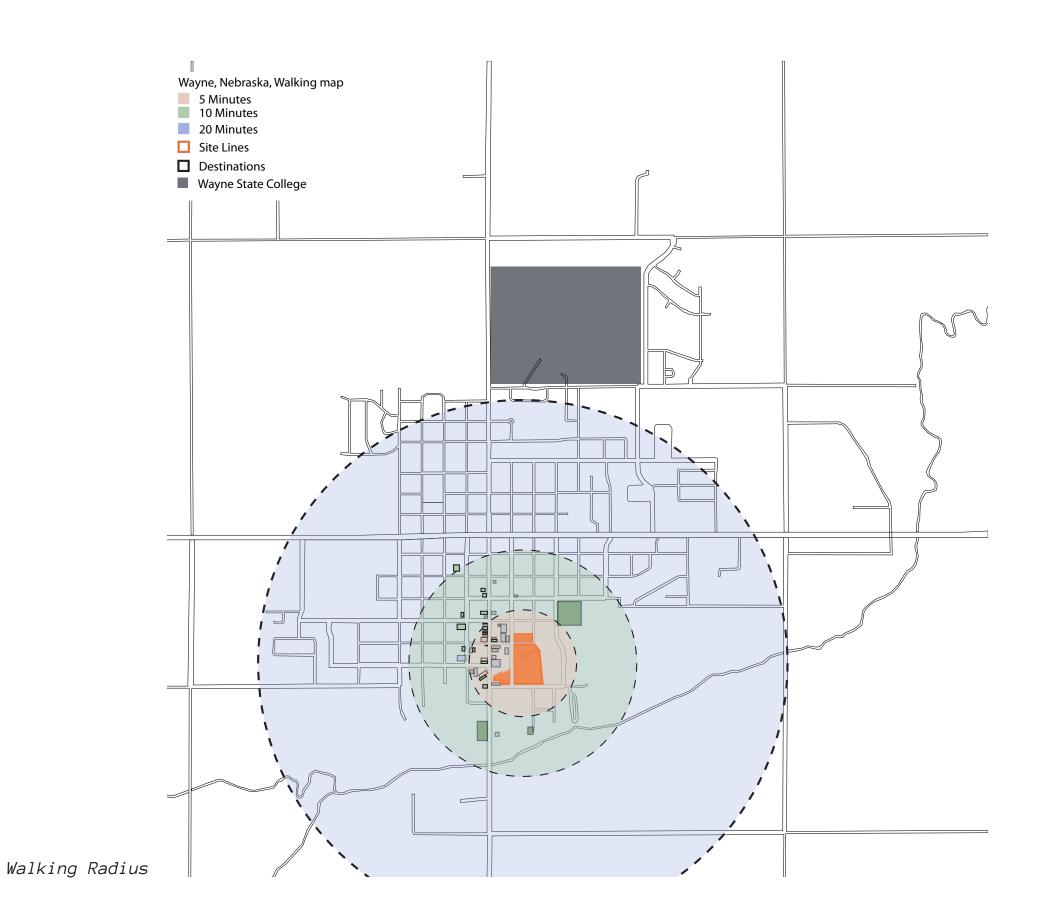


Walking Destinations

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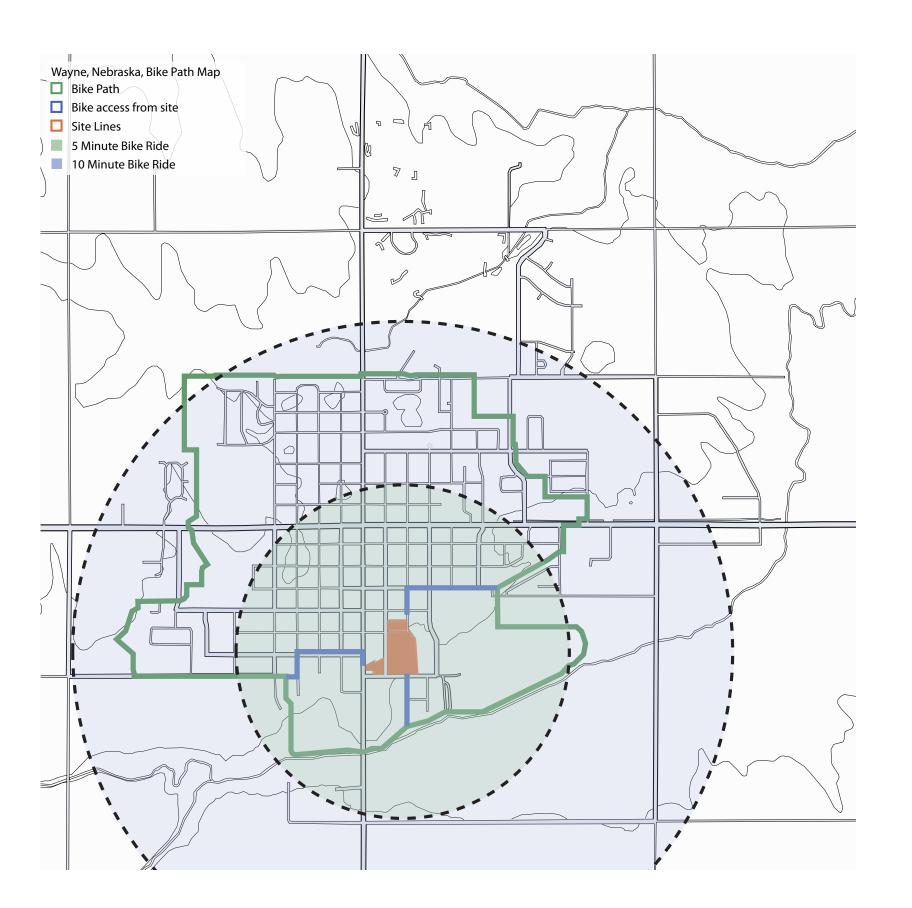
SITE INVENTORY & ANALYSIS

PEDESTRIAN
TRANSPORTATION
NETWORK

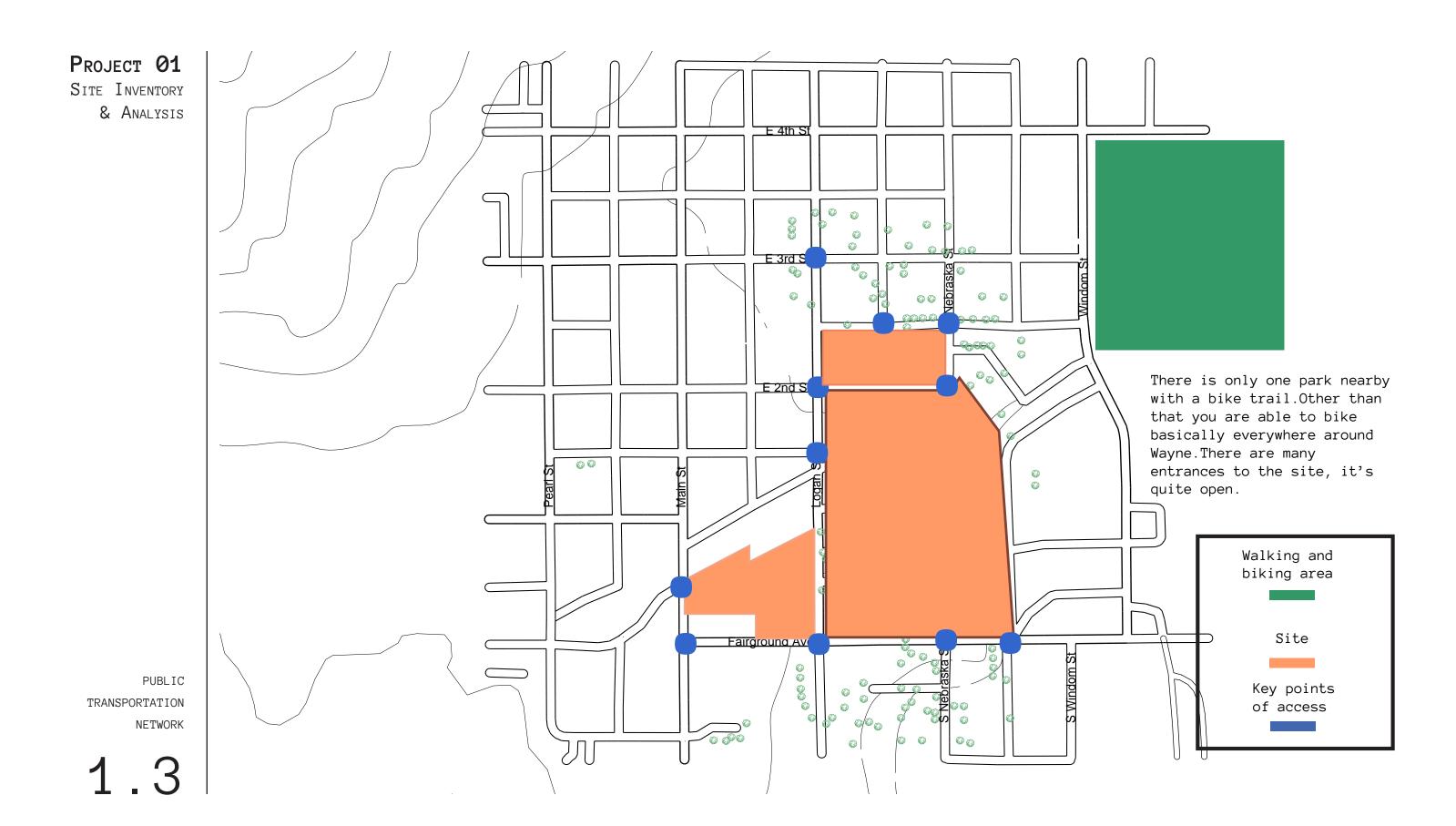


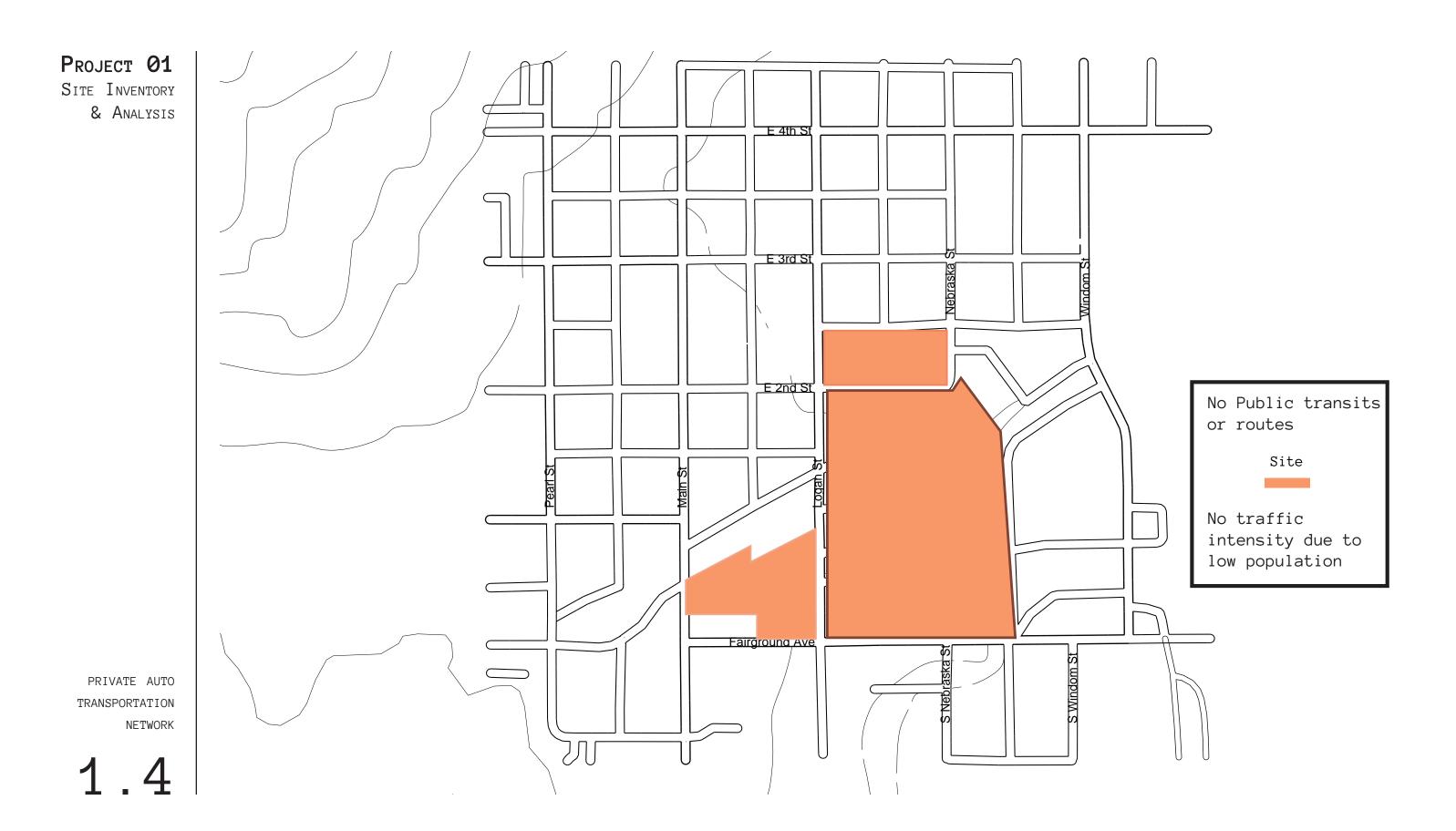
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PEDESTRIAN
TRANSPORTATION
NETWORK



Bike Path







## PROJECT 01 SITE INVENTORY & ANALYSIS

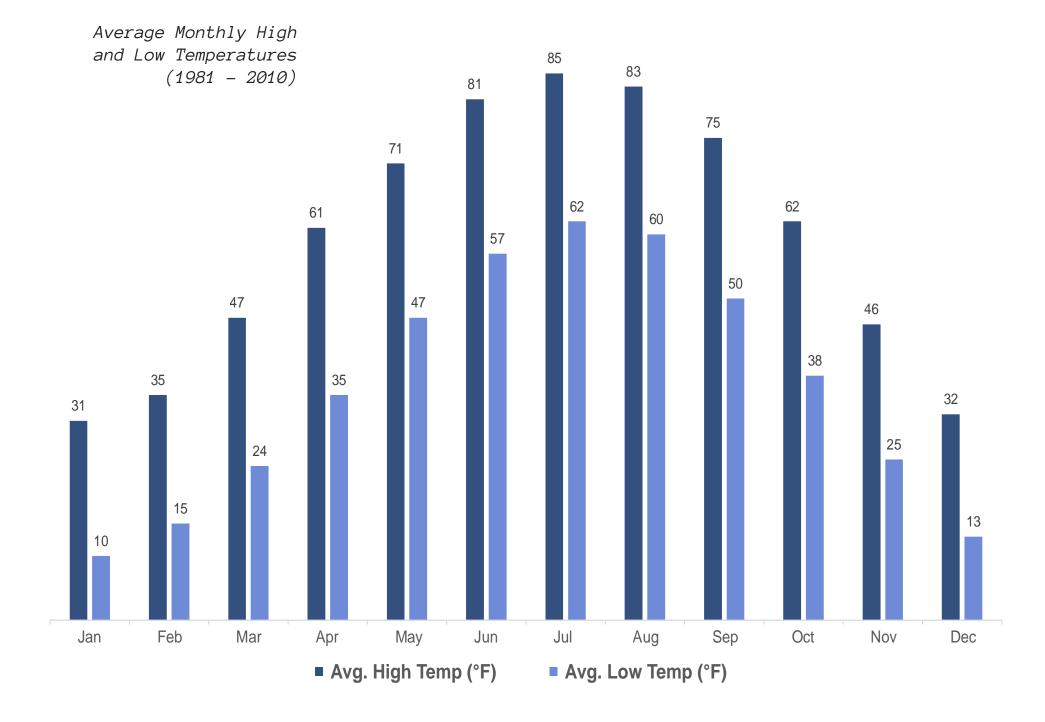
### Climate

Wayne, Nebraska has a slightly arid temperate climate with average temperatures falling between 10 and 85  $^{\circ}\text{F}$ . It receives a moderate amount of precipitation, mostly in the form of rain. Wayne's winds shift dramatically from summer to winter, with southern winds dominating the former and northwestern winds representing the latter. Spring and autumn have similarly moderate wind profiles, a sameness that carries over into the site's solar and shadow characteristics. Again, like with wind directionality, summer and winter depict extremes in solar altitude. All of these factors — temperature, precipitation, wind, and solar — combine to suggest designs that are biased towards handling high—wind, low—temperature conditions.

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Temperatures range from 10 °F in the winter to 85 °F in the summer. The region experiences six times more heating days than cooling days - 6056 °F HDD compared to 1183 °F CDD. The concentration of heating days has significant material and assembly implications - for instance, vapor barriers should generally be placed interior to the exterior wall insulation.

In a broader context, major temperature swings experienced in the summer, where daily temps can reach over 100 °F, cause large and often destructive storms. In the winter, similar temperature swings result in significant ice.



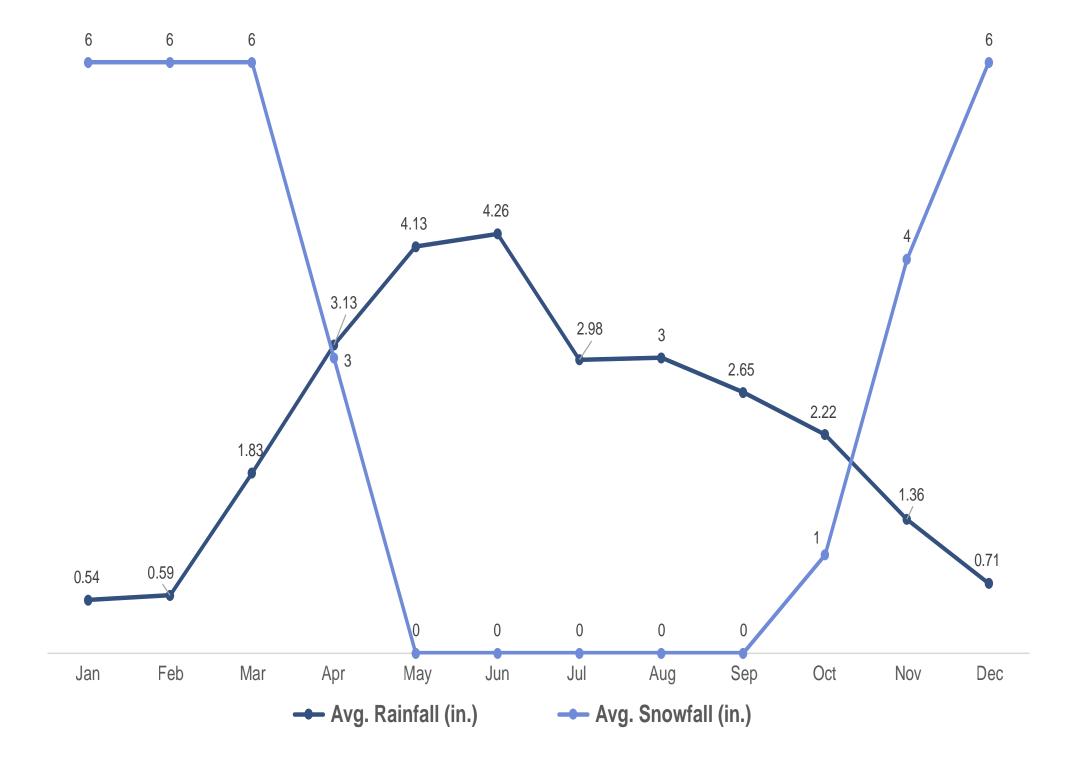
TEMPERATURE & PRECIPITATION

PROJECT 01

SITE INVENTORY & ANALYSIS

Wayne experiences a moderate amount of precipitation. Snows can occur as late as April, strengthening the suggestion for low-temperature design. Winter rains indicate a high likelihood of ice sheet conditions as well as structural fatigue as a result of freezing expansion.

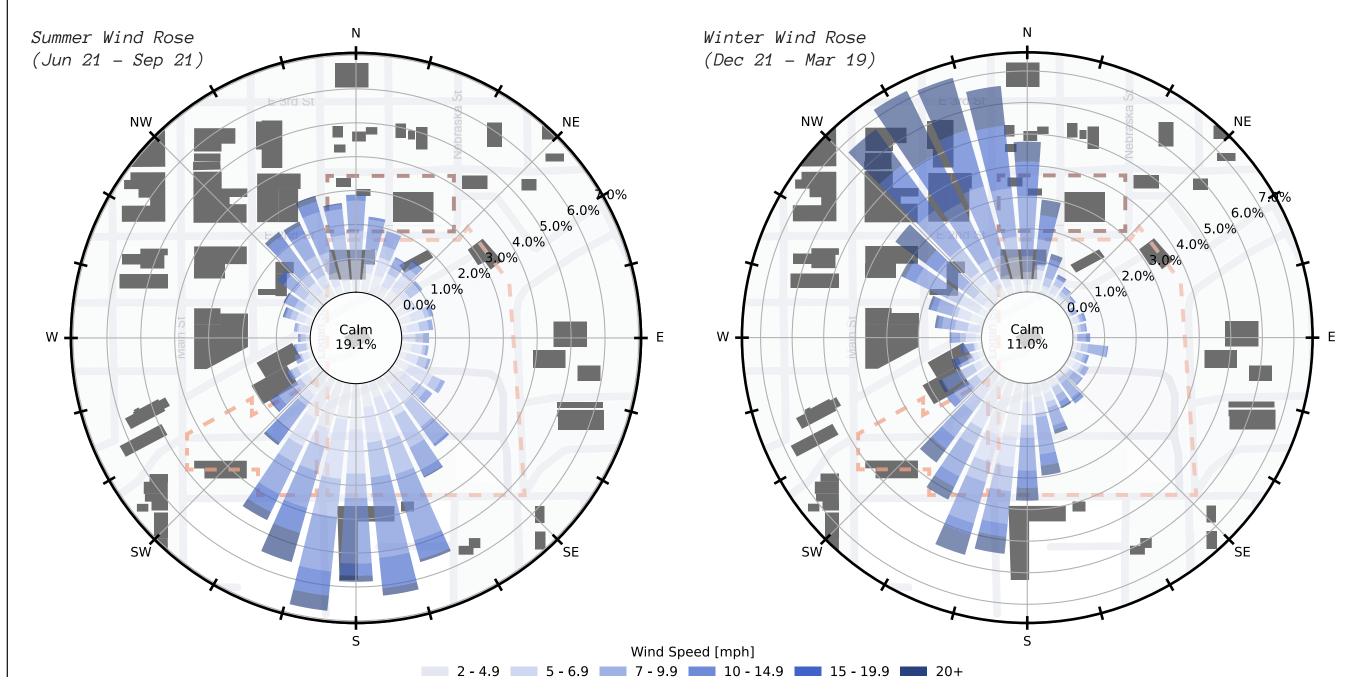
In several months, snowfall reached 6 inches. As such, designs must thoroughly consider storm water and snow melt management. Average Precipitation (1981 - 2010)



TEMPERATURE & PRECIPITATION

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SITE INVENTORY
& ANALYSIS

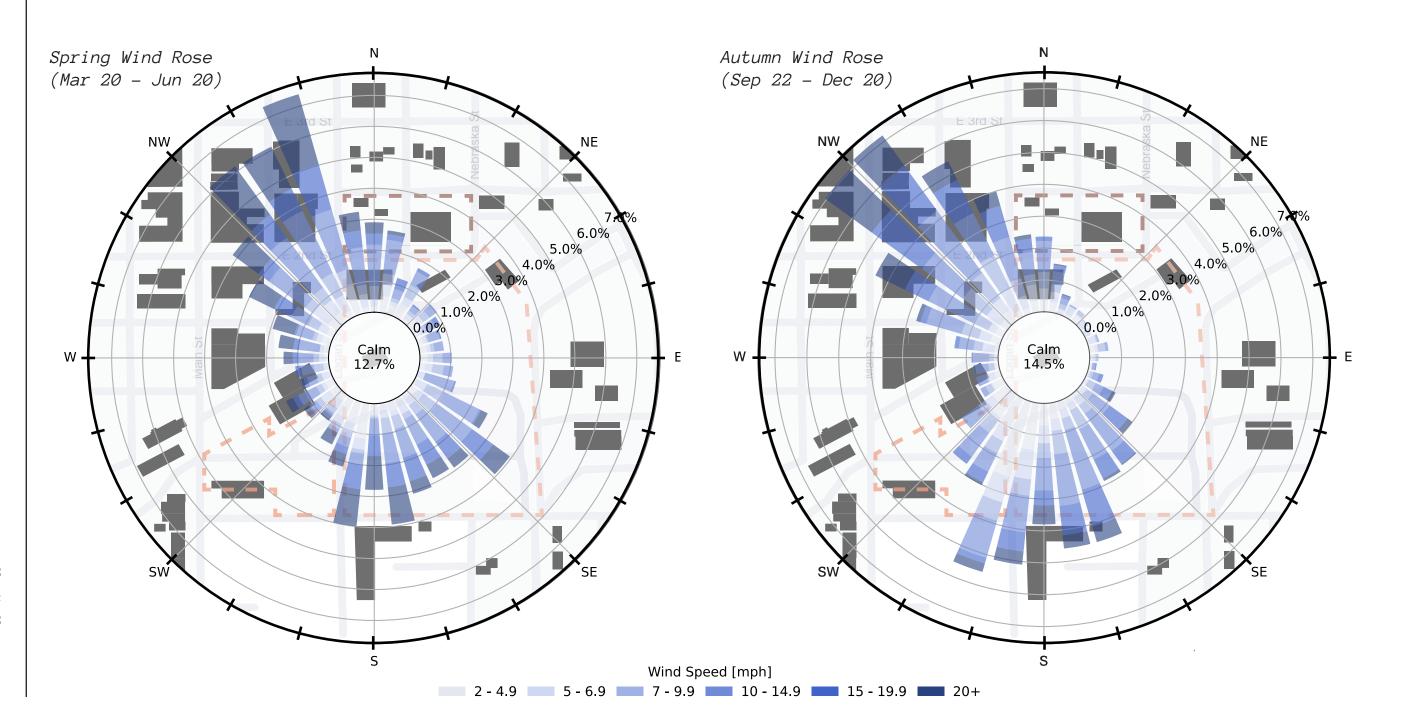
Summer winds emanate primarily from the south at an average speed of 7.6 mph while winter winds originate in the north-west with an average speed of 11.1 mph. Attentive designs will avoid uninterrupted north-south spans that will be prone to forming harsh wind tunnels. When determining building orientation, designs should consider the combination of high wind speeds and low temperatures present in the winter, while still striving for some level of passive summer cooling.



NATIONAL WIND ZONES & LOCAL WIND SPEEDS

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Both spring and autumn experience most wind from the north-west with average speeds of 11.9 and 10.1 mph, respectively. The representation of significant north-western winds throughout three of four seasons reinforces the need to consider these winds relative to plan orientation. Strategic placement of greenery east-of-north should be considered as a way to mitigate north-western air channels.

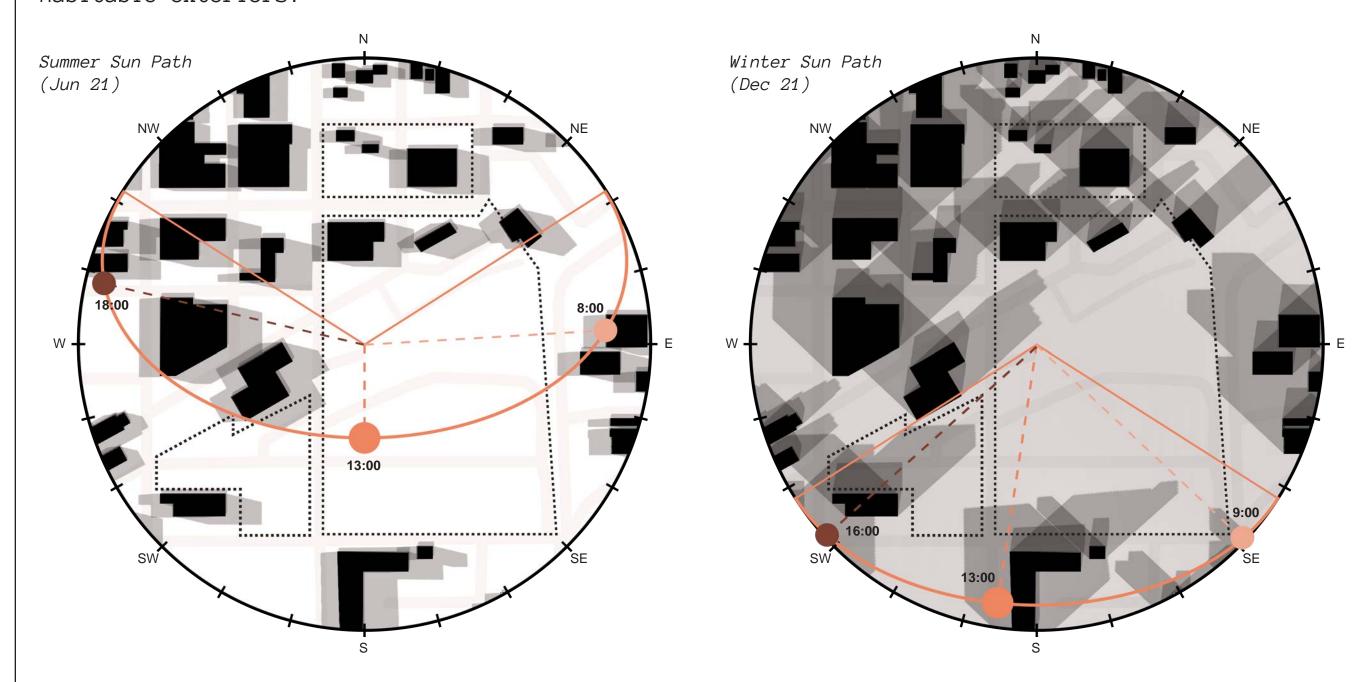


NATIONAL WIND ZONES &

LOCAL WIND SPEEDS

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& ANALYSIS

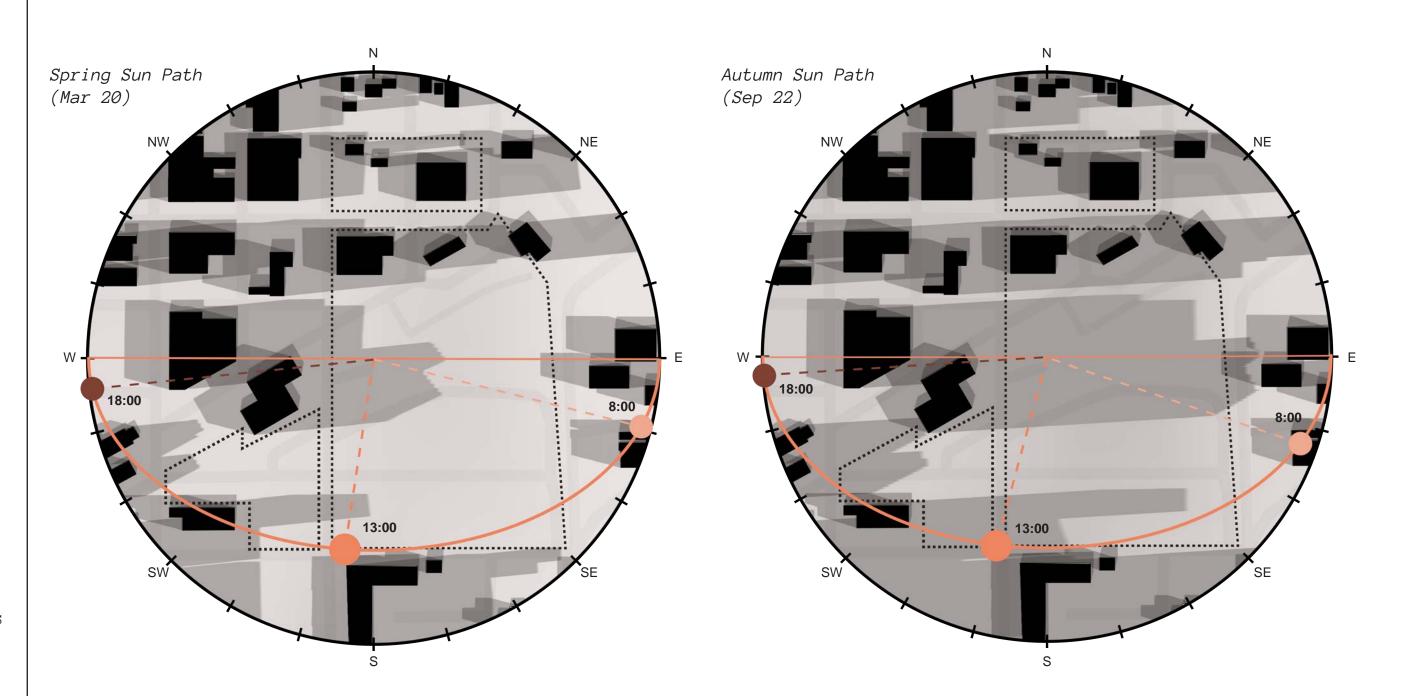
Summer is characterized by 15 hours of daylight and short shadows while winter receives only 9 hours of daylight with long shadows. According to the sun path diagrams shown, buildings oriented approximately 45° east-of-north provide ample eastern and western shade in the summer while optimizing winter solar gain. As such, a rotated orientation is ideal for high-efficiency housing that maximizes comfortably habitable exteriors.



SHADOW STUDIES

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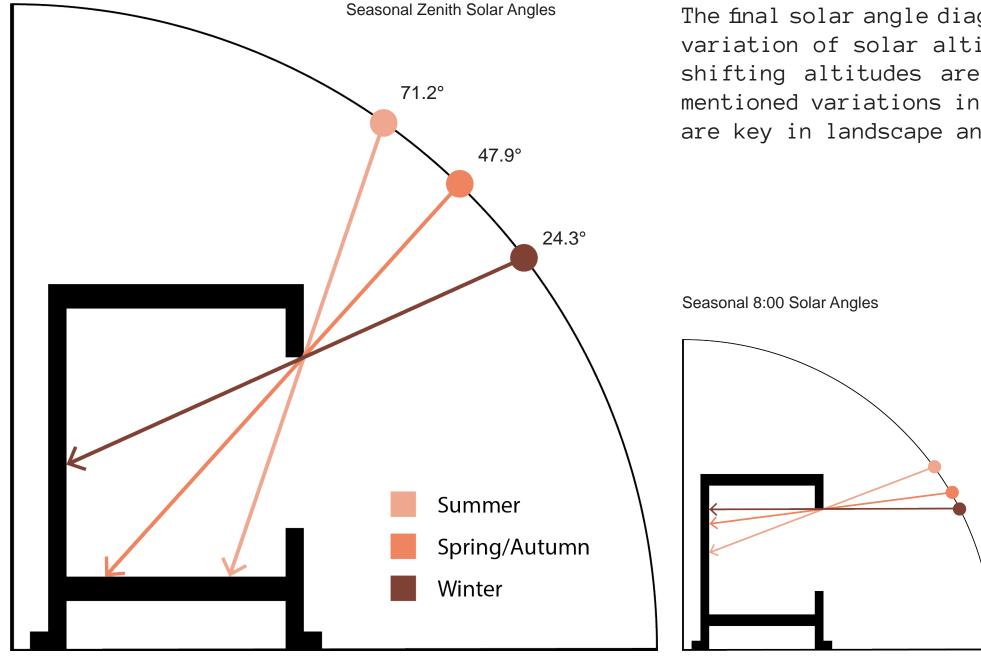
Spring and autumn both receive approximately 12 hours of daylight and share similar azimuth measurements. While the seasons are alike, autumn is characterized by longer shadows as it foretells the coming of winter. Care should be taken to note that long shadows and falling temperatures begin to reduce comfortable exterior habitation that does not return until the following spring.



SHADOW STUDIES

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& ANALYSIS

The summer and winter zenith are important to consider relative to solar gain. Ideally, the line from the front edges of shades and reflectors will measure  $24.3^{\circ}$ . This is the same value as the winter zenith and will allow for the deepest penetration of light while maintaining effective summer shading. Material finishes on the floor area within the summer zenith's  $71.2^{\circ}$  range could also be chosen for high insulative value or low specific heat as a way to reduce summer heat retention.



The final solar angle diagrams further illustrate the variation of solar altitude across seasons. These shifting altitudes are the source of previously mentioned variations in daylight duration and they are key in landscape and energy design.

Seasonal 18:00 Solar Angles

SHADOW STUDIES

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## Ecology

This site is an underdeveloped area in the growing city of Wayne. As the site currently stands it is a mixed use area used for temporary housing such as trailers, a proportion of the land is industrial, and some is agricultural. Where the site is located in relation to the central hub of Wayne it creates a prime location for a high density housing area. The goal for this site is to develop a co-housing area that will benefit the city while meeting the needs of its citizens by creating a dialogue with said citizens. This dialogue in combination with our own designs in order to optimize the land for all.

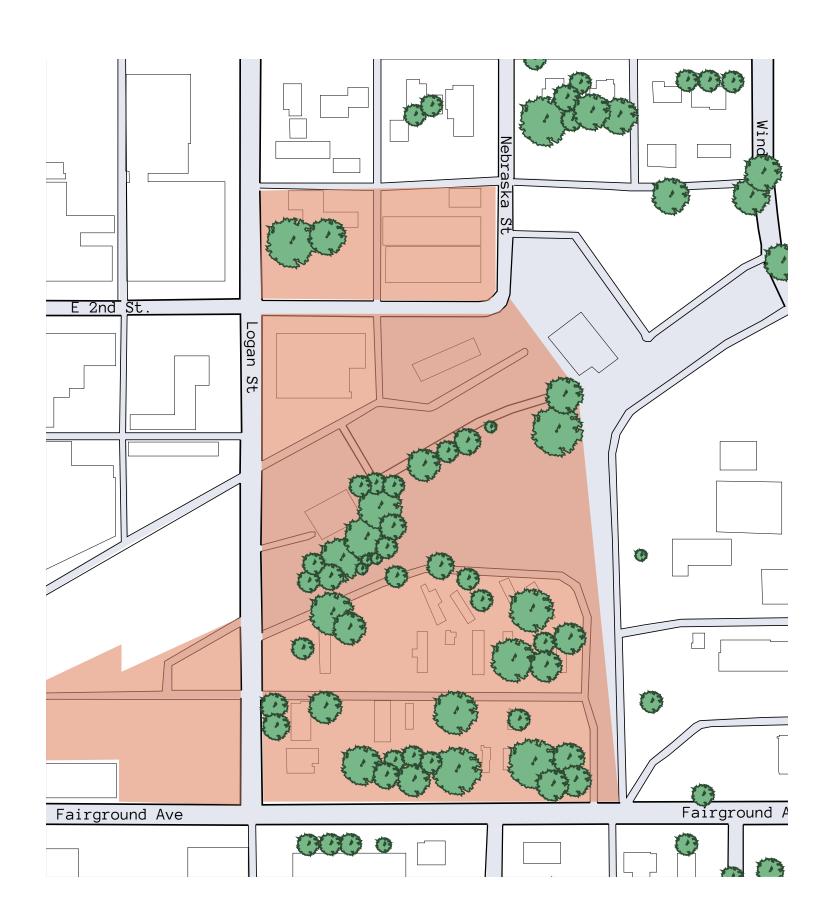
NARRATIVE SUMMARY

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Exsisting Site & Street Vegetation

The exsisting site has most of its vegetation on its southern end. There are many masses of trees but other vegatation such as bushes are limited. The exsisting vegetation covers around 15 percent of the site. The western area of the site lacks much vegatation and is mostly covered by dirt/soil. Some of the largers clusters of trees might be worth retaining towards the middle and edges of site.

EXISTING SITE & STREET VEGETATION



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#### LANDSCAPE REGIONS AND BIOTYPES

Wayne county falls in between two different regions; the first is the Northeastern region of Nebraska known for being an agricultural hotspot and its economy reflects this as a major crossroads for rivers, railways, and highways. The other region is the Dissected Till Plains, a Central Lowlands making up a fifth of Nebraska's land and is mainly known for its fertile farmland and its soil is prime for construction due to it being effective in foundation construction.

## 4 DOMINANT PLANT SPECIES OF THE TALLGRASS PRARIE

LITTLE BLUESTEM

USUALLY REACHES 18-24 IN TALL

BIG BLUESTEM

USUALLY REACHES 6-8 FT TALL

SWITCH GRASS

2.5-5 FT TALL

INDIAN GRASS

3-8 FT TALL



LANDSCAPE REGIONS & BIOTYPES

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### LANDSCAPE BIOTYPES

CONEFLOWER MILKWEED GOLDENROD SUNFLOWER

Common Forbs Surrounding Wayne County



RED CEDAR

AVG HEIGHT 30-60 FT

AVG DIAMETER 2 FT



LIMBER PINE

AVG HEIGHT 40 FT

AVG DIAMETER 20 IN



RED MAPLE

AVG HEIGHT 60-90 FT

AVG DIAMETER 5 FT



MULBERRY

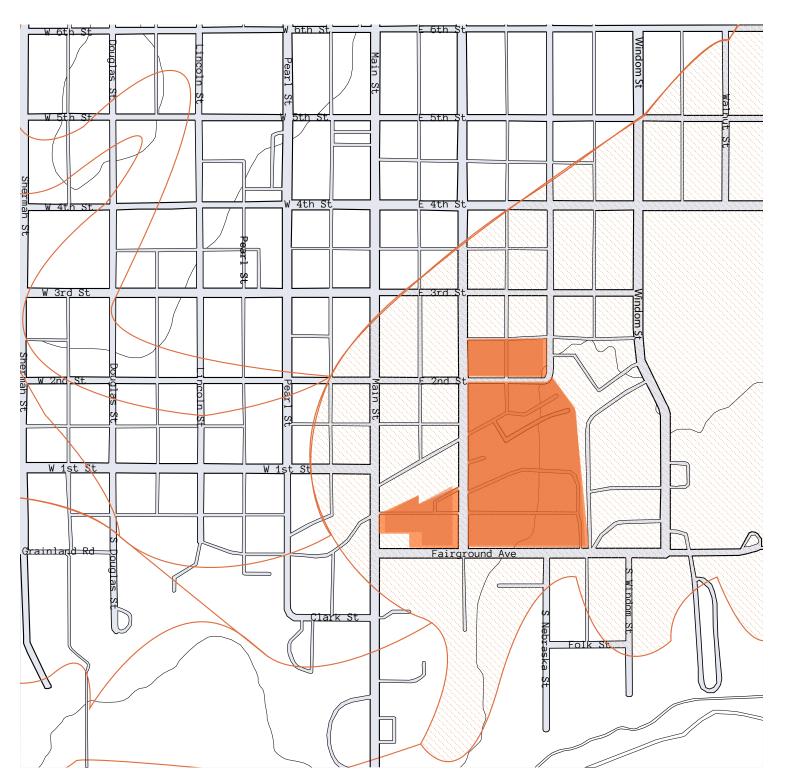
AVG HEIGHT 30-50 FT

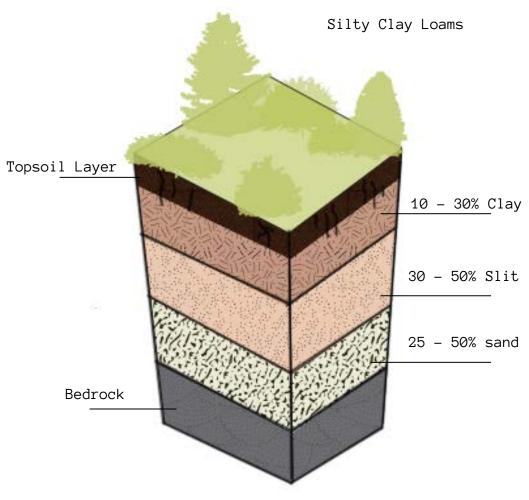
AVG DIAMETER 8 FT

Common Trees Surrounding Wayne County

LANDSCAPE REGIONS & BIOTYPES

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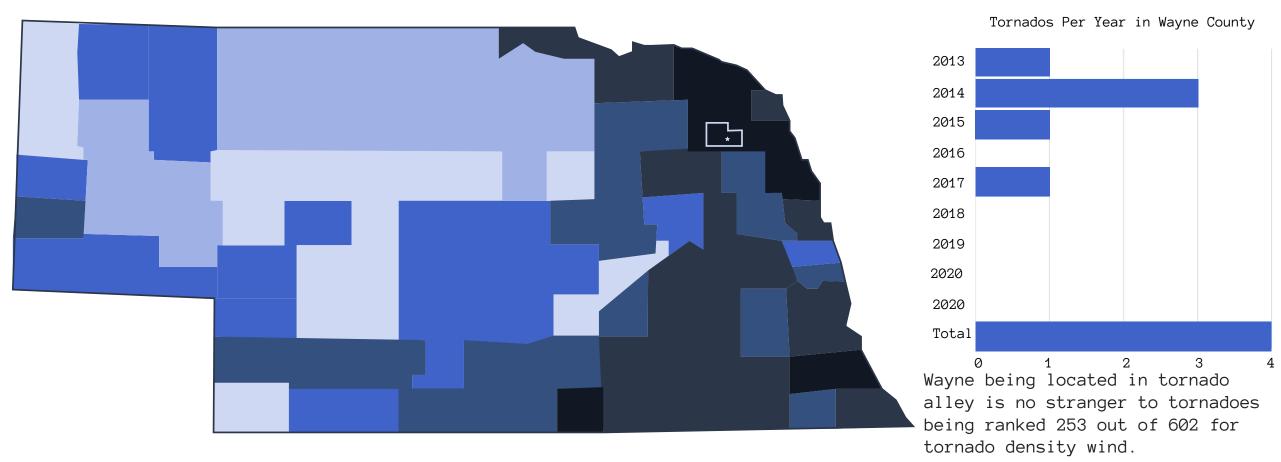


Silty Clay Loams take up 100% of our site being one of the most fertile soil types and a soil types prime for construction for foundations. The soil is soft to be able to dig into but pliable enough to hold its shape when under stress.

SOILS

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Average Radon Concentrations

1 - 2

3 - 4

5 – 6

7 – 8

9 – 10

11 - 14

Compared to most of Nebraska and the united states Wayne is located in a area that has high levels of natural radon deposits that can leak into the a housing unit that is very toxic to humans

ECOLOGICAL ISSUES & OPPORTUNITIES

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## Local Resources

Wayne, Nebraska is a small town with limited resources. The only energy source is the power plant. Wayne owns the generation plant and the distribution system. As for water resources, Wayne's existing water system is characterized as a groundwater source system with operational production wells. The local building material manufacturers in town include two lumber producers, Carhart Lumber and Sand Creek Post and Beam Plant Facility, and one concrete producer, Gerhold Concrete Company.

NARRATIVE SUMMARY

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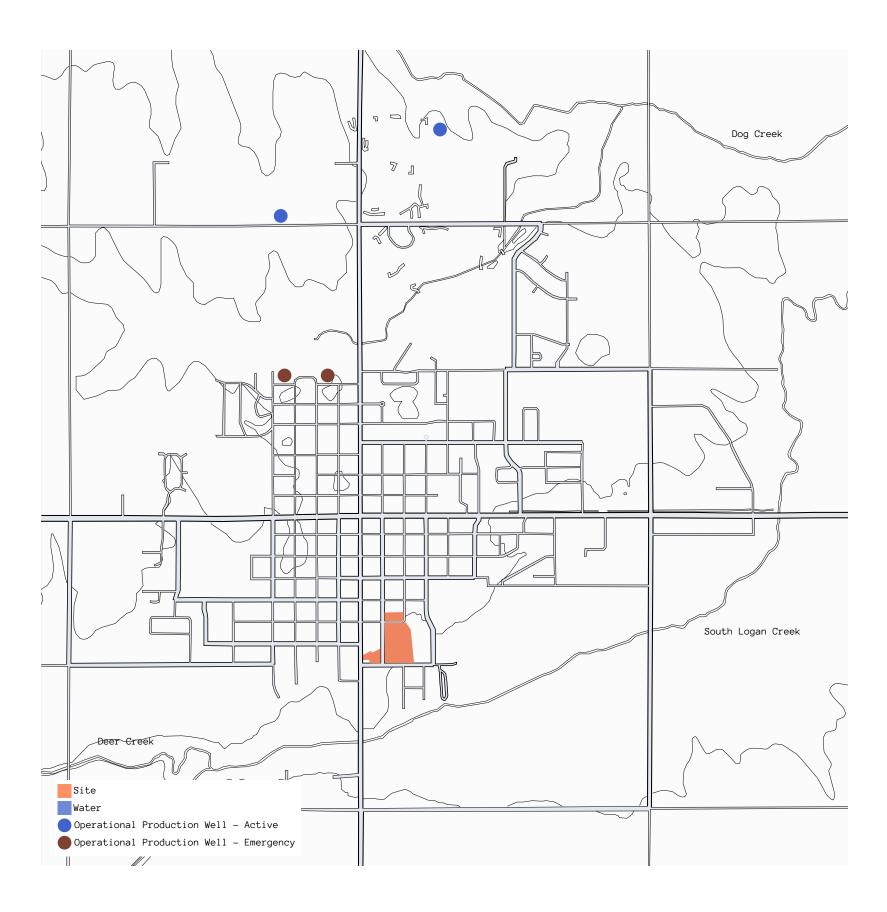
The city of Wayne, Nebraska only has one powerplant. It uses petroleum energy and is located close to the site.



POWER RESOURCES

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The city of Wayne, Nebraska has three bodies of water that run near town, including Dog Creek and South Logan Creek, and the latter of the two leads into Deer Creek. Wayne also has operational production wells, two of which are currently active and the other two being for emergencies. The active wells are located north on the outskirts of the city while the emergency ones are located on the north side within town.



WATER RESOURCES

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The city of Wayne, Nebraska includes two wood manufactures, Carhart Lumber, which is located next to the site, and Sand Creek Post and Beam Plant Facility, which is located near the west end of town. In town there's one concrete manufacturer, located on the west side of town nearby the Sand Creek Post and Beam Plant Facility wood manufacturer.



MATERIAL RESOURCES

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## Regulation

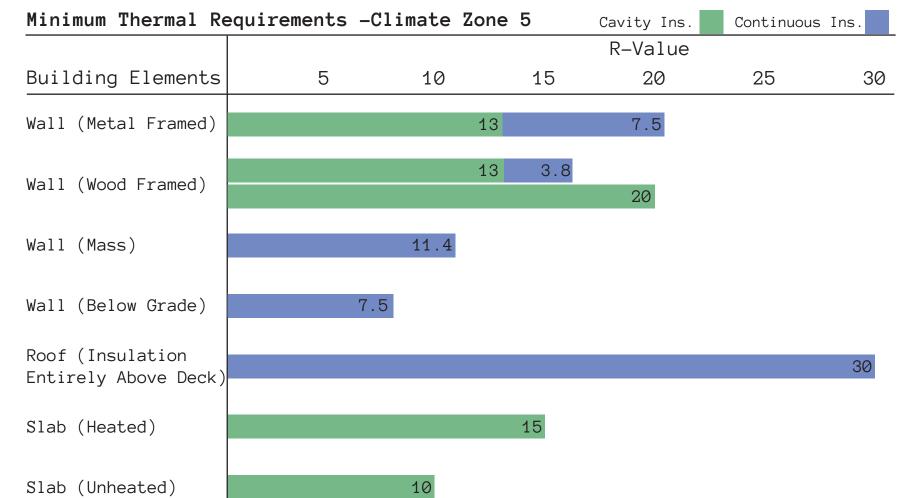
Wayne, NE, is located in Climate Zone 5. Because of this, thick insulation is needed to adequately handle the colder temperatures. Additionally, it is important to recognize the snow loads and frost line depth to create appropriate designs for this location.

The regular annual floodplain is about 800 feet south of the site, and the 0.2% chance of floodplain is only 50 feet from the site. Given that the site is nearly flat, deigns will have to carefully consider the amount of stormwater runoff that is created from development.

The site is split between four different zoning districts: B-1, B-3, I-1, and R-4. Currently, the project's intended program only adheres to the R-4 zoning requirements. Within R-4 zoning, any housing type can occupy the site, which includes mixed-use.

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### Additional Minimum Thermal Requirements by Wayne, NE

- 1. Ceiling: R-60 insulation.
- 2. Frame walls: R-20 (combined R-value of wall elements).

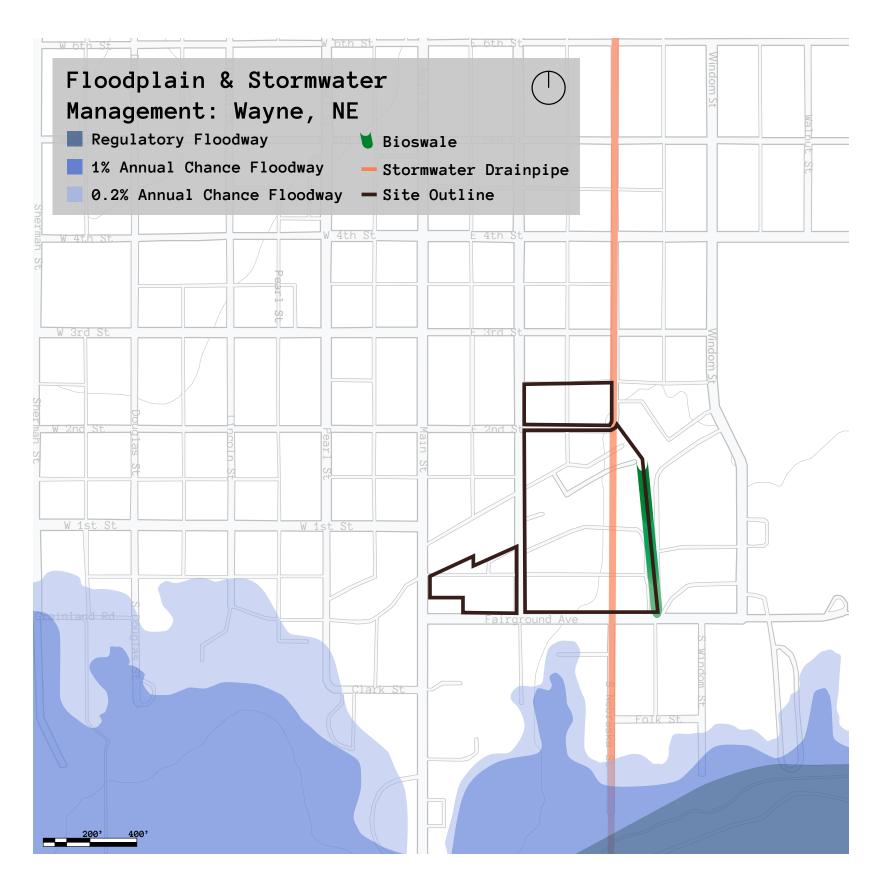
Exterior wall cavities of conditioned spaces shall be filled to a minimum of 98% capacity with insulation.

- 3. Slab edge (on grade): R-10 insulation, from top of slab to 42" below finished grade.
- 4. Floors (over unheated spaces): R-38 insulation
- 5. Finished basement walls: R-18 (combined R-value of wall elements).
- 6. Crawl spaces: R-10 insulation. Shall be a conditioned space. Floor shall be covered with not less than three (3) inches of concrete.

CITY CODES

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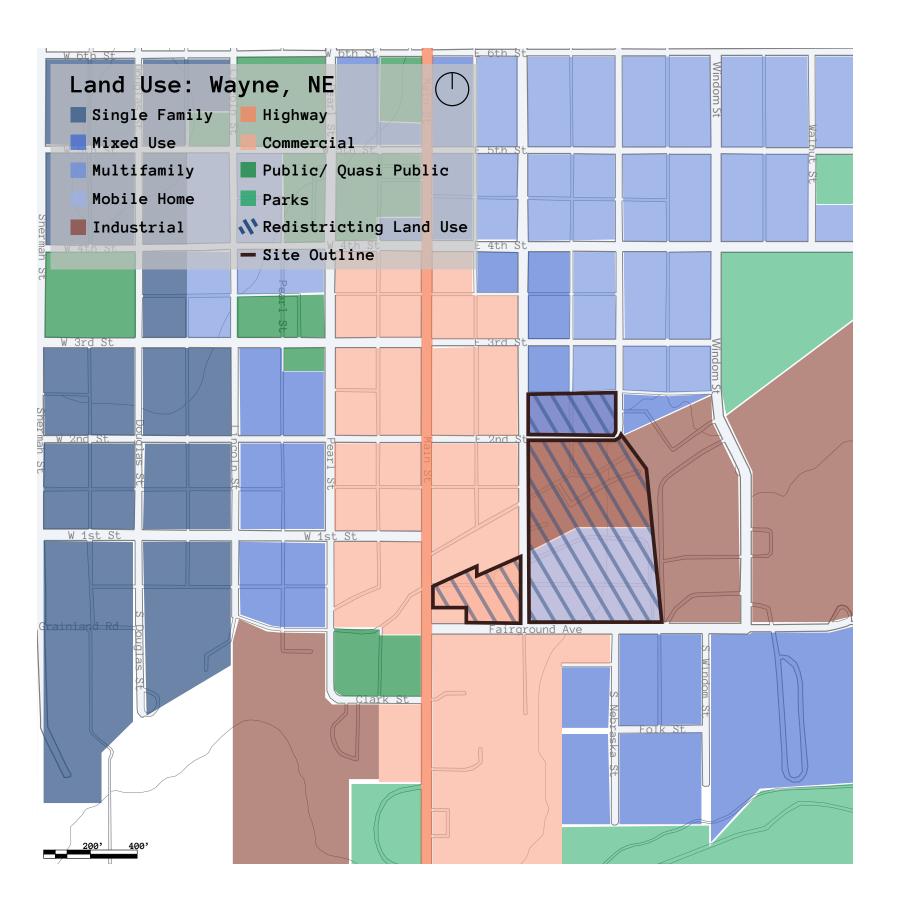
The regular annual floodplain is about 800 feet south of the site, and the 0.2% chance of floodplain is only 50 feet from the site. Additionally, there is little stormwater management within the current site. Given that the site is nearly flat, deigns may have to consider adding topography. This can be done by cutting away from, or infilling, the land. Another design consideration that can prevent future flooding is the use of permeable surfaces. Architecturally speaking, this can look like the use of green roofs. However, extending passed the buildings' design will make for the most successful prevention measures. For instance, pathways for pedestrian or car access do not need to be made of slabs of concrete. Instead, they can be made of permeable paver where soil and plant matter is partially exposed. By doing this, the soil can detain rainfall while the paver can provide level walking and driving surfaces.



FLOOD MANAGEMENT

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& ANALYSIS

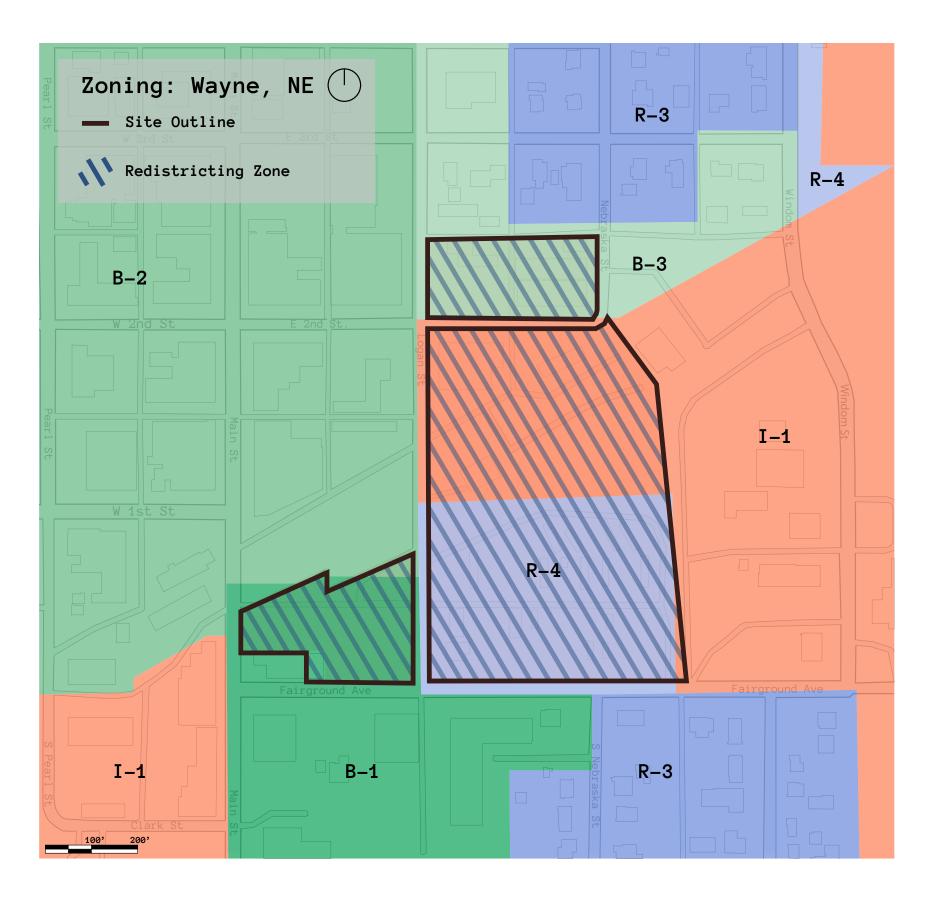
As previously mentioned, the site is divided between four zones. Additionally, the site is divided between four land uses. Land uses define site programs in more specific terms. What is important to note here is the site's surrounding land uses as they will influence the design. Mixed use is assigned to the north and south of the site. After visiting Wayne, it is understood that mixed use is configured horizontally rather than vertically. So, houses are visible at eye-level in either direction from the site grounds. Then, commercial and industrial buildings are visible from east to west. This prompts the site to be defined as a connector, or rather, a threshold. If the design is not considered in these terms, then the project's impact can turn negative and will feel disconnected from the rest of Wayne.



LAND USE

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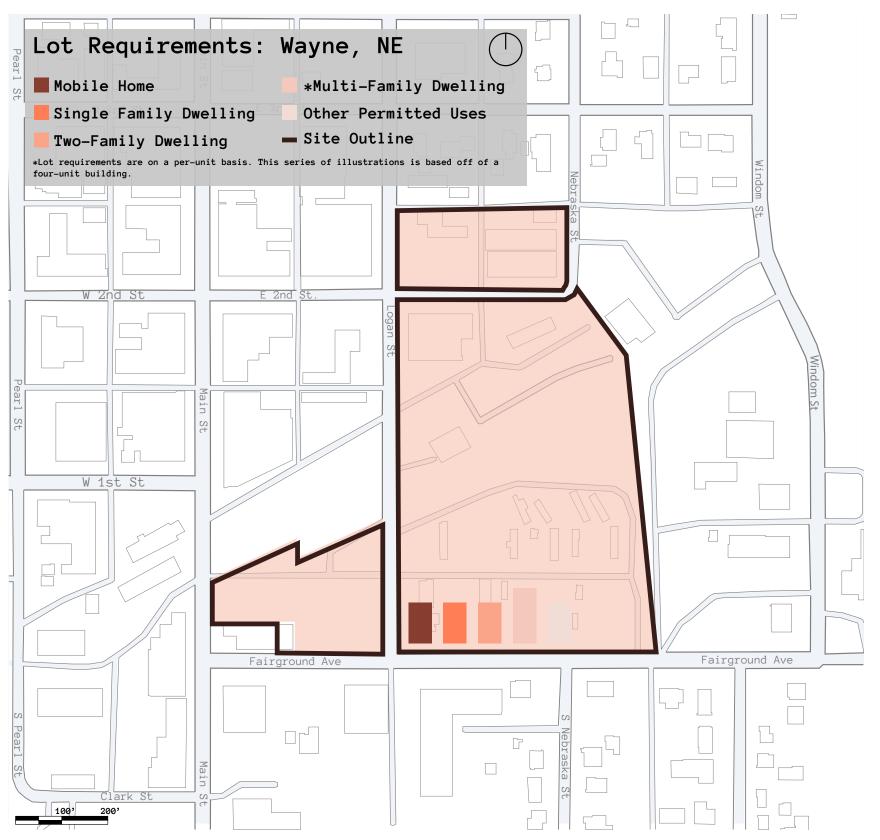
The site is split between four different zoning districts: B-1, B-3, I-1, and R-4. Currently, the project's intended program only adheres to the R-4 zoning requirements. Therefore, the site's zones will have to be approved for redistricting. Another option is to approve the site as a P.U.D. As per the owner's word, either option will be fairly easy. Within R-4 zoning, any housing type can occupy the site. This includes mixed-use where businesses can still reside. Therefore, if the whole site was R-4, then the owner can still have flexible programs without having to complicate city zoning patterns.



ZONING INFORMATION

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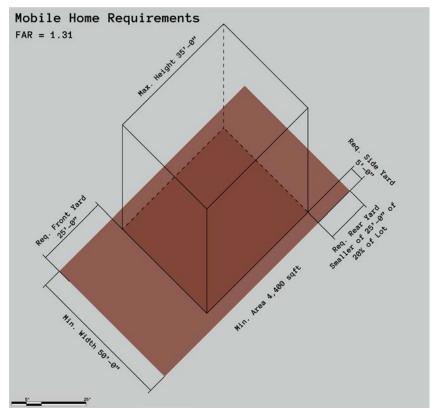
The next series of illustrations explain the building footprints within the site context, as well as the building restrictions as defined by land use codes. All the different building types have the same minimum footprints with the exception of Multi-family dwellings. At a quick glance, it is understood how dense the site can become if it were completely filled with the building footprints. And while filling the entirety of the site with housing can, in theory, fix Wayne's housing issues, that method does not consider any qualitative factors. As mentioned before, this site should act as a threshold between the several surrounding land uses. In regard to lot creation, orientation and proximity of buildings should be considered when dividing the site. Questions to ask in the schematic design phase include: how do building proximities compare to those within a one block radius? Does any scale of building footprint relate to the site context, or do some scales feel out of place?

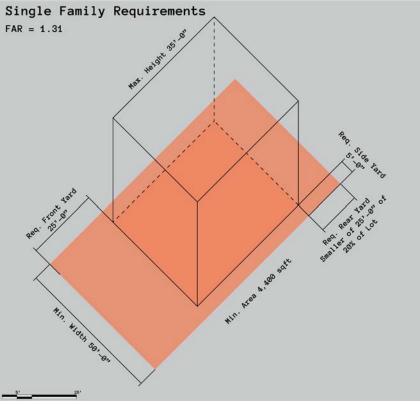


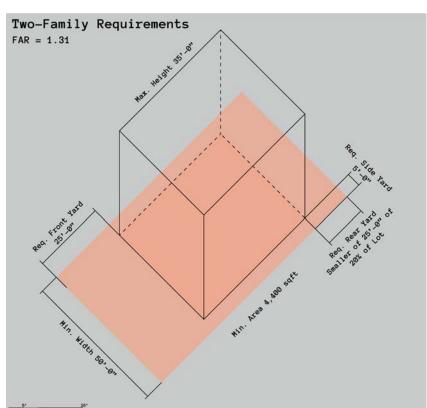
ZONING INFORMATION

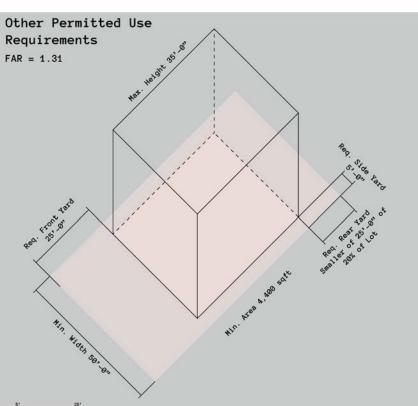
PROJECT **01**SITE INVENTORY
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The site will be split into smaller lots based on the masterplan designs. Therefore, a diagram showing the buildable area of the entire site would be inaccurate. Instead, understanding the lot requirements per building type is more beneficial for this project. The lot requirements for all the building types are the same, with the exception of Multi-family dwellings. Wayne's city code mostly restricts the minimum values defining lot boundaries. Therefore, designs need to consider the buildings next to the site, in relation to their program, as reference when planning.





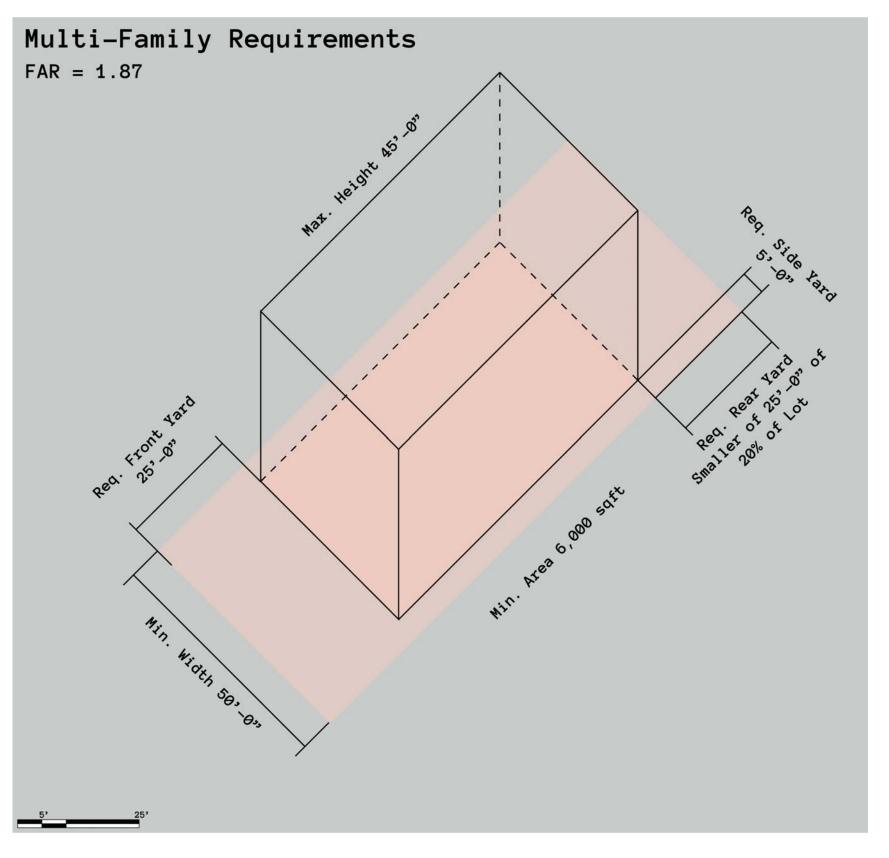




ZONING INFORMATION

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Multi-family requirements differ from the rest in that it's lot requirements are defined by the number of units. A multi-family lot must have a minimum of three units to use these parameters. When comparing the multifamily lot with the others, the rate of increase between buildable area grew larger than that of land area. Thus, making the FAR value greater. In theory, using only the multi-family type would yield enough units for the project at hand. However, after speaking with the owner and community members, it is understood that Wayne needs multiple lot types in this project. Influencing factors of the lot types include: demographics for accessibility, proximity to different land uses, program within the lot, etc.



ZONING INFORMATION

#### PROJECT 01

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### WAYNE, NE IRC AMENDMENTS

In order to obtain (temporary) occupancy the following items shall be completed:

- (1) House numbers on the front of the building.
- (2) Exterior siding (not just moisture barrier) placed on the building.
- (3) Driveway surfaced as required by the zoning code.
- (4) All smoke/carbon monoxide detectors installed per code.
- (5) Handrails on all stairs as required by code.
- (6) Hot water available as required by code.
- (7) One working sink, toilet, and tub or shower.
- (8) Front stoop/stairs completed.
- (9) Any deck over 30" above the adjacent grade must have guardrails installed as required by code or access to the deck denied by removing operational hardware from any exterior door entering the deck, or by other means that prevent the door from being unlocked and opened.

Expanded definitions of the following:

Crawl Space- An underfloor space that is not a basement. A crawl space shall have a minimum height of 30" from the bottom of floor joists to the top of the concrete floor. The floor shall not be less than 3" thick.

Sleeping Room- Any room in a house that is greater than 70 square feet and has built-in closet space and typically could be used as a bedroom. This does not include rooms used for cooking, eating, family living, gathering, bathrooms, toilet rooms, and halls.

#### LEED CERTIFICATION

LEED Certification is not in effect however Wayne Housing Development Initiatives indicate a desire to "promote the rehabilitation of residential buildings in Wayne utilizing weatherization methods and energy efficient or "green building" materials in conformance to the "LEED" Certified Building techniques." (Wayne, Nebraska Community Housing Study with Strategies for Affordable Housing)

SPECIAL REGULATORY
RESTRICTIONS

5.5

#### PROJECT SITE EXISTING

#### ZONE REGULATION

The main site is located in a R-4 (Residential) zone. This zone is intended to provide high density residential development.

The following are permitted in a R-4 zone

- (1) Single-family dwellings;
- (2) Two-family dwellings;
- (3) Mobile homes for residential purposes;
- (4) Multiple-family dwellings;
- (5) Public parks, buildings and grounds;
- (6) Child care homes;
- (7) Mobile home parks; and
- (8) Manufactured homes for residential purposes, provided the home complies with § 152.140 of this chapter.

Roof Snow Load:	30 lbs. per square foot
Ground Snow Load:	25 lbs. per square foot
Wind Speed:	115 mph
Seismic Design Category	В
Subject to Damage from Weathering:	Severe
Subject to Damage from Frost Line Depth:	42 inches
Subject to Damage from Termite:	Moderate to Heavy
Subject to Damage from Decay:	None to Slight
Winter Design Temp:	4 Degrees
Flood Hazards:	Not Available
*Amond all 30-nound li	ve loads to 10-pounds

\*Amend all 30-pound live loads to 40-pounds.

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## Culture

Wayne Nebraska, known for its chicken shows, Wayne State College, agriculture, and many other attributes which creates a welcoming environment to outsiders. Having a variety of annual shows and activities, while being close in proximity to the site, allows designers to analyze that traffic flow and take it into consideration when designing. It is home to not only native residents but also an influx of college students which creates diversity within the community. Understanding the patterns and scope of the demographics within the community allows for designers to get to know what kind of environment to build for. Identifying the main values within the community, Wayne stands for diversity, engaged learning, sustainability, and partnerships. Knowning what Wayne stands for in the community is crucial information that can be used to build and develop those relationships into their surroundings. Understanding the culture of Wayne and how the community interacts with each other helps gather information on what could be improved and how the city can look to develop progressively.



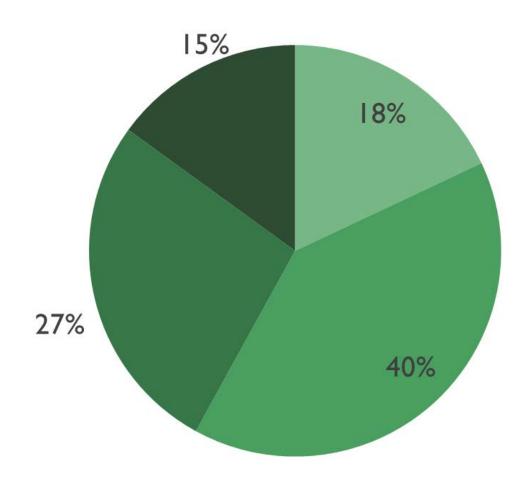
NARRATIVE SUMMARY

PROJECT **01**SITE INVENTORY
& ANALYSIS

The population of Wayne is roughly 5603 people, however, Wayne is a college town so the population can fluctuate throughout the year in relation to the school semesters. The college enrolled 3766 kids as of fall 2021. This does play into the population as, Wayne has not surveyed to find out the ratio of college kids to non-college kids and those who are coming from inside or outside of Wayne. The ratio of gender is 51% female and 49% male. The median age of people in Wayne is 22.8 which is mostly tied to Wayne State College. The majority of people are between 19 and 29. The Wayne State College is the main draw for people to visit. Wayne does have an aging population as those who are in Wayne tend to stay if they are not part of the college. This has led to Wayne having aid programs for the elderly. This graph demonstrates the population breakdown as of 2020. Over half of the population is young adults and children. 42% of the population is adults and the elderly. This can create a push and pull between the generations. In general people do tend to be friendly and cordial to each other.

## Age 2020 Census





DEMOGRAPHICS

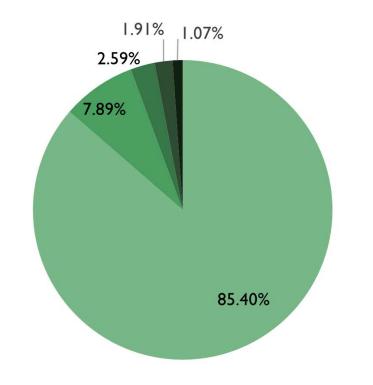
PROJECT **01**SITE INVENTORY
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Wayne is a majority white town. The over whelming majority of people are white, but there is still diversity. Wayne does value its diversity and one of the main draws of diversity is the college. The college has many support groups and clubs to promote diversity.

Wayne's employed population is 3,275. The poverty rate of Wayne Nebraska is 18.6% in comparison to the state's poverty line of 9.9%. The median household income is \$47,054 and the median property value is \$138,000. 20.2% of people live below the poverty line. In 2020 homeownership was 53% with the rest of the houses being rented. This fluctuated between various neighborhoods as the closer to the college the more rentals.

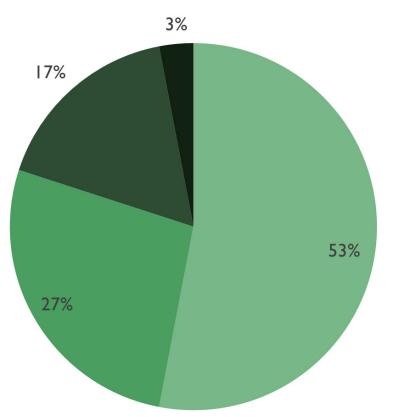
### Demographics 2020 Census





### Yearly Income 2020 Census





DEMOGRAPHICS

#### PROJECT 01

SITE INVENTORY & ANALYSIS

#### VALUES

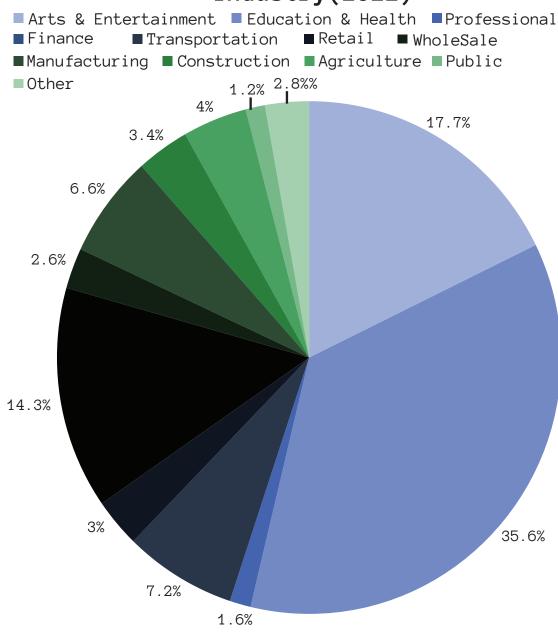
Wayne promotes economic help to the community, which follows a system of their core values. Considering the University being a large part of the community, Wayne State has come out with 6 core values that guide the create and execution of their strategic goals and initiatives. Those values include: Culture and Community, Diversity, Engaged Learning, Innovation and Agility, Partnership, and Sustainability. In addition, the balance between agriculture, education, Industry, Wayne NE provides a stable environment not only for families, but also college students as well.

Wayne, NE has defined 6 Core values that guide the creation and execution of Wayne State College's strategic goals and initiatives.

- Culture and Community
- Diversity
- Engaged Learning
- Innovation and Agility
- Partnership
- Sustainability(recycling, trash centers, donations)

Balance between agriculture, education, industry, and providing a stable environment settlement (1869), was caused by a railroad that linked Norfolk, NE and Sioux City, Iowa. Originally, it was named Brookdale, but the settlers wanted to name it after the county in memory of general "Mad" Anthony Wayne of revolutionary war fame.

### Industry(2022)



**VALUES** 

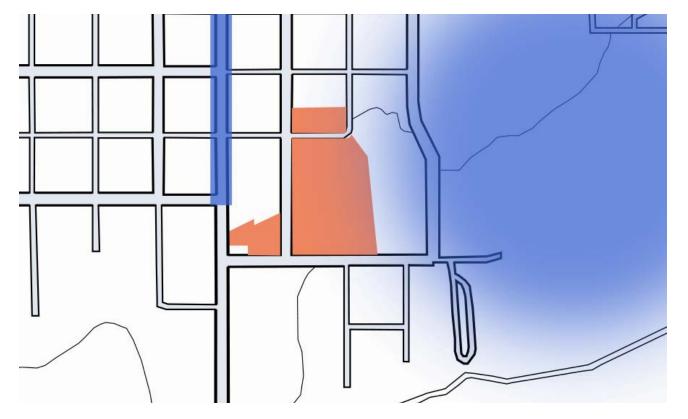
PROJECT 01
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#### THE WAYNE CHICKEN SHOW

The Wayne Chicken Show or Chicken Days is a summer festival that has been put on annually for the past 42 years. This festival has events over three days. Friday known as Henoween or all Hen's Eve consist of a street festival that has a multitude of food vendors, face painters, games, rides, and activities. This occurs on main street which is a block away from the site. The second day has a morning parade down main street where local businesses, organizations, graduated classes, and more will participate in parade floats throwing candy. 10 blocks away the festivities continue with more games and food for the rest of the day. Sunday finishes the festivities with a large breakfast and lunch. The Wayne Chicken Show brings in many people from all over the county and from all walks of life. From young children and teenagers to adults and elders many people look forward to this annual event.

This map shows the community events in relation to the site. The orange is our site and the blue line represents the events that occur on Main Street and their distance to the site. In addition the faded blue on the right side represents the fireworks as they happen at the nearby fields during various events that Wayne puts on. This can create sound, light, and smoke that could be noticeable as its so close to the site.





COMMUNITY
ORGANIZATIONS &
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## PROJECT 01 SITE INVENTORY

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### WAYNE COUNTY FAIR

The Wayne County Fair is an annual fair that happens near the end of the summer. The fair lasts the weekend and offers a variety of activities. Fair rides, live music and competitions are all major draws of the fair. The fair has an admission, unlike other events hosted by Wayne. From the site the fair grounds are around 10 blocks away. The fair draws people of all ages and draws the community from both Wayne and the surrounding area.



#### WAYNE FARMERS MARKET

The Farmers Market runs twice a week from June to mid-October. The market is open to the community where locals sell home grown produce, baked goods, and handmade crafts. Wayne is surrounded by farms and farming communities and the market allows a variety of people to get fresh produce at a fair price and actively helps smaller farms in the area.

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#### SCOUTS

The Boys Scouts, Girl Scouts, and Cub Scouts all have active chapters in Wayne Nebraska. The scouts work to engage the youth in various activities, leaderships, and exercises. Wayne has a local park less than a block away from the site known as Boys Scouts Park. This park has dwindled as housing has sprung up around it. This area was commonly used for scouts.

#### WAYNE TEAMMATES

Wayne TeamMates is a local mentoring group for young children and teens. An adult and child are paired together for weekly activities that can range from homework help and science experiments to fun games. This program works to bridge the generations together as elderly people can join and help kids. This organization's mission is to positively impact students through mentoring. Wayne Nebraska has their own chapter that works primarily in their high school.

### Wayne State College

Wayne State College is draws in nearly four thousand students from Wayne and beyond. This is one of the largest communities and driving factors of the town. Wayne hosts over 200 annual events that can draw in a crowd. These can range from theater to sporting events. In addition, Wayne State College supports statewide high school events like Science Olympiad. The college offers community and social events and is integral to the fabric of Wayne.



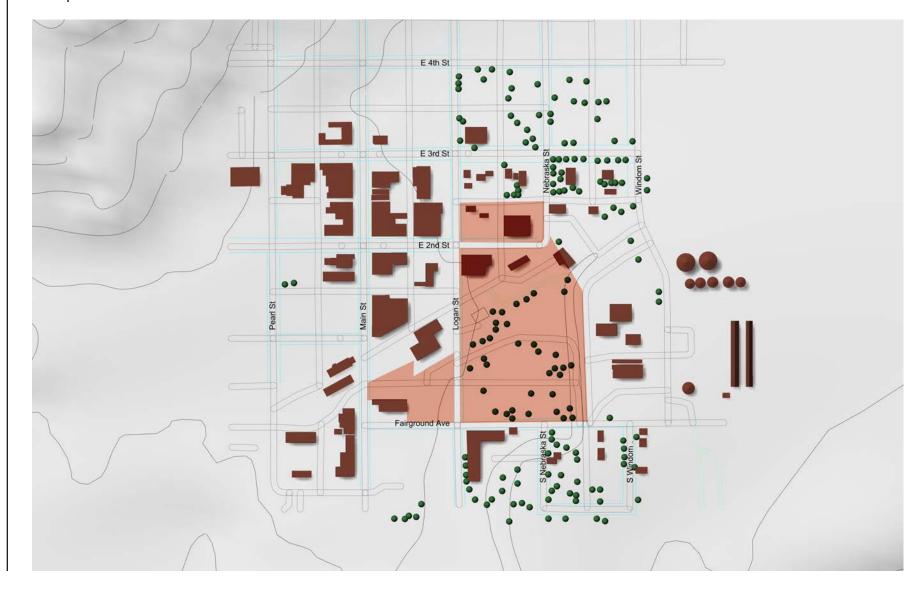


COMMUNITY
ORGANIZATIONS &
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# PROJECT 01 SITE INVENTORY & ANALYSIS

## Site Documentation

Documentation of the site was created using data from maps, the Wayne GIS website, and through on-site photography done by the members of our studio team. Representations include all three sections of the site, and at least a one block perimeter on all sides. Topography lines shown in plan view represent 10 feet of elevation change. While the area of the site experiences low variation in height, areas to the Northwest increase in slope.



DIGITAL SITE MODEL

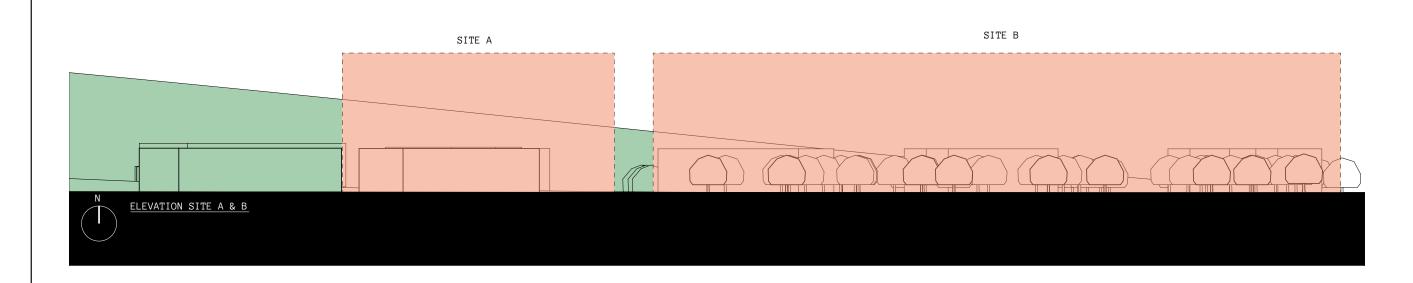
PROJECT 01
SITE INVENTORY
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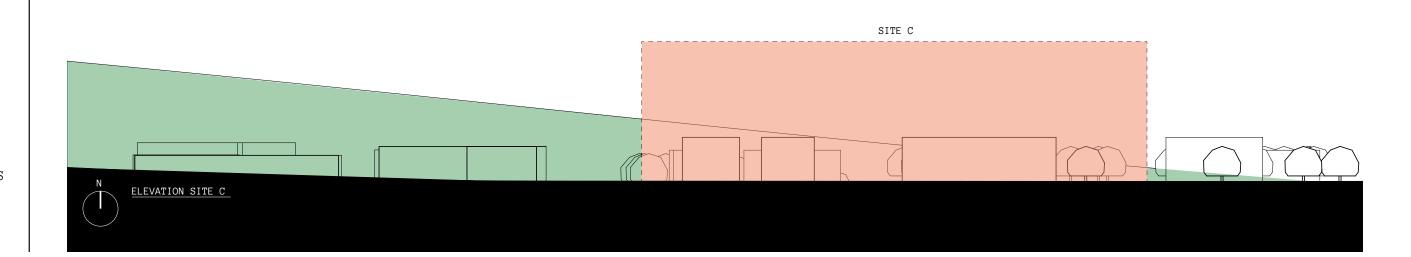


DIGITAL SITE MODEL

PROJECT **01** SITE INVENTORY & ANALYSIS 0000BASE FILES Site --- Side Walk Site Plan Scale 1'=.004" Elevati<u>on</u> Markers

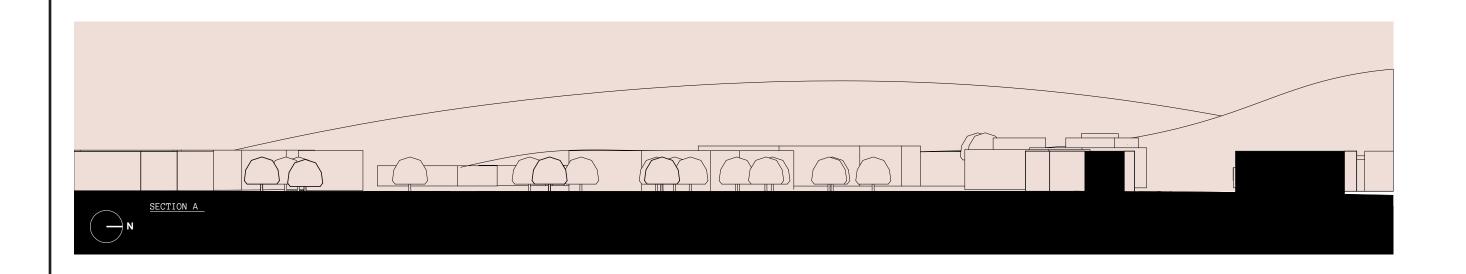
PROJECT **01**SITE INVENTORY
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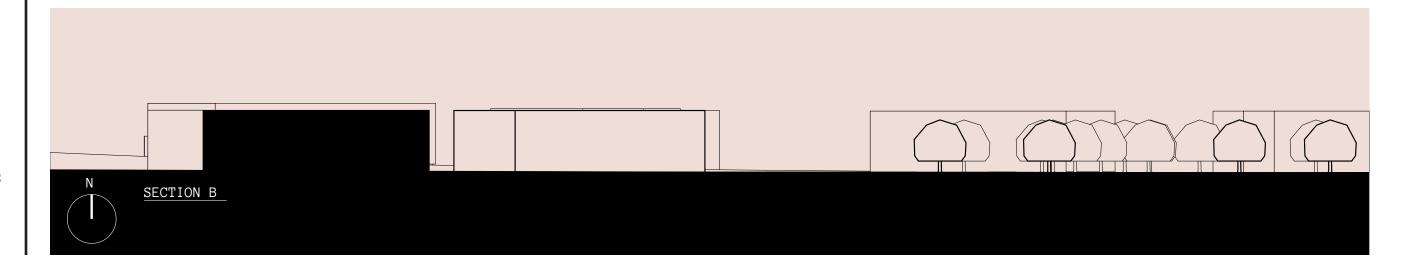




BASE FILES

PROJECT **01**SITE INVENTORY
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BASE FILES

### PROJECT **01**

SITE INVENTORY & ANALYSIS

## Sources

1.0

https://www.google.com/maps/place/Wayne,+NE+68787/@42.2294379,-97.0168922,16.83z/data=!4m6!3m5!1s0x8791d3c420b1aa2b:0x49e5d7ead5e1df5!8m2!3d42.2305588!4d-97.0178236!16zL20vMHhicWc

https://wscgis.maps.arcgis.com/apps/MapTour/index.

html?appid=d6e4e8e11d2d464d936bf77e2149cf8e

Wheeler, BJ. Interview. Conducted by Gavin Stelling. February 3, 2023

2.0

Temperature and precipitation averages were sourced from USA Climate Data: https://www.usclimatedata.com/climate/wayne/nebraska/united-states/usne0513

Custom wind rose creation courtesy of the Iowa State University Mesonet:  $http://mesonet.agron.iastate.edu/sites/dyn\_windrose.phtml$ 

All solar data generated using the Rhino 7 Climate Studio Plugin. By Solemma: https://www.solemma.com/climatestudio

3.0

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https://www.cityofwayne.org/120/City-Code

Wayne, Nebraska Community Housing Study with Strageties for Affordable Housing

UTILIZED SOURCES

8.1

https://citvofwayne.maps.arcqis.com/apps/webappviewer/index. html?id=582f62c107e54ba7b6aca5b5d002f641 6.0 https://www.wayneworks.org/84/Clubs-Organizations https://www.cityofwayne.org/455/Wayne-Chicken-Show#:~:text=The%20 Wayne%20Chicken%20Show%20is,ideas%20for%20an%20arts%20Show https://www.chickenshow.com/ https://www.wsc.edu/campus\_life https://www.wsc.edu/news/article/555/wsc\_welcomes\_second\_largest\_ freshman\_class\_in\_college\_s\_history#:~:text=Total%20enrollment%20is%20at%20 3%2C865, in%20the%20past%20three%20years.&text=Wayne%20State%20College%20 proudly%20announces, the%202020%2D21%20academic%20year https://www.chickenshow.com/parade/#:~:text=%2DLine%20up%20according%20 to%20the,South%20side%20of%20Grainland%20Road https://www.chickenshow.com/events/ https://www.nebraska-demographics.com/wayne-demographics#:~:text=In%20 2021%2C%20the%20median%20household, Wayne%20families%20live%20in%20poverty https://www.nebraska-demographics.com/wayne-demographics#:~:text=In%20 2021%20%20 the %20 median%20 household, Wayne %20 families%20 live%20 in %20 poverty.https://university.datausa.io/profile/geo/wayne-ne?redirect=true https://censusreporter.org/profiles/16000US3151840-wayne-ne/ https://university.datausa.io/profile/geo/waynene?redirect=true#:~:text=In%202020%2C%20Wayne%2C%20NE%20had,%2447%2C054%2C%20 a%2016.6%25%20increase https://townfolio.co/ne/wayne/labor-force https://www.citvofwayne.org/67/History https://www.waynecountyne.gov/74/Wayne https://www.wayneworks.org/71/History 7.0 Wayne 42.2301 N and 97.01600 W. Google Earth August 22, 2017. February 6, 2023 https://wayne.gworks.com/

https://wayne.gworks.com/

#### PROJECT **01**

SITE INVENTORY & ANALYSIS

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SOURCE MATERIAL

8.2

https://www.nebraska-demographics.com/wayne-demographics#:~:text=In%202021%2C%20the%20median%20household,Wayne%20families%20live%20in%20poverty.https://www.usgs.gov/

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Solar data generated using the Rhino 7 Climate Studio Plugin. By Solemma: https://www.solemma.com/climatestudio

Temperature and precipitation averages were sourced from USA Climate Data: https://www.usclimatedata.com/climate/wayne/nebraska/united-states/usne0513

Wayne 42.2301 N and 97.01600 W. Google Earth August 22, 2017. Wayne, Nebraska Community Housing Study with Strageties for Affordable Housing

Wheeler, BJ. Interview. Conducted by Gavin Stelling. February 3, 2023 Wind rose creation courtesy of the Iowa State University Mesonet:

http://mesonet.agron.iastate.edu/sites/dyn\_windrose.phtml