

PRE-DESIGN ACTIVITIES FOR PUBLIC INTEREST DESIGN

An Undergraduate Research Scholars Thesis

by

SHANNON SUMNER and RYAN GARZA

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James Michael Tate, M.Arch

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ABSTRACT

Pre-Design Activities for Public Interest Design

Shannon Sumner and Ryan Garza
Department of Architecture
Texas A&M University

Research Advisor: James Michael Tate, M.Arch
Department of Architecture
Texas A&M University

Architecture can create a variety of spaces from complete isolation, to areas that maximize opportunities for social interactions. We're working with the Navasota Theatre Alliance, a grassroots non-profit that serves the public through performances, events, and educational programming. The Navasota Theatre Alliance is in the pre-design planning phase of the new Black Box facility. They've challenged us to envision an organization strategy and architectural identity that promotes an engaging, open, and inclusive interface in the community. To begin the pre- design phase, we created a detailed digital site model, that helps us situate the proposed theatre within its specific context. From there we sought input using surveys. Our initial questions provoked responses that expressed familiarity and frustrations with the existing theatre, but also aspirations. Once we evaluated their goals and priorities, we created a spatial analysis and benchmark document that's helping us prepare for schematic design. This includes analysis of comparable facilities and institutions, and their organization processes in order to explore potential programming options viable for the NTA. Through the multitude of options and possibilities presented and explored through various pre-design activities, we've

narrowed the options down to a set of core programmatic spaces that will lead us into the design stage.

SECTION I

RESEARCH QUESTION/MOTIVATION/ARTIFACT

We aim to come up with a theater design that meets the needs of the Navasota Theatre Alliance and analyze the importance of various pre-design and design related activities to accomplishing this goal. We plan on tackling our research through the framework established by various Theatre precedents that we have carefully analyzed. We will take these various precedents into considerations while we undergo various predesign and design related activities with the end goal of developing a fully articulated Black Box theatre design for the Navasota theatre alliance. The resources we will need for this is the help of numerous professionals in the design field as well as access to various case study houses and precedents that we will draw information and inspiration from.

SECTION II

LITERATURE REVIEW/BACKGROUND/HISTORY/SOURCES

Throughout our research, our team has been analyzing precedents found within various pieces of literature, the internet, and also some found within the built environment in an attempt to aid us in formulating our own design for the Navasota Theatre project. Each of these precedents engage with various canonical architectural persistencies that have framed the way we situate our research within the scope of the discipline. What follows is the analysis of the Context of Navasota as well as a deep dive into each individual precedent that we have studied at in an attempt to better understand the problem at hand as well as the various design strategies that might be able to be implemented in our design.

The strategy in 6A Architects Project (Figure 1) is very unique. They start arranging the ground level by inserting public spaces such as a café, a common sitting area, and galleries that make up the majority of the open space alongside the south part of the building. Some mechanical areas are also situated on the ground level however most of the major functional areas are located on the upper level parallel to the hallway that connects to the Blackbox theater. 6A architects then proceeded to do something interesting with the restrooms. After analyzing the plans and sections 6A had provided, there was no indication of restrooms on the ground floor, however there was an emphasis on the awkward space found between the top floor and the ground floor. By inserting the restrooms in this space, the sounds created by the restrooms are isolated from other public spaces such as the Blackbox theater (*6a Architects*). The design strategy as a whole reads much like an ice cream sandwich in the way that there are two layers that flank another element. The exterior form is created by a series of blocks, most of which are

either cubes or rectangular prisms that are made up from the combination of multiple cubes. In summation, the Formal design strategy is a series of Boolean operations primarily with cubes.

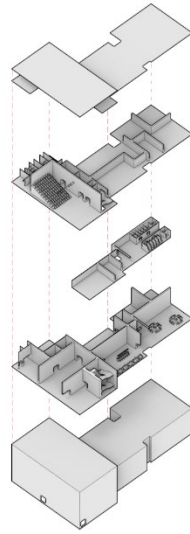


Figure 1: 6A Architects Exploded Axonometric

On the contrary, Centro Nadir Afonso’s take on the Theatre (Figure 2) is quite different. The ground level contains public spaces that intend to promote silence. There is an art gallery along with a library and a cafe space. The upper level organization is blurred somewhat by the floor. Although the Blackbox space is seen as part of the upper level space, the sloping allows for a misinterpretation of the lower space as well. There are buffers around the theater space that are designed to minimize distractions from other spaces. A very interesting and unique element of this building is the design of the rooftop area. Rather than closing off the upper space created by the roof and the appendaged space, a connection is made allowing the option for “rooftop activities” (*Architizer, 2013*). The Formal strategy of this precedent starts with the sloping of the roof from the ground, which not only creates a part to whole relationship but also allows for the idea of the ground and object (building) to be seen as one. The connection to outdoor areas from the upper levels furthers the part to whole relationship of the ground to building by blurring the lines between the two. The other design strategy that is prevalent in this case is that of the

appendage. The appendages work by creating an object to object relationship between art galleries and the other building which contain public spaces. The result of this relationship is a relatively narrow walkway.

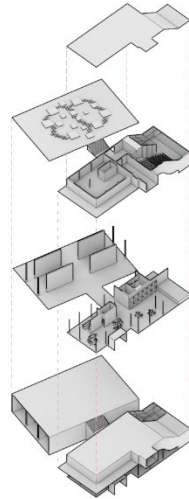


Figure 2: Centro Nadir Afonso Exploded Axonometric

The next precedent on our list is the Exbox theater (Figure 3). It is made up of two main levels, with a sunken entertainment area directly adjacent to the lobby space. On the ground floor there is an emphasis on the lobby area, due to the double height space that is created for the upper level transition spaces. The lower level is more informal than the upper level. The ground floor contains the noisier spaces, such as the kitchen, the supporting spaces for that kitchen, and the mechanical room. By doing this, the sunken performance space is established as an informal theater. The upper level contains the main performance space, the Blackbox theater. There is also more seating surrounding the atrium as well as a small café/concession stand area. Buffering spaces between the Blackbox and the concessions and restroom spaces are created by mechanical spaces such as closets. These closets contain lighting equipment as well as other stored items. The interior organization of the lower level is sub-divided into three parts, the kitchen, public space, and a series of functional spaces. The upper level can be divided into three sections as

well. Actor prep, performance space and public spaces. The public spaces are divided by the pinwheel created by the atrium space. The formal operations of the building are a result of the surrounding spaces which share walls with other buildings. As a result of the contrast between the different materials found on the surrounding buildings, frontality is created and heavily emphasized. The heavy usage of glass communicates the entrance by making the interior visible to the onlookers from the exterior (O.d.d, 2010). This works in the way that it Establishes the welcoming from within the theater itself.

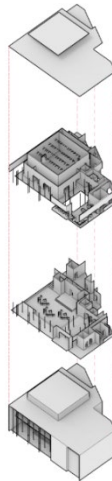


Figure 3: Exbox Theatre Exploded Axonometric

The Harvard Art Lab (Figure 4) consists of a singular floor with varying heights (Architizer). The simple variation of heights is the key to making the organization efficient and functional. The core of the building is made up of theater space with Connections on all sides of the space to allow more variation to occur in regards to seating and stage space. A series of classroom spaces branch off from the core, but only on three sides. The fourth side is reserved for mechanical reasons and storage space. The clear divide between different spaces and their purpose depends on the quadrant that each is set in. if it is anchored within the core, performance space is likely its purpose. Spaces within the U formation are typically learning spaces. Those

within the line space are mechanical. There is an emphasis on the stage space, due to the relationship of the scaling of it compared to the other spaces.

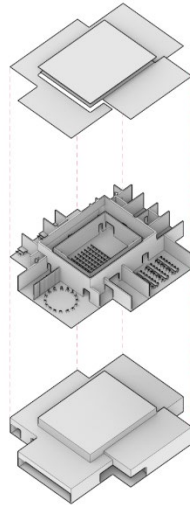


Figure 4: Harvard Art Lab Exploded Axonometric

Hattiloo (Figure 5) is a building that consists of one floor and a questionable upper level. The “bare minimum” is provided for a space this size (Sánchez, Daniel, 2015). There are restrooms, mechanical spaces and a theater. There is an open area in the corner that establishes the entrance space. Although not big enough to be a formal gathering space, the establishment of connecting passageways allows for easy navigation and access throughout the building. Similar to the Harvard art lab, the Formal strategy is based on the stacking of building blocks.

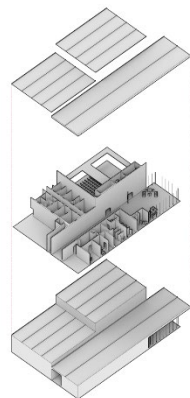


Figure 5: Hattiloo Exploded Axonometric

Lauren and Kennedy architects designed a theatre (Figure 6) where there is one primary floor and then a secondary floor that can be classified as an intermediary space between the ground and the upper extents of the building. The ground floor consists of the central performance space, formal lobby, WC spaces, as well as other functional spaces only accessible for the thespians (*ArchDaily*). In the back of the house, there are the greenrooms as well as workshops. Other mechanical spaces make up the infill. The upper level is purely for functional purposes that are only accessible to the tech crew. The design strategy can be described as the aggregation of building blocks. Similar to Tetris, the different programmatic spaces and the sectors of the individual spaces are systematically placed to fill the allotted area given of the box within the plan.

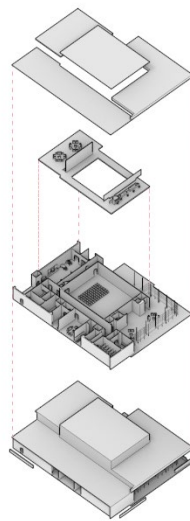


Figure 6: Lauren and Kennedy Architects Exploded Axonometric

Peter Hall's take on this type of building (Figure 7) is actually one that consists of 3 floors. The first two are primarily for the public. There are classrooms along the left wall for learning purposes but they can be utilized for other functions as well, such as being used as workshop spaces or storage. There are workshops and other thespian spaces along the opposite wall (Tapia, Daniel,2019). The L shape made within the parameters of the extremity jutting out

of the side is purely private spaces for the actors as well as other key people needed to run a production. A frontality is established through the lobby area. The upper level is made up of additional seating space, as well as another informal gathering area directly related to the staircase. In addition to the public spaces there are more mechanical spaces provided along the outer sliver of the rectilinear floor plan. The top floor is reserved for the tech crew once again to run the lights. So as you go up in levels, the level of privacy and private spaces increases. The same can be said for the relationship of the private and public spaces from the front of the theater to the backside. Peter Hall takes an interesting route in the way that he doesn't compose a generic cube. The building blocks of spaces were used to create an irregular yet orthogonal form. There is an emphasis on the central rectilinear prism, as seen by the height, thus informing the secondary nature of the additional spaces.

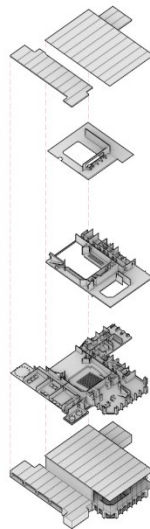


Figure 7: Peter Hall Exploded Axonometric

Regents Park showcases a clear divide within itself (Figure 8). Although not visible from the diagram, the performance space is an open-air theater. Quite impractical for the current needs of the NTA group, however there is value in the idea of additional help space. There are three main functions of the addition (Tapia, Daniel,2018). Restrooms, Practice and Preparation spaces.

It is very practical and offers potential for expansion. The idea of starting small and growing upon the current is quite practical.

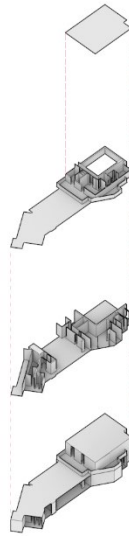


Figure 8: Regents Park Exploded Axonometric

Writers Theater (Figure 9) is made up of two main floors. The entirety of this building is public except for spaces that typically remain untouched, such as the spaces created underneath the stairs (*Architizer*). There is a primary theater, secondary theater, WC spaces, Mechanical spaces, additional seating, formal and informal gathering spaces as well as storage spaces. There is a lot going on in the limited space, but the compact nature of the storage and creative use of the typically unoccupied spaces allows for the opportunity to allow all these programmatic spaces to occur under a combination of three roofs. The formal strategy starts with the main stage which is shifted slightly to produce an off-center core. There is not necessarily circulation surrounding the area but rather a series of rooms that are connected to the main performance space through a shared hall. There idea of the step is heavily utilized through multiple facets of the building. All throughout the building, stepped objects appear, acting as both circulation and occupiable seating areas.

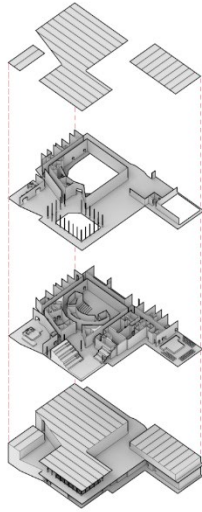


Figure 9: Writers Theater Exploded Axonometric

After analyzing these precedents, we then began to analyze the history and context of Navasota. The Town became important after September 1859 when the Houston and Texas central Railway built into the town. This catapulted Navasota into becoming an important shipping and marketing center for the surrounding area. By 1900 Navasota had three railroads going through it after the International-Great Northern became the town's newest addition. For the next three decades Navasota continued to grow as a shipping and marketing center for cotton, livestock, lumber, and produce. Years later, Navasota was one of five Texas cities selected for the National Main Street program sponsored by the National Trust for Historic Preservation. There are currently 75 buildings that compose Navasota's historic District (Figure 10 Creative Artifact). A majority are made of limestone and brick, which date back to early 19th to 20th century vernacular. Some buildings reflect late Victorian style architecture while the rest exhibit characteristics of The Renaissance Revival style.

In terms of the Demographics, Navasota's population seems to reflect similar characteristics that are found in current Grimes county and Texas Trends. The actual composition is quite different. Navasota currently has an estimated population of 7,715 people

with an average change of 6.78 percent since 1960 (Caraballo, et al,2013). Navasota's total population is expected to grow steadily over the next 30 years. Navasota's male to female ratio leans towards the female side at 53.86% compared to 46.14 percent male. This imbalance is largely due to the large population group of over 70 females however the female population still exceeds their male counterparts in almost every age group. The over 50 population makes up over 26.33% of the population however the median age of a Navasota citizen is right around 32.9 years old which is slightly below the Texas average of 33.6 years old. Most of Navasota's population is 60 years and younger which is almost equally distributed amongst all working age groups that are 20-60 years old (Pugh, et al, 2013). There is also a large population of school aged children that are between the ages of 0 and 19. This large population of school aged children might prove to be attractive in the future as businesses might be enticed by Navasota's up and coming labor force. Currently, the Hispanic population is Navasota's largest demographic group however, Whites, Hispanics, and African Americans have almost equal shares of the total population. The Hispanic population has been growing since 1990 and will continue to do to the point where the Hispanic population will account for most of Navasota's population. The African American population is projected to remain stable and the white population is projected to decrease rapidly. This is quite a different composition than those of Grimes county and Texas itself. Grimes county has almost double the share of Navasota's white population at 60.64% compared to Navasota's 30% and considerably more than Texas's 45.33%. Navasota's white population is highly concentrated amongst the eastern census blocks of the city. On the contrary, a majority of Navasota's 38.36% Hispanic population and 30.73% African American population can be found more dispersed throughout the city however they both retain a strong presence along the city's southern census blocks. By taking advantage of the large and ever-growing

Hispanic population, Navasota has great potential to develop more Hispanic retail opportunities and restaurants.

The Grimes county economy has shown rapid growth since 1990 and has followed a total growth rate of 47.9%. It can be regarded as a Farm based economy due to the fact that the amount of people who are employed by farms is much higher than the State average, An interesting outlier when examining the economic status of Navasota was that despite being marketed as “ The blues capital of Texas”, the arts, entertainment, and recreation sectors have been on the decline in recent years. This decline reflects the opposite of what Texas as a whole is experiencing within these economic sectors. The proposal for the NTA’s black box theatre should significantly contribute culturally and economically within these as Navasota aims to reverse this trend and revitalize its culture.

Navasota has a very distinct cultural identity. It has an official designation from the state of Texas as “The Blues Capital of Texas” and holds an annual festival to celebrate this. While this is its most powerful characteristic it is far from its only. Agriculture has played a very vital role in the history of Navasota and is still going strong today allowing the town to retain characteristics of Old Texas. Its unique blend of the Blues, old times, and its historical downtown district makes it a very attractive destination for families, tourists, and artists. Navasota is also home to many unique points of interest, Museums, and key businesses with distinct qualities that cannot be found in other Texas cities. The Sunny Furman Theatre is one of these unique points of interest found in Navasota. It is the current Theatre that is owned and operated by the Navasota Theatre Alliance. It is home to many productions and performances that are put on throughout the year. It is a well-known and established entity that attracts visitors from the community and also from the areas surrounding Navasota.

SECTION III

EXPLANATION OF EXHIBIT/VENUE

Unfortunately, due to the unforeseen events surrounding the COVID-19 Virus, our originally planned presentation for the City of Navasota, The Navasota Theatre Alliance, and the residents of the Navasota community had to be canceled. Instead, our team opted to present our research at the Launch URS Virtual Presentation Session. This Virtual symposium was created in response to the COVID-19 Virus and allowed us to regain the opportunity to present our research. Our presentation took place on Thursday March 26th, 2020 at 3:30 Pm through Zoom, a software that allows us to communicate face to face online. We were allowed a certain amount of time to present our research and then participated in a question, answer, and feedback session that provided critique on our body language, delivery, if we effectively communicated our research question and why it was so important to do so, and finally critique on whether the visual aids we used were effective. All in all, our presentation was successful. We successfully delivered our research in a timely and effective manner. Even though it was online, we tried our hardest to demonstrate our composure through strong body language and eye contact through the webcam. Our presentation was well received and the feedback we got stated that we had a great understanding of our research and research question. Other feedback we received was that we effectively relayed the importance of our research within the scope of our discipline. One minor piece of feedback that we will look to incorporate is on the aesthetic of our visual aid. Because we chose to represent the exploded axonometric drawings in an all gray sensibility, it wasn't explicitly clear where the actual Blackbox was placed within each of the precedent studies. For

future iterations of our representational artifacts, we figured we would address this comment by demarcating the Blackbox in each proposal by using a secondary color like red.

SECTION IV

REFLECTION

The public presentation at the URS Virtual symposium really impacted the way we viewed our project, the creative artifacts we created, and the discipline of Architecture as a whole. As architects our primary form of communication is through different means of analog and digital representation. Architectural ideas get translated from our minds into these different mediums and are then exchanged to create a discourse within the Architectural community. For an Architect, a set of drawings or renders can be just as informative as the one-hundred-page reports utilized by other disciplines. For this reason, it was a bit odd when we received the task of undergoing the Undergraduate Research Scholar program. For us, the amount of writing we were doing to accompany the drawings, models, and renderings we were doing was completely new to us. Undergoing this program really opened our eyes to how incredibly different mediums of discourse can be throughout different disciplines. This finding was emphasized when we presented our poster at the Virtual poster session over zoom. Our poster consisted of a set of drawings and renders that we considered to be pretty basic and straightforward however we quickly found that when trying to explain them to people whose only exposure to architecture has been through home and garden tv, they are anything but simple. Even the fact that we were showing them a drawing rather than a bar graph made from multiple experimental trials was new for them. After a short introduction on drawings, why we use them, and why we chose to use that specific type of drawing our audience was able to get caught up to speed as best as anyone without any sort of architectural education could. This experience gave us valuable insight into the types of conversations that we are able to have with people outside of our discipline. This

interaction will become especially valuable in the future when we have client meetings and must interact with clients who may have no formal architectural training.

The poster session also made us think about how straight forward an architectural drawing actually is. The drawings we chose to display were exploded axonometric drawings. We chose to create these drawings because they do a good job of showing the relationship between the interior and exterior tectonics of a piece of architecture. Using a typical all gray sensibility it became hard for our audience to understand how the building was organized. The feedback they gave us was invaluable and was easily fixable with the incorporation of a secondary color to highlight different elements in the drawings. Looking back, a legend or a key of some sorts accompanied with a small amount of text might also be able to aid our audience in understanding what is going on in our drawings.

On the other hand, the renders of the site model we made were quite well received and easily understandable by our audience (Figure 11 Creative Artifact). The renders showcased different views of Navasota that we staged and constructed within our site model (Figure 10-12 Creative Artifact). The site model proved to be a powerful tool because it displayed the context of Navasota in an easily digestible format with enough resolution to become easily recognizable by any audience regardless of the amount of architectural experience they might have. Our zoom audience was quite excited to be able to zoom in on the site renders and see the little details that we managed to capture by really going in depth and modeling the little details that make a city come to life. That was also a valuable lesson because it goes to show that people might respond better to representations that reflect their world in a more real and familiar sense. Architects like to make statements or capture ideas through the utilization of different styles of representation and sensibilities but after this poster session and having this interaction, We think it might be

hard to employ these types of representations to an audience outside of the discipline because they could quite easily become hard to understand. In audiences with minimal experience familiarity and realism could be a strong tool to fall back on in the future because of how inviting this type of representation is. Other than very minor changes to our representation,

We do not think we would change anything about the way we underwent this research process. We think that the documentation and analysis that we conducted on these precedent studies was invaluable. We were able to pull fresh and unique formal and organizational strategies from each of the precedents we analyzed. At the end of our analysis, we developed quite the catalog of different strategies and operations that we would be able to acknowledge or even utilize when the design phase of this proposal gets underway. In the discipline of architecture, having a large catalog and knowledge of different designs and strategies is very important when it comes to the design phase. It is important to situate your own designs in relation to those that have come before. We see a good design as something that is able to build upon and contribute to architectural discourse rather than something that ignores this context and precedent by operating within a vacuum. Context matters a great deal in Architecture, and we are glad that the site model was able easily and accurately represent the city of Navasota. The Process for constructing this site model was pretty straightforward and by looking back it, is easy to say that we made the right decision by committing to the large amount of time it took to capture the most minute details because in the end, they were celebrated during our poster session.

In summation, we think the Undergraduate Research Scholars program provided us with a very valuable experience. The skills and understandings we have gained while undergoing this program are not something that we will soon forget. Through the different opportunities this

program has provided us, we definitely feel like we have grown as architecture students and will continue to do so far after the completion of this program.

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CREATIVE ARTIFACT

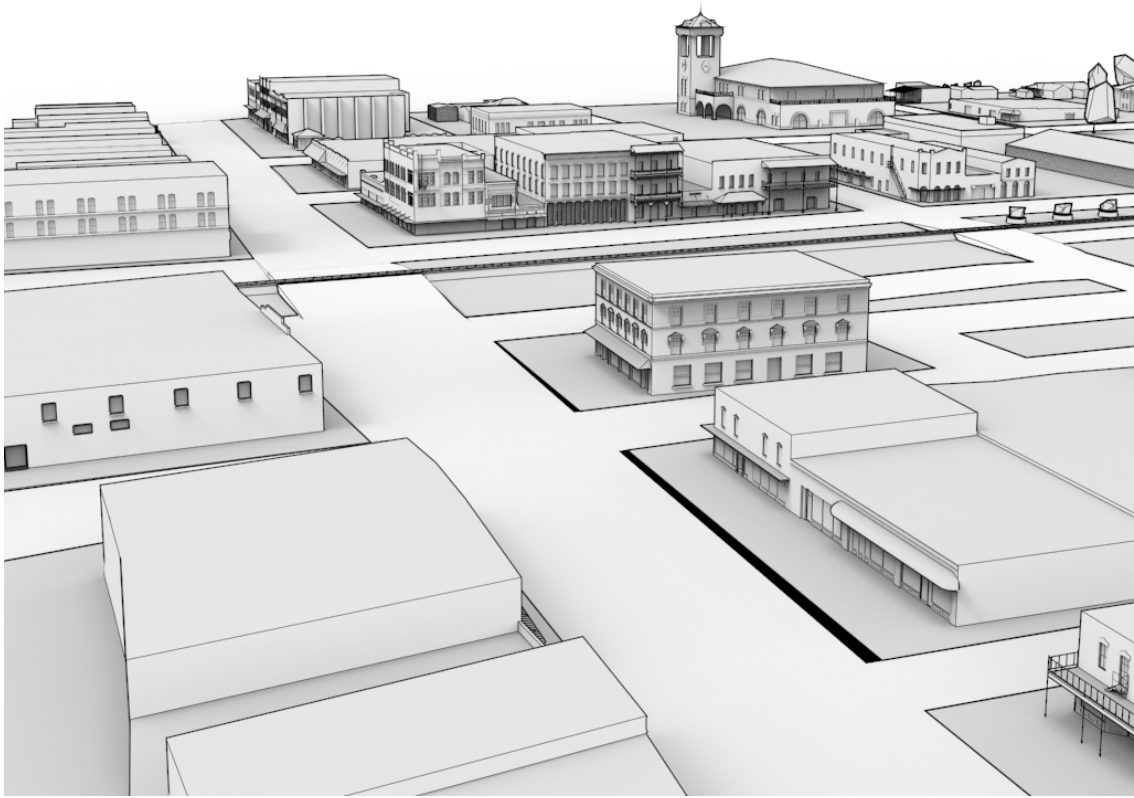


Figure 10 Creative Artifact: Downtown Navasota

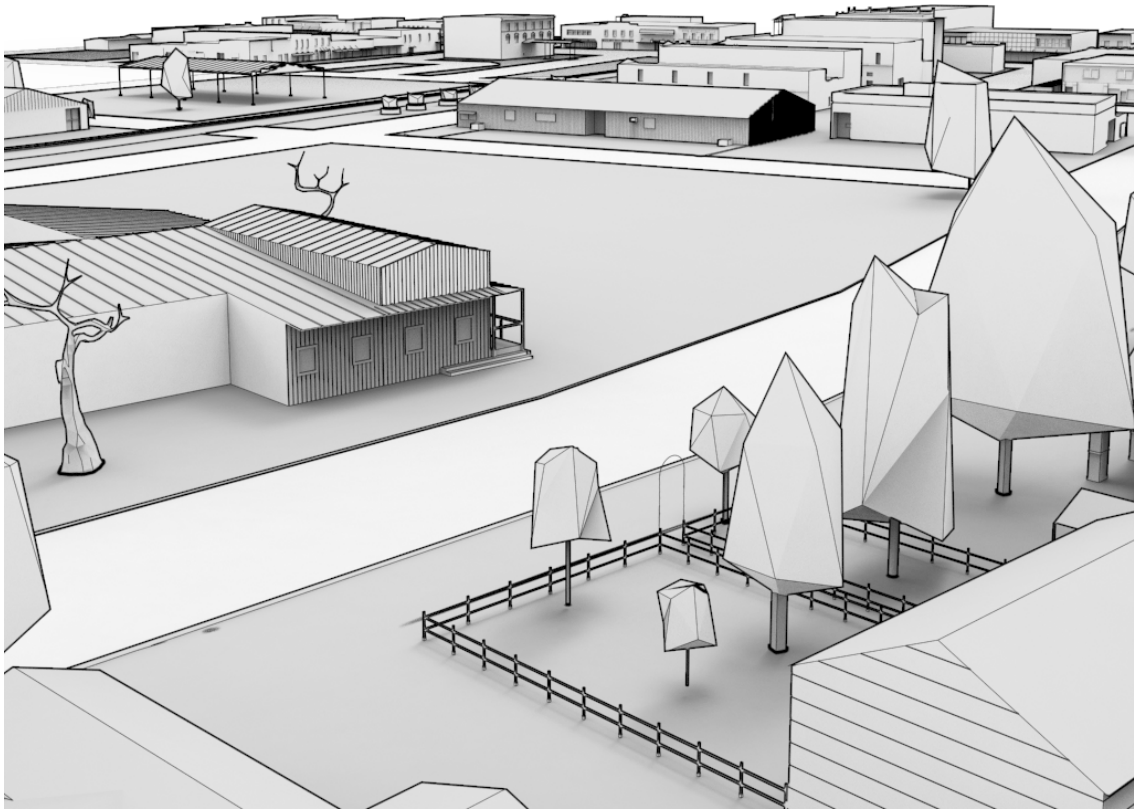


Figure 11 Creative Artifact: Proposed Blackbox Site Rendering



Figure 12 Creative Artifact: Navasota Site Top View