

***A Healing Landscape for Indianapolis, Indiana:
Creating Mental Resiliency Through a Restorative Landscape***

An Honors Thesis (HONR 499)

by

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Abstract

The principals and theories of therapeutic landscapes are based on the benefits nature has on a person's health. This study will identify what elements of nature are beneficial to a person's mental health. In other words, it will discuss how the physical environment effects a person's perspective, the meaning that they find in nature, and the physical effects of being immersed in nature for a significant amount of time. This study will also describe the elements of spiritual landscapes and how those elements collaborate to form environments conducive to healing. Spiritual landscapes with therapeutic aspects could be accessible in public residential settings as restorative or preventive landscapes if they adhere to the principals of therapeutic design. Based on this idea, this study will also address how spiritual elements can be used to combat the common negative aspects of residential settings in urban environments. Finally, the project will conclude with a comprehensive landscape design for a site in Indianapolis, Indiana.

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Process Analysis Statement

The theories and principals surrounding therapeutic landscapes demonstrate how nature and a person's physical surroundings effect their mental health. Views of nature and being around nature is known to have beneficial effects, however, many of those benefits have yet to be studied and quantified through controlled experiments. This prevents therapeutic gardens from being provided and utilized in healthcare settings. Although access to therapeutic gardens may not yet be required in healthcare settings, the theories and principals of therapeutic landscape are too valuable to only be used these settings. Healing landscapes that adhere to the theories of therapeutic design could be used as preventive landscapes for the health and well-being of the general public. Although therapeutic landscapes are specialized to fit the needs of a specific group, preventive landscape designs could consider the more general and common needs that a majority of people experience, such as stress, loss, anxiety, loneliness, etc. This study will address how the principals of therapeutic design can create guidelines for healing landscapes in public residential settings and how spirituality can led to better mental health in preventive landscapes.

Research Process

This project will require research of successful therapeutic gardens, the principals and theories behind therapeutic gardens, and the cause and effects of common mental ailments such as stress, grief, anxiety and loneliness. This research, along with inventories of the proposed garden location and surrounding neighborhoods, will be analyzed to determine the physical features and programs needed to create a successful healing garden near downtown Indianapolis. The project outcome will be a design booklet containing an illustrative masterplan of the garden design, sections, perspectives, a planting plan, details, analysis, and diagrams, as needed to accurately represent and justify the final design. The booklet will also contain a literature review and the project's goals and objectives.

Project Significance:

This project presents the opportunity to execute an in-depth study of a specific type of landscape design (therapeutic garden design) that is of great interest to me personally. It allows for the exploration of how garden layout and spatial definition can effect a person's mental health. The project also allows me to develop research and facts into an analysis deeper than any project I've previously completed for the Landscape Architecture Program. The project will also further my graphic design skills, storytelling skills, and persuasion skills through the design of a full masterplan with perspectives, sections, planting plans, and diagrams and by requiring me to show the logical progression and reasoning behind the design. By developing a logical justification for the design, I can prove to clients who the design fulfills the projects goals and objectives.

This project's targeted audience includes local neighborhood residents near the project site, staff and patients of nearby health facilities such as Indiana University Health Methodist Hospital and Indiana University Health Hospice Center, and nearby churches and religious groups. The "client" for this project is the Indianapolis Parks and Recreation Department. This project should determine a garden layout that positively effects the mental health of the local community. This project should convince other landscape architects that the theories and principals of therapeutic landscapes are too valuable to only be used in healthcare facilities. It should also serve as a guideline to designing successful healing gardens that minimizes or prevents the effects of common mental stresses, such as loneliness, anxiety, and grief.

Insights and Challenges

Problem Statement

The theories and principals surrounding therapeutic landscapes demonstrate how nature and a person's physical surroundings can affect their mental health. Views of nature and being around nature is known to have beneficial effects, however, many of those benefits have yet to be studied and quantified through controlled experiments. This prevents therapeutic gardens from being provided and utilized in many healthcare settings. Although access to therapeutic gardens may not yet be required in healthcare settings, the theories and principals of therapeutic landscapes are too valuable to only be used in healthcare facilities.

Healthcare in the United States often focuses on healing and reducing illnesses rather than preventing them. Minimizing the sources of certain ailments is oftentimes much harder than prescribing medicine to fix them. Therefore, this project challenges this "after-the-fact" approach by creating healing landscapes that adhere to the theories of therapeutic design. These preventive landscapes will accommodate and encourage the health and well-being of the general public. Although therapeutic landscapes are specialized to fit the needs of a specific group, preventive landscape designs could consider the more general and common needs that a majority of people experience, such as stress, loss, anxiety, loneliness, etc. This study will address how the principals of therapeutic design can create guidelines for healing landscapes in public residential settings and how spirituality can lead to better mental health in preventive landscapes.

For this project, I will choose a public site surrounded by residential property and create a preventive landscape that addresses spiritual and mental health, enables social connectivity, and creates potentially healing experiences.

Sub-questions:

- How does a landscape effect mental health and promote healing?
- How can therapeutic landscapes be used in residential settings?
- How do therapeutic landscapes enable positive changes in spirituality that lead to better mental health?

Definition of Terms:

- *Attention-Restoration Theory* – This theory argues that shifting direct attention to indirect attention can be beneficial to mental health. In order for a landscape to allow and encourage indirect attention the landscape must provide a sense of escape and fascination, and must be compatible to individual needs.
- *Healing Garden* – A garden that can provide some type of healing for a general audience.
- *Mental Health* – The level of a person's psychological well-being that often effects their cognition and behavior.
- *Prospect-Refuge Theory* – This theory argues that people are generally more comfortable in a landscape that provides places to be seen and not seen, room to move and escape, and places that allow exploration without much restriction.
- *Spirituality* – A sense of connection and experiences toward the non-physical that is often related to abstract concepts and religion.
- *Therapeutic Landscape* – A designed landscape that has therapeutic qualities for a specific group of people, based on common issues and characteristics of that group.

Assumptions:

- This project assumes that the client has interest in a landscape with a therapeutic garden and the financial capability to have it built.

- This project assumes that the therapeutic garden will be available to the neighboring community and general public.
- This project assumes maintenance can and will be performed adequately after construction.

Delimitations:

- This project will not address every problem associated with mental health and will focus primarily on anxiety and loneliness.
- The project will not provide indefinite, measurable cures for mental illnesses.

Project Elements/Considerations:

Preventative vs. Therapeutic:

Therapeutic gardens are evidence-based gardens designed for as therapy for a specific group of people. Preventative gardens are gardens modeled after therapeutic principals and theories that accommodate a broader spectrum of users while focusing on preventing a single issue common to a majority of people.

Mental and Spiritual Health:

Rather than merely focusing on the physical experience and accommodating physical limitations, this study will look for ways to facilitate mental and spiritual health. Think about how you can design spaces and walkways as experiences that facilitate positive feelings and responses.

Universal Design vs. Group-Specific Design:

In order for a therapeutic garden to be titled as therapeutic, the garden must be designed for a specific group from evidence based on that group. Certain design features that may benefit one group, could harm another. Universal design, however, is used to create parks and public spaces that are accessible to all visitors. Because preventive landscapes are healing rather than therapeutic, these landscapes should choose

design features that can accommodate a majority of needs. The site could focus on addressing broad, common needs, such as stress, grief, anxiety, loneliness, etc., while providing mixed-use, adjustable spaces to accommodate the needs of the visitors.

Intentional Physical Features and Planting Design:
Experience through the Garden:

Universal design requires us to accommodate the physical and mental limitations of the potential garden users. How can the physical features of the site and the planting design create interesting and positive experiences throughout the site? Can the site's physical features and layout tell a story? Are all positive experiences "happy"?

Social Connectivity:

How can you facilitate and generating connections between the neighboring communities? What type of spaces enable and encourage social connections?

Site Selection:

1. The site must be surrounded by a residential community, healthcare facilities, and religious facilities.
2. The site must be large enough to host a preventive landscape that is able to provide the extent needed to create an immersive, peaceful, and healing environment. The size of the site should be no less than ten acres.
3. The site must be within reasonable proximity to churches, facilities, organizations, groups, communities, etc. who need and can utilize a healing landscape in order for the garden to act as a multi-use space. Specific groups may require a closer proximity than others to be able to utilize the garden.
4. The site must be within a city with a reasonably dense population. Preferably a city with at least a population of 10,000 people.

Design Requirements:

The project must contain detailed documents on site inventory and analysis. The location of the site must be justified through illustrations, statistics, GIS (Geographic Information System) mapping, etc. The inventory and analysis must inform the final master-plan. Sections, perspectives, diagrams, zoom-in-plans, details, etc. should be included as needed to accurately portray the purpose of the design. Midterm presentation and final presentations should include a slide presentation with physical visual features as needed. The final product will be illustrated through a final booklet and board display.

Literary Review

Introduction

Therapeutic landscapes are slowly becoming more common in healthcare settings. However, contemplative spaces that condone spiritual attunement within residential settings are much less common. This paper will discuss the major theories and principals related to therapeutic landscapes and how elements of the landscape are conducive to healing. The paper then addresses how these principals and theories can be used in residential settings as preventative landscapes. Finally, the paper addresses spirituality within a therapeutic landscape, including how elements of a landscape are conducive to spiritual attunement and how spirituality can lead to better mental health.

Therapeutic Landscape Theories and Principals

Roger Ulrich was a primary leader for the therapeutic landscapes movement, and advocated for the need of therapeutic gardens in healthcare settings in his report entitled, *View through a Window May Influence Recovery from Surgery*. During his study, Ulrich compared quantitative statistics from patients recovering from open surgery cholecystectomies. Each patient had a view from their hospital bed of either “a small stand of deciduous trees or a brown brick wall.” The study results concluded that twenty-three surgical patients assigned to rooms with windows looking out on a natural scene had “shorter hospital stays, lower intake of potent narcotic pain drugs, and more favorable evaluations by nurses” than twenty-three matched patients in similar rooms with windows facing a brick building wall (Ulrich 204). This study was the first of many studies on the positive influences of nature and views of nature in healthcare settings. Ulrich’s study marked the beginning of tangible, evidence-informed links in the relationships between healing and nature. Evidence-based design along with evidence-based medicine is essential in healthcare facilities.

As Roger Ulrich’s experiment indicated, people are attracted to nature and often find solace in the sensual experiences it can provide. People can

benefit more from spending time in nature than in urban or indoor settings. One theory as to why being around nature is beneficial to people is indicated in the term *biophilia*. *Biophilia* was coined by social psychologist Erich Fromm and was defined by him as, “the passionate love of life and all that is alive” (Fromm 365). According to Fromm’s definition, human’s innate love of life causes nature to be so appealing and revitalizing. Another theory regarding nature’s benefits called *Prospect-Refuge Theory* was introduced by a geographer named Jay Appleton (Marcus and Sachs 23). This theory states that humans respond positively to environments that enable survival (Marcus and Sachs 23). For example, environments that contain adequate food, water, shelter, and light can result in positive responses in humans and can even lessen anxiety. This theory also argues that humans prefer spaces with clear views (*prospect*) from safe vantage points (*refuge*) (Marcus and Sachs 23). A good prospect, or an extensive view of a landscape, alerts us to danger and helps us locate the commodities we need. Landscapes with a safe vantage point provides a refuge to evaluate the landscape.

Both of these theories pertain to how humans respond to nature and can justify the importance of nature’s integration into therapeutic settings. There are also theories that pertain directly to how nature’s attributes create ideal spaces for stress reduction. *Attention Restoration Theory* states that indirect attention, or involuntary action, can reduce stress, relieve tension, and rejuvenate the mind, while direct attention can cause stress and fatigue (Marcus and Sachs 28). The theory also argues that fascination and interest invoke indirect attention, and are therefore needed in a therapeutic environment. However, Daniel Winterbottom and Amy Wagenfeld note that it is possible for involuntary attention to be tiring if our fascination is “hard” rather than “soft” (Winterbottom and Wagenfeld 34). They argue that indirect attention in a city setting can invoke hard fascination rather than soft fascination, which comes from a natural environment (Winterbottom and Wagenfeld 34).

But how does nature invoke a better type of involuntary attention than an urban setting would? In his article on places of retreat, David Conradson argues that stillness is a major defining element of a therapeutic environment. He also argues that stillness can only be acquired when people experience a change in rhythm and create distance from the unstimulated environment (Conradson 33). Stillness happens when a person becomes aware of their immediate, embodied experience of the world. As Conradson argues, stillness can only occur when sensory stimuli decreases. Therefore, nature could invoke soft fascination by providing an environment with less sensory stimuli. However, due to the complexity and detail found in nature, how could nature provide less sensory stimuli than an urban setting would? Perhaps nature provides a different type of sensory stimuli that has a therapeutic effect. The theory of *Biophilia* suggests that living organisms make up a different type of sensory stimuli than man-made structures. Nature’s repetition could also contribute to the calming effect it has, and could provide a more consistent stimuli than an urban setting would.

Stress Reduction Theory is another theory that describes characteristics of a therapeutic environment. According to Marcus and Sachs, *Stress Reduction Theory* states that a sense of control, social support, physical movement, and positive natural distractions contribute to stress reduction (Marcus and Sachs 24). A physical environment that would support a person’s sense of control may include moveable tables and chairs, multiple pathways with easy accessibility, and opportunities for both social and private spaces. Environments conducive to social support would be located near buildings and common spaces and would have varied seating configurations and locations. Movement throughout the landscape can be encouraged through pathways that look and feel easily accessible. Features and programs within the landscape could also encourage various types of physical movement.

Finally, environments with positive natural distractions would include interesting planting pallets and multi-sensory elements of “soft fascination”. Each of the theories stated above support Stephen and Rachel Kaplan’s notion that there are four major characteristics of restorative settings: being away, extent, fascination, and compatibility (Kaplan, Kaplan, and Ryan 18). The Kaplan’s notion of being away refers to the physical escape or withdrawal from a stressful environment. Conradson argued that “by changing place, humans are able to reposition themselves in relation to the social and economic relations that shape the emotional dynamics of particular settings” (Conradson 36). By removing oneself from an overstimulated, stressful environment, you can generate a sense of stillness upon entering an environment with a slower rhythm of activity. A person’s sense/perception of place begins when the environment they are exiting juxtaposes the environment they are entering. According to Marcus and Sachs, extent refers to the scope of the therapeutic space someone is retreating to. The space must be large or detailed enough to encourage exploration and create a sense of being away. Fascination, as described above, is important in enabling indirect attention. Interesting planting pallets, curved pathways, interactive features, water features, and various types of spaces can generate interest in a site. A site’s compatibility is based on how well it adjusts to the needs and desires of the user. For example, a burn victim might look for a heavily shaded place and find covered seating surrounded by vegetation.

The Oregon Burn Center Garden is a good example of a therapeutic landscape that adheres to the principals above. Brian Bainson designed this first of its kind garden for people with burns and skin-destroying diseases. The site uses planting designs and structures to create outdoor rooms that address the needs and preferences of the patients, family members, and staff that attend the facility. Various plant shapes, textures, heights, and seasonal interest preserve soft fascination throughout the site. The gardens contain multi-sensory elements such as

edible plants, soft and textured plants within reach of people in wheelchairs, and elements such as birds, chimes, and a small fountain that provide white noise throughout the site (March and Sachs 229).

Another reason why this garden is so successful is because of its compatibility. Shade is important for people healing from burns, so various types of shaded structures were designed and located throughout the site so that patients could use the garden. Figure 1 below shows one of these structures. An overhead canopy at the entrance of the garden provides cover during rain and creates a shaded transition from inside to outside that helps patients adjust to the light. Smooth walking surfaces create a figure eight around the garden, that encourages walking to rebuild strength. Evergreen shrubs and trees are planted to maintain pleasant views throughout all seasons. Moveable, lightweight chairs give patients a sense of control and allow seating to adjust to the user’s needs.

The planting design is also adjustable to the patient’s needs. According to Marcus and Sachs, the tall plants beside the patient’s windows were placed there to provide privacy. However, multiple patients began asking to see more of the garden from their windows, so many of the plants were either replaced with smaller ones or kept trimmed to fit the patient’s needs (Marcus and Sachs 228).



Figure 1: Winterbottom and Wagenfeld 77

Therapeutic Landscapes in Residential Settings

Although therapeutic landscapes should be evidence-based and group specific, can they also be used in public, residential settings? In Matthias Braubach’s study on the health effects of urban residential environments, he argued that the design principals and theories used for therapeutic landscapes were too valuable to only be used in healthcare settings (Braubach 113). Therapeutic landscapes could be accessible to the general public as restorative or preventative landscapes that adhere to the principals of therapeutic design. If a public therapeutic landscape fulfills the needs of the community it is designed for and creates environments conducive to healing and restoration, it could be considered a preventative landscape. So, what requirements are necessary for a preventative landscape in a residential setting? According to Braubach, there are five general features of urban residential areas that have an impact on health (Braubach 113). Those features include physical characteristics, neighborhood services, neighborhood functionality, socio-cultural features, and the neighborhood’s reputation.

A neighborhood’s reputation refers to how people inside and outside of a neighborhood perceive that neighborhood. This perception is based mostly on the physical and social characteristics of the neighborhood along with its historical identity and any major defining features. In his article, Braubach describes an individual’s filtered reflection of the physical space as psychological space (Braubach 113). A person’s psychological space can greatly influence how a person heals and responds to therapy. As discussed from Conradson’s article on stillness, shifts in physical space or in a person’s perception of a space can influence a person’s mental health (Conradson 111). In other words, the bad reputation of a place could prevent its environment from being conducive to healing. During Allison Williams’s study of the St. Anne de Beaupre in Quebec, she noted that the majority of visitors came to the space with expectations of relief, healing, or therapy (Williams 1636). In the article, Williams states that “Beaupre is

known as the land of miraculous healing” (William 1636). Even before arriving at the Beaupre, visitors label the site as a sacred space and assume it will ignite feelings of reverence, respect, and purpose. Therapeutic landscapes can have health benefits without people recognizing those benefits. However, if the intended purpose of a therapeutic landscape was specified, visitors may expect spiritual benefits. This could cause visitors to experience a placebo effect, or experience positive health benefits merely because they believe it to be a result of something they do. If a therapeutic landscape has a good reputation, or is even labeled as a healing space, visitors may subconsciously recognize elements that could contribute to their healing. This might encourage reflection on how these elements make them feel, which could have deeper psychological benefits above physical or surface level thoughts. For example, instead of merely thinking “this is pretty”, visitors might think “this pretty landscape is calming”.

So, in order for a public space to be therapeutic, it should be seen as having preventative therapeutic qualities. However, public therapeutic landscapes should also provide remedies to the common negative characteristics of residential settings. According to Braubach’s study, the most common characteristics that effect health include noise, air quality, safety issues, crowding, waste and pollution, traffic, and green open spaces (Braubach 114). Using therapeutic landscapes as preventative landscapes could reduce the impact of these negative characteristics.

The Garden of Healing and Renewal is a good example of a successful public therapeutic garden. Located in a suburb of Detroit, Michigan, the garden emphasizes stress reduction because stress is relatable to a broad group of people. Like the Oregon Burn Center Garden, this garden contains curved pathways that encourage visitors to wonder through. Due to the garden’s large scope, the site contains extended pathways around forested wetlands and sections with a denser specie variety and garden features. Some of these features include a labyrinth,

a fountain, and a sculpture area. The pathways provide visual links between these features that guide visitors through the site. The features also create site legibility by providing unique, memorable elements through a sequence of spaces. Figure 2 below shows an illustration of the site in plan view.



Figure 2: Marcus and Sachs 246

Similar to the Oregon Burn Center Garden, memorable features and planting designs create outdoor rooms in the garden. However, garden usage may be limited to specific groups of people because it is available to the general public. This means that allowing a broader group of people access the site may limit site usage for small, specific groups who could need the garden’s benefits more. For example, the burn patients at the Oregon Burn Center would not be able to access this garden due to the risk of catching infections. Although a public garden may not be appropriate for certain groups, the Garden of Healing and Renewal fulfills the needs of the local community and the McLaren Health Care Village (Marcus and Sachs 246).

Other examples of successful public gardens can be found through the Quiet Garden Movement. This movement began in the United Kingdoms in 1992 when a Christian minister recognized the need for contemplative spaces (Marcus and Sachs 235). This program encourages private gardens and unused courtyards to welcome the public on occasion (Marcus and Sachs 235). This movement provides great opportunities for underutilized outdoor gardens to be enjoyed as healing spaces by local residents.

Spirituality in Therapeutic Landscapes

Sense it is possible for the principals of successful therapeutic landscapes to be generalized and remain “conductive to healing” while in a public residential setting, how can these landscapes generate opportunities to provide positive spiritual practices that lead to better mental health? Multiple studies have been conducted on the spatial, social and religious aspects of historical spiritual sights, such as St. Anne de Beaupre. Allison Williams, for example, began her study on the St. Anne de Beaupre by defining religiosity and spirituality. The distinction between religiosity and spirituality is important in determining the physical elements a spiritual landscape should have. In her article, Williams describes religiosity as a “formal construct of sacred belief” that is “rooted in an institutional and community context” and often involves services or rituals (Williams 1634). Due to their formal construct, religious practices can sometimes be limited and ridged and are often preformed with groups of people. Williams defines spirituality as a broad concept that “involves internal experiences and understandings concerning an individual and/or higher spirit and the transcendence thereof” (Williams 1634). Spirituality often relates to a person’s search for meaning, purpose, significance, and relationships.

On her study of St. Anne de Beaupre, Williams specifies two types of environments that contribute to the successes of the spiritual landscape; the physical/built environment and the social/symbolic environment (Williams 1637). Significant features of

St. Anne de Beaupre's physical environment include the surrounding landscape, water, statues, paintings, architecture, and "ex-votos", or items such as crutches and knee braces that were left on site by healed visitors (Williams 1637). These features can significantly affect what a person thinks the site is doing and what its overall purpose is. Physical features also enable multiple ways for a person to portray and reflect their experiences on these spiritual landscapes. Geraldine Perriam notes in his study of sacred spaces that moving healing stones at Breadalbane Mill provides a simple physical action that draws connections between the symbolic nature of the site and reflection on a person's own spirituality (Perriam 30). Leaving, taking, and moving items within a therapeutic landscape can ignite feelings of control by providing visitors with the ability to leave their mark on the garden. Taking items can also lead to therapy beyond the spiritual landscape. Keeping a stone, shell, or souvenir from a spiritual landscape can remind us of the landscape when we separated from it. Leaving items, such as "ex-votos" in St. Anne de Beaupre, can symbolized leaving ailments, anxiety, and grief behind.

The social and symbolic environments of St. Anne de Beaupre creates a sense of belonging, identity, and community (William 1638). Williams suggests that contributing to the religious aspects of the program allows visitors to see that everyone else is there for the same purpose, that they share a common interest and commitment (William 1638). This suggests that the success of the landscape depends greatly on the actions and participation of others. Due to St. Anne de Beaupre's popularity and obvious association with religious practices, this social dependence did not pose a problem. However, in a public garden designed for the local community, other people's use of the garden may greatly influence it's therapeutic effects.

As discussed above, Marcus and Sach's four characteristics of a restorative setting include being away, extent, fascination, and compatibility. Creating

a sense of being away is particularly important when designing a landscape conducive to spiritual attunement. People often seek solace through their search of spiritual attunement. Marcus and Sachs also list four design implications to create an environment for contemplation, spiritual attunement, and restoration. These implications include coherence, complexity, legibility, and mystery (Marcus and Sachs 29). It is importance for a site to be coherent, or orderly and organized, so that its users can decipher where they are and how to get back to where they came from. Complexity helps maintain a person's fascination and interest, which encourage indirect attention. Site legibility refers to creating a site with memorable components. Like coherence, legibility helps visitors read the sight and navigate through it. The mystery of a site also creates fascination that encourages visitors to explore and discover features of the garden.

Bonner Healing Garden is a great example of how coherence, complexity, legibility, and mystery create spiritual environments. The garden is located in Sandpoint, Idaho surrounded by residential neighborhoods and the Bonner Community Hospital. Although the garden is open to the public, the garden was mainly designed for hospice patients, families, friends, and healthcare staff. The garden emphasizes health, remembrance, and contemplation to provide for the spiritual needs of the hospice patients and their families. According to Marcus and Sachs, the garden is coherent because its layout "facilitates a journey of choice" (Marcus and Sachs 172). Like the Oregon Burn Center Garden, a multi-sensory planting pallet contributes to the site's complexity and fascination, and also attracts various forms of wildlife. The textured and colored paving patterns also create interest throughout the site. Site legibility is addressed through distinct structural features that act as landmarks throughout the site. A sense of being away is created from the sites surrounding old-growth forest and cabin house, which is shown in Figure 3. An entry trellis indicates a transition from one environment to another, which ignites feelings of

stillness though changes in rhythm as previously discussed. The site encourages contemplation through the use of a circular reflection pool, an arching stone wall that creates a symbolic circular void, a teahouse for meditation, and a chapel. Due to the sites broad audience, only universal religious symbols are used throughout the site to provide inclusiveness to all visitors. According to Marcus and Sachs, "personal possessions are often left on the windowsill as expressions of grief and gratitude" (Marcus and Sachs 174). As discussed above, this enables another level of expression through physical action and the ability to "leave a mark". Similar to St. Anne de Beaupre, the old-growth forest surrounding the landscape gives the garden a sense of history, permanence, and significance.



Figure 3: Marcus and Sachs 172

Conclusion

Successful therapeutic landscapes opened to the public can provide spaces conducive to healing for a majority. In order for preventative landscapes to be successful, they should adhere to therapeutic landscape principals while addressing a key problem that pertains to a board majority of the public. Preventative landscapes can also be used to provide spaces that strengthens a person's spirituality by using design elements and principals that encourages a person's search for meaning, purpose, significance, and relationships.

Methodology

Literary Analysis Data:

For the literary analysis, data has been gathered on the common theories and principals of therapeutic landscapes, how therapeutic landscapes can be used in residential settings, and how therapeutic landscapes can enable positive changes in spirituality. Most this data was found on Ball State's One Search database, or in a book from the University Libraries. Every article used in the literary analysis has been peer-reviewed. Significant materials in these books and articles include case studies with descriptions and critiques, site plans and sections, diagrams, tables, photos, and written analyses and descriptions. Websites have also been a source for pertinent information by providing case studies, interviews with modern leaders in therapeutic design, and a culmination of new research and ideas.

Whenever possible, data has been secured and downloaded as pdfs or photocopied. This data has been secured and organized in document files. Three case studies were chosen based on their intended audience and the qualities they have that apply to the final design. Descriptions of these case studies were taken from books in Ball State's Architectural Library and have been checked out until May of 2019. The first case study was the Oregon Burn Center, which was chosen for its adherence to therapeutic design principals and theories. The second case study was the Garden of Healing and Renewal, which was chosen for its success as a preventative landscape that is open to the general public and surrounded by a residential district. Finally, the third case study was the Bonner Healing Garden, which was chosen for its success as a spiritual, contemplative landscape that uses coherence, complexity, legibility, and mystery.

Further analysis of these case studies may include taking site percentages on hardscape and vegetation, seating quantities, spatial size and variations, and the site's specific implementation of therapeutic theories and principals. This analysis will be illustrated using diagrams, perspectives, details,

and written descriptions. Other data on these case studies may include peer-reviewed articles, newspapers, and post occupancy evaluations on the landscapes.

Further Analysis and Data:

Further research and analysis on residential settings, community based design, and spiritual landscapes, specifically prayer gardens, should be conducted to inform the final design. Common needs of residential communities may determine how program spaces can be compatible with multiple events and activities for both the church and the community. The data and analysis of successful prayer gardens, or contemplative spaces, could inform the final design by determining how the physical features of a garden can enable positive changes in spirituality and mental health. This data and analysis will be gathered from journals, articles, and books found in Ball State databases. A portion of this data may be derived from a successful case study that includes available site plans, sections, perspectives, and written work describing the design intent. Pertinent information would then be taken from these images and illustrated through analysis diagram and written work. Any data used to inform the final design will also be translated and described in a written description of the final masterplan.

Site Inventory and Analysis:

Additional to the data that has been collected, further research will be completed regarding the site's physical characteristics, the neighborhood's needs, and the church's needs. Site inventory and context data will be documented through photos, taking notes on the site, and geographic information systems that show building, road, and sidewalk layouts and census information on Halteman Village. Site analysis will be communicated through diagrams, perspectives, and maps that show access to the site, walkability, seasonal changes, viewpoints within and outside of the site, demographics of the surrounding neighborhood and other analyses that

inform the final landscape design. Other data collection will include finding native plant species from nearby plant nurseries and determining the cost effectiveness of species. Project feedback and suggestions will be documented by taking notes and illustrating changes as needed. Pertinent feedback that informed the final design will be noted through written descriptions and design process drawings.

Goals and Objectives

Goal 1: Use therapeutic principals and theories to create a healing environment

1. Create interesting spaces that adhere to Attention Restoration Theory
2. Create viewpoints and seating arrangements that adhere to Prospect Refuge Theory
3. Generate a design that adheres to the elements of a restorative setting (Kaplan, Kaplan, and Ryan)

Goal 2: Design a healing environment that is able to minimize, prevent, and counteract the effects of anxiety

1. Provide open views and clear prospects around the site
2. Create environments well suited for quiet meditation and contemplation
3. Design comprehensive and legible pathways and regions within the site

Goal 3: Design a healing environment that is able to minimize, prevent, and counteract the effects of loneliness

1. Provide multi-sensory elements throughout the site that engage attention and interaction
2. Design various sizes, extent, and environments that encourage social interaction
3. Create interactive site elements that require group collaboration
4. Design intimate, enclosed spaces adjacent to active spaces

Goal 4: Design a healing environment that fulfills the needs of the local neighborhoods (United Northwest, Meridian Highland, and Fall Creek Place)

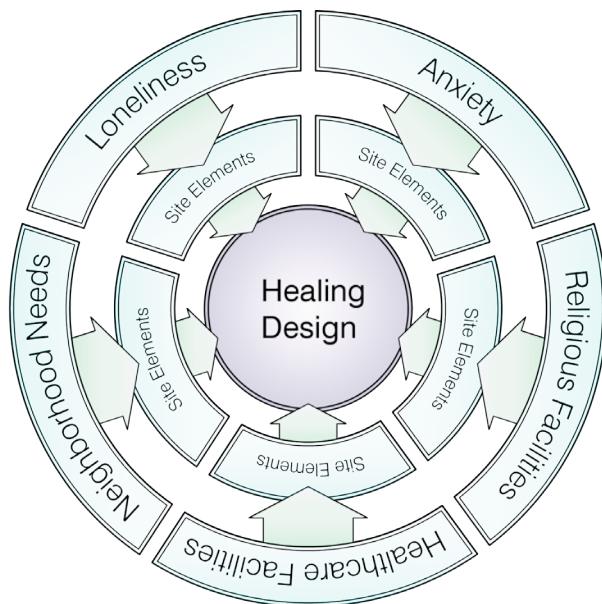
1. Design physical connections from each neighborhood to the site through the use of various transportation methods (walking, biking, driving, public transportation, etc.)
2. Provide various alternative forms of active features that encourage exercise and fitness
3. Activate the waterfront of Fall Creek through the use of interactive and informative features
4. Design a captivating planting plan using mostly native species
5. Create spaces that encourage social interaction that generates a sense of unity and community

Goal 5: Design a healing environment that fulfills the needs of the local healthcare facilities

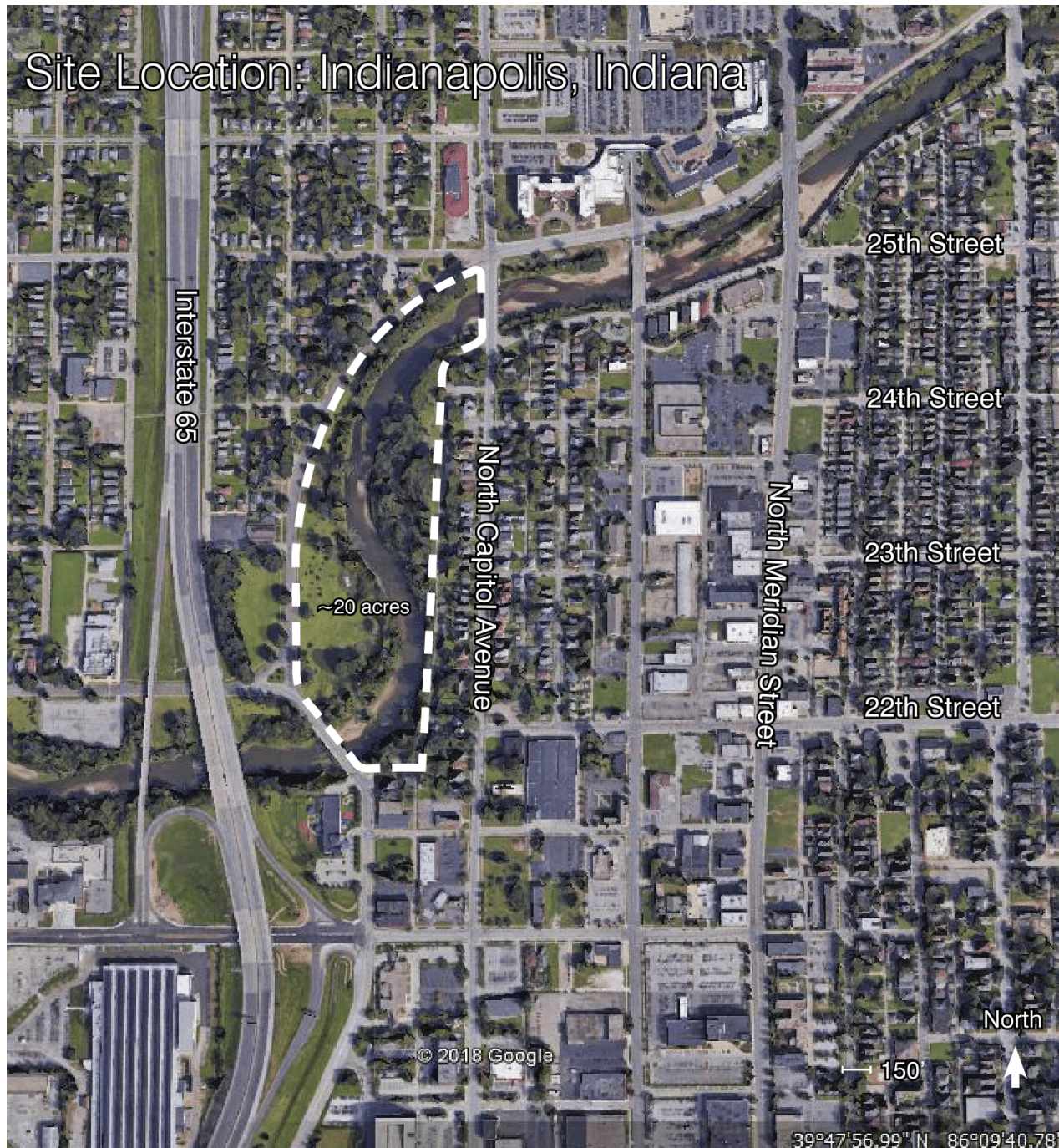
1. Design various gathering spaces that differ in size, feel, and extent based upon the needs of healthcare workers, family members, patients, and nurses
2. Design peaceful spaces for hospice patients and those associated with them
3. Create trails and features useful to those in the later stages of physical rehabilitation
4. Design physical connections from the healthcare facilities to the site through the use of various transportation methods (walking, biking, driving, hospital transportation, etc.)

Goal 6: Design a healing environment that fulfills the needs of the local religious facilities and groups

1. Design groups gathering spaces that are compatible to various types of activities
2. Provide spaces with positive universal symbolic features without causing great offence or prejudice to local churches, religious organizations, and communities
3. Create quiet, contemplative spaces suitable for prayer, meditation, etc.
4. Create spaces that encourage social interaction and service for the local community



General Site Description



The site I choose is located near downtown Indianapolis, Indiana, and is surrounded by three residential neighborhoods. Each neighborhood has a vastly different identity and will be discussed in more depth later on. Healthcare facilities also surround the site, especially the southern portion. Multiple religious facilities can also be found in the area, and three of these facilities are directly adjacent to the site.

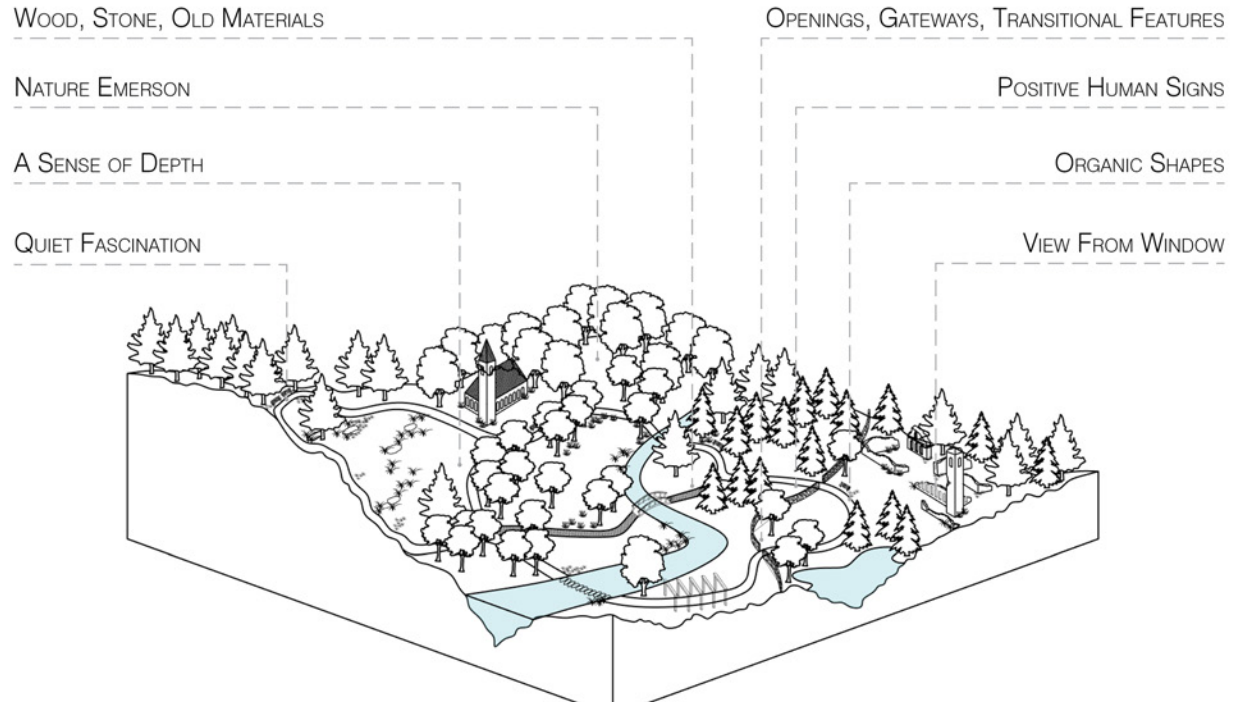
The boundaries of the site create an area of about twenty acres, with approximately five of those acres being taken up by the river. The site is wide enough to create an immersive, healing environment regardless of its central location in Indianapolis.

Although the site's central location in Indianapolis is a strength, the site's lack of connectivity to the city's existing park systems, surrounding neighborhoods, religious facilities, and healthcare facilities is a major weakness. For example, the site is divided from North Capitol Avenue by a row of houses, and dense, uninviting vegetation.

Elements of a Restorative Setting

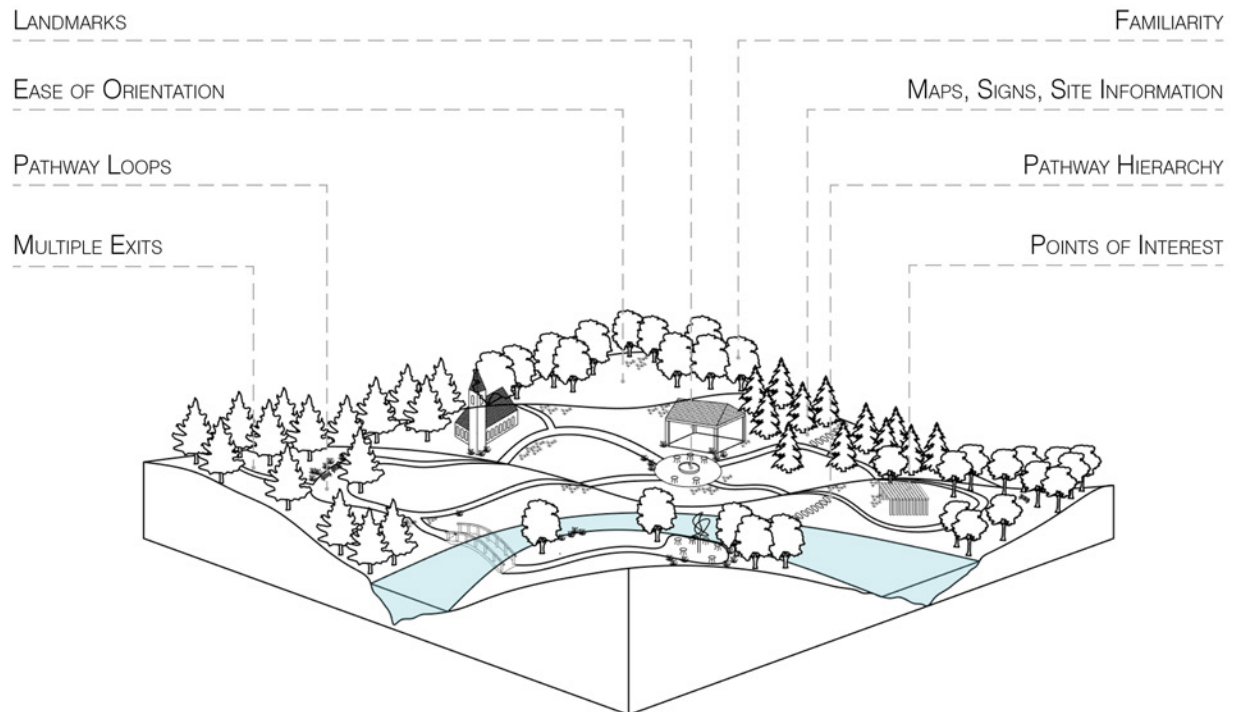
Mystery

The book, *With People in Mind* by Kaplan, Kaplan, and Ryan argues that the elements of a restorative setting include mystery, legibility, complexity and coherence. Mystery in a restorative setting compels people to explore and discover new things. It provides a sort of quiet fascination that can be helped in shifting a person's attention from direct attention to indirect attention. Mystery in a landscape can be achieved through nature immersion, curved pathways, the use of old materials, etc.



Legibility

The second element of a restorative setting is legibility. Similar to mystery, legibility is a three dimensional component to a landscape that can calm anxiety and ease processes of wayfinding. Legibility requires the use of memorable components within the landscape, such as landmarks, that help with orientation.



MULTIPLE SEATING

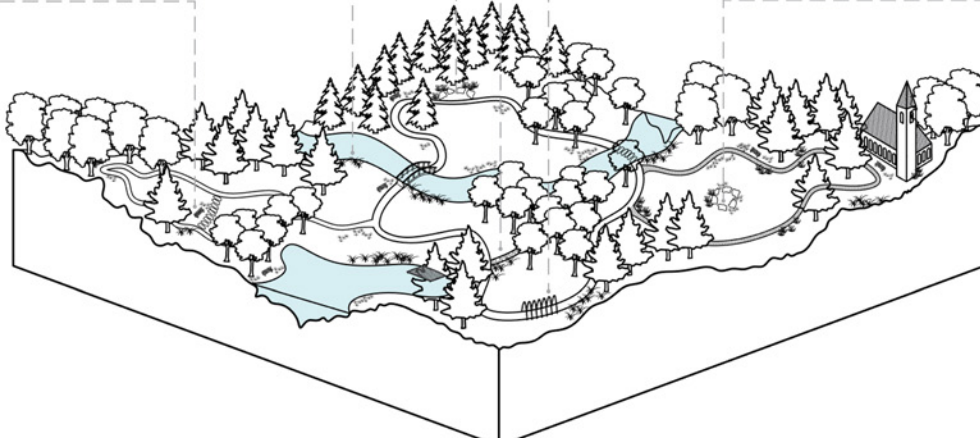
DIFFERENT MATERIALS + TEXTURES

PLANT BIODIVERSITY

INTERACTIVE FEATURES

SUN AND SHADE

MULTI-SENSORY ELEMENTS



Complexity

Complexity is the third element of a restorative setting. Unlike the previous two, complexity is two dimensional rather than three dimensional. Complexity in the landscape refers to how many sensory elements can be found from a single point of view. Complexity of a landscape can encourage indirect attention, and therefore restore some mental capabilities.

REGIONS

LAYERED PLANTINGS

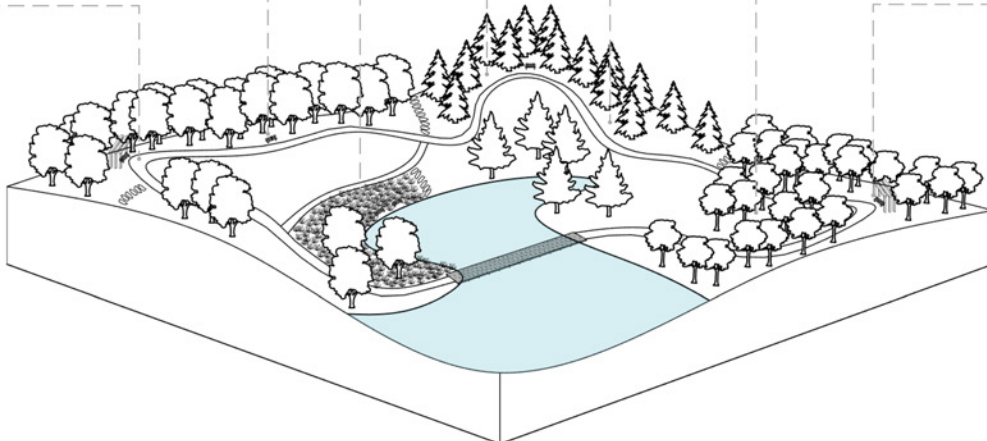
GRADUAL TOPOGRAPHY CHANGES

VISUAL ACCESS

SEPARATION FROM DISTRACTIONS

SMOOTH GROUND

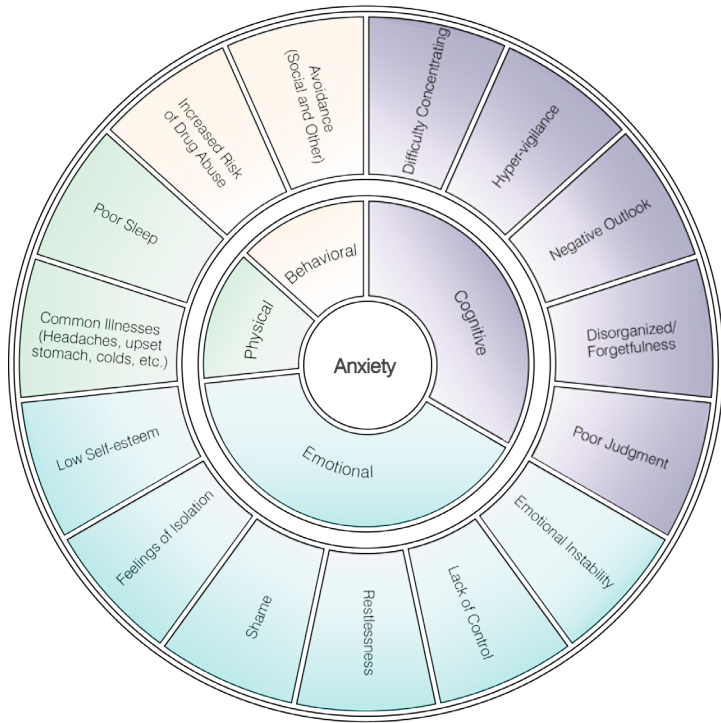
REFUGE



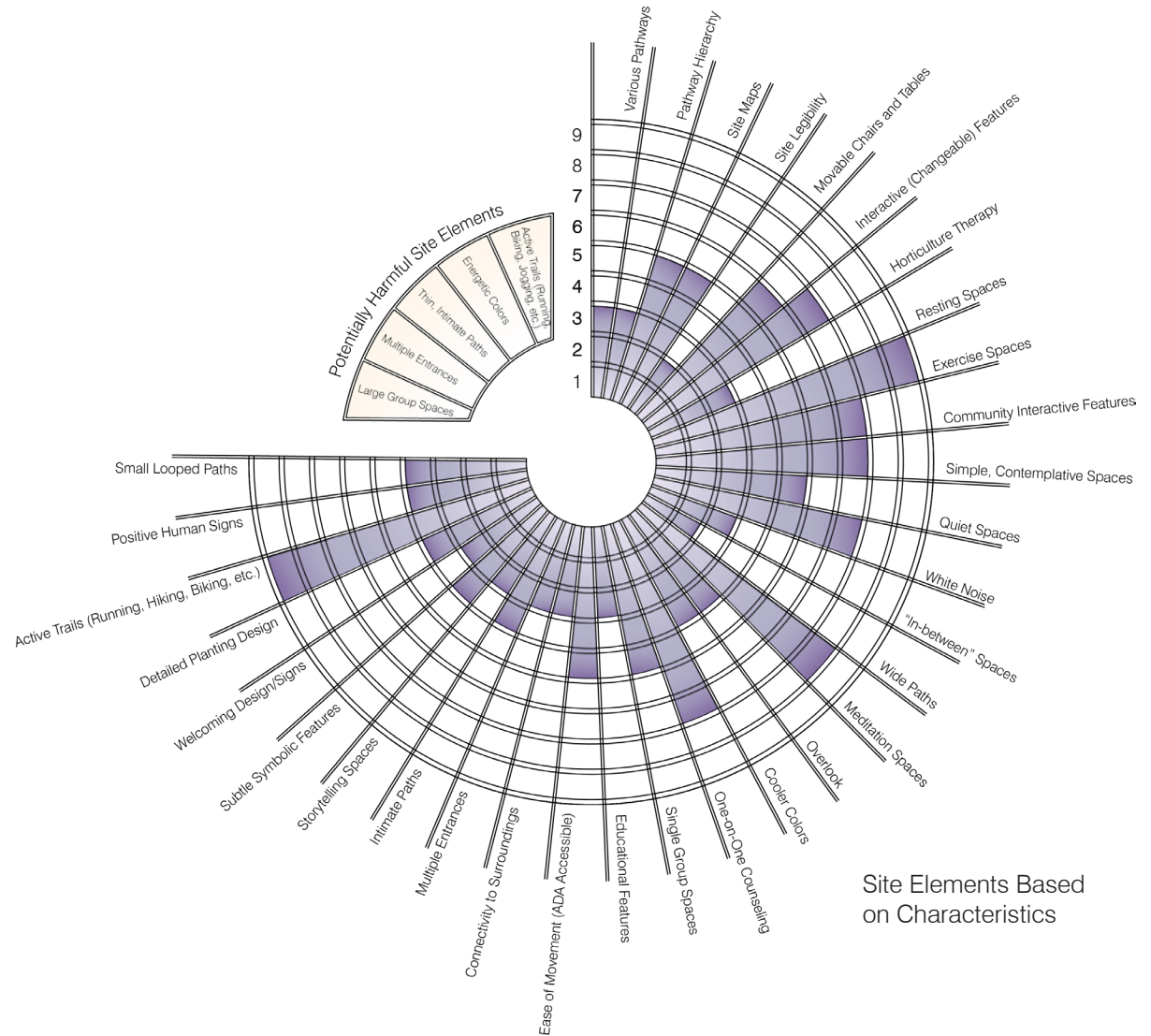
Coherence

The final element of a restorative setting is coherence. This element is also two dimensional because it is perceived through a person's single point of view at a given location on the site. Coherence refers to the order and organization of the site from a single viewpoint. Coherence differs from legibility because its focused more on allowing people to make sense of a space rather than make spaces among a path memorable. For example, obvious planting regions allow us to easily read a landscape, while a showy ornamental tree in the midst of an average oak tree grove allows us to remember the space as we move along a path.

Anxiety Analysis



Characteristics of Anxiety



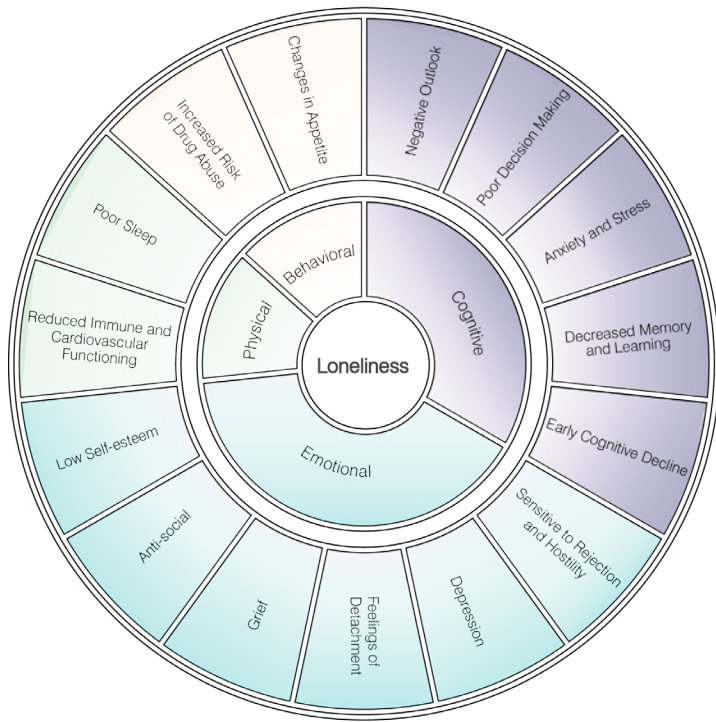
Site Elements Based on Characteristics

Anxiety Analysis Process

The second goal of this project is to design a healing environment that is able to minimize, prevent, and counteract the effects of anxiety. In order to determine the site features and programs needed to achieve this goal, I listed the common characteristics of people suffering from anxiety. These include hyper-vigilance, emotional instability, negative outlook, etc. Once I determined the characteristics of anxiety, I created a list of possible site elements that could help minimize, prevent, or counteract these characteristics. After that, I noticed that each element oftentimes addressed or helped offset more than one of the characteristics of anxiety, so I rated each element based on the

number of characteristics they positively effected. The graph above shows that exercise spaces, active trails, meditation spaces, and horticulture therapy are among the top site elements needed to minimize the effects of anxiety. I also used the same process to determine the most important site elements and programs for loneliness. Among every site element from the loneliness analysis and the anxiety analysis, I determined a few potentially harmful site elements. These elements, shown in orange in the diagram above, may be beneficial for someone suffering from loneliness, but could be potentially harmful for those suffering from anxiety.

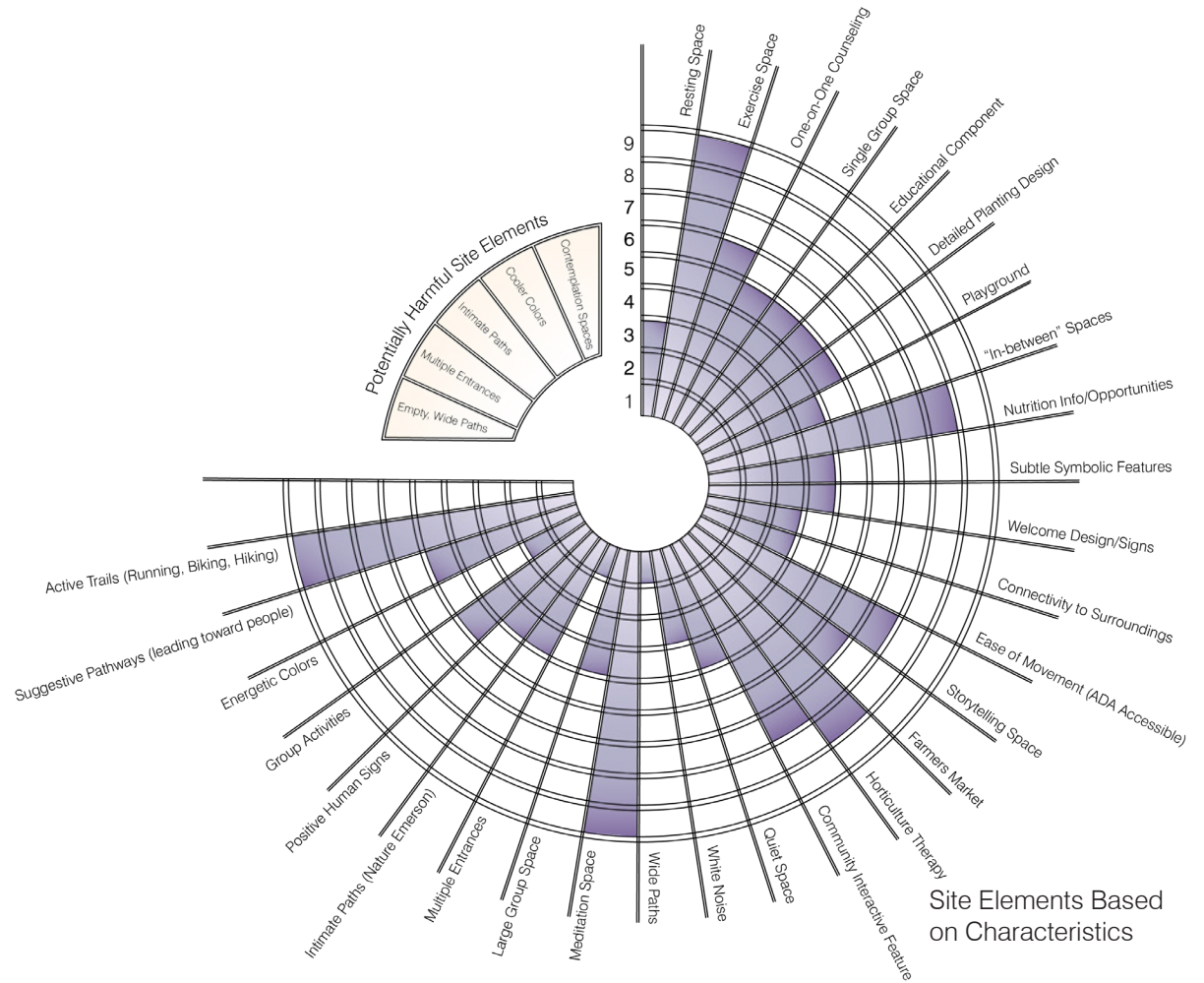
Loneliness Analysis



Characteristics of Loneliness

Loneliness Analysis Process

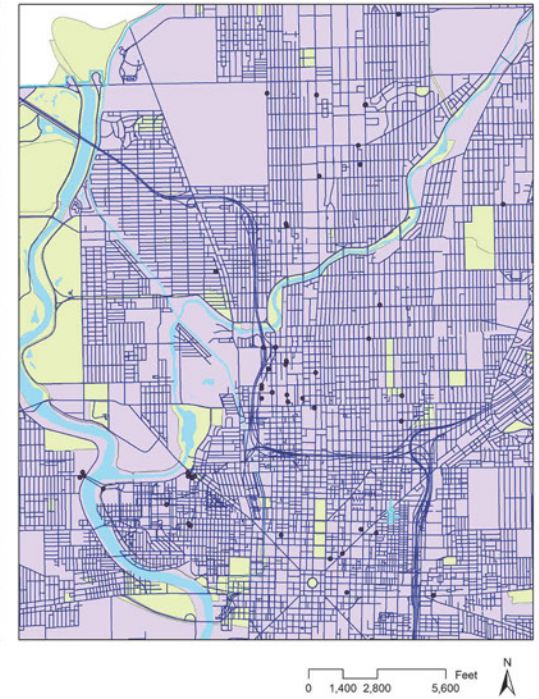
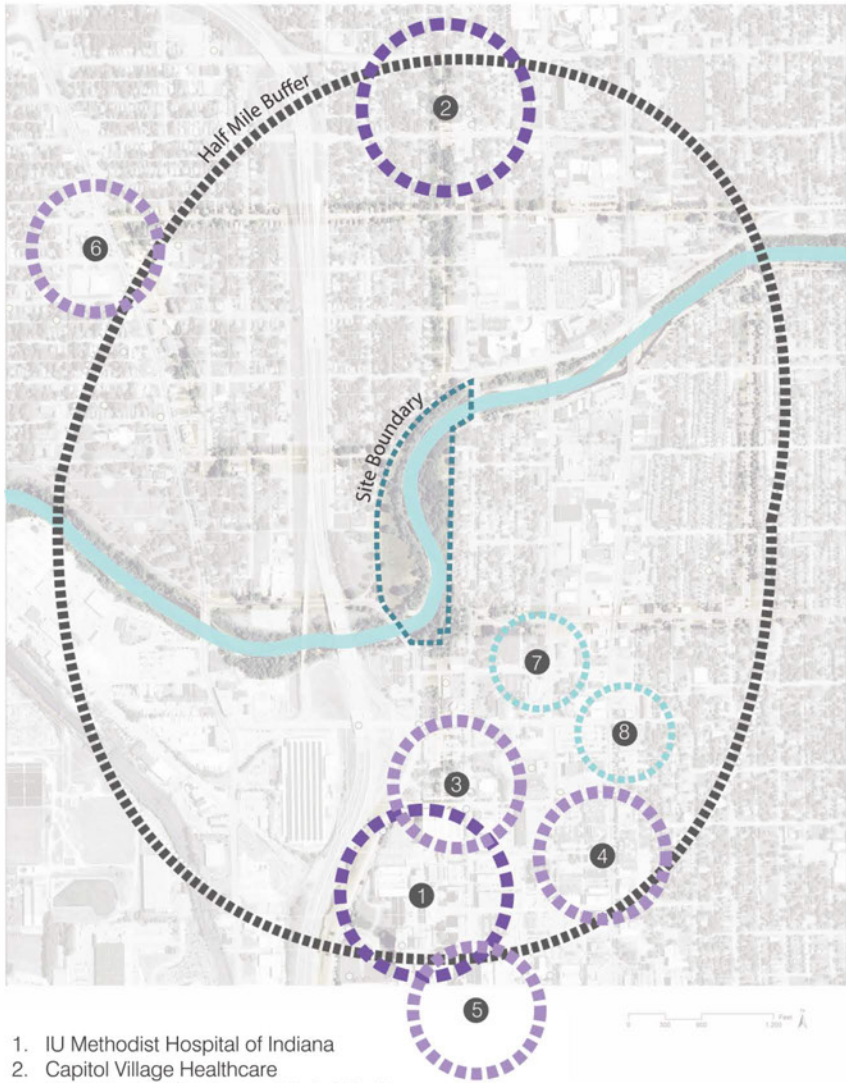
The third goal of this project is to design a healing environment that is able to minimize, prevent, and counteract the effects of loneliness. In order to determine the site features and programs needed to achieve this goal, I listed the common characteristics of people suffering from loneliness. These include hyper-vigilance, emotional instability, negative outlook, etc. I completed the same analysis process for loneliness as I did for anxiety. The results of the



graph on the right indicate that active trails, meditation spaces, horticulture therapy, storytelling spaces, community interactive features, nutritional information and opportunities, and exercise spaces were among the most important site elements in minimizing the characteristics of loneliness. The potentially harmful elements, as shown in orange in the graph above, could include elements that are beneficial for people with anxiety, but potentially harmful to those suffering from loneliness.

Religious and Healthcare Facilities

Site Location: Using GIS to Map Healthcare and Religious Facilities



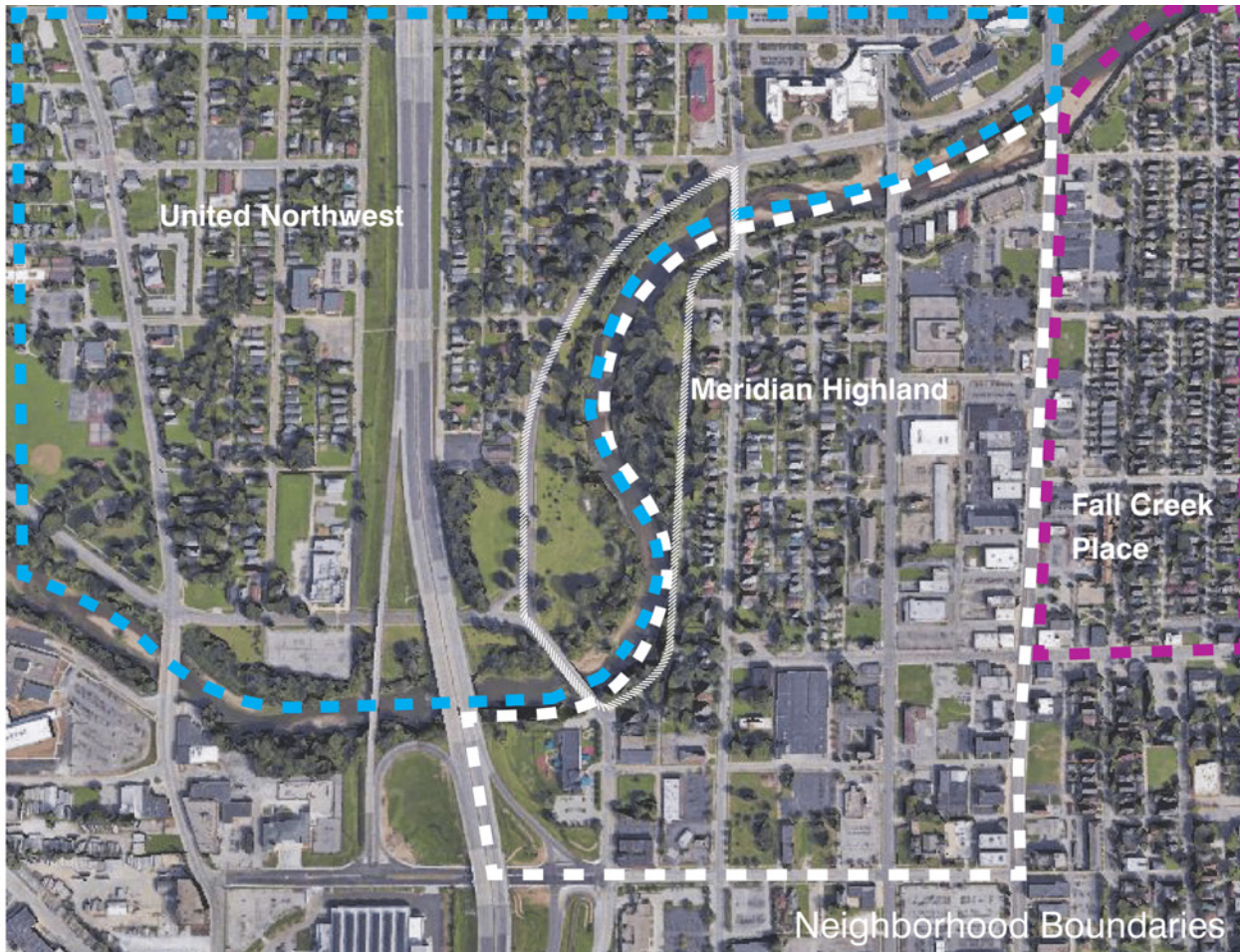
- 1. IU Methodist Hospital of Indiana
- 2. Capitol Village Healthcare
- 3. North Capitol Nursing and Rehabilitation
- 4. Advantage Senior Care
- 5. Healthnet Community Health Center
- 6. Ekenazi Health Center Blackburn
- 7. Hamilton Center, Inc.
- 8. Community Outreach Network Services,

- Counseling + Therapy Centers
- Small Medical Services
- Large Medical Services

Two of the six goals of this project address the needs of healthcare and religious facilities that surround the site. The diagram to the left illustrates the various types of healthcare facilities within a half mile of the site. The size of the circles surrounding the facilities indicate the facility's importance. The diagram in the center illustrates the location of religious facilities with a half mile of the site.



Neighborhood Analysis



The fourth goal of this project is to design a healing environment that fulfills the needs of the local neighborhoods. There are three adjacent neighborhoods surrounding the site; United Northwest, Meridian Highland, and Fall Creek Place. Each of these neighborhoods has its own unique identity and culture. Fall Creek Place is a successfully revitalized neighborhood with densely populated housing and multiple opportunities for groups and neighborhood involvement. Meridian Highland neighborhood contains mixed housing with a commercial district. United Northwest neighborhood contains Ivy Tech Community College and provides housing for students.

Neighborhood Demographics . . .

- Undergraduate students
- Graduate Students
- Single Mothers
- Blue Collar Workers
- White Collar Workers
- Households below poverty level
- Minorities
- Separated houses
- People without a vehicle

Common Neighborhood Issues . . .

- Loneliness
- Family driven anxiety and stress
- Financial driven anxiety and stress
- Physical strain
- Mental Strain
- Lack of Healthcare availability, services, and affordability
- Large house turnover rate
- Social and financial segregation
- Walk-ability, connectivity
- Safety and comfort
- Lighting and nightlife

Park Elements for those Issues . . .

- Small social spaces
- Quiet, intimate spaces
- Multiple forms of seating and resting spaces
- Interesting planting palette to encourage indirect attention
- Playgrounds for all ages of children
- Spaces for social interaction, working, and relaxing with open views of playgrounds
- Looped trails and connections to other city trails for walking, running, jogging, riding bike, wandering
- Well lit pathways and plazas to encourage safe nightlife
- Large open spaces to host neighborhood events, meetings, etc.
- Artistic expression - local art work displays, symbolism throughout site, stories through landforms and layout, etc. to create sense of community and neighborhood pride

Existing Park Analysis

In order to determine the needs of the surrounding neighborhood, I conducted an existing park analysis, which listed the features, programs, and limitations of each park within a mile radius of the site.

Analysis Results

Abundance of . . .

- Playgrounds for young children (lower elementary school)
- Open lawn space with scattered trees (less than 16,000 square feet)
- Common benches
- Typical outdoor picnic structures (they all look the same)
- Some basketball courts

Common Limitations . . .

- Lack of biodiversity
- Lack of connectivity to surrounding environment and major trails/walkways of the city
- Lack of pathways within the site and to seating areas
- Accessibility
- Lack of adequate lighting within the site
- Lack of maintenance
- Poor spatial dimensioning
- No interaction with water on site (no views, interaction, accessibility)
- Unsightly features such as power lines, trash cans, weeds, rust, fences and lighting



<p>Park Features/Programs A lot of trees Adjacent to river Playground for young children Open Lawn Tables and benches (a lot of seating)</p> <p>Park Limitations Disconnected (path goes nowhere) Limited biodiversity (only trees) Dark by the trees - limited lighting Trash around/on the site Maintenance bad No views of river or enclosed spaces Not inviting - Feels like backyard</p> <p>Barton Park</p>	<p>Park Features/Programs Adjacent to river and new trail Open Lawn, trees, and shrubs Looped path with benches, lighting Well maintained, electric outlets for events Well Connected with crosswalks Sidewalk colorful and painted with art Parking, trashcans Interesting materials (non-reflective) Overlooks along path to see river</p> <p>Park Limitations No indication river is adjacent to park Only three parking spaces Sidewalk rough, not smooth</p> <p>George E. Kessler Park</p>	<p>Park Features/Programs Playground for young children Parking, Pool, Open Lawn Memorials Overhead structured picnic area Subtle topography</p> <p>Park Limitations No path within the site Seating not always connected to path Lighting outside but not within site</p> <p>Martin Luther King Memorial Park</p>	<p>Park Features/Programs Forested Area around river Open lawn Playground for young children Parking spaces Lighting (only on the road) Basketball court Overhead picnic structure</p> <p>Park Limitations No lighting within the site No pathways or trails through the site No easy access to the river Open lawn prevents biodiversity Not that interesting</p> <p>Martin Park</p>
<p>Park Features/Programs Many looping, curved pathways Pathways wide enough to drive on Fence surrounding the site Many trees all around the site Interesting memorials</p> <p>Park Limitations Looping paths are disorganized No cohesive layout except for memorials Doesn't have parking</p> <p>Confederate Mound Crown Hill Cemetery</p>	<p>Park Features/Programs Basketball and Tennis Courts Baseball Courts Benches and Tables Street parking Covered Structures Open lawn with scattered trees Restrooms?</p> <p>Park Limitations No pathways and trails through site No interaction with the river Generic seating Limited lighting within the site</p> <p>Watkins Park</p>	<p>Park Features/Programs Open Lawn Seating Trees Swing Set for young children Easy Viewpoints</p> <p>Park Limitations Small No looping pathways Limited biodiversity Incomplete fenced in area Doesn't do a lot Linear pathway leads nowhere</p> <p>Craig Kids Memorial Park</p>	<p>Park Features/Programs Playground for preteen children Seating and tables Covered structure (unique) Fence around the site Small Lawn Plant diversity Small looped path</p> <p>Park Limitations Fence gives it a private feeling Pocket park</p> <p>Herron Morton Place Park</p>
<p>Park Features/Programs Playground for young children Multiple swing sets for young children Generic covered structure Trees and benches Some lighting within site</p> <p>Park Limitations No path within the site Poorly maintained Not human scaled lighting Not enough lighting Lack of plant diversity Lack of interest</p> <p>Frank Young Park</p>	<p>Park Features/Programs Parking limitations Basketball court Lawn space with trees Playground for young children Tables under covered structure One small restroom Linear pathway through site</p> <p>Park Limitations Fence around park make it feel private Fence limits pathway circulation</p> <p>Al E. Polin Park</p>	<p>Park Features/Programs Playground for young children One bench Has a sign showing renovations to park Trees and open lawn</p> <p>Park Limitations Lawn looks bare and contains weeds Poorly maintained No sense of boundaries or space Only one seating option Limited biodiversity No pathways to seating or within site Power-lines running through middle of park</p> <p>Ruckle Street Park</p>	<p>Park Features/Programs A few parking places Small mounds with new trees planted Educational signs Lawn in center surrounded by trees</p> <p>Park Limitations Parking places are gravel No pathway through park Feels like private property Lawn doesn't look well maintained Not enough room for what it is trying to be Spatial definition seems sloppy</p> <p>Fall Creek Place Arboretum</p>

What's Missing . . .

- Playgrounds for older children (upper elementary, middle school, and high school)
- Playgrounds/spaces for babies and their parents
- Public restrooms
- Looped pathways within the site
- Pathways and trails connecting outside of the site
- Large group eating areas
- Plaza spaces to host neighborhood events, meetings, and group events
- Dense and diverse planting design
- Intimate, private spaces
- Interesting and beautiful views
- Spatial definition
- Artistic expression
- Nighttime use (adequate lighting, evening event space)
- Interaction/integration of water on site

Neighborhood Avatars



Jordan

Hey, my name's Jordan. I am 11 years old and go to eighth grade at *Oaks Academy Middle School*. I live with my mom and annoying sister, Emma, in Fall Creek Place Neighborhood. My parents are divorced, so I see my dad about every two weeks. He lives in Carmel, IN. Some of my hobbies include videogames, basketball and wandering around outdoors with my friends. My mom says she doesn't want me to wander in Indy, so I try to say in the area. I also like going downtown, but mom works a lot.



Xiaosheng

My name is Xiaosheng. I am a 25 year old graduate student at IUPUI and am in the process of receiving my master degree in microbiology. I received my undergraduate degree in clinical medicine at Wuhan University in China. I currently work part-time at IU Health University Hospital. Time restrains from a busy schedule often leave me feeling stressed and unable to pursue the social connections I want. I am renting a small apartment near campus, and walk nearly everywhere I go. I would like to get out of the city for a while and explore native Indiana landscapes, but the opportunity hasn't come yet.



Jayden

Hi, my name is Jayden. I am a 20 year old junior undergraduate at Ivy Tech Community College. I am studying to receive a degree in business administration, while working part-time at Circle City Soil Food. I was raised around the area in the United Northwest neighborhood, and ride my bike or walk to classes every day from my father's house. My grandmother has been living with us ever sense my grandfather passed away last summer. I am good at public speaking and love meeting new people, but often have stress and anxiety when I am trying to balance work with school.



Millie

Hi, my name is Millie. I am 32 years old and live in the Meridian Highland Neighborhood with my husband (Christopher) and two daughters (ages 2 and 4). I currently work from home as a painter and also make jewelry that I sell at local air fairs. I was born in Illinois and moved to my current house 5 years ago once my husband got a job offer he couldn't refuse. I've found it hard living so far from my family, and I often feel anxiety from the lack of support. I also struggle from depression and find it difficult to get motivated creatively.



Norma

Hello, my name is Norma and I am 76 years old and worked as a bank teller for most of my life. My husband and I are both retired and enjoy spending time with our church community and volunteering at the local non-profits. My children and grandkids live in Chicago, and I often wish they could live closer to us. When they come down to visit, we enjoy taking them fun places in the city, but I tire more easily than I used to. It would be nice if there was a place around here we could take them. I often enjoy walking around the neighborhood, but tend to stick to loops so I don't wander away.



Jayla

My name's Jayla and I'm 23 years old. I grew up in the Meridian Highland Neighborhood, where my parents still live. I have a high school degree, but work at Little Caesar's to save up money for college. My savings account is slow-growing because of rent an other bills, so I often take additional shifts. My boyfriend, Chase, also works in the city and I hope to someday start a family with him. Work is stressful and tiring. I always seek out fresh air during my breaks, but there are no private seating areas outside the building.



Xavier

My name is Xavier and I am 29 years old. I majored in computer science in college and am working full-time as software engineering. I was born in Fishers, IN, and moved to Indianapolis last summer for a job offer. Currently, I am single, but am looking for a long-lasting relationship. I struggle with social anxiety and can't find my "place" outside of the apartment. I like to play videogames and like to be intentional in where I go. I don't enjoy wandering aimlessly outdoors, but can't seem to find an enjoyable destination that is suitable to my interests.



Abigail

Hello, my name is Abigail, and I am a 35 year old, single nurse at IU Health Methodist Hospital in Indy. I move to Indy from Dayton, Ohio three years ago and live in the beautiful Fall Creek Place Neighborhood. I am not really looking for a relationship at the moment, but love to visit places in the city and try new things. I'm a bit of an introvert, so reading good book with some coffee is also a good idea for me! Works is often stressful, and I often-times calm down by seeking isolation. My boss somewhat of a narcissist and often difficult to work with, but I've learned the right way to respond to her.



Ethan

Hi, my name is Ethan and I'm a 46 year old father of three. I've been an off and on patient at IU Health Methodist Hospital for about 3 years, and am nearly done receiving chemotherapy for prostate cancer. My doctors are hopeful about my treatment, and say that the next step is oncology rehabilitation. I would like to join one of the cancer support classes at the hospital once the chemotherapy is finished. My son (22) and two daughters (15 and 18) are living at home with my wife. I often worry about the medical bills and when I can get back to accounting.



Josiah

Hi, my name is Josiah and I am a pastor at Fall Creek Parkway Church of Christ. I am 64 years old and have pastored this church for about 9 years. The Lord has blessed my wife and I with our son Charlie, who is doing missionary work in Kenya. I was born and raised in New Orleans, but moved to the United Northwest Neighborhood of Indy as the Lord led me. Our church is fairly small, but expanding. We currently have around 150 members, and about 60 regulars. At least once a week, I make it a point to visit people in IU Health Memorial Hospital or volunteer there. I used to travel quite a bit, but have too many responsibilities with the church now.



Howard

Hey, name's Howard. I'm 48 years old and have one daughter (14) and one son (11). My family and I live in Fall Creek Place Neighborhood, where I commute to work at the Indianapolis Parks and Recreation Department. My wife and I are very passionate about utilizing green space in cities. I love the outdoors, and enjoy hiking, playing tennis, and swimming during my spare time. There isn't a sports team in Indiana that I don't love.



Olivia

Hi, my name is Olivia. I'm 19 years old and work at Wendy's to pay for my apartment in the Meridian Highland Neighborhood. I am pregnant with my first child, and am searching for a better job to pay for the baby and college. I'm not on the est terms with my family, who live on the south side of Indy, because they don't approve of my boyfriend, Levi. Levi is the love of my life, but can sometimes be controlling, which makes my social life suffer. I babysit for parents around the area to earn some extra money, but I try not to babysit too far from my apartment because I don't own a car.

To further analyze neighborhood needs, I created avatars that are based on neighborhood traits as well as the goals for the final design. For example, some avatars are residents in Fall Creek Neighborhood, some have anxiety, and others have loneliness. The avatar's demographic information also varies to design for a broader scope of people and to create a universal design.

Avatar Visionary Meeting

What are the elements of an ideal park?



"I would like the park to have a basketball field to play in with my friends, but my mom doesn't like me going too far from the house."



"Your mom's right. I don't want my daughters walking there. The park should be in a safer part of town, maybe closer to downtown. That neighborhood can get pretty dangerous and I've seen bad things happen at that park."



"Well, it's that way now because there is nothing there to protect. If the park had sports facilities like swimming pools, basketball courts, soccer fields, we could regulate hours and put up fences to keep that stuff out of the park."



"Yeah, and a water slide! . . . My mom won't be able to take me though, she works too much."



"Sports facilities could bring in revenue to maintain the park and make it safer, then your mom could drop you off for basketball practice."



"But if the park is meant to be used as a healing garden, wouldn't sports facilities take the peace away? I don't want to have to pay to go a park anyway."

What purpose would you like the park to fulfill?



"I would love if the park had meeting spaces for our church congregation. The park could also act as a symbol of racial unity, which is important to our church and the local community. Healing comes from the Lord, so I think the healing garden should use symbolism that points toward God."



"I agree, but I think there should be something for all denominations. A statue of Mary could reflect spirituality."



"Yeah, using symbolism throughout the garden could add another layer to the experience. I would love space for an art gallery that could exhibit the work of local artists. The artwork could tell the story of a community. There could be replaceable work and permanent features. I know can draw inspiration from both nature and abstract artwork."



"That would be interesting! If some of the patients at the hospital could use the park, it might brighten their mood to see the artwork. There should also be shaded spaces for those who cannot be out in the sunlight for a long time. I'm not quite sure how easily the patients could get to the park though."



"Couldn't they make a sidewalk that goes down the bridge to the hospital? Or maybe there could be a drop-off area at the entrance. The paths around the garden could also led to the church. We are always welcoming new members!"

The above image shows a visionary meeting between the avatars. Because a survey analysis and public engagement is above the scope of this project, I created the avatars to better indicate the needs of the various community members. The meeting above shows the contradictions in design preferences between the community members. This informed the final design by ensuring that I created compatible space that suit most of the community needs.

Avatar Survey



Jordan



Xiaosheng



Jayden



Millie



Norma



Jayla

WHAT PURPOSE SHOULD THE PARK FULFILL?

Fun, enjoyment, games

Peaceful spaces for healthcare patients. Small group, intimate social spaces.

Place to meet new people and hang out with friends
Place outside for my grandmother to walk around during the day

An inspirational place with quiet meditation spaces and areas designed for artistic expression. It should evoke positive emotions through many types of medium.

A safe place for families to bring their children to play with each other, with paths to walk on and available seating all around.

A calm, peaceful place with plenty of seating opportunities for one person and small groups of people. Also, opportunities for eating for daily use.

WHAT ARE THE ELEMENTS OF AN IDEAL PARK?

- Basketball court
- Swimming pool
- Playground for older kids

- Looping, even paths
- Flowers and trees
- Seating away from roads and loud noises
- Tables to eat and drink on

- Easy access to the park with bus stops and bike racks
- Circular path for elderly people to walk and be seen
- Nighttime events for students

- Walls or tables to display local artwork on
- Interactive sculptures or pieces of art
- Open-mindedness - areas that don't block your senses or even direct them, but encourage you to choose your own inspiration, or choose what you want to focus on. So, different types of plants, open views, various forms of art, water and material selection

- Large playgrounds for all ages of children
- Looped pathway that is even and legible
- Multiple seating spaces along the pathways and a parking lot close to the trail head

- Overhead structures above tables and chairs for rainy days, and a fireplace or warmers for cool days.
- Single, private seating areas and small groups seating areas.

WHAT NEEDS OF THE LOCAL COMMUNITY CAN THE PARK FULFILL?

Place for kids to hang out and play outside

- Provides a peaceful space away from busy roads and loud noises.
- Place to eat outside
- Places to read and meditate outside

Open spaces for scheduled community events, such as concerts, farmers markets, dances, block parties, neighborhood picnics, etc. that would help revenue flow through the neighborhood.

Could provide a space for local artistic expression and inspiration, and make people more open and welcoming to all types of people.

Another local place that families can take their children while to adults talk, and a safe place for retired people to get their exercise in.

- Provides picnic areas and eating spaces for employees around the area during their lunch breaks.
- A place for local employees to rest and refresh before they have to return to work.

HOW CAN THE PARK FULFILL THE MENTAL NEEDS OF LOCAL COMMUNITY MEMBERS?

Help clear minds after school
Exercise makes us feel good

Calm people is distress
Provides spaces for social interactions/social support

Open space that can host local and neighborhood events could help people build a greater social network.

Provides a greater sense of community and acceptance to the people within the community. Greater social networks and spaces for emotional expression that could led to relief and confidence.

Playground could relieve stress from school, and allow parents to discuss their children's problems and concerns with other parents. It also provides a space for older adults prevent Alzheimer's disease

Provides a place to lower work anxiety and stress. Allows you to gain mental energy back, so you can refresh and prepare for social interaction again.

The above image shows how each avatar responded to a mock survey. This helped inform the final design by creating a checklist of the services of the park and what site elements should be prioritized over the others.



WHAT PURPOSE SHOULD THE PARK FULFILL?

Should serve as an enjoyable destination with opportunities for groups events and meetings. The park should have access to electricity and should be interactive with new technology

Peaceful spaces for patients and looped, smooth pathways for physical therapy. Beautiful, calming spaces for healthcare workers to have lunch and go on a walk.

A place where my family and I can socialize safely, that is comfortable for patients with prostate cancer. Easy transportation to and from the site. Designated spaces for patients and their families.

Spaces for outdoor classrooms and carry-in meals for local churches and other groups. Fulfill an individual's spiritual needs along with their social needs.

Provide entertaining and enjoyable spaces for the local and surrounding community that can potentially bring in revenue.

Family friendly, safe park that has plenty of seating and playground equipment for young children and a place where babies can meet other babies.

WHAT ARE THE ELEMENTS OF AN IDEAL PARK?

- Tables with outlets, charge stations, and wifi
- Calm, quiet environments for working, and larger, more social spaces to host events
- Could have site interactive gaming or informational apps

- Small, quiet spaces for reading and slightly larger spaces for eating with others.
- Even pathways with exercise equipment and designated pathways for patients so they don't get run over.
- Seating along looped paths

- Shaded and sunny seating areas with wide paths.
- Accessible restrooms near the seating areas.
- Semi-private spaces with covered structures

- Symbolic sit features directed toward spirituality such as statues, crosses, water features, etc.
- Outdoor classroom and sheltered eating spaces with grills

- Spaces for neighborhood and local group events.
- Covered structure for picnics
- Dense planting plan that divides quiet and open spaces
- Sport courts and exercise opportunities

- Flat, wide pathways for walking strollers
- Play areas with sand boxes, small mounds, and swings
- Seating and tables where you can meet other parents

WHAT NEEDS OF THE LOCAL COMMUNITY CAN THE PARK FULFILL?

- Place for community members to work semi-outside
- Place to do unique and interesting things with technology
- Place to host groups events, meetings, parties, etc.

- Place for intimate, private spaces for mental and social refreshment.
- Spaces for local workers to eat lunch outside and exercise.

- A semi-private space to sit outside with family
- A beautiful space that relieves anxiety and stress from work environments and healthcare facilities

- Provide open spaces for local events and organizations.
- A spiritual place for meditation, contemplation, and emotional expression.

- Spaces that can be reserved for group events
- Provides both quiet and open spaces for mental and physical restoration

- A place where children and babies can play with other children and socialize

HOW CAN THE PARK FULFILL THE MENTAL NEEDS OF LOCAL COMMUNITY MEMBERS?

Provide spaces for social interaction and calming environments to work in that keep stress levels low

Provide mental refreshment with a calm, safe environment. Allow symbolic features to encourage emotional expression and meditation.

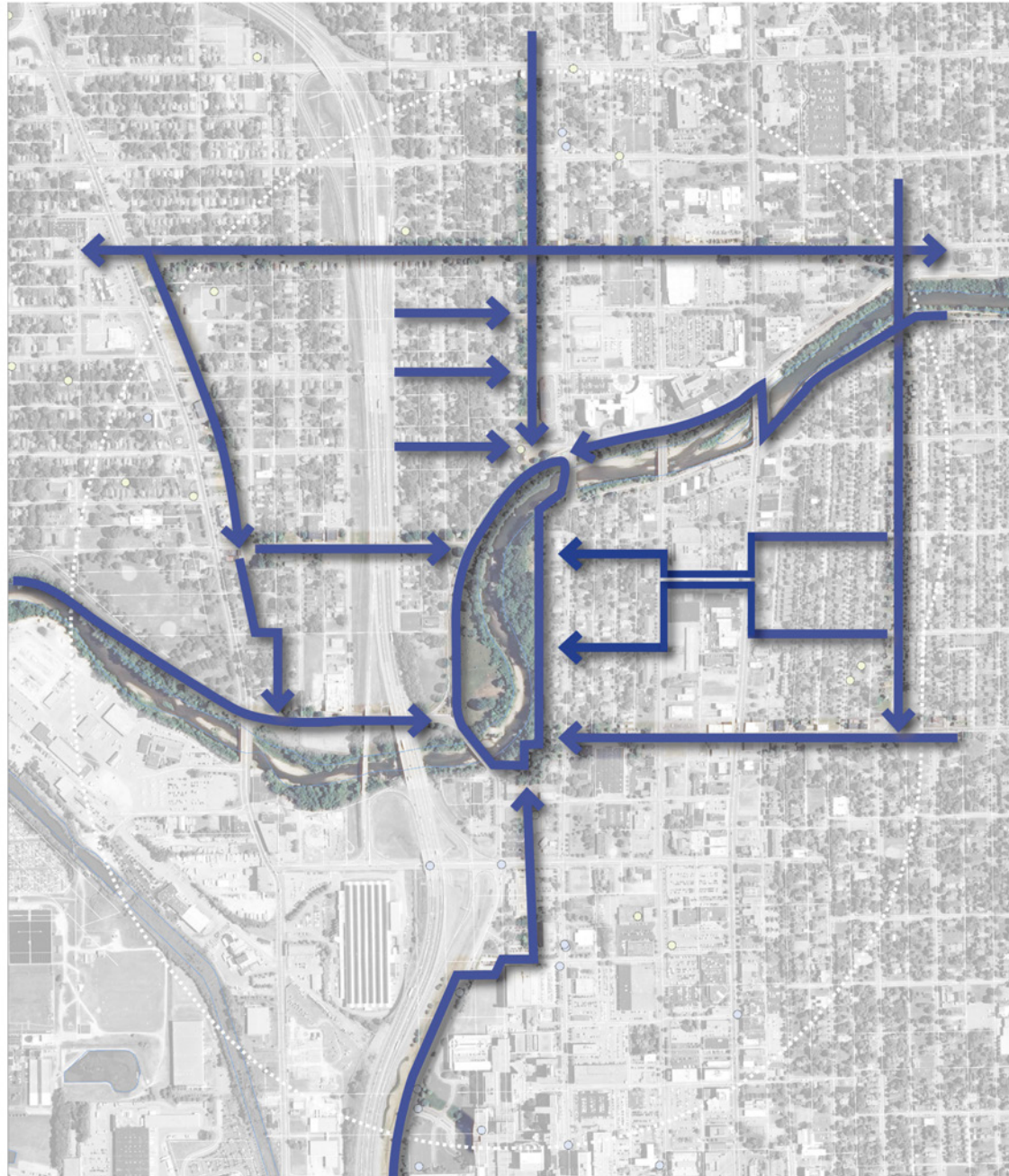
Relieve mental distress, anxiety, and stress from average and exceptional life environments

Provide intimate spiritual place for meditation, contemplation, and emotional expression that reflects a relationship with God.

Provides spaces for social interactions that can lead to strengthened social support, exercise (which can reduce stress and anxiety), and contemplation and meditation.

Children can learn to socialize and play with other children while adults can gain social support by meeting with other parents. Walking outside with your baby could have mental benefits.

Connectivity Diagram



As mentioned above, the site is surrounded by significant places, but connected to none of them. The diagram to the left shows the proposed connectivity between the site and its surroundings. The arrows indicate rejuvenated existing trails and proposed trail connections from surrounding neighborhoods, significant public buildings, healthcare facilities and religious facilities. The trails were located based on availability of space and the significance of the features they were connecting.

Site Inventory and Analysis



1. The entrance to site coming from bridge is blocked by a straggly tree cluster. This means that the water in this area of the river isn't being used, viewed, or interacted with. Views of the water and interactions with the water could encourage maintenance and pollution control from local residents.

2. A thin, four foot sidewalk goes from bridge to West 23rd street and stops abruptly halfway up the site. The pathways are disconnected with other portions of the neighborhood, which could prevent runners, walkers, wanderers, etc. from using these sidewalks to get to and from the site. This could change once pathways and pedestrian corridors are incorporated through and to the site from neighborhoods, popular destinations, and healthcare and religious facilities.
3. There are ugly lights on the road, no lights within the site, and light poles that are car scale rather than human scale (about 30 feet tall). These should be replaced to make the site pedestrian friendly. Uninviting, industrial lighting can be detrimental to a place's charm and character, which is very important in a garden that is trying to generate positive feelings and a safe, inviting atmosphere.
4. West Fall Creek Parkway Road is newly paved, so pot holes and rough roadways aren't a problem.
5. Open lawn space to the left of the site sort of reflects the site because they both only have scattered trees and grass. The design should make these spaces "talk" to each other. The feeling of the site at this point is different than when it is surrounded by residential buildings. It feels more open and inviting, which would welcome people into this open lawn space to participate in active activities.
6. The triangular median doesn't look nice; lacks maintenance, has overgrown grass, and could be a good place for signage to direct people where to go. There are no crosswalks for people to walk across here, but should be incorporated into the plan to encourage use of the lawn space and make site access easier. Three scraggly trees are within the triangle, but there is nothing to draw your eye. The space also lacks color. This could act as an entrance marker for people driving/walking toward the site from the bridge or under the interstate. Color would help it signify the start of something or an entrance.
7. There are some very nice, well developed trees that are overshadowed or blended in with tree clusters due to the dense understory and ivy that covers up the bark. Large, specimen trees that are across the street could "talk" to the opposite side of the road through a similar placement of trees on the site (between or adjacent to the trees across the street).
8. The church across the street has an interesting (church-like) architecture with a steeple. I could mimic the architecture into the landscape. View of the church from the site could visually connect the two and provide a nice aesthetic view when the sun is setting behind the church. Perhaps a pathway could lead to toward the building, or a structure could frame the church as a destination.
9. The site seems to contain some biodiversity. In order to justify breaking up the habitats the masterplan would need to provide improvements to the biodiversity and habitats along with river. What native plants are doing well in this location and how can I incorporate them into the planting design?
10. Fall Creek Parkway forks near the midpoint of the site. This portion of the road is discolored and doesn't connect to another road, which means it is not a good pathway connection point. This would be a good point to block off views and make boundaries to maintain more intimate spaces within the site. Fall Creek Parkway itself also doesn't lead to anywhere and only merges with more important, direct roads like North Capital Avenue. This means that the four lanes of Fall Creek Parkway are largely unnecessary to the vehicular circulation.
11. This is another triangle full of overgrown shrubs, but with some mature, specimen trees. The site contains a bench that is unwelcoming because of the overgrown shrubs behind it (I would be worried about spiders). There is a circle of shrubs inside of the triangle and there used to be gravel walkway toward the bench and

around an inner circle of plants, but it isn't there anymore. This space could be rejuvenated and could be designed to "talk" to the site on the other side of the road. Sidewalks and crosswalks should connect to the site at this point.

12. A gravel pathway near the Boulevard PI continues straight toward the river. This could be a kayak/canoe launching point for locals, a fishing location, or wading area. Perhaps the water is deeper here and is an ideal spot for fishing or launching a kayak. If so, this could be the designated area for that type of river interaction. However, room may be an issue for parking your car here. You would have to make sure that cars don't block the trail/sidewalk along the river. Distance from road to river is about 100 feet, so there could be some room for a wide trail and a parking space, but may be pretty tight.
13. Fall Creek Parkway is four lanes wide! But doesn't feel like a dangerous highway, maybe because of sidewalks and lawn strip (20 feet wide). It is adjacent to a residential area and the lanes are fairly narrow (th road measured about 40 feet with four 10 foot lanes). The lawn strips give the large trees plenty of room and enhances pedestrian safety and comfort. The curve of the road somewhat hinders views of oncoming cars, so the placement of crosswalks should be either at the intersection with a stoplight or nearer to the triangle at West 24th street.
14. Our Saviors Lutheran Church is across the street and is a beautiful building with medieval European style architecture (Tudor and Gothic Revival). It has steps leading up to building, pointing toward site. I could mimic the architecture in archways or small structures around the site and could think about how the site design looks from the view of the church. Ulrich's study proved that views of nature can be very therapeutic, and these views could also draw people in to the site. One of the rooms with windows pointed towards the site may be a Sunday

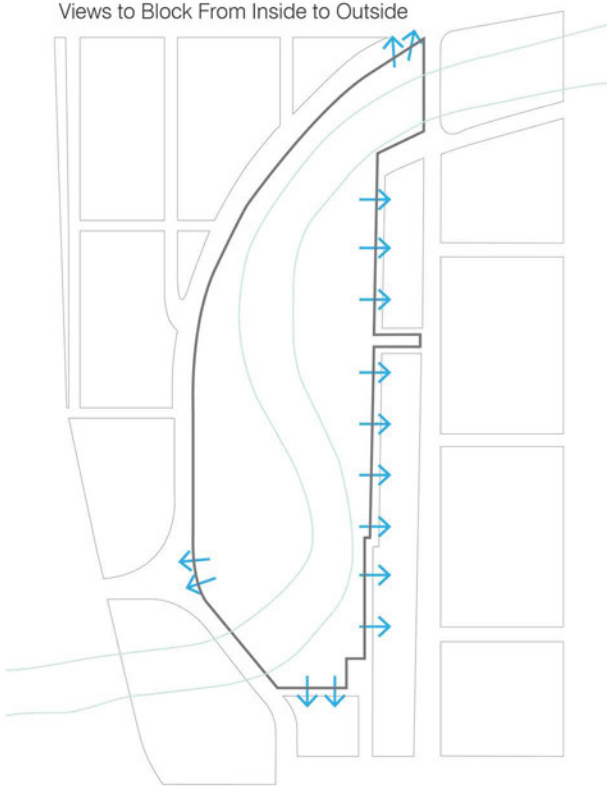
school room. The site could include outdoor classroom spaces. You cannot see the river from the church, but the masterplan could open up views without causing bank erosion, and the large trees could frame the views.

15. The bridge looks very nice and well lite. The wall along the bridge is low enough to have a good view of river. There are three lanes on the bridge (one turning lane). It might be harder to cross at the northern intersection than the southern one. There is a bike lane and a buffer between the car lane and the bike lane. The bike lane continues along North Capitol Avenue, but a lane could easily be added to the alleyway, which would take the lane along the river for a detour off the main road to create easy access to the site and a rest stop for bikers.
16. There is not much separation of spaces between the houses and the back road. In order to ensure privacy for the residents a plant buffer, wall or fence should be included in the site plan. The beginning of this back road acts as an entryway to the site (right after the bridge), so it will be important to improve the views into the site from here to increase interest in the site. Signage would also be need here, especially if this acts as the main entrance. Small, separate parking bays could be beneficially here and would help prevent large concrete parking areas. This space might be able to hold a few parking spots without buying house properties. The back road is only wide enough for one lane (12 feet). Could this become a two-lane, or would it be better to only allow local resident cars to enter the one way road, but add a pedestrian walkway and extend the bike lane. A few adjacent properties may also be bought to expand the area and increase access. The steep topography along the river seems to require some property reclamation in order to increase access to the site and open up views and parking opportunities.
17. Barton Park is a small, run down park for young

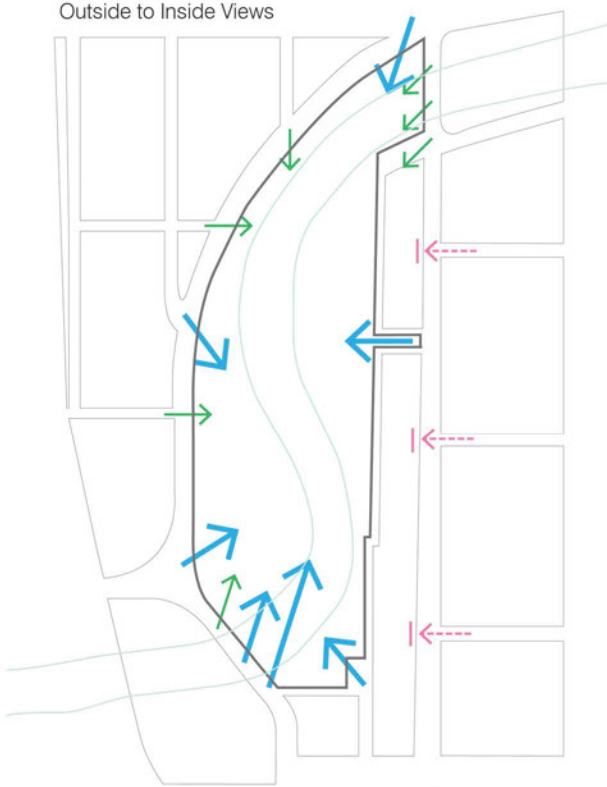
children, but not upper elementary, middle school, or high school age. The park has a few benches, a rundown sidewalk, a few scattered trees around a lawn space, and a few tables. There is some lighting inside the park, but the lighting doesn't look human scale or aesthetically pleasing. There is no interaction with the river, as there are trees and shrubs blocking views and pathways. There is some trash inside the park, and the residents place their trash cans on the park side of the road.

18. There is a narrow pathway from North Capitol Avenue to the park. The bus stops at the end of the small corridor on Capitol. The passageway is about 40 feet wide, but it feels much smaller because of the houses on both sides, the tall trees giving shade to most of the area, the fences separating the private residential lots from the public corridor, and the four benches with a trashcan in the center of the site. There is no lighting in this corridor, so many people may feel uncomfortable walking down it. It may feel like private property to some people. This could benefit from some sort of signage or planting design that welcomes visitors coming from the bus stop. The challenge would be welcoming visitors while maintaining a sense of privacy for the adjacent houses. The corridor looks to be 95% shaded all day, which might dissuade visitors from wanting to walk through and may cause some anxiety.
19. As you continue down the road, there are still no views or connections of any kind with the river. Interaction with water could make people care about the cleanliness and beauty of the water.

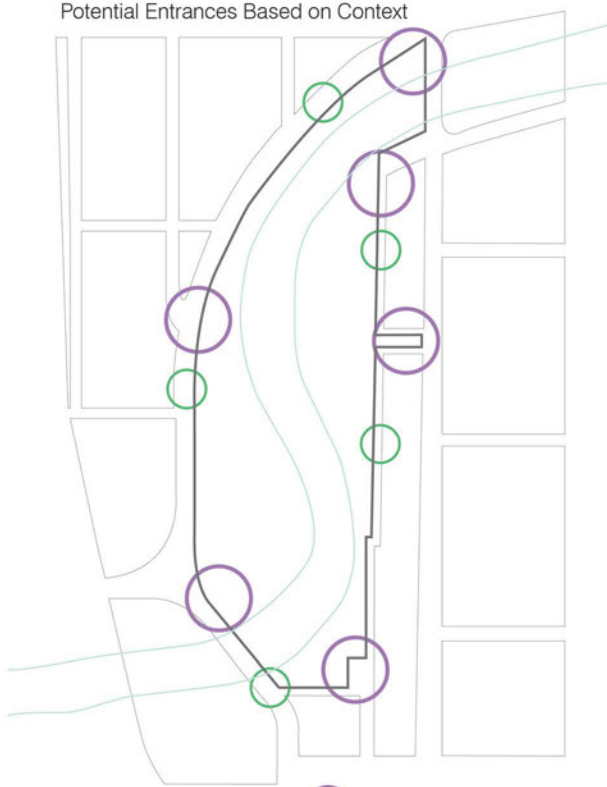
Site Inventory and Analysis Diagrams



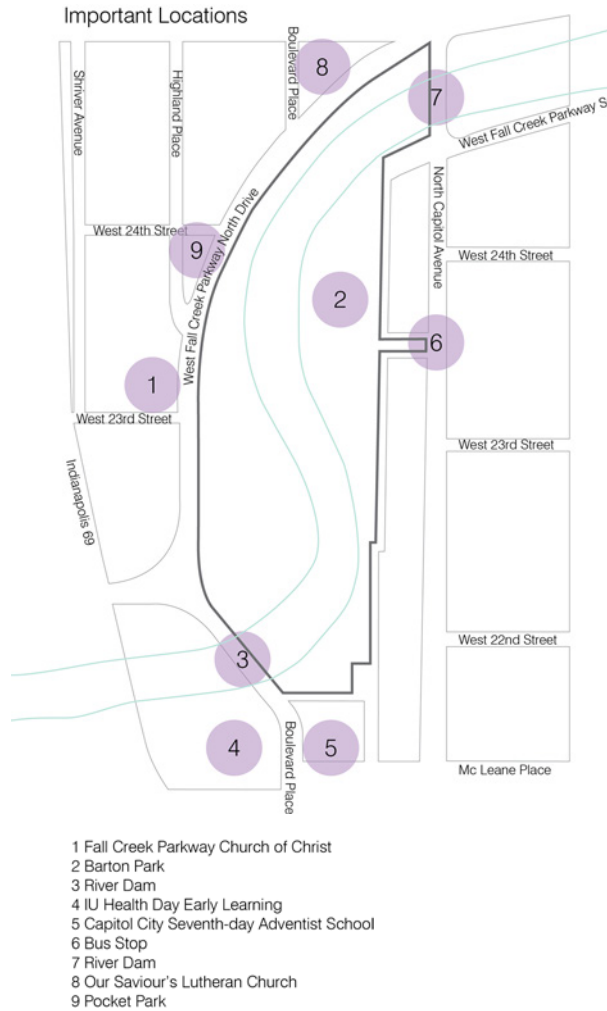
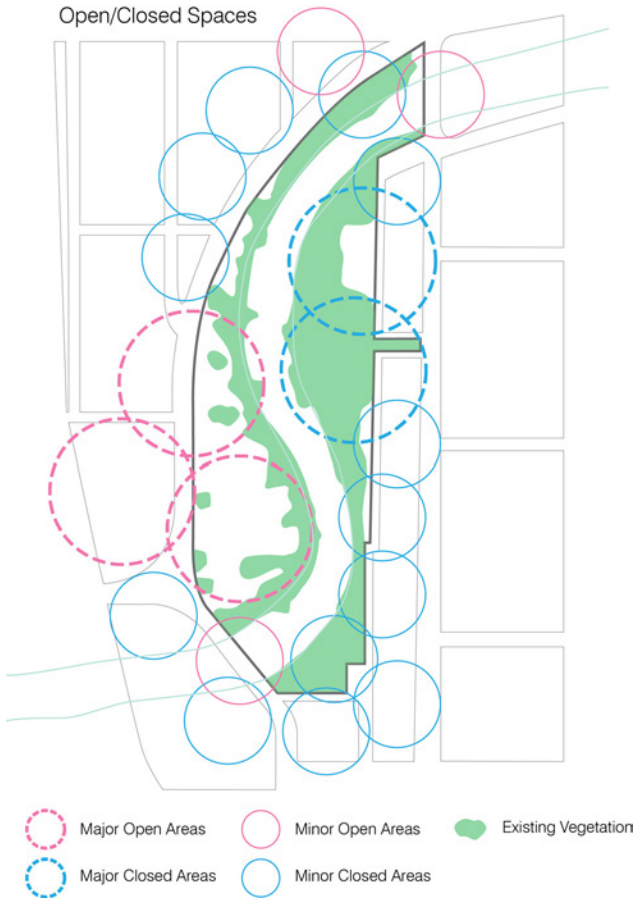
Viewing Location → Unsightly Thing to Block



← Minor Views
 ← Major Views
 ← Potential Views



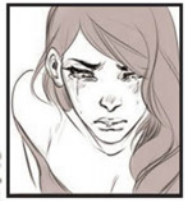
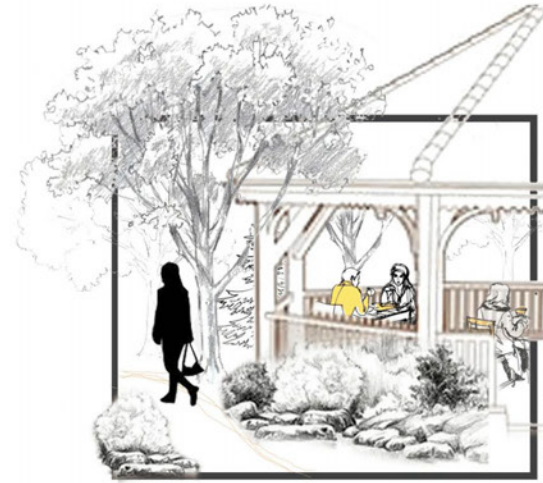
○ Potential Major Entrances
 ○ Potential Minor Entrances



Analysis

The diagrams to the left show the site inventory and analysis. Given only a slight change in topography through most of the site, and the site's consistent soil type, one of the most important features of the site inventory was the viewpoints within, outside, and toward the site. Views are important in creating site legibility and coherence, and they also contribute to a sense of escape within the site. Blocked views are oftentimes just as important as open views. Major entrances to and from the site indicate where pathways should lead and meet. Opened and closed spaces in the existing site can indicate which spaces feel safe and which don't. This analysis led to the location of the cultural center being on the northeastern side of the site in order to open up the space and create greater feelings of safety.

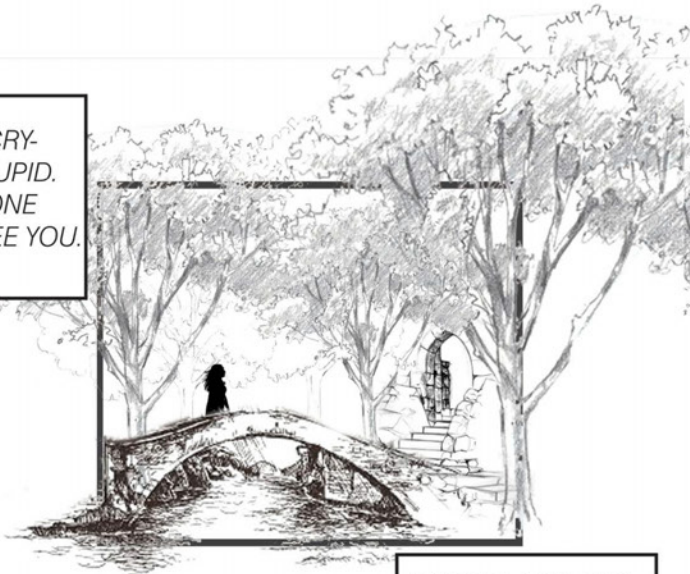
Storyboard: Abigail's Experience Through the Site



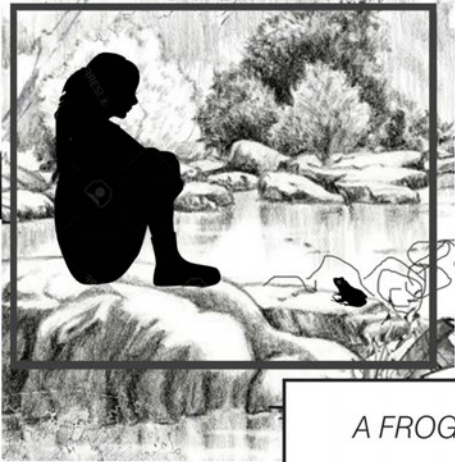
I NEED TO BE ALONE.

NOT HERE. TOO MANY PEOPLE.

STOP CRYING STUPID. SOMEONE WILL SEE YOU.



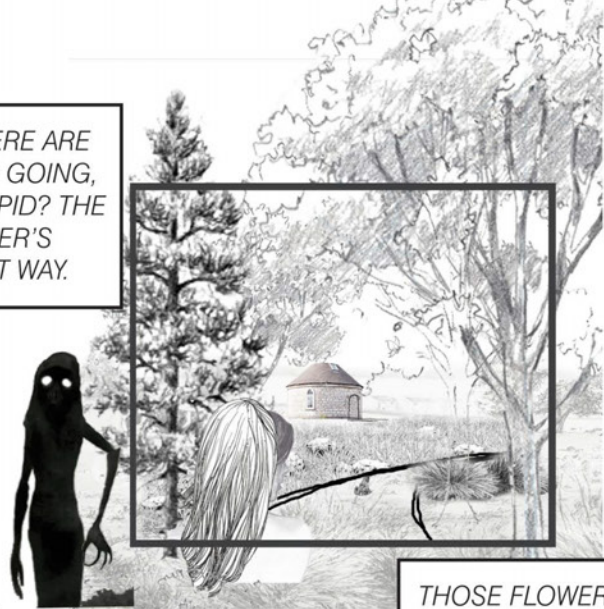
PLEASE, GOD, LET NO ONE BE THERE!



A FROG?!

Experience though a site is very important is easing anxiety and creating a peaceful, healing environment. The images above illustrate a storyboard that helped me create a sequence of events through the healing landscape that helped inform the type and feeling of certain spaces in the final design. This also help me determine which spaces were best suiting to what type of activity. For example, intimate spaces near water and surrounded by a tree grove is best suited as a single meditation space to ease anxiety, while a single table beneath a structure overlooking an active lawn is best suited for small groups to combat loneliness.

WHERE ARE YOU GOING, STUPID? THE WATER'S THAT WAY.



THOSE FLOWERS ARE BEAUTIFUL.



WHAT'S IN THAT BUILDING?



ANOTHER FORK? I WONDER WHAT'S TO THE RIGHT

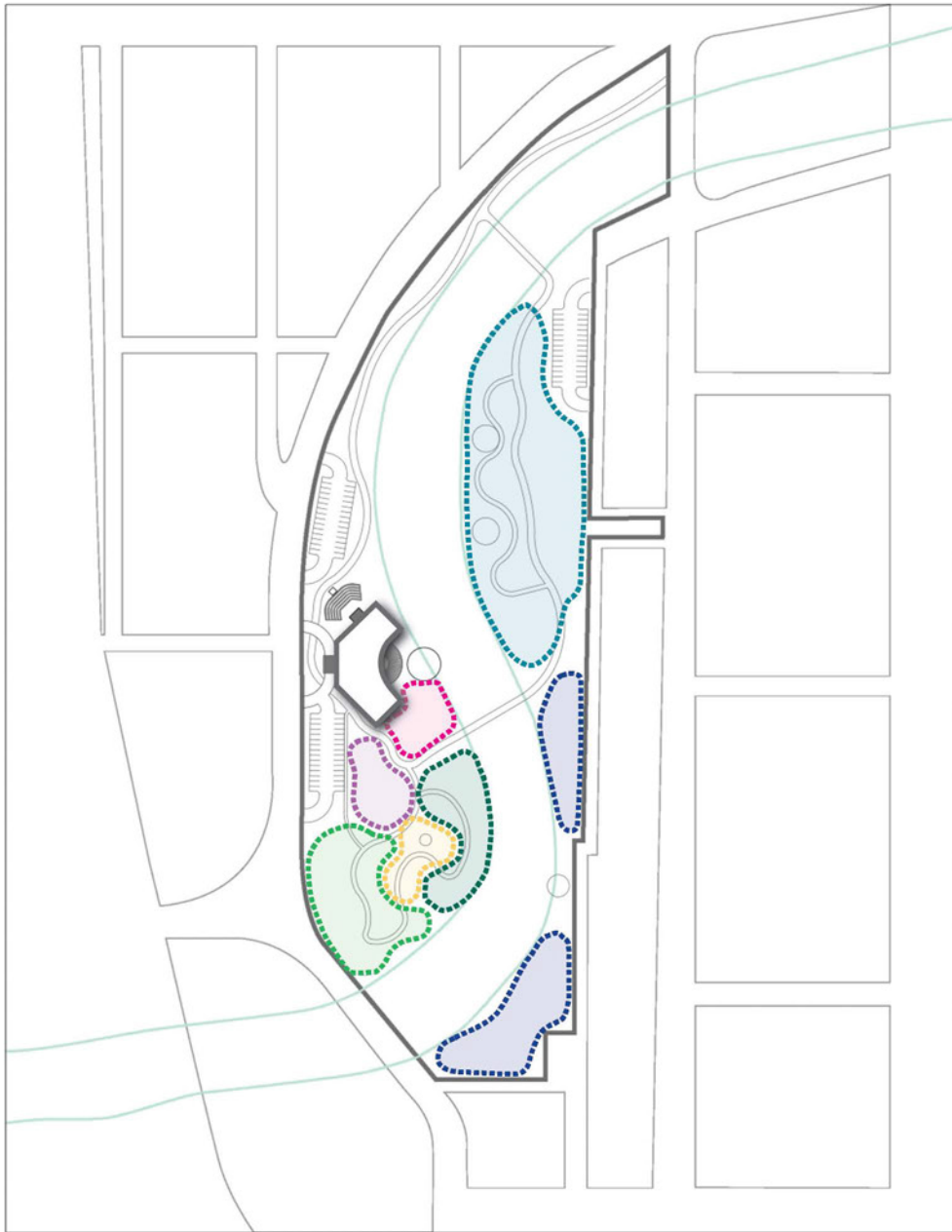


IS THAT EMMA AND CHRIS FROM WORK?



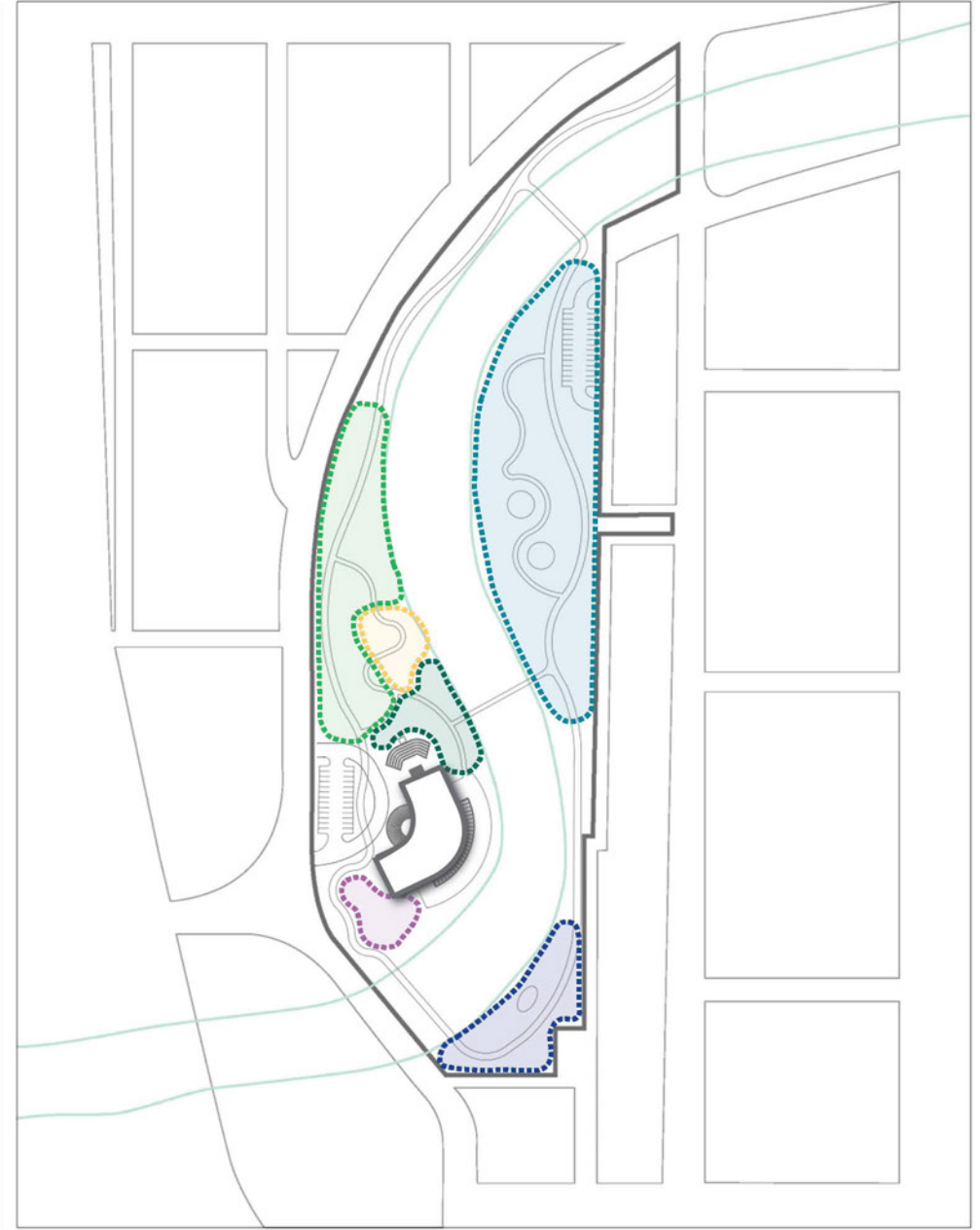
"HEY, ABBY! DO YOU WANT TO EAT WITH US?"

Concept Plan 1



The first conceptual placed the building and the more social and active spaces on the western side of Fall Creek. The building was placed in the upper portion of the western side in order to provide unobstructed views of the river from inside of the building and to shorten the hardscape needed to access the building.

Concept Plan 2



The second conceptual plan placed the building within the wider portion of the western side to allow the smaller, more intimate bridge to connect with the renewal trail. This also allowed the quiet, calmer trail systems to have access to the pedestrian bridge without being obstructed by the Exercise Trail, which ran along the outskirts of the site.

Concept Plan 3



The third conceptual plan placed the building on the eastern side of Fall Creek. This placement helped open the dark, enclosed feeling of the eastern side, while establishing a visual and physical connection with North Capitol Avenue and IVY Tech Community College. This concept also allows the passive, more intimate trails and spaces to have a wide, uninterrupted area on the western side of Fall Creek.

Masterplan

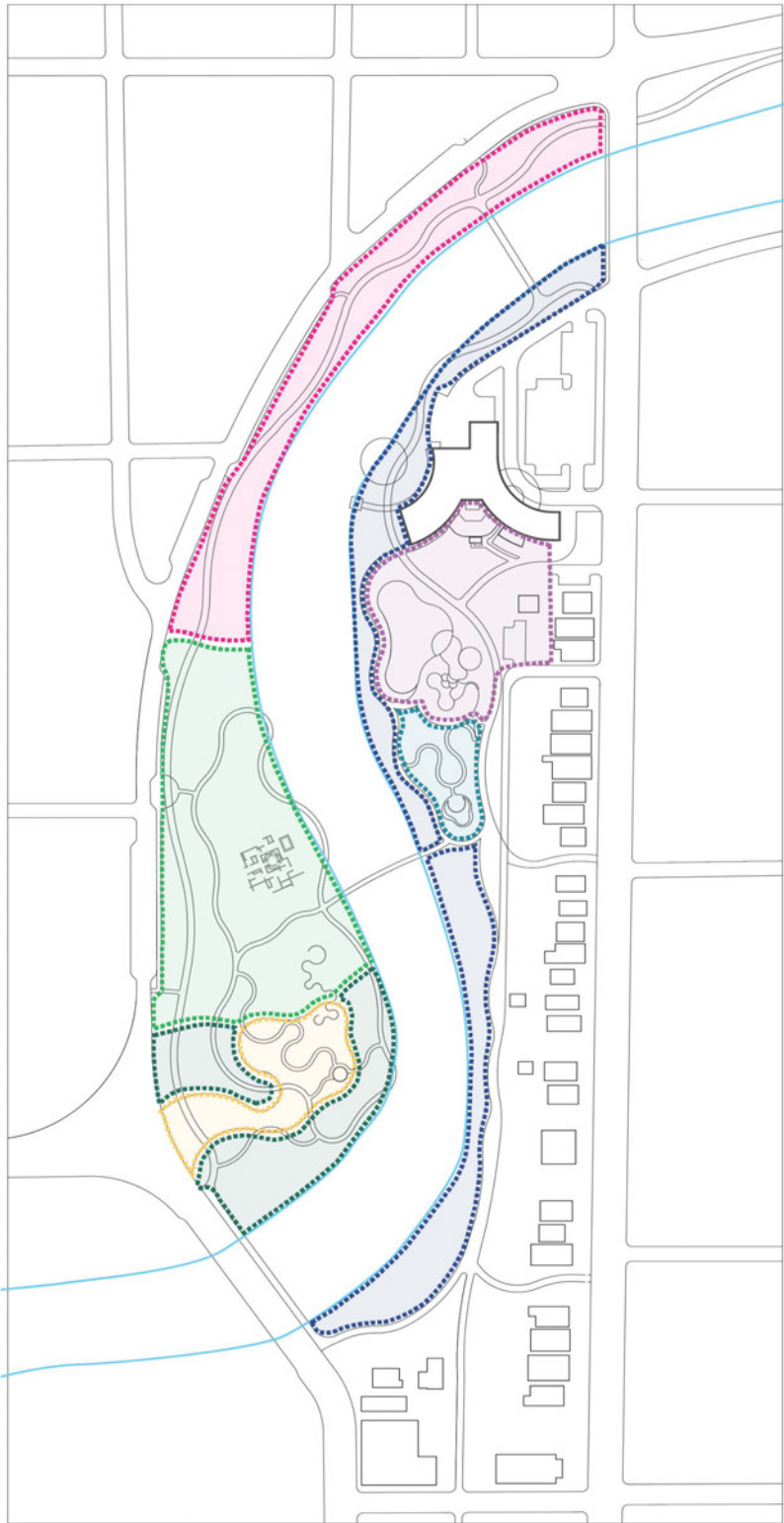
The Site Masterplan to the right illustrates the circulation pattern through the site, building locations, vegetation masses, program locations, and connective elements. The cultural center was placed on the northeastern corner of the site in order to open up the unsettling, private-feeling portion of the park. The Center's location along North Capitol Avenue also maximizes vehicular and viewpoint connectivity and creates direct connections with significant Indianapolis destinations, such as IVY Tech Community College and Monument Circle. As a result of the placement of the cultural center, the northern side of the site became the active space to better address loneliness, while the southern side of the site became the passive space to better address anxiety.

Site feature and program elements throughout the site adhere to the needs of the surrounding healthcare facilities and religious facilities. Common neighborhood needs were also addressed. The site features of the final design contradicted the monotonous, plain imagery of many of the existing parks in the area.



Plant Regions Diagram

The diagram to the left illustrates the conceptual planting plan regions that distinguish each location from the others. Each plant region will be described later in the booklet.



-  Open Woodland
-  Pine Woods
-  Meadow
-  Native Habitat
-  Column Garden
-  Playground and Building I
-  Exercise Trail Plants

Masterplan Zoom-In

The southernmost section of the masterplan is more quiet and intimate than the northernmost section. The southern section is generally more passive than the northern section, which is more active. Because the southern section of the site is passive, it creates ideal spaces for healing anxiety. In contrast, the northern section creates social spaces for healing loneliness.

Southern Section Legend

1. Northern Parallel Parking
2. Exercise Trail (12 feet)
3. Over-water Seating
4. Ruins in Forest Grove
5. Intimate Bridge
6. Archway Into Meadow
7. Contemplation Wall
8. Spiritual Building
9. Boardwalk
10. Meadow
11. Pine Grove
12. Crosswalk
13. Primary Bridge





Northern Section Legend

1. Primary Bridge
2. Exercise Trail (12 Feet)
3. Stormwater Basin
4. Loading Dock
5. Cultural Center Parking Lot
6. Eating Space
7. Pergola
8. Cultural Center
9. Outdoor Amphitheater
10. Drop-off with Pergola
11. Greenhouse and Horticulture Therapy
12. Seating
13. Labyrinth
14. Playground
15. Water Feature and Waterfall
16. Pedestrian Corridor
17. Seating
18. Column Garden
19. Reflexology Path and Touch Fountain
20. Intimate Bridge
21. Woonerf

Circulation Diagram

Exercise Trail

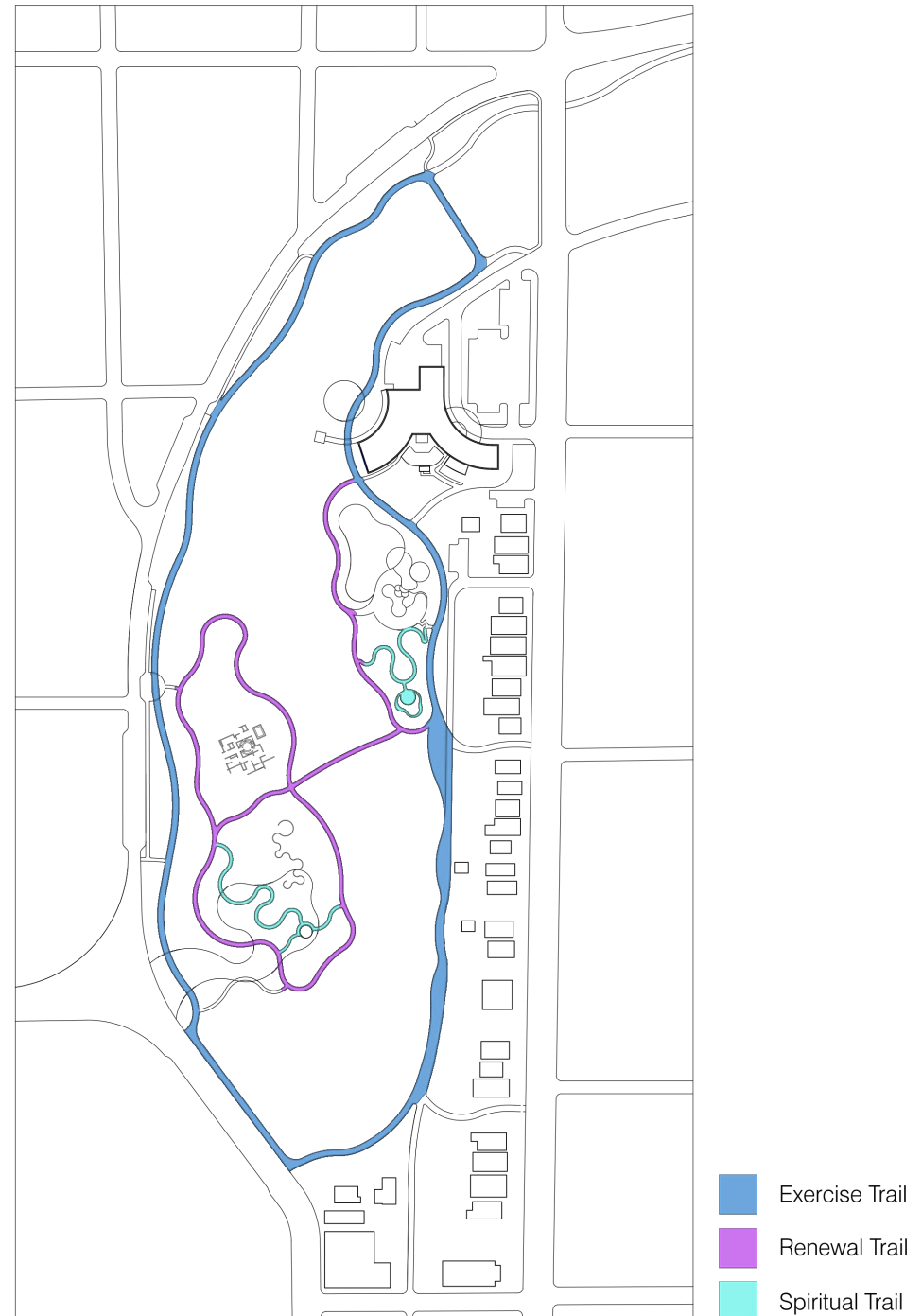
Exercise was rated as one of the most important site programs to offset anxiety and loneliness. The final design began with the placement of this looped Exercise Trail that is approximately three-quarters of a mile long. The neighborhood park study also showed a need for looped trails. Of the three bridges that will be constructed on the site, two of those are included as a part of the Exercise Trail. These pedestrian bridges are important in creating access to both sides of the site.

Renewal Trail

The purpose of the Renewal Trail is to calm the user through the use of gentle curves and an interesting planting pallet that evokes quiet fascination. The Renewal trail was designed as its own looped trail and was placed within the exercise trail to prevent runners and bikers from triggering anxiety. The separation of these looped trails also creates a greater sense of escape and stillness for those enjoying the passive area. A smaller, more intimate bridge connects the renewal trail on the west of Fall Creek to the one on the east. The bridge allows uninterrupted access to the passive side of the site and encourages contemplation while on the bridge.

Spiritual Trails

The spiritual trails are the smallest trails located at the deepest points of the site to create the ideal, peaceful environment for prayer and meditation. Both of these trails lead to landmark destinations on the site, such as the contemplation wall and the reflexology path. Although these trails are not specifically marked as spiritual trails on the site, the destinations along these trails and their serpentine nature reflects their intended purpose.



Neighborhood Goal Diagram: Top Five Needs



Multigenerational Family Spaces

Creating multigenerational family spaces was one of the top needs for the local neighborhood communities. These spaces must contain smooth pathways, subtly sloped ramps, and non-reflective materials for the elderly users of the garden. I also included playgrounds for older children because they were sparse within the park systems of this area.



Multi-use Spaces

These spaces are needed within the local neighborhoods to host community gatherings, such as art shows, community meetings, and local clubs and groups. Spaces such as these help generate a greater sense of community, belonging, and culture, which is beneficial to mental health.



Intimate Spaces

Similar to other large cities, Indianapolis has a limited amount of quiet, intimate spaces that feel safe for public use. Intimate spaces are important in creating a more human scale that provides a sense of safety. These spaces, however, could become unsafe, or unused, if Prospect Refuge Theory isn't applied to them.



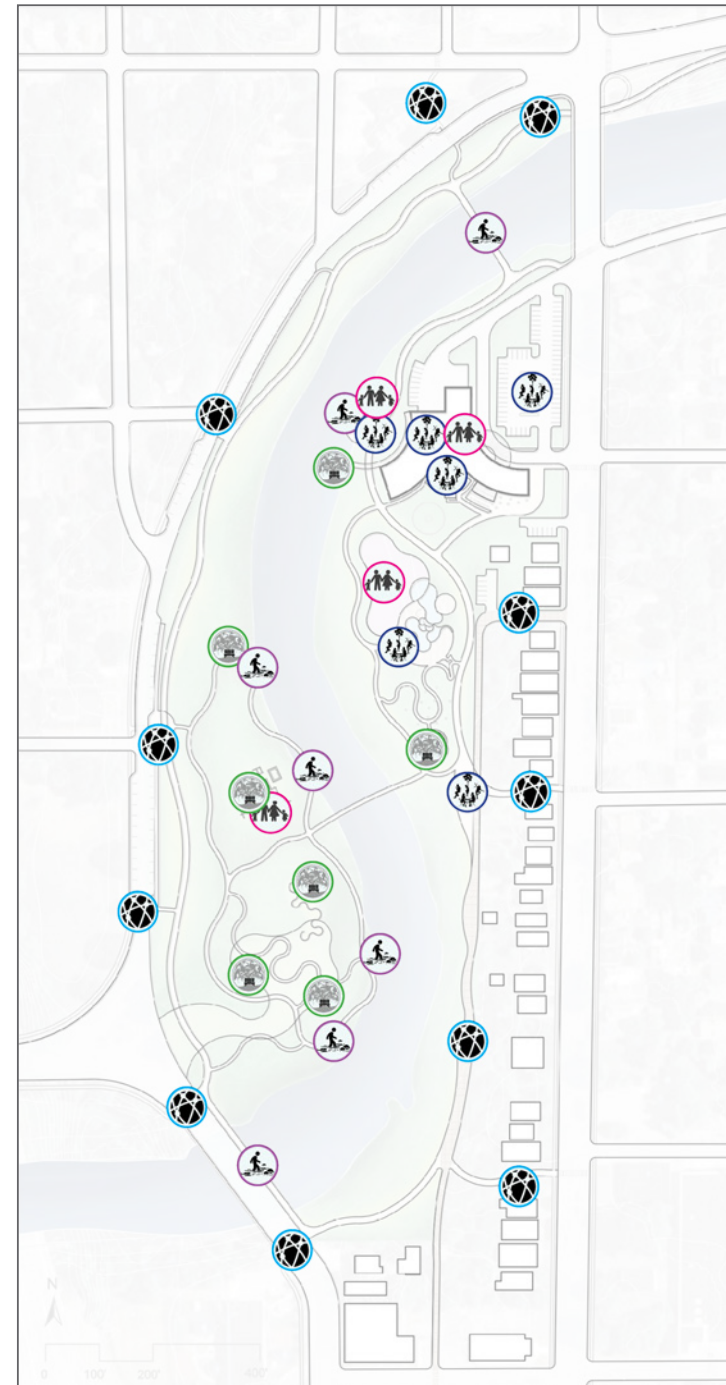
Connectivity/Access

Due to the site's physical and mental disconnection with the local neighborhoods, creating connectivity through pedestrian corridors and bridges was very important. Creating a site that becomes a landmark of its own can create strong mental connections with the site from the local community.



Fall Creek Interaction

Indianapolis, and specifically the neighborhoods surrounding the site, have minimal opportunities for interaction with Fall Creek. An increase in river front activities could lead to progressive changes, such as the pollution and erosion control of Fall Creek.



Healthcare Facility Goal Diagram: Top Five Needs



Looped Paths

Looped Paths are excellent for learning to read and comprehend a site layout, encouraging exercise and movement, and providing shorter distances to get you back to where you started. All of these benefits are helpful to patients and healthcare workers.



One-on-One Therapy/Small Group Spaces

Outdoor spaces for one-on-one therapy or small groups of family and friends are important in starting conversations that lead to healing.



Family Spaces

Healthcare facilities often need spaces to hold patients, nurses, doctors, family members, and friends. Spaces that accommodate multiple generations and people with diverse limitations and needs is required in a healing design.



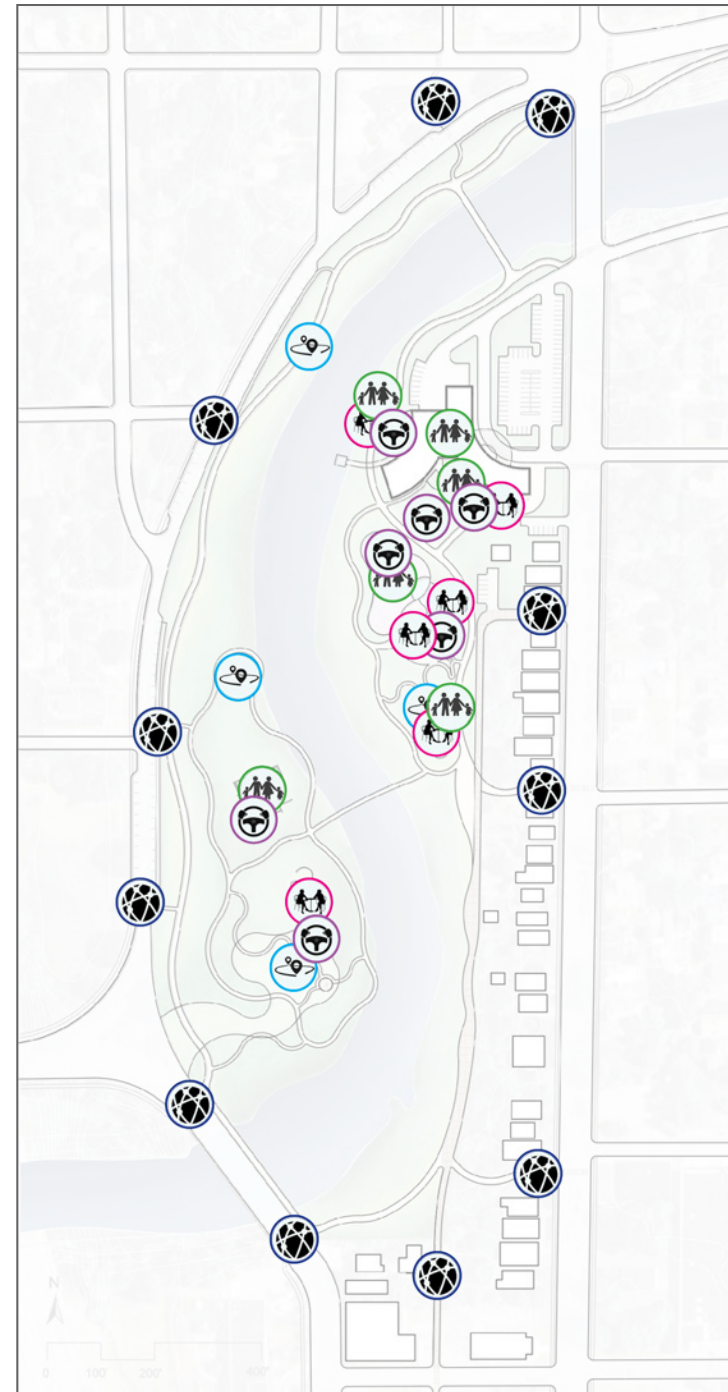
Connectivity/Access

Creating physical and mental connectivity to local healthcare facilities and the site is very important to increasing use of the site. Many of the pedestrian corridors that lead to the site are directly connected to healthcare facilities.



Sense of Control

Patients within healthcare facilities, people in nursing homes, and even workers within these facilities oftentimes cannot control the circumstances they are in. Movable tables and chairs, pathway choices, and horticulture therapy can boost a person's confidence and lessen their anxiety.



Religious Facility Goal Diagram: Top Five Needs



Meditation Spaces

Many religious facilities lack designed meditation, prayer, and contemplation spaces that are quiet, private, and encourage self reflection.



Group Gathering Spaces

Religious facilities often inspire a sense of unity and purpose to the group members. However, proper spaces to facilitate and grow membership connections are needed to help encourage participation, social interaction, discussion, and fellowship.



Intimate Spaces

Intimate spaces are important in creating a human scale that provides a sense of safety. Quiet, intimate spaces are also important in facilitating meditation, self-reflection, and prayer within the members of religious facilities.



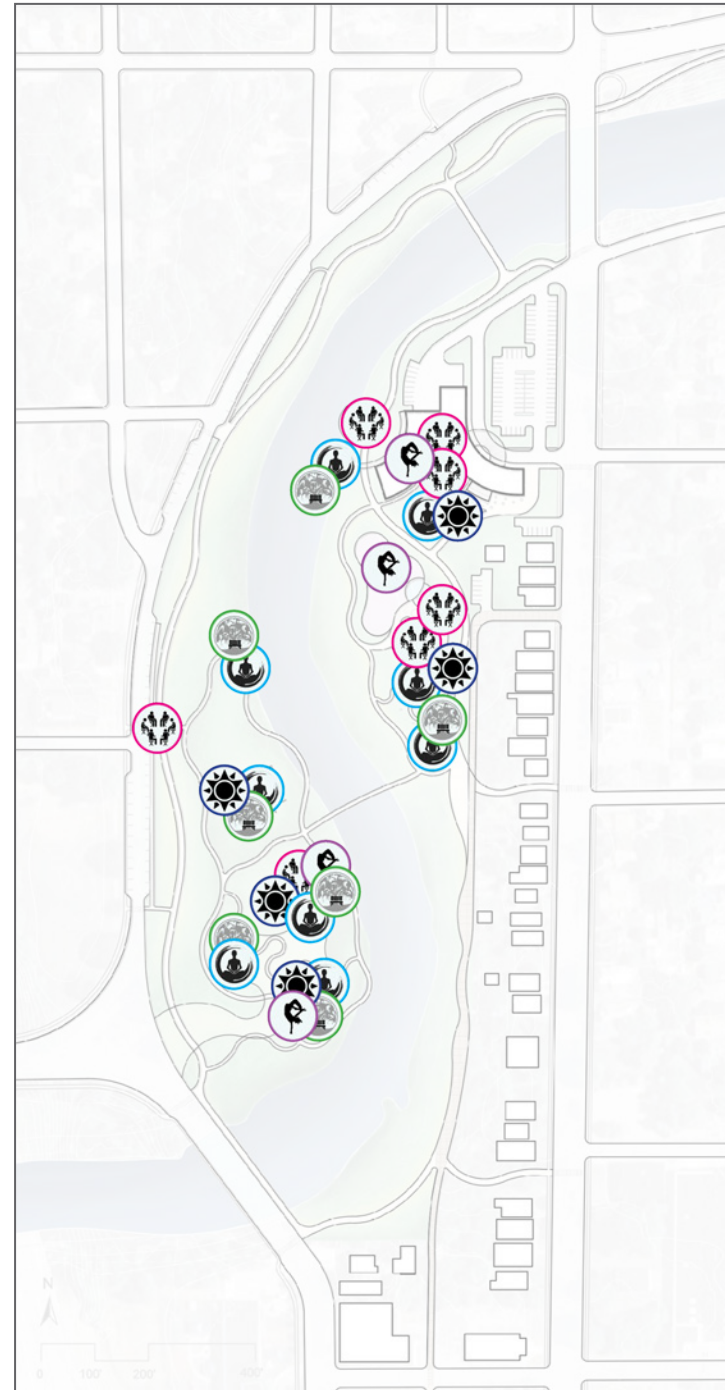
Universal Symbolism

Symbolism can often inspire and uplift a person, as well as encourage abstract thought. It is often used to shift our thoughts from ourselves to broader concepts, such as life's purpose. Looking at concepts beyond one's own existence can be beneficial to a person's mental and spiritual health.



Opportunities for Self-expression

Openness and respectful discussion about people's morals, beliefs, and religions can give us a greater understanding of people as a whole and, therefore, can evoke sympathy.



Anxiety Goal Diagram: Top Five Needs



Active Trails/Exercise Spaces

Physical activity and exercise can help decrease anxiety. Exercise trails that loop around can also lessen anxiety by creating more opportunities to read and better understand the site.



Meditation Spaces

Meditation and contemplation can help calm anxiety. A few elements that the idea mediation space may have include, a secure background that creates spacial definition, a space or platform that is slightly higher than the surrounding grade, and an open expanse with a focal point.



Horticulture Therapy

Horticulture therapy helps improve a person's cognitive ability, coordination, sociability, sense of independence, and self-esteem. This type of therapy is partially so effective because it is multi-sensory. Horticulture Therapy can also increase a persons sense of control, which can lessen anxiety.



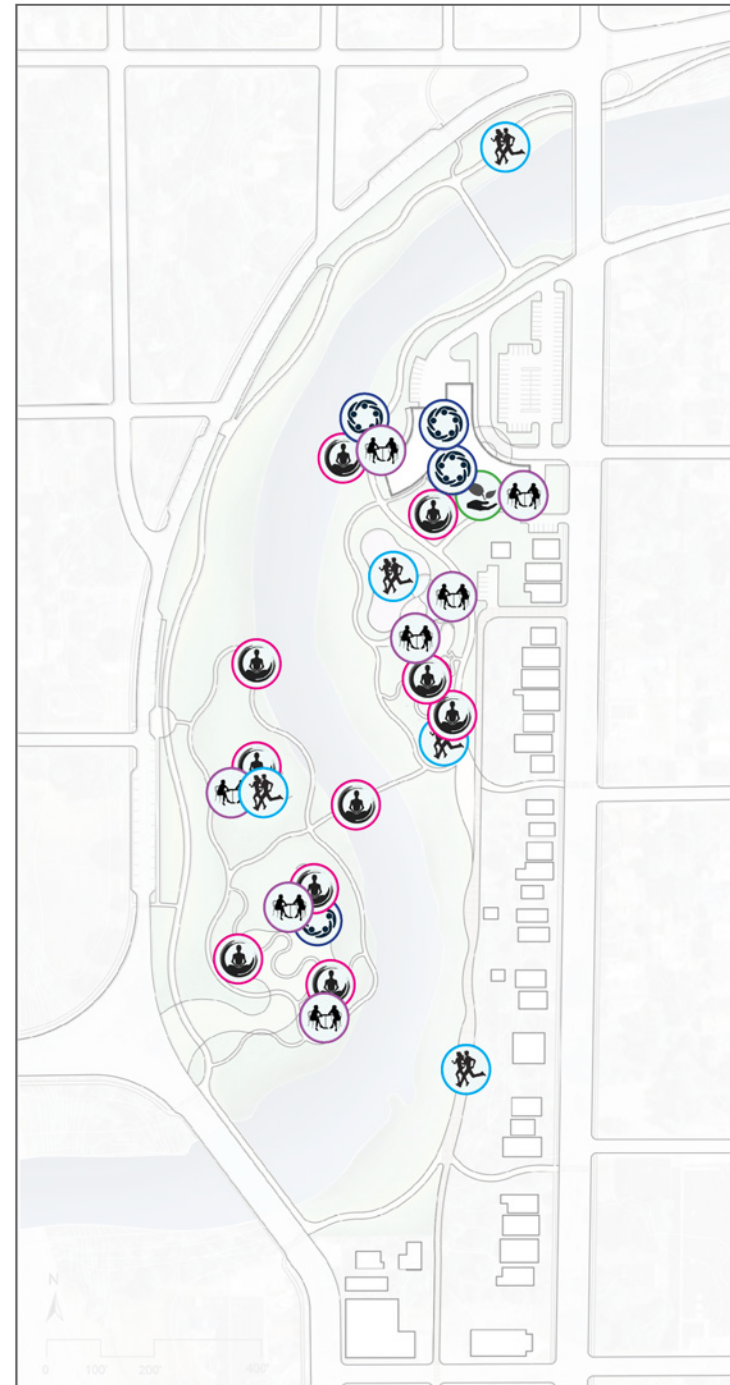
Community Interactive Opportunities

Anxiety can often come from a lack of social support or sense of belonging. Community interactive features, such as meeting rooms, amphitheaters, and greenhouses can help facilitate a sense of culture and generate a social network.



One-on-One Therapy/Small Group Spaces

Small, intimate seating spaces for one-on-one therapy sessions or small group meetings can encourage meaningful discussion that could lead to healing.



Loneliness Goal Diagram: Top Five Needs



Active Trails/Exercise Spaces

A few common characteristics of loneliness include a low self-esteem, stress, poor sleep and a decreased immune system. Exercise and physical activity can help with all of the above characteristics.



Meditation Spaces

Meditation and contemplation can help calm loneliness as well as anxiety. Meditation can boost confidence, self-esteem, and can better equip people to handle stress by putting things in perspective.



Nutrition Information/Opportunities

A healthy diet can help relieve some of the symptoms of loneliness, such as poor sleep, a poor immune system, and low self-esteem.



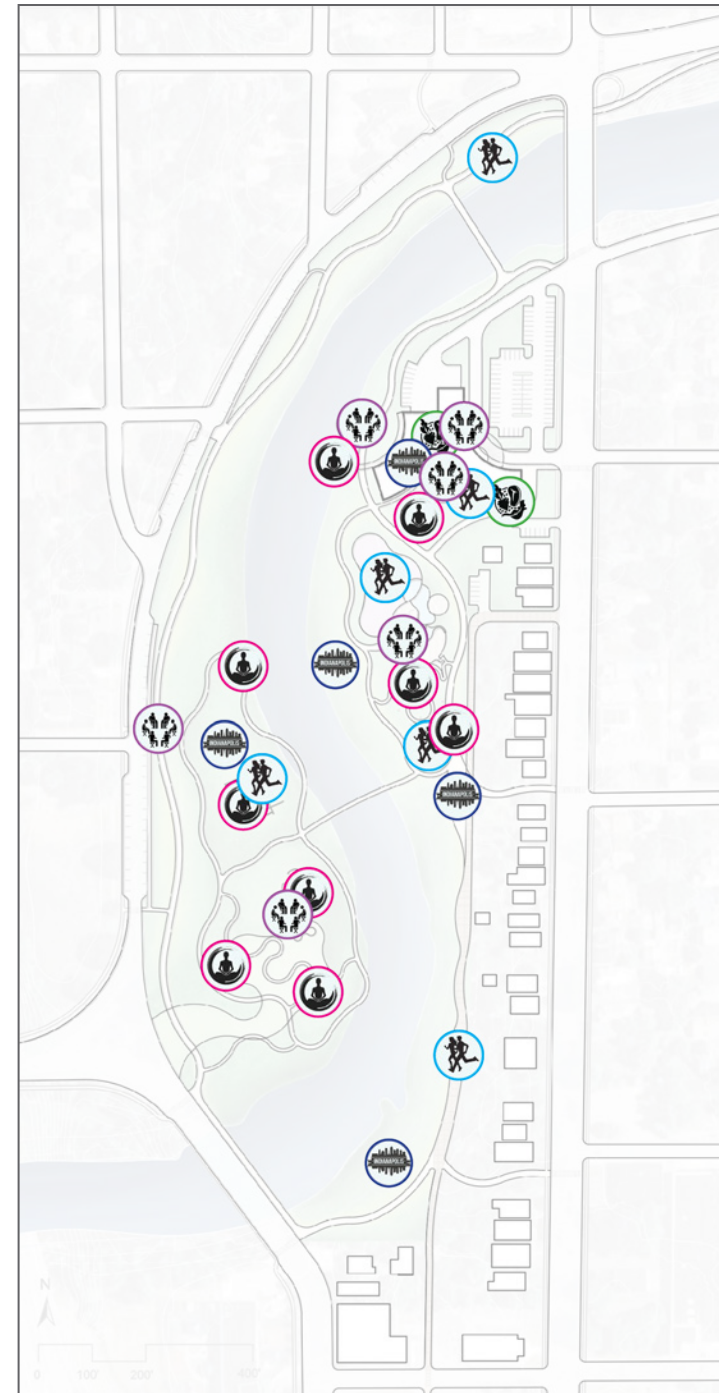
Storytelling Spaces

Storytelling spaces can help motivate people to learn and actively search for answers. Storytelling can also evoke a sense of unity, belonging, and community if the story pertains to something relatable. A few subtle storytelling elements include using native species, using symbolism that relates to a group or culture, and using historical elements to define a place.



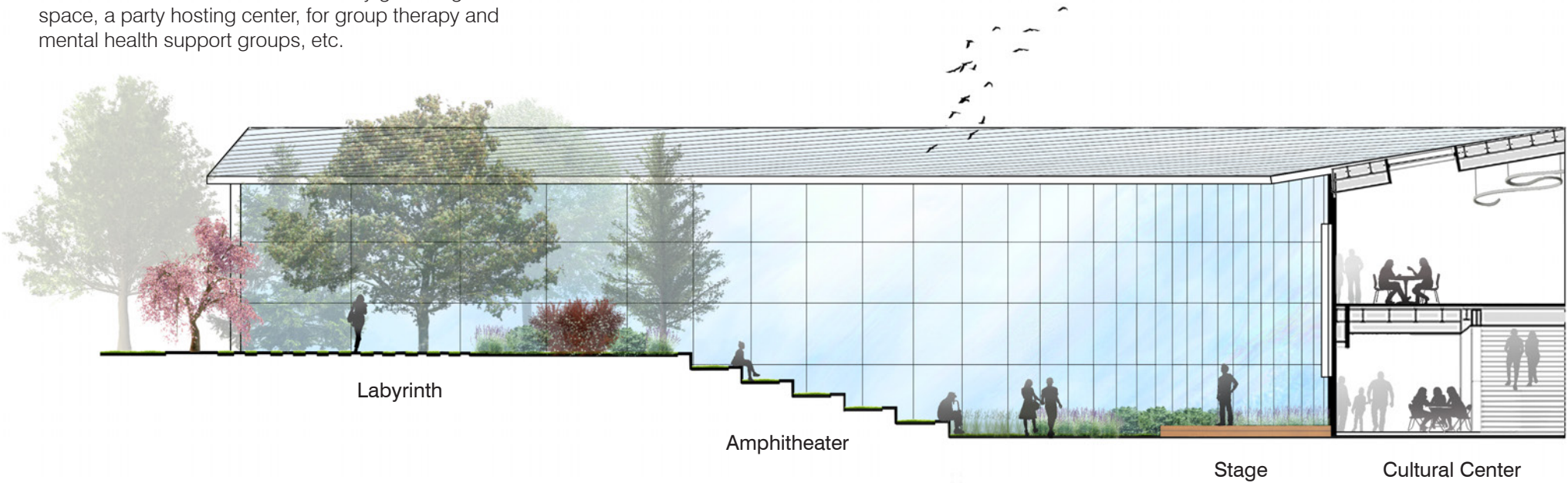
Group Gathering Spaces

Being in safe social settings can minimize loneliness. Therefore, providing multiple types and locations of group gathering spaces are needed to help heal loneliness. A few spaces that were incorporated into the site include the amphitheater, the Cultural Center, a large group niche at the contemplation wall, and the seating area along the river.



Vibrant Social Space: Cultural Center Section

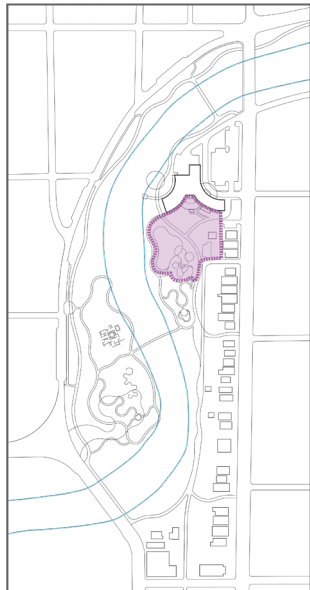
The Cultural Center is a vibrant social space that provides both indoor and outdoor activities. The center could be used as a community gathering space, a party hosting center, for group therapy and mental health support groups, etc.



Section Location



Planting Plan Location



1" = 10'
0 5' 10' 20'

Building and Fountain Area Conceptual Planting Plan

The planting plan surrounding the Cultural Center and Fountain area contains trees with dappled shade, low rising shrubs, and evergreens for winter interest. The bloom colors and foliage are brightly colored to reflect the energy and social atmosphere of the active area. A few plant examples include Woolly Thyme, to be planted with the labyrinth, Thornless Honey Locust, and Golden Dwarf Hinoki Cypress.



Woolly Thyme Thornless Honey Locust Golden Dwarf Hinoki Cypress



Horticulture Therapy

Horticulture Therapy has great therapeutic benefits and can be beneficial for those suffering from loneliness or anxiety. This type of therapy can increase cognition, coordination, physical movement, socialization, and create a sense of independence and control.



Amphitheater

Amphitheaters are great multi-use spaces that foster socialization and as well as entertainment. These spaces could host community meetings and events, movie nights, speakers and presenters, performers such as dancers and players, etc. While the amphitheater has no scheduled events, the space could be used for sitting, picnicking, or just relaxing.



Therapeutic Labyrinth

A therapeutic labyrinth is different from a maze because it has only one path to follow to the center and back. Labyrinths are not challenging or stressful and don't require direct attention. The purpose of the labyrinth is to encourage meditation as you allow the path to guide you. The back and forth movement of the labyrinth calms us down, similar to pacing or swaying side-to-side.

Building and Fountain Area Planting List Examples

Building and Fountain Area		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Common Name	Scientific Name												
Chinese Juniper	Juniperus chinensis 'Shimpaku'												
Golden Dwarf hinoki cypress	Chamaecyparis obtusa 'Nana Lutea'												
Woolly Thyme	Thymus pseudolanuginosus												
Thornless Honey locust	Gleditsia triacanthos f. inermis 'Skycole' SKYLINE												
Higan Cherry	Prunus subhirtella 'Autumnalis'												

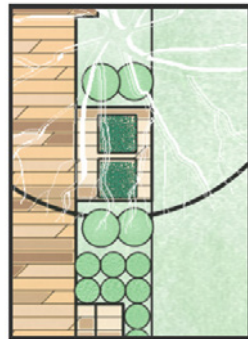
Arrival: Woonerf

A woonerf is a “living street” that acts as a shared space between pedestrians and vehicles. The alleyway that connects Barton Park, the residential area, and 21st street is a twelve foot alley that travels beside a steep decline into Fall Creek. In order to maintain vehicular access into the alleyway for both trash trucks and local traffic, I designed the woonerf to create a direct and secure pedestrian corridor that connects Methodist Hospital and other health-care facilities with the site.



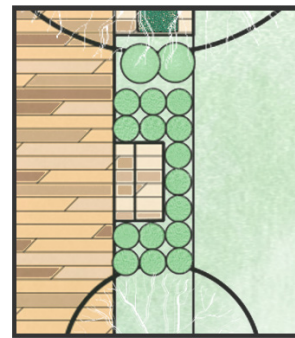
Planted Bollards

Bollards with grass plantings on top of them help maintain the corridors soft appearance while creating strong barriers between pedestrian only areas and open spaces.



Hidden Trash Can Locations

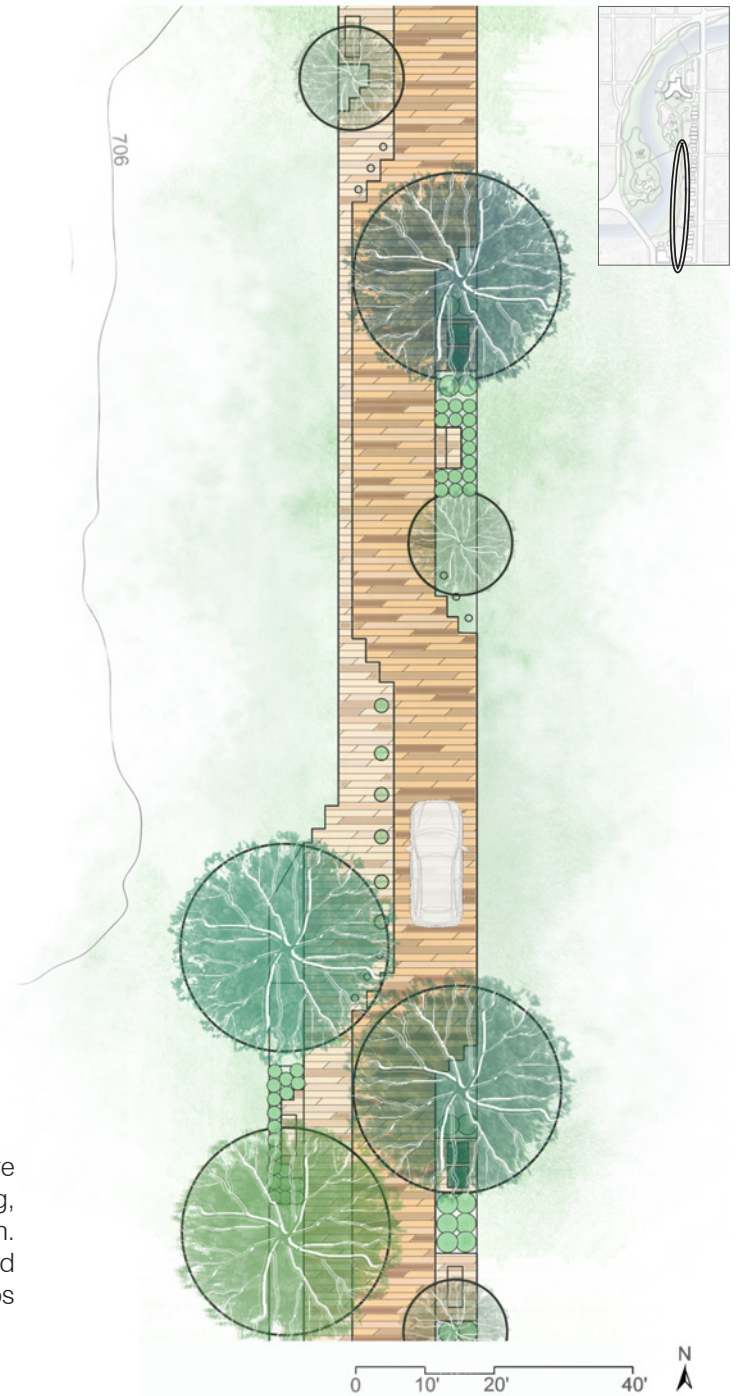
The Indianapolis trash pickup has a route along this alleyway. In order to maintain the woonerf’s healing atmosphere, the trash cans are hidden between evergreen shrubs and small brick walls.



Enclosed Seating Spaces

Along the woonerf, there are designated spaces for seating, both in the shade and sun. These spaces are surrounded by various species of shrubs and groundcover species.

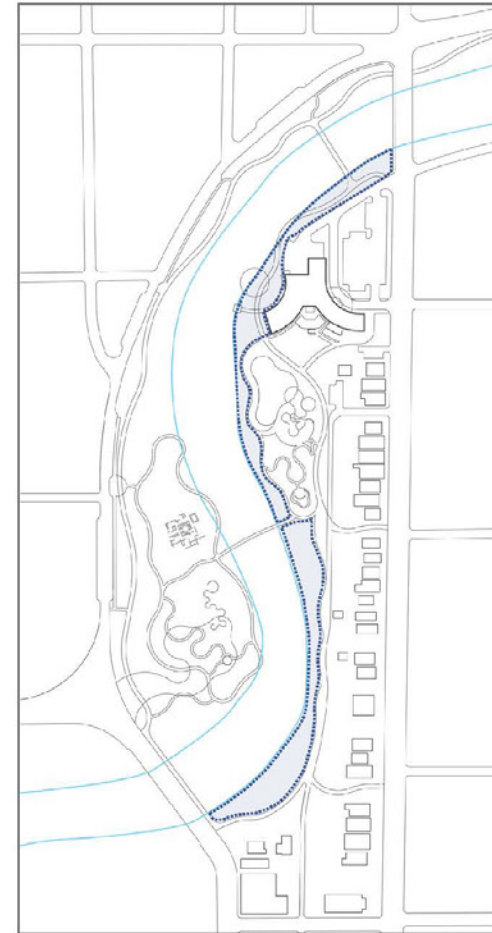
Woonerf Location



River Bank Conceptual Planting Plan

In order to open up views on the eastern side of Fall Creek, I proposed a conceptual planting plan for the bank of the river that includes native species with moist soil tolerances that prevent the bank from eroding.

River Bank Planting Location



River Bank Planting List

River Bank		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Common Name	Scientific Name												
River Birch	<i>Betula nigra</i> 'BNMTF' DURA-HEAT												
Swamp Magnolia	<i>Magnolia virginiana</i> var. <i>australis</i>												
Weeping Willow	<i>Salix babylonica</i>												
Cardinal Flower	<i>Lobelia cardinalis</i>												
Tussock sedge	<i>Carex stricta</i>												
Soft Rush	<i>Juncus effusus</i>												
Blue Flag	<i>Betula nigra</i> 'BNMTF' DURA-HEAT												
New York Ironweed	<i>Vernonia noveboracensis</i>												
Marsh milkweed	<i>Asclepias incarnata</i> 'Soul Mate'												

River Bank



River Birch



Swamp Magnolia



Weeping Willow



Cardinal Flower



Tussock Sedge



Soft Rush



Blue Flag



New York Ironweed

Fountain and Playground Area

The fountain and playground area is located just south of the Cultural Center. This space provides multiple forms of seating surrounding a centralized water feature that provides the space with white noise. The fountain location was determined from a topographic map of the site and its proximity to the Cultural Center.

The playground contains two separate spaces. One with playground equipment for upper elementary school children, and the other with equipment for lower elementary school children.

The shape of the fountain itself creates small niches that provides feelings of enclosure and intimacy with the water.

Fountain and Playground Area Site Features



Community Needs

This area fulfills community needs by providing a playground for upper elementary school children, group gathering spaces, and eating spaces. All of these features were limited in the parks nearby.



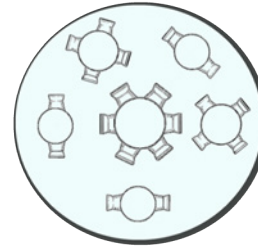
White Noise

In order to offset the noise from the playground and maintain a healing atmosphere, the fountain feature on this site gives off white noise.



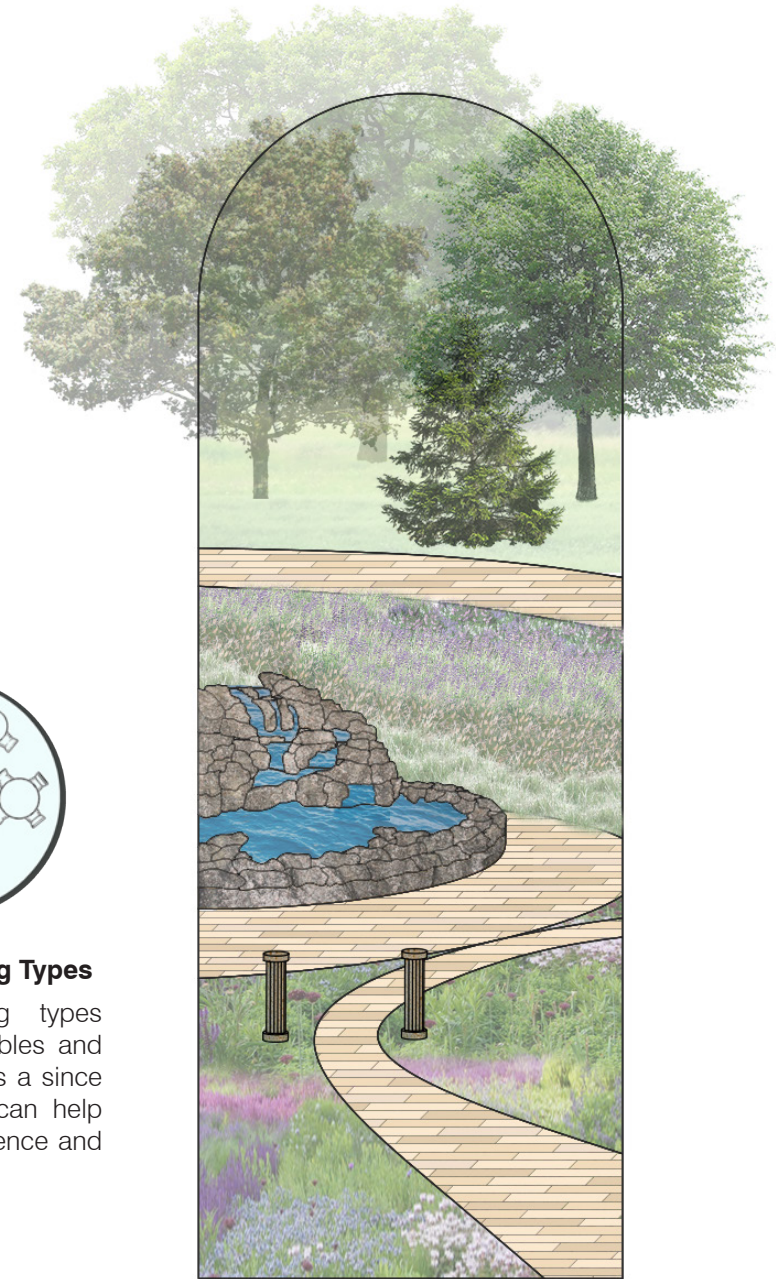
Landmark

The waterfall fountain acts as a landmark for the sight, and can easily be seen from the Cultural Center and the Column Garden. There are even views of the fountain from across Fall Creek. Landmarks help greatly with site legibility.



Multiple Seating Types

Multiple seating types and movable tables and chairs give users a sense of control that can help build self-confidence and lessen anxiety.



Fountain and Playground Zoom In

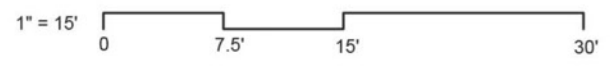
Zoom In Location



Fountain and Playground Section

The section below shows the grade change of the site. The eating spaces and exercise trail are separated by vegetation. Although the vegetation does not block all views, the trees and low rising shrubs provide spatial definition and enclosure.





Section Location



Column Garden Perspective

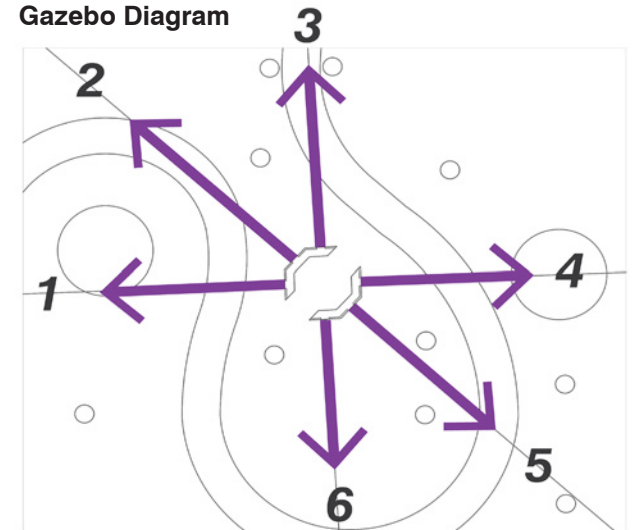
As you move south from the Cultural Center and Fountain Area, you enter the Column Garden. The perspective to the right is oriented from the point of view of the exercise trail, looking down into the large expanse of the garden. This broad, accessible view-point allows the viewer to read the garden clearly. Fall Creek is also easily viewed from this point of view, and helps serve to decrease anxiety.

The Column Garden is an open sunny garden with column structures that contrast the low-rising shrubbery and groundcover species. The columns located within the garden create a clear sense of location and orientation. The columns collectively act as landmarks to improve site legibility. They also improve site coherence by clearly indicating the difference in regions between the river bank, the column garden, and the fountain area. The appearance of human-made features, such as the columns in this garden, subconsciously ease tension and anxiety.

Garden Location



Gazebo Diagram

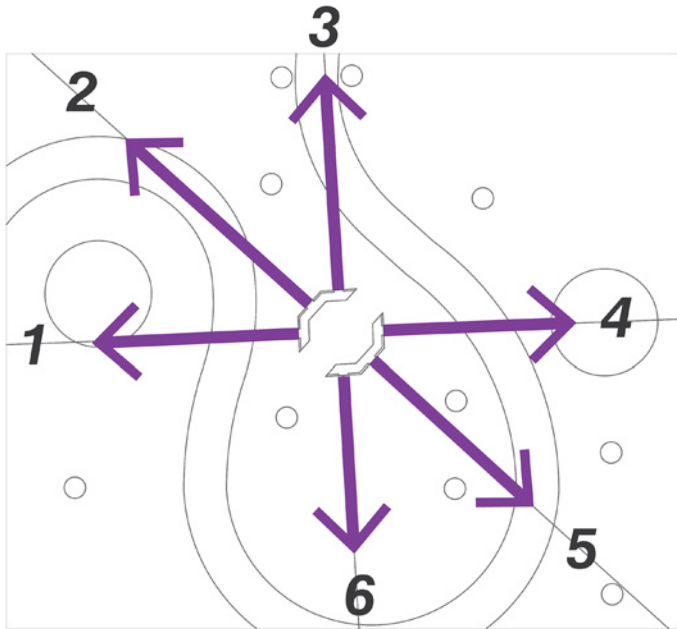


The diagram to the right shows a plan view of the gazebo location within the column garden. The six windows of the gazebo frame important views of the site.



Column Garden: Framed Perspectives From Gazebo

Within the column garden is a gazebo that frames view toward past and future locations within the site. Each framed view evokes a sense of mystery and is meant to encourage further exploration of the site. Some framed views, such as the views of the columns and of the ornamental tree, act as focal points for meditation. Two of the view points direct eyes toward the entrance and exit of the garden, which are also framed by two shorter columns. These columns act as gateways into the garden and help with site legibility and mystery.



Framed Perspectives From Gazebo Plan View



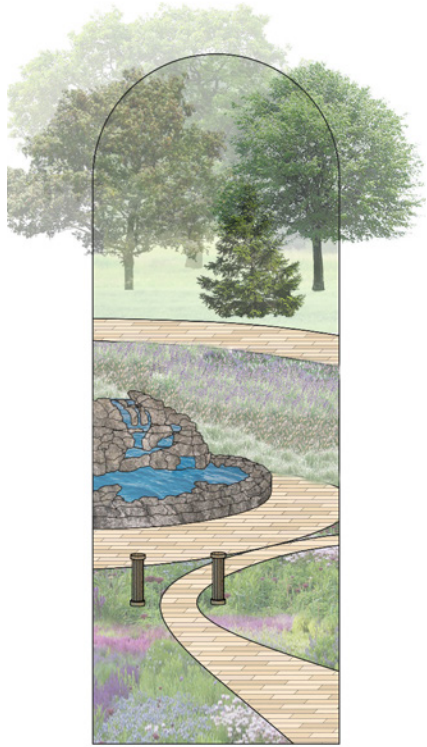
Gazebo Location



1. Looking Toward Evergreen Tree, River, and Column Garden Exit Framed with Two Columns



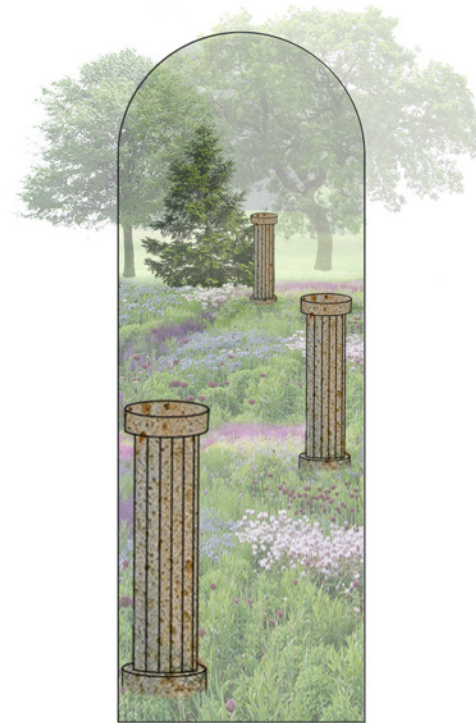
2. Looking Toward Looped Playground Path to the Cultural Center



3. Looking Toward Waterfall Fountain Area and Column Garden Entrance



4. Looking Toward Higan Cherry and the Exercise Trail Above



5. Looking Toward Three Columns Framing the Low Rising Shrubby



6. Looking Toward the Small Spherical Fountain and Seating Area, Surrounded by the Reflexology Path

Column Garden Conceptual Planting Plan

Each column in the garden is made of a sandy colored stone that contrasts with the dark green of the Japanese Holly trees; thin, vertical trees that also contrast in height with the low-rising shrubs. A few exemptions to this rule of contrast include the Higan Cherry tree and the Thornless Honey Locust that provides dappled shade.

Column Garden Plant List

Column Gardens													
Common Name	Scientific Name	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Walker's Low Catmint	<i>Nepeta racemosa</i> 'Walker's Low'												
Stonecrop	<i>Hylotelephium</i> 'Herbstfreude' AUTUMN JOY												
Coral Bells	<i>Heuchera micrantha</i> var. <i>diversifolia</i> 'Palace Purple'												
Geranium	<i>Geranium</i> 'Johnson's Blue'												
Chinese Juniper	<i>Juniperus chinensis</i> 'Shimpaku'												
Ladybells	<i>Adenophora</i> 'Amethyst'												
Golden Dwarf hinoki cypress	<i>Chamaecyparis obtusa</i> 'Nana Lutea'												
Higan Cherry	<i>Prunus subhirtella</i> 'Autumnalis'												
Japanese Holly	<i>Ilex crenata</i> 'Sky Pencil'												
Thornless Honey locust	<i>Gleditsia triacanthos</i> f. <i>inermis</i> 'Skycole' SKYLINE												
Blue Shag Eastern White Pine	<i>Pinus strobus</i> 'Blue Shag'												
Peony	<i>Paeonia lactiflora</i> 'Sarah Bernhardt'												
Koreanspice Viburnum	<i>Viburnum carlesii</i> 'Compactum'												
Oriental fountain grass	<i>Pennisetum orientale</i> 'Karley Rose'												

Column Garden Location Map



Column Garden Plant Examples



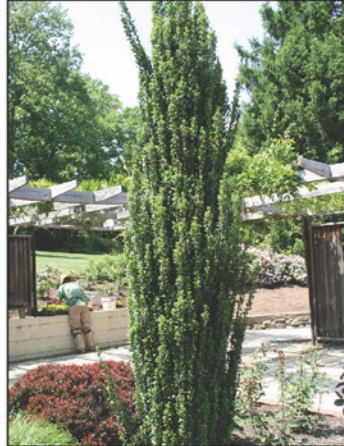
Walker's Low Catmint



Autumn Joy Stonecrop



Palace Purple Coral Bells



Sky Pencil Japanese Holly



Golden Dwarf Hinoki Cypress



Sarah Bernhardt Peony



Blue Shag Eastern White Pine



Autumnalis Higan Cherry

Open Woodland Conceptual Planting Plan

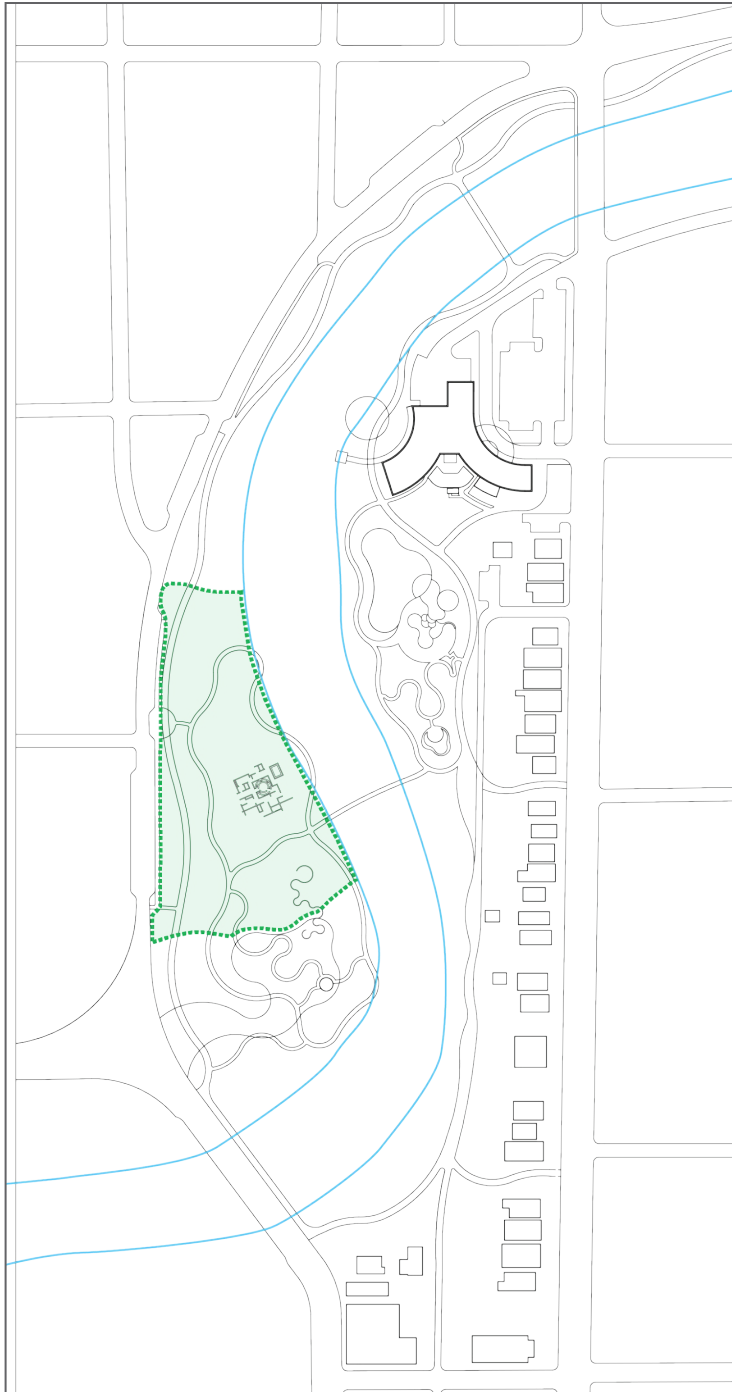
To maintain feelings of safety throughout the site, the open woodland is meant to hold scattered, separated trees that are dense enough to provide a sense of immersion, but open enough to not feel like a dense woodland. The color scheme for the open woodland are mainly calming, cooler colors, such as green, blue and white. Although there are a few exceptions, the space is intended to evoke a sense of mystery and exploration, and therefore, contains a groundcover of mostly ferns and hostas.

There are a few specific locations within the open woodland where views are blocked to create a sense of discovery. Redbuds, Flowering Dogwoods, and American Hophornbeam are used in these locations to both block views and create quiet fascination.

Open Woodland Plant List

Open Woodland		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Common Name	Scientific Name												
Tulip Tree	Liriodendron tulipifera												
River Birch	Betula nigra 'BNMTF' DURA-HEAT												
Autumn Blaze Freedom Maple	Acer x freemanii 'Jeffersred' AUTUMN BLAZE												
Swamp White Oak	Quercus bicolor												
American Hophornbeam	Carpinus caroliniana												
Flowering Dogwood	Cornus florida 'Appalachian Spring'												
Eastern Redbud	Cercis canadensis 'Hearts of Gold'												
Lady Fern	Athyrium filix-femina												
Hosta	Hosta plantaginea var. japonica												
Hosta	Hosta 'Blue Mammoth'												
Wid sweet william Phlox	Phlox divaricata subsp. laphamii												
Foam Flower	Tiarella 'Spring Symphony'												
Canadian Hemlock	Tsuga caroliniana												
Japanese Painted Fern	Athyrium niponicum var. pictum 'Silver Falls'												
Emerald spreader Japanese Yew	Taxus cuspidata 'Monloo' EMERALD SPREADER												

Open Woodland Location



Open Woodland: Canopy



Tulip Tree



River Birch

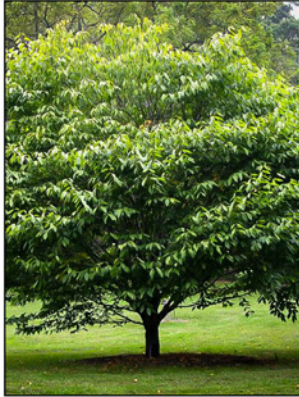


Eastern White Pine



Swamp White Oak

Open Woodland: Understory



American Hophornbeam



Eastern Redbud



Flowering Dogwood

Open Woodland: Ground-plain



Lady Fern



Wild Sweet William Phlox



Blue Mammoth Hosta



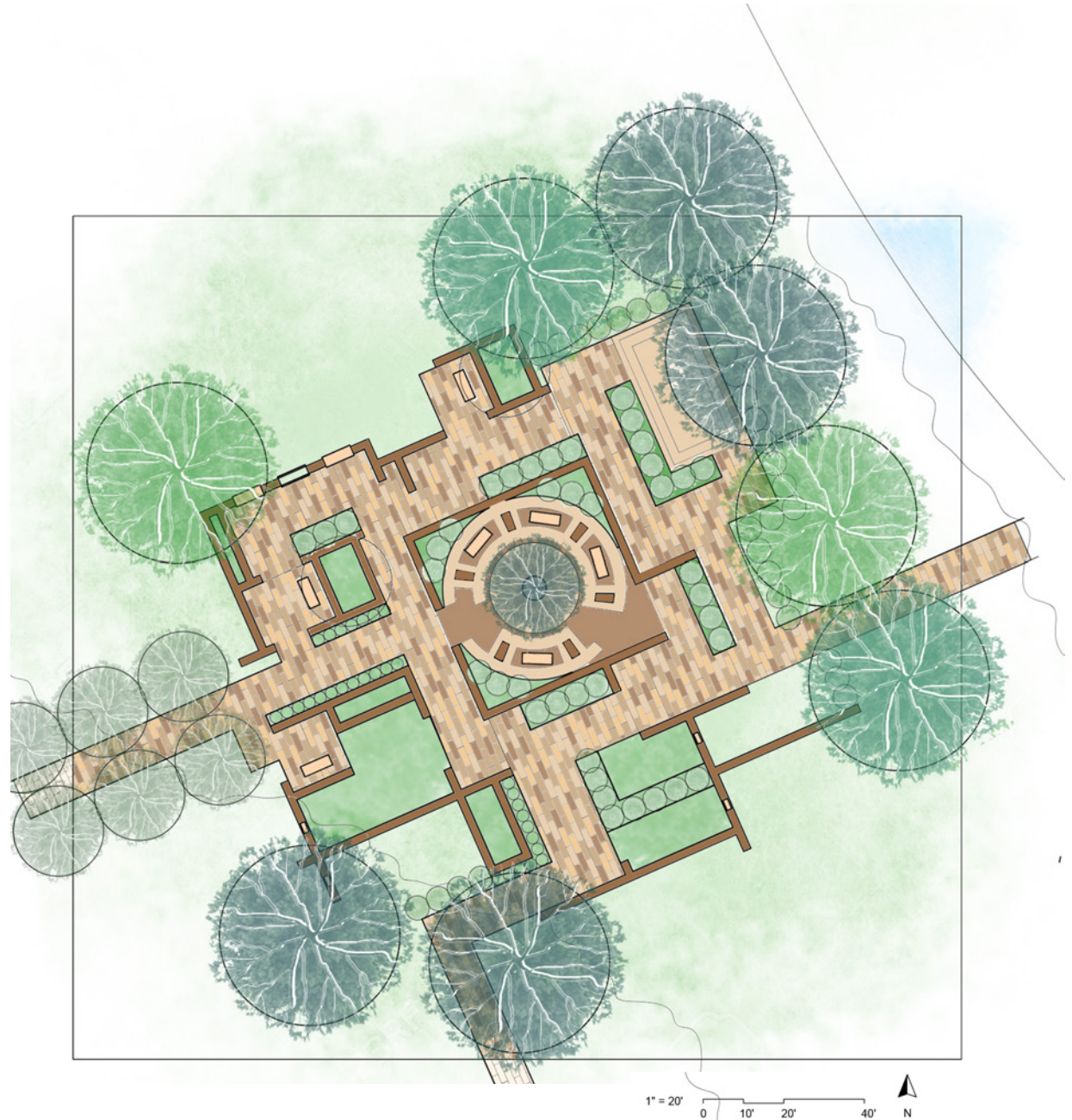
Japanese Painted Fern

English Arch Garden

The English Arch Garden is a discovery location within the open woodland planting region. This garden contains stone walls that create planting beds, intimate rooms, and archways with small swings beneath them. The image to the immediate right is an illustration of the garden in plan view. A six foot pathway is clearly indicated by smooth stone paving and leads visitors through the garden with safe distances between the swinging ranges.

At the center of the garden, an showy ornamental tree is surrounded by two-person porch swings hanging from archways. This area is enclosed with planting beds and outside stone walls that create intimate rooms. Each room and swing has its own focal point of shrubbery, trees, or Fall Creek. A few rows of boxwoods take the place of some of the stone walls by creating their own softer, natural wall. The image to the far right shows the open woodland framed between a stone archway with a small swing beneath it.

Garden Location





Pine Grove, Meadow, and Open Woodland Section



Developing Clear Plant Regions

The section above shows three distinct planting regions; the open woodland, pine grove, and meadow. Developing clear plant regions helps create clear site cohesion. Below are the planting lists for the meadow region and the pine grove region. Eastern White Pines are used to maintain somewhat open views while providing a soft planting fabric unlike any other planting region on site.

The meadow region contains prairie plants that are native to the Midwestern region. These plants create subtle waves along an open, sunny expanse and greatly increase the biodiversity of the site.

Smooth pathways flow through each planting region, leading you through the Renewal Trail toward the Spiritual Trail within the meadow region.

Section Location Planting Lists: Meadow and Pine Grove

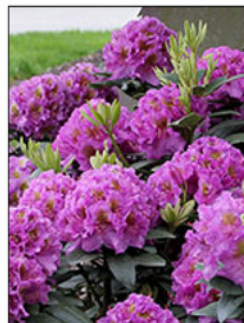


Meadow		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Common Name	Scientific Name												
Purple Coneflower	Echinacea purpurea												
Blue Oat Grass	Helictotrichon sempervirens												
Blue Sage	Salvia azurea var. grandiflora												
Little Bluestem	Schizachyrium scoparium 'Minnblue' BLUE HEAVEN												
Prairie Blazing Star	Liatris pycnostachya												
Wild Quinine	Parthenium integrifolium												
Switch grass	Panicum virgatum 'Rotstrahlbusch'												
Prairie Dropseed	Sporobolus heterolepis												
New Jersey Tea	Ceanothus americanus												
Evergreen Woods													
Common Name	Scientific Name												
Eastern White Pine	Pinus strobus												
Rhododendron	Rhododendron 'Purple Pride'												

Pine Grove



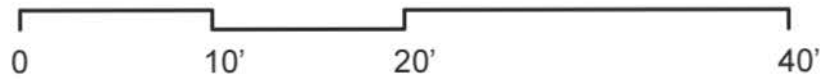
Eastern White Pine



Purple Pride Rhododendron



1" = 20'



Meadow



Purple Coneflower



Blue Oat Grass



New Jersey Tea



Little Bluestem



Blue Sage



Prairie Blazing Star



Switch grass



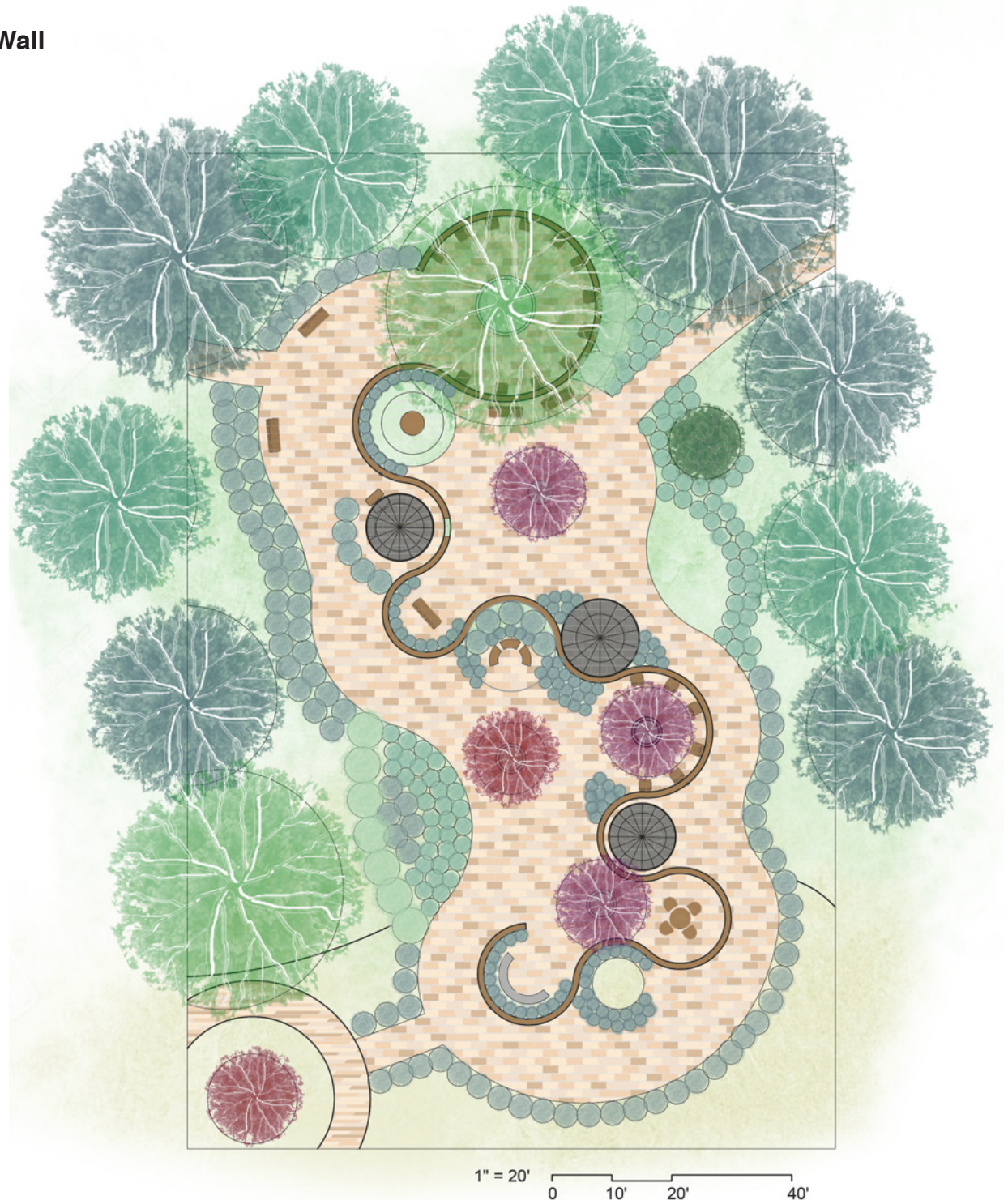
Wild Quinine

Spiritual and Mental Healing: Contemplation Wall

As you walk along the spiritual trail within the meadow planting region, there is a small pathway to the left that leads toward a long, serpentine brick wall. This contemplation wall creates intimate niches of various sizes to be used for meditation, prayer, contemplation, one-on-one therapy, etc. The wall increases in height near the center of its curve to provide a taller back-frame for the people using the niche.

The contemplation wall was intentionally located in one of the deepest areas of the garden. Each niche has focal point and is unique in its seating structure, material usage, and planting plan. The perspectives to the far right of the page indicate this variation and show that no two niches are the same.

Contemplation Wall Location



Contemplation Wall Perspectives



This niche contains a table with four chairs, which could easily be used for one-on-one therapy or small group prayer time.



This niche focuses on smell as its sensory element. It contains a curved stone bench and is surrounded by lavender shrubs.



The niche contains a three person bench surrounded by evergreen shrubs.



This niche is unique because it is the only one that contains a small window that faces toward Mecca (the east). The Islamic visitors of the park could use this space to pray. Another qualification for the prayer space of Islamic visitors is a clean self and environment. In order to maintain cleanliness, an overhead structure was designed to provide shelter. A wooden platform is also included in this niche to make sure the area is clean and to provide a softer, more flexible platform to kneel on. A water faucet is also located in the wall to the right, so that they can clean their hands and feet if needed. Evergreen shrubs provide some privacy to the space, as well as the curve of the wall.



This particular niche contains a small wooden platform surrounded by thyme that can be walked on, which is also surrounded by a small reflexology path. This niche emphasizes touch as its sensory element.



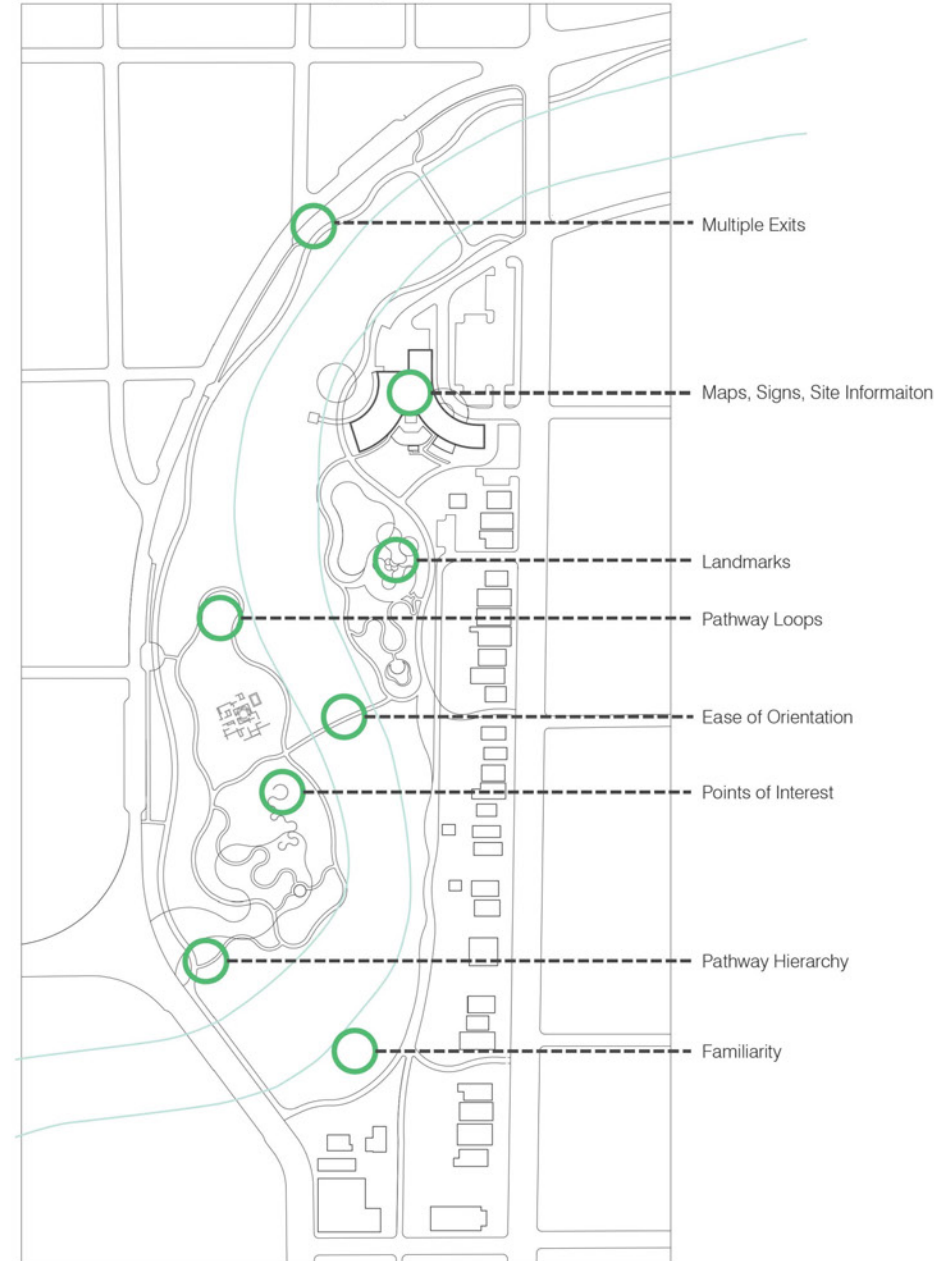
This niche contains a large wooden platform, surrounded by ornamental grasses. The platform was intentionally designed with wood due to its flexibility and how it is the ideal material for yoga routines.

Elements of a Restorative Setting Diagrams

Elements of a Restorative Setting: Mystery

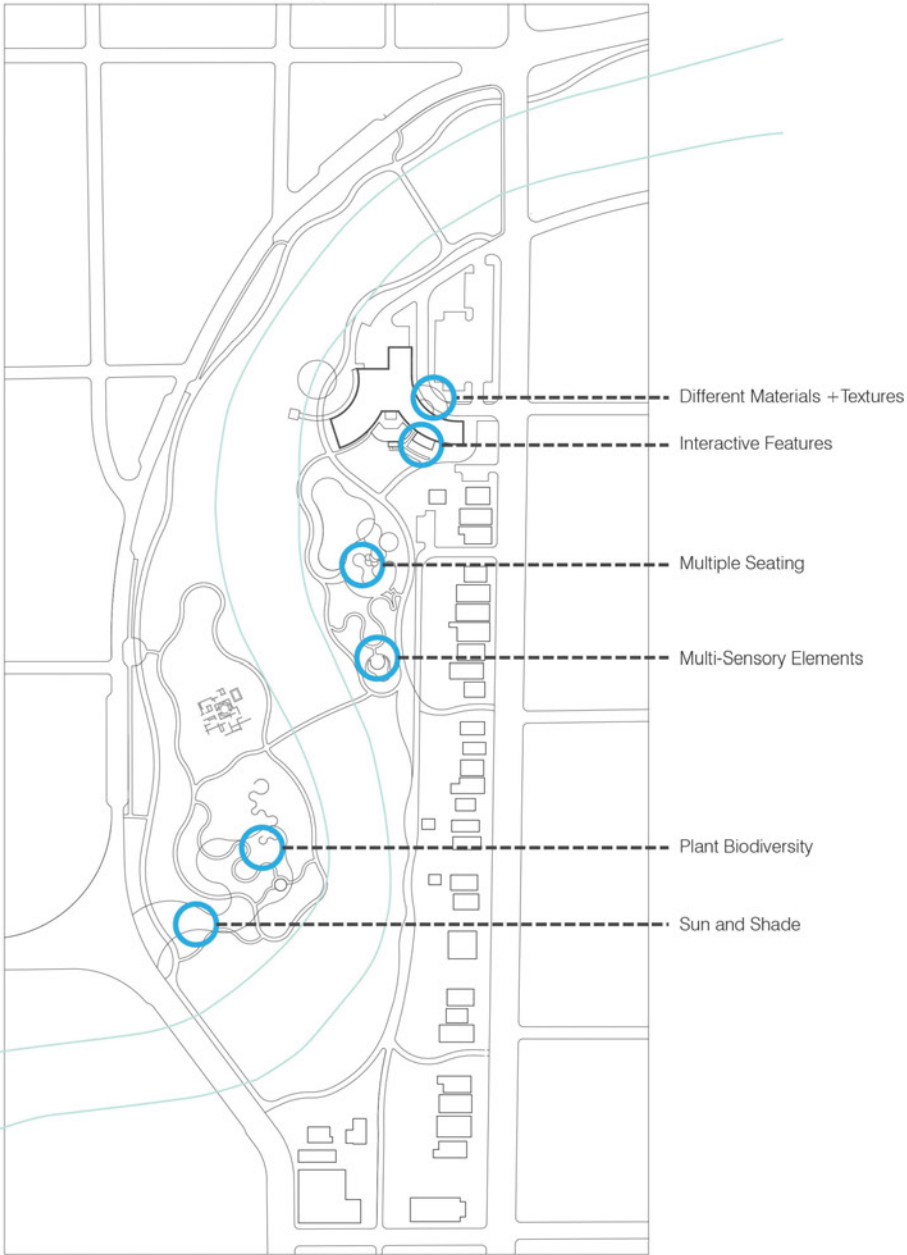


Elements of a Restorative Setting: Legibility

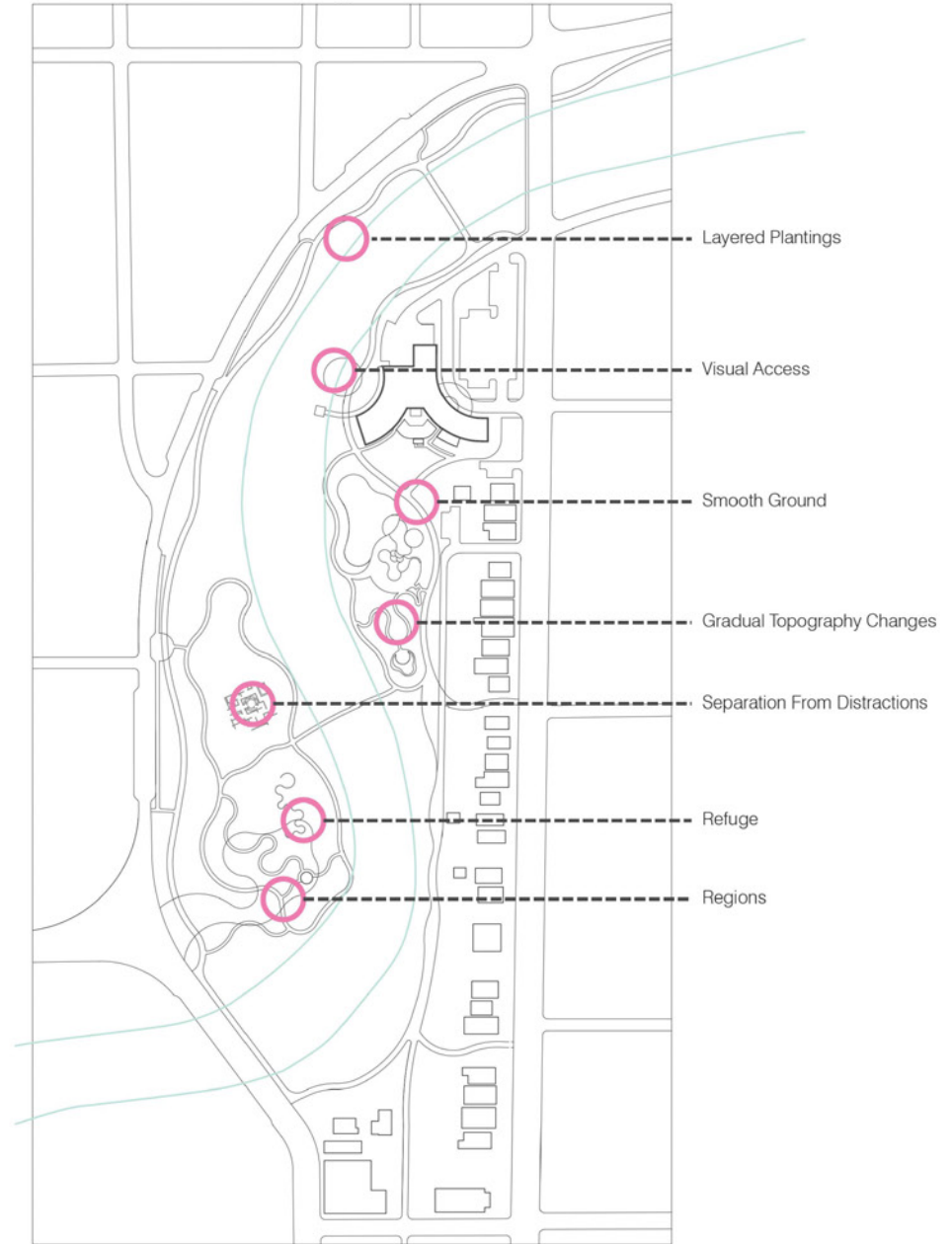


The book *With People in Mind*, describes the elements of a restorative setting as, mystery, legibility, complexity, and coherence. In order to ensure that the final design adhered to these principals, I took the characteristics of each category and made use of them in the final design and mapped the frequency of their use with the diagrams above.

Elements of a Restorative Setting: Complexity



Elements of a Restorative Setting: Coherence



Closing Remarks

In order for a landscape to be beneficial to an urban environment, the people using it, and conducive to healing, an in-depth inventory and analysis must be made of the local community in order to determine the community's needs. Indianapolis, like many other urban centers, struggles with defining neighborhood identity and culture, providing calm, intimate spaces to escape to, and creating environments that address anxiety and loneliness before they severely impact mental health.

Creating and up-keeping healing landscapes can help prevent and treat common mental stresses and equip people with a mental resiliency toward negative mental ailments. Healing landscapes are needed not only within urban environments, but in every populated area because everyone experiences anxiety and loneliness, and everyone can benefit from the healing powers of nature.

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