

Tubac Nature Preserve

Conceptual Master Plan Recommendations Report – Phase 1 area



Tubac, Arizona
June 2023

Acknowledgements



Rivers, Trails, and Conservation Assistance

Through a request from the Tubac Nature Center, the National Park Service provided support and planning assistance to project partners. The National Park Service - Rivers, Trails and Conservation Assistance Program assists

communities in developing or restoring parks, conservation areas, rivers, and wildlife habitats, as well as creating outdoor recreation opportunities and programs that engage future generations in the outdoors.

Developing a conceptual master plan for the nature preserve involved collaboration between many people over the course of several months. This publication would not be possible without the dedication of a group of citizen volunteers representing partner organizations, a team of students and faculty from The University of Arizona, School of Landscape Architecture, guidance from the National Park Service – Rivers, Trails, and Conservation Assistance program, and participation by the community.

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Tubac Nature Center
Tubac Nature Center
Santa Cruz Valley Heritage Alliance/Tubac Presidio State Historic Park
Barrio de Tubac Neighborhood
Friends of the Santa Cruz River
Anza Trail Coalition / Tubac Community Garden
Tucson Audubon Society
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HawkWatch International
Santa Cruz Valley Citizen's Council

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Introduction

Tubac, Arizona is considered one of the state's premier destinations, known for its significant cultural history and local art. With beautiful views and connections to the Tumacácori Mountains, Santa Rita Mountains, and the Santa Cruz River corridor, local residents want this small town known for one more thing - nature.

The Tubac Nature Preserve is a 160+ acre parcel of land bordering the Santa Cruz River and made up of a lowland riparian forest, semi-desert grassland and wetland. As of June 2023, the property is under private ownership; however, the land is anticipated to be donated to the Tubac Nature Center for use as a nature preserve. The Santa Cruz River and Juan Bautista de Anza National Historic Trail (the Anza Trail) run north-south through the property. At this time, a portion of the land is used to pasture cattle, but other portions of the site have designated trails that have long ago been created for the public to use freely.

The main body of this report focuses on the planning process and preliminary conclusions for an approximately 36-acre area (Phase 1) in the northwestern portion of the larger site. Phase 1 is highlighted in blue in Figure 1. The remaining 124 acres are mainly comprised of riparian forest, which is discussed in detail in the Tubac Nature Preserve Restoration Management Framework (attached at the end of this report).

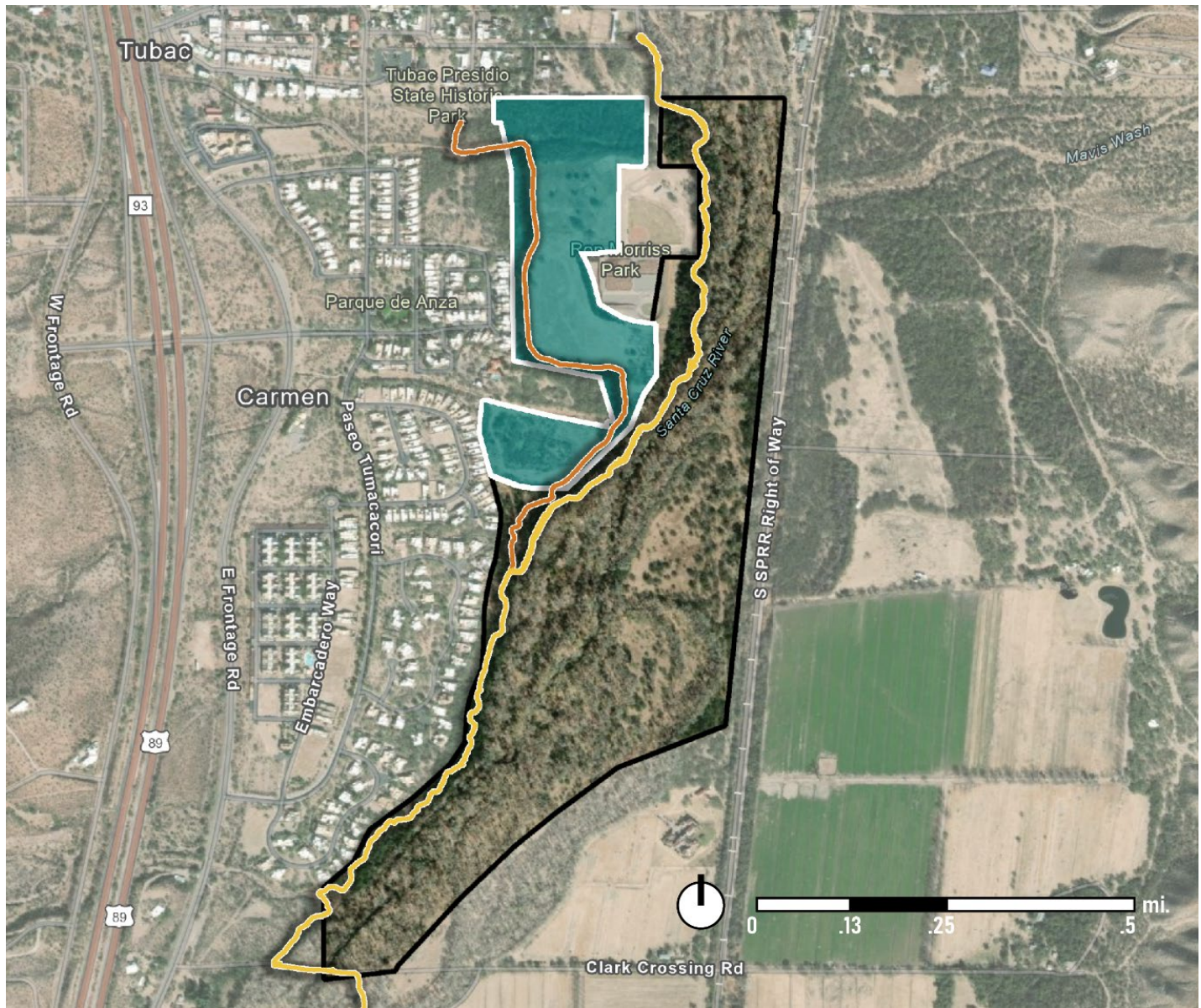


Figure 1 - Site Plan and Phase 1 Area with Anza Trail (yellow) and spur trail (orange) highlighted.

Background

In April 2020 Jim Karp, President of the Tubac Nature Center, sent an email to Gary Brasher, the managing partner of Baca Float Land Development, asking him to consider donating the land around the borrow pit wetland to the Tubac Nature Center (TNC). Though the wetland had once been a vibrant area full of birds and other wildlife, it had become overgrown, dominated by invasive species of plants, and a poor remnant of its former self. The email led to several meetings and further discussion. In January 2022, Brasher indicated that his company owned 167 acres of land including the wetland. He said that only 7 acres in the southwest corner of the parcel had significant value to the business. Karp suggested that the remaining 160 acres be donated to the TNC to create a nature preserve to benefit the greater Tubac community. Brasher took to the idea immediately, indicating that it had always been the intent of Baca Float Land Development to protect the land in some fashion.

Though much of it is in a deteriorated natural condition, the 160-acre parcel contains a rich diversity of natural habitat. In addition to the wetland, the land includes a perennial section of the Santa Cruz River, a cottonwood/willow gallery forest on each side of the river, remnant sections of mesquite bosque, and some open fields. Though the need for habitat restoration in each of the various habitats is clear, the opportunity for a robust nature preserve is equally obvious.

TNC was fortunate to be selected to receive the services of Laura Bolyard of the National Park Service – Rivers, Trails, and Conservation Assistance Program (NPS-RTCA) to guide the process to develop a concept plan for the proposed nature preserve. Representatives from a group of 10 relevant organizations were assembled to form a committee to carry out the design of the concept plan for the preserve. The group began meeting in September 2022. When the basic plan was completed by the committee, it was presented for review by the public at a meeting of the Santa Cruz Valley Citizens Council on February 13, 2023. Though the plan received broad support, it also received some criticism from members of the nearby neighborhood. On March 30, 2023, a community workshop was organized by Bolyard to address the issues raised at the Citizens Council meeting. The workshop proved to be a big success. Forty-five members of the community assembled, discussed the issues, and the end result was that most of the issues were resolved to the satisfaction of the attendees. Since the workshop, a small group, including Brasher, Karp, and representatives of the neighborhood, have been meeting to hammer out the final details leading to the conveyance of the 160-acre parcel to TNC for development of the Tubac Nature Preserve.

Vision Statement

The Tubac Nature Preserve will be a restored, healthy ecosystem and community treasure, offering stimulating activities and a peaceful environment. This destination will connect art, history, and nature through education and recreation.

Mission Statement

Create and sustain a treasured Nature Preserve with restored ecosystems and public access for the education, inspiration and enjoyment of those who visit.

Goals

Goal 1: Restore the ecosystem.

Goal 2: Create a multi-purpose nature preserve that offers educational experiences for everyone.

Goal 3: Improve access to and within the site to allow for ease of access, safety, inspiration, and enjoyment by all.

Goal 4: Make the preserve a financially sound project.

Goal 5: Have effective involvement and collaboration with all stakeholders.

1.0 Site and Context

1.1 Site Description

The Phase 1 site, located in the northwest portion of the full property, has not been surveyed, but has been observed physically and through maps:

- Located approximately at 31°36'33.56"N and 111° 2'37.99"W,
- Approximately 14 acres of open meadow which includes invasive species,
- Approximately 7 acres at the south associated around a borrow pit wetland that resulted from the development of the nearby neighborhoods,
- Existing trails throughout the site with vegetated edges/buffers from adjacent properties and transitioning to the Santa Cruz River.

1.2 Site Context

The 36-acre Phase 1 area is centrally located in Tubac, Arizona with important connections to adjacent properties:

- Primary access through Ron Morriss County Park from Calle Iglesia,
- Service access at Avenida Urrutia through the site to the water treatment facility to the east,
- Trail access from Tubac Presidio State Historic Park toward the northwest that connects through the site to the Santa Cruz River and the Anza Trail to the east of the site,
- Borders the neighborhoods of Cielito Lindo and Trailhead to the west,
- Narrows around the historic Valle Verde Ranch property to the southwest to include the borrow pit wetland,
- Less than 1-mile from the I-19 Frontage Road.

For purposes of this report, "borrow pit", "borrow pit wetland" and, when referring to the specific place, "wetland" all refer to the same area in Phase 1.

1.3 Precedent and Background Research

1.3.1 Public Space

- Public space is an area that is open and accessible to the public at large, including people of all genders, races, ethnicities, ages, and socio-economic levels (UNESCO, 2023).
- Public spaces can bring multiple benefits. Not only can they bring people together and foster social relationships, but they also contribute towards a stronger economy and a sustainable society.
- To create inclusive public spaces for all, there must be a shift in the balance of private versus publicly owned places to establish an effective design framework.

1.3.2 Accessibility and Mobility (See Appendix I for more)

Four key characteristics for planning public spaces for older adults (Sarkissian & Stenberg 2013):

- Potential decrease in physical mobility, changes in muscular efficiency and coordination,
- Possible sensory and perceptual changes,
- Potential loss in comprehension and orientation, including: memory loss, forgetfulness, disorientation, and incoherence; and
- Possible reduction in social contacts, caused by retirement, loss of health, death of intimate friends, etc.

Commonly desired interventions in public open spaces include:

- Shaded seating areas, accessible washrooms and pathways, and exercise equipment (Goodchild 2021),
- Better accessibility for all, public events, level pedestrian crossings, sidewalks in good condition, and more benches and game tables (Foyatier 2021),
- Non-slip walking surfaces, adequate stairway railings when needed, entry ramps for wheelchairs and walkers, and safe pedestrian crossings for navigating traffic (Stevenson 2016).

1.4 Selected Case Studies (See Appendix II for more)

Riverwalk Sensory Trail, Schuylerville, NY along the Hudson River

Designer(s): CLA Site Landscape Architecture, National Park Service Office of Accessibility

Project Completion: July 2013

Key words: sensory trail, accessibility

Project Summary:

- Designed to improve the recreational experiences of the community at large, with special attention to making the trail accessible for individuals who are mobility or visually impaired.
- This 1,540-foot-long trail is one of the longest sensory trails and one of the only few handicap-accessible trails in the United States.
- The community advocated for the creation of a trail along the Hudson River that connected to the existing Hudson Crossing Park and could be used as both an educational and recreational resource (Figure 2).
- Amenities along the trail include: Tour-Mate Eco-Box audio interpretive units that allows users to hear short stories relevant to the surrounding areas; Overlook decks that provide moments of pause along the river trail (Figure 3); Wide and smooth trails that provide ample space for wheelchair accessibility along the entirety of the trail (Figure 4).

Design Implications:

This project is a result of the work that community advocates did to make this community resource a reality. The most notable result of this project is that it gives people with visual and mobility impairments the ability to have experiences that otherwise they might not have. For example, along the trail, there are outlook decks that are meant to mimic spaces that might be inaccessible to people in wheelchairs, such as treehouses. By mimicking the environment of a treehouse on the ground level, it removes a physical barrier that is exclusionary to those who cannot climb a tree or ladder. Additionally, the audio descriptive boxes allow people with visual impairments the ability to immerse themselves in the landscape more deeply and independently, without having to rely on others to describe their surroundings to them. These factors could be easily overlooked by able-bodied people who take their physical abilities for granted. By including communities with disabilities in the design process, the trail is now a sanctuary that can be experienced and enjoyed by people of all abilities.



Figure 2 - Riverwalk Sensory Trail: Educational Resource.



Figure 3 - Riverwalk Sensory Trail: Overlook Deck.



Figure 4 - Riverwalk Sensory Trail: Wide, smooth trails.

Watertown Riverfront Park and Braille Trail, Watertown, MA

Designer(s): Sasaki, Perkins School for the Blind

Project Completion: 2016

Key words: sensory trail, accessibility, braille trail, low-visibility users

Project Summary:

- Park and ¼ mile trail along the Charles River in Watertown, MA,
- Community resource makes recreation accessible to all members of the Watertown community (Figure 5), with a special focus being placed on making the spaces accessible for people with visual impairments,
- The project is composed of a sensory garden (Figure 6), including tactile sculptural elements and braille signage (Figure 7), as well as a connecting braille trail that uses guidewires and tactile elements to signal nearby amenities to park users,
- The project was designed in conjunction with input from the nearby Perkins School for the Blind.

Design Implications:

This project allows for independence for the site's users through the integration of accessible wayfinding features along the length of the trail. The guidewires allow users with low vision a secure feature to hold on to as they travel along the trail, and the tactile beads that signal nearby amenities allow them to find what they need without having to rely on others. Additionally, the tactile sculptures and signage in the park allow them experiences such as feeling what an object might look like and reading the same educational information as others. By integrating these features into the park, users can enjoy these experiences without assistance.



Figure 5 - Riverfront Park and Braille Trail: Accessible community resource.



Figure 6 - Riverfront Park and Braille Trail: Sensory garden with interactive features.

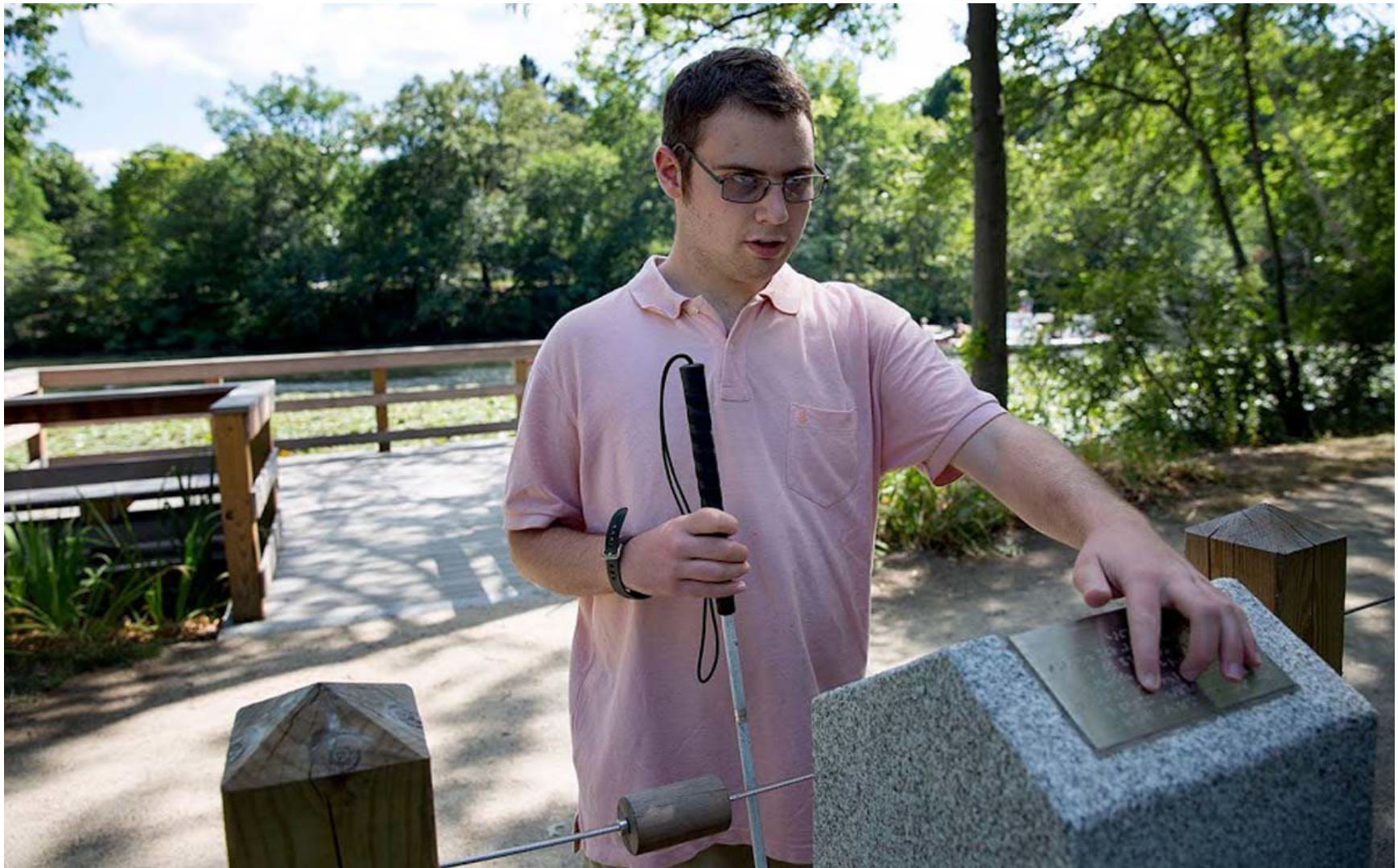


Figure 7 - Riverfront Park and Braille Trail: tactile sculptural elements and braille signage.

Additional case studies and project lists are provided at the end of Appendix VIII. These examples are mostly focused on the restoration and management aspects. Moreover, more case studies are included in Appendix II, although these were less influential in this project after being reviewed by the committee.

2.0 Inventory and Analysis

2.1 Regional and Local Context

Tubac is a small arts and retirement community with a rich history located in Santa Cruz County, Arizona. It is located along the I-19 and Santa Cruz River corridors approximately 50 miles south of Tucson and 25 miles north of the U.S./Mexico border (Figure 8). The entry signage to the village states “Where art and history meet” but recently community discussion has centered around also emphasizing natural amenities and associated activities, such as birding and hiking.

There are several community landmarks within a mile of the site (Figure 9):

- Tubac Community Center,
- Ron Morriss County Park,
- Wingfield Bridge aka the Tubac Bridge,
- Tubac Golf Resort & Spa,
- Tubac Presidio State Historic Park,
- Tubac Center of the Arts.

Additionally, the I-19 freeway is in close proximity to the site, making it easily accessible to visitors coming from communities such as Tucson, Rio Rico, Nogales and beyond, as well as sites of interest such as Tumacácori National Historical Park.

Tubac's elevation is 3,250 feet above sea level. The Santa Cruz River serves as an important migratory path for birds and supports important habitats (Figure 10). Tubac is an unincorporated community in Santa Cruz County with zip code 85646. Demographics listed as:

- Population: 1,223 (more from November to April)
- Median Home Value: \$341,200
- Median Household Income: \$68,835
- Median Age: 64.8
- Race: 83.2% White Non-Hispanic
(See DATA USA, n.d.)

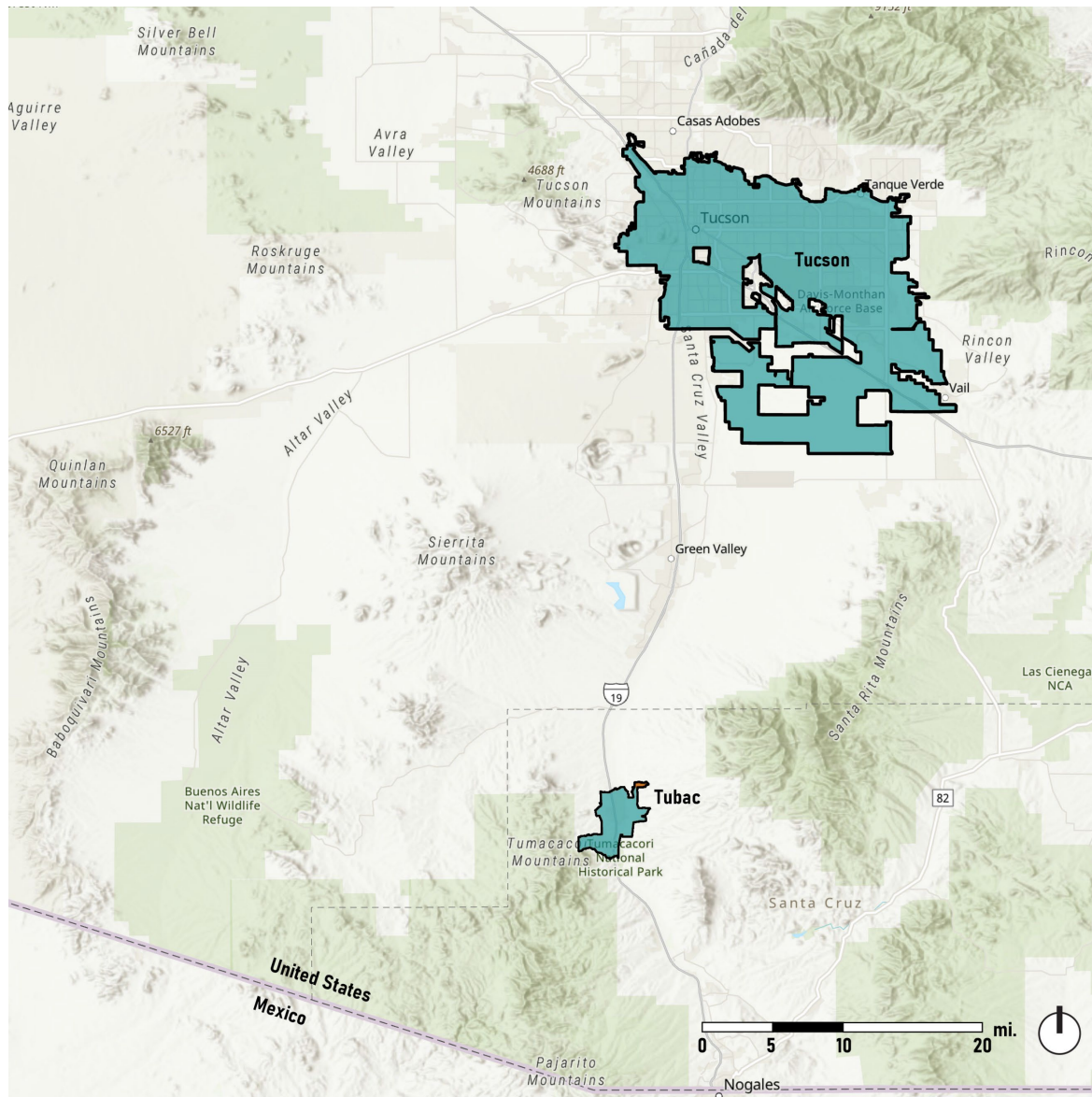


Figure 8 - Tubac, Arizona in relation to Tucson and the United States/Mexico Border.

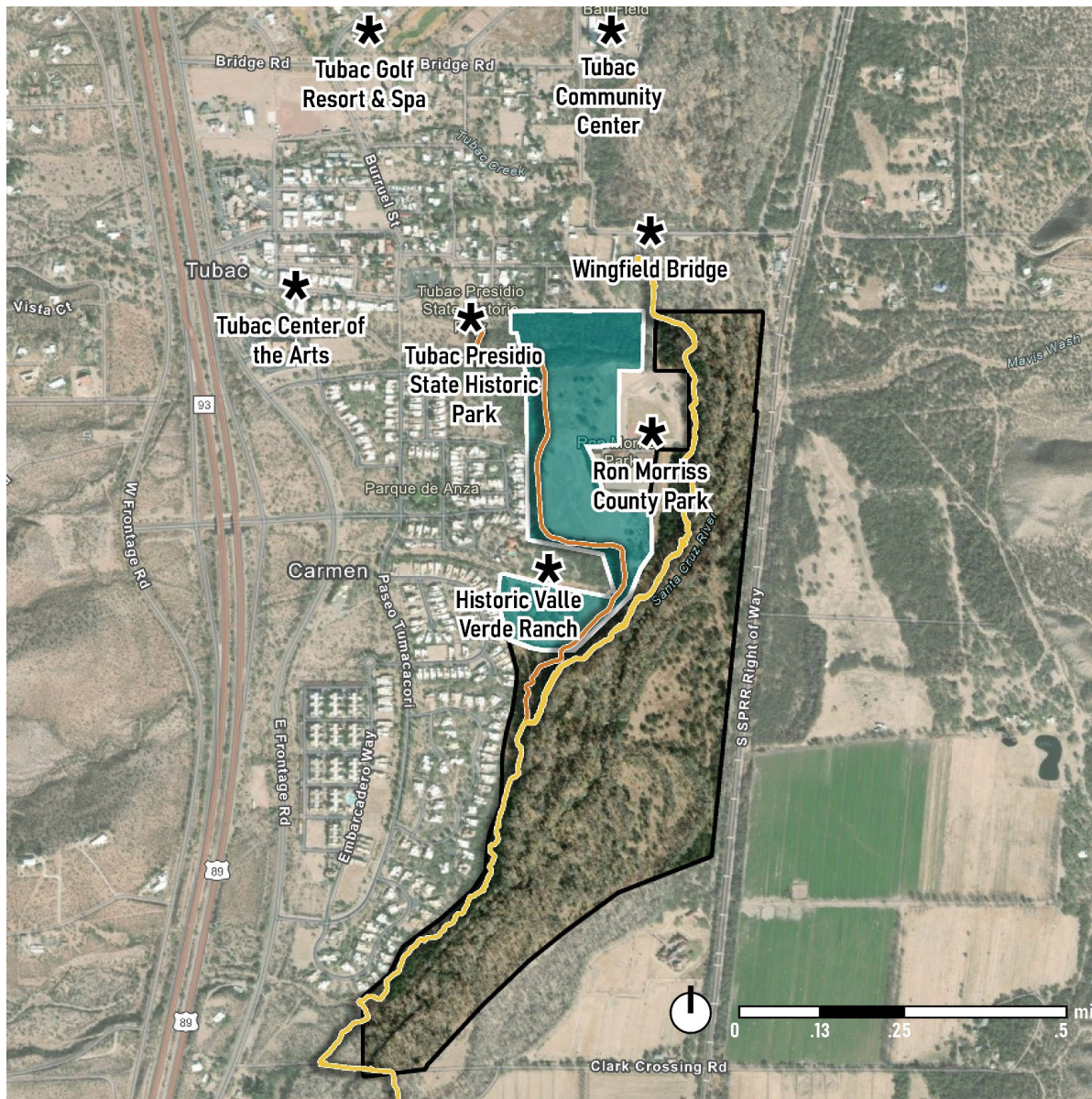


Figure 9 - Community landmarks near the Phase 1 site.



Figure 10 - Beautiful views of the mountains and bosques surround the site.

2.2 Site Inventory and Analysis (Figure 11)

2.2.1 Access to Phase site

- Principal public vehicular access is from the north along Calle Iglesias through Ron Morriss County Park at the east side of the Phase 1 site.
 - Arrival through the park creates an opportunity for shared arrival amenities such as parking and restrooms,
 - This access is a direct access and short distance from the current location of the Tubac Nature Center.
- A second private vehicular access point is from the west along Avenida Urrutia.
 - This is a private maintenance access point for the water treatment facility and should not be access for general use.
 - Parking near this access should be discouraged, being within the Cielito Lindo neighborhood.
- Existing pedestrian access points serve the site well (Figure 12).
 - Access from the county park should be enhanced as a welcoming point for primary public entry.
 - Access from the Anza Trail and the Tubac Presidio State Historic Park may be enhanced with wayfinding to encourage access to the site.
 - Access from the neighborhoods should be designed to discourage non-residents.

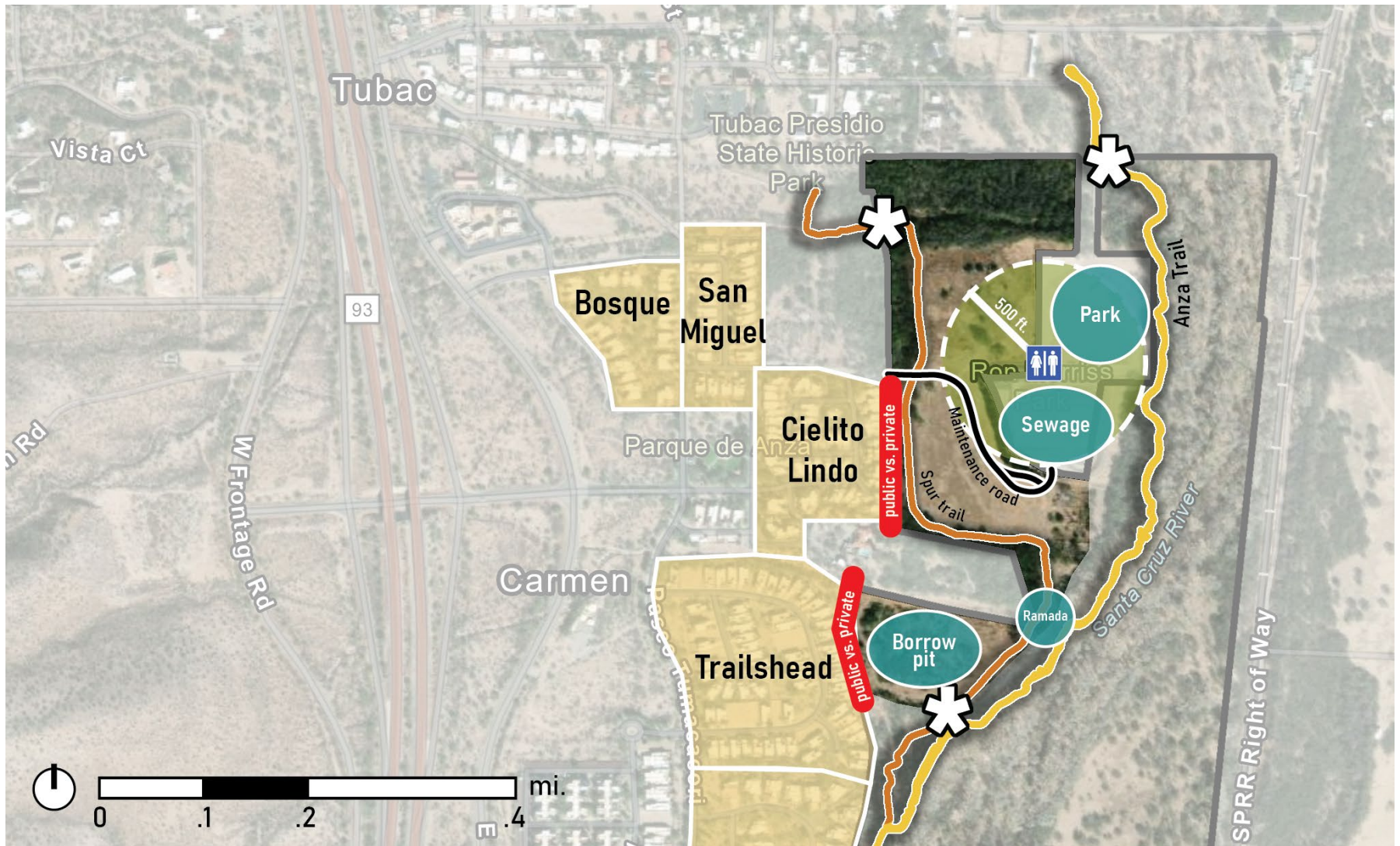


Figure 11 - Inventory and analysis diagram for the Phase 1 site.



Figure 12 - Existing trails along the edges of the site set the stage for new future circulation throughout the preserve.

2.2.2 Neighbors

- Neighborhoods including the Bosque, San Miguel, Cielito Lindo, and Trailhead have close proximity to the site and access for residents should be maintained.
- Cielito Lindo and Trailhead have shared boundaries between the site and the backyards of several residents.
 - Existing vegetation should be maintained and this visual buffer should be enhanced.
 - Any new amenities that attract visitors to the site should not be considered in these areas.
 - Existing trails in these areas may be maintained.
 - Protecting the privacy of neighbors is a high priority.
- Trail access to the Tubac Presidio State Historic Park should be maintained.
- Trail access will be maintained around Historic Valle Verde Ranch with no new public connections.
- Access path and service road to the water treatment facility will be maintained primarily for maintenance access. Clarifications of property boundaries and access easement may be necessary.

2.2.3 Amenities

- Ron Morriss County Park brings shared resources (Figure 13).
 - Visitors to either the park or the preserve can easily access adjacent resources including ramadas, picnic benches, restroom, ball field and a dog park.
 - The main entrance proximity to the park restroom negates the need for additional restrooms for Phase 1.
- An existing ramada east of the Valle Verde Ranch near the spur trail connection to the Anza Trail should be maintained.
- The borrow pit wetland is a valuable birding area, but lacks amenities that may facilitate the activity and engagement at this portion of the site.



Figure 13 - Existing activities in the adjacent Ron Morriss County Park and the Anza Trail can encourage use of the preserve once established. Source: Tubac Nature Center.

2.2.4 Biological

There are three key biological communities on site—the lowland riparian forest or cottonwood-willow gallery forest, semi-desert grassland and the borrow pit wetland, which has potential as a wetland resource. Each ecosystem is in need of rejuvenation, restoration and/or reconstruction. They have very different challenges and likely, very different approaches to becoming healthy components within the nature preserve. During the initial phases of restoration, focus will be applied to the grassland and wetland components, moving to increased attention to rejuvenating the riparian forest based on the results of various studies. Please refer to the Tubac Nature Preserve Restoration Management Framework for a more exhaustive analysis, set of goals, restoration processes, and potential funding sources for each of these biological communities on site.

- **Native Grasses and Wildflowers:** This biological community is primarily found west of Ron Morriss County Park, extending past the Baca Float wastewater treatment plant, around the east side of the Valle Verde Ranch, and almost encircling the borrow pit wetland.
 - The areas currently in grass represent seed distributed during earthwork activities undertaken to develop the Barrio properties. Over time these areas have morphed into a combination of grasses and weeds, native and non-native (Figure 14).

- The composition of grasses is an unknown but lacks diversity and exhibits a paucity of wildflowers. Pigweed seems to make up a large percentage of many of the grassy areas.
- Water is not available in or near most of the areas currently in a grassy state.
- Having desirable native species of grasses and wildflowers will be pleasing to local residents and visitors. The area will provide food for winter birds if maintained (cut down) at the appropriate seasons. It will draw butterfly enthusiasts if blooming native host plants are featured in the summer.
- Healthy, native, drought tolerant grasses and wildflowers cost less to maintain.



Figure 14 - Invasive grasses cover the site and are extremely overgrown.

- **Borrow Pit Wetland:** The borrow pit holds some water, has some marsh-like vegetation, and is overgrown with various species of trees and shrubs, including some invasive plants. A maintenance easement serves as a trail around the pit (See Appendix III for more).
 - The hydrology investigation completed several years ago for Valle Verde Ranch provides a basis for understanding how much potential and effort will be needed (See Appendix IV).
 - The neighbors to the west are screened by berms and some mesquites (Figure 15). There is valid concern that their views may be affected by increased activity. Consider planting native fruit-bearing shrubs that will grow 15'+ high as winter food and offer screening for neighbors to the west.
 - The condition of the wetland is primarily a function of monsoonal moisture, winter rains and runoff. No maintenance is done to the vegetation. The cottonwoods indicate some moisture is available but portions of the eastern end show that there is very little moisture much of the year and surface water recedes to the west (Figure 16).
 - Recent bird sightings indicate that marsh birds have not returned subsequent to the drought years of 2019 and 2020. American Coot, Marsh Wren and Sora were not recorded in late 2022.
 - May be regraded for better function for off-site storm water management before entering the Santa Cruz River as a higher functioning wetland.



Figure 15 - Site is directly adjacent to multiple neighborhoods, bringing up privacy concerns from homeowners along site edge.



Figure 16 - Borrow pit needs to be regraded to function properly as a wetland, as well as improve safety for users walking in the area.

- **Lowland Riparian Forest:** The Santa Cruz River runs through the center of the Nature Preserve. Although the river is perennial, it has a history of low flows in late spring/early summer seasons during severe droughts. Sometimes flooding comes within adjacent lowlands with the monsoons of July/August and at times September. Main water sources come from upstream the Nogales International Wastewater Treatment Plant in Rio Rico and the Sonoita Creek. This river is considered a critical habitat at both the state and federal level for a number of declining aquatic, terrestrial, and avian species.
 - The forest needs a better mix of age classes, offering senescent, mature and young trees with a regular cycle of emergent seedlings. The most common species of trees in the riparian corridor are Fremont cottonwood and possibly Goodding's willow. Most trees are mature with very little regeneration occurring. There is only one age class of cottonwood present. Significant die-off is occurring from the extended drought cycle of most of the Southwest.
 - A lush understory of native shrubs, grasses and forbs is needed as a vegetative border to the river to act as overland sediment filters. The preserve area has had cattle grazing for many years. Nearly all visible green vegetation has been removed during the drought years, clearing the forest floor and exacerbating the erosion potential.

- The amount of woody biomass on the forest floor is heavily affected by monsoonal storms and flooding. The loss of old cottonwoods in recent years has increased woody biomass.
- Trash debris piles accumulate in the river and in adjacent floodplain during monsoons. Tons of plastic bottles, tires, household trash and assorted junk are left behind each year by flood flows, requiring major cleanup days.

3.0 Public Process

3.1 Working Group

3.1.1 Working Group makeup

As a collaborative partner, NPS-RTCA assists projects to achieve successful outcomes by engaging communities in visioning, planning and implementation of each project. NPS-RTCA encourages strong community partnerships and facilitates meaningful community engagement to increase likelihood that conservation and outdoor recreation projects last into perpetuity. RTCA partnered with the University of Arizona, through a Cooperative Ecosystems Studies Unit (CESU) program, bringing on two Graduate Research Assistants (GRAs) and a professor from the School of Landscape Architecture and Planning. The NPS-CESU team made up the Design Team. The Tubac Nature Preserve Partners Committee was formed and made up of representatives from many area organizations to assist in the design process for the nature preserve. The committee was led by the Tubac Nature Center board members and the RTCA project facilitator.

3.1.2 Visioning

After a site visit to observe key locations on the land, RTCA facilitated a visioning workshop in which the partners committee developed the mission and vision statement for the preserve. Project goals and objectives for the preserve were developed to assist in determining the short-term goals versus the long-term goals for the site. Figures 17-18 show part of the process of the visioning meeting held on October 7, 2022.

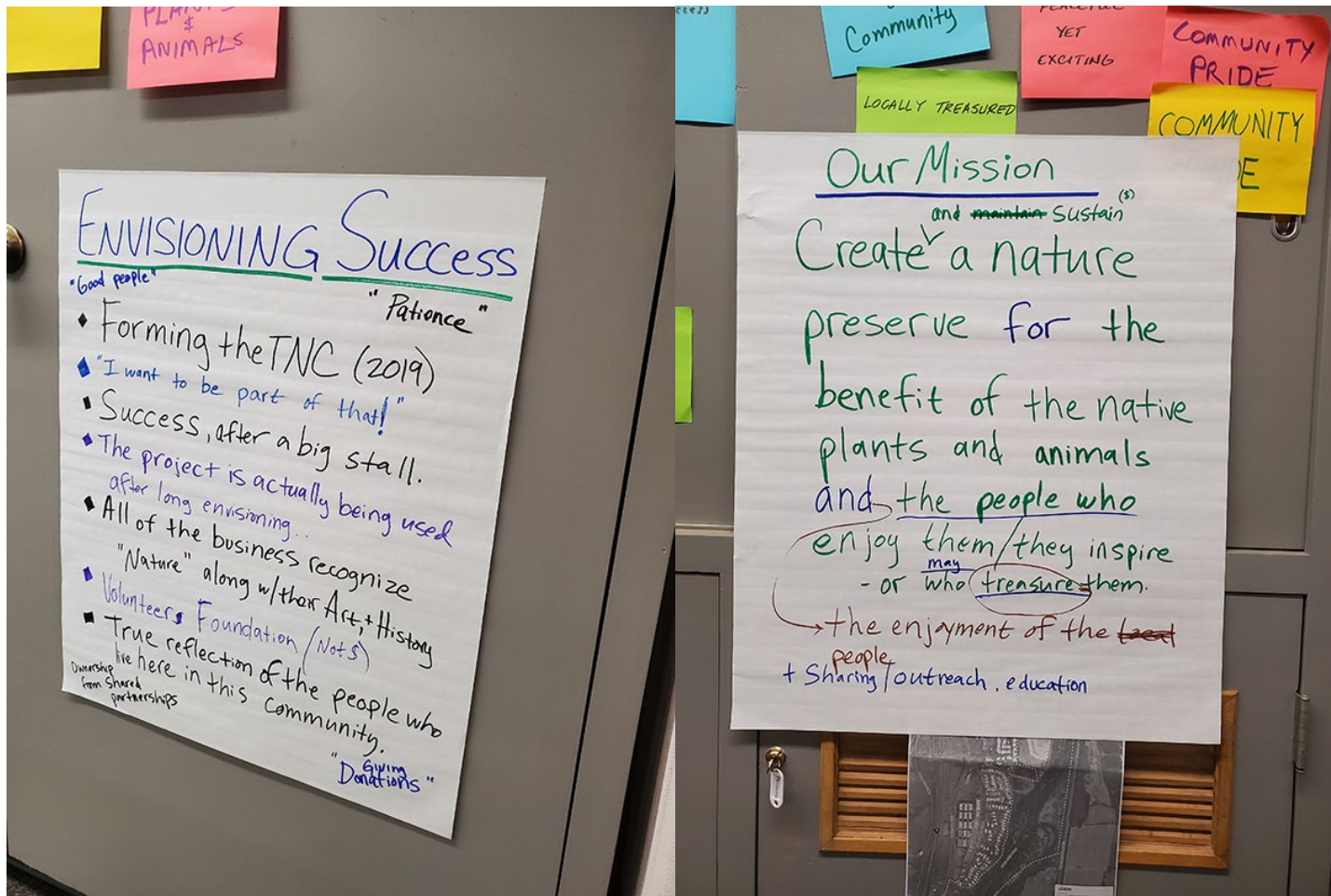


Figure 17 - Early iteration of the Vision and Mission of the Tubac Nature Preserve.

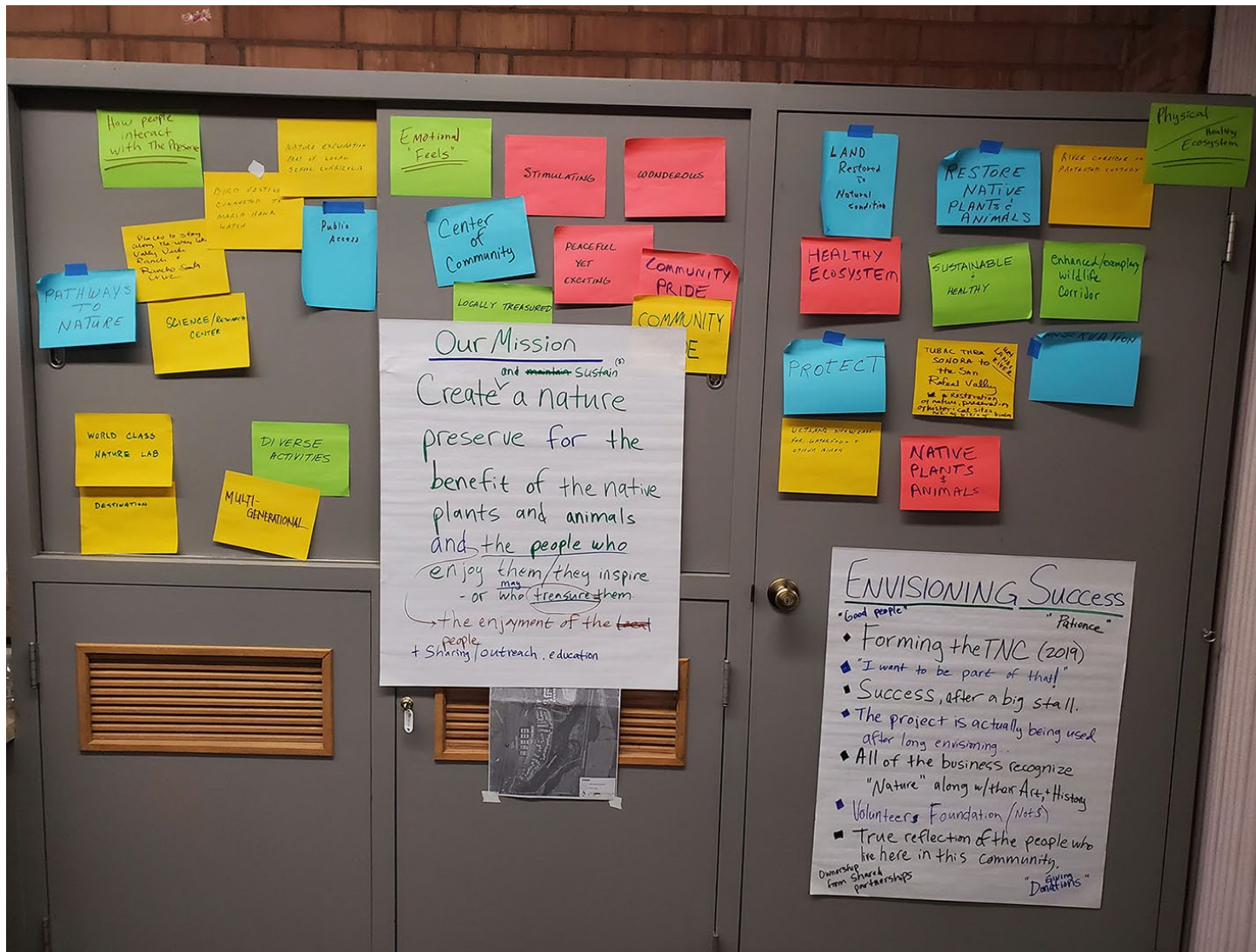


Figure 18 - Summary of results at the visioning meeting. Post-its represent ideas and descriptions of the preserve.

3.1.3 Advisory

Following the establishment of the vision, design sessions were held with the partners committee to map existing conditions. Members assisted the design team in identifying notable points of interest and site features that local residents and other stakeholders could easily recognize on a map to orient themselves. Following the site assessment, a rough concept map was created to identify locations for groups to gather on the site, and where design, restoration, and enhancements should be focused.

3.2 Community Engagement

One of the five major goals of the Partners Committee is to have effective involvement and collaboration with all stakeholders. Throughout the process, Tubac Nature Center sent newsletter updates to keep stakeholders informed of key process steps. The NPS-RTCA facilitator used the IAP2 Spectrum of Public Participation (Figure 19) to help guide the process.


An online public survey was used to inform, consult and connect with as many people as possible; a hands-on workshop allowed the direct involvement of those interested to participate; and the committee collaborated with neighbors whenever possible to work towards identifying issues and finding solutions that all parties could live with.

During future phases, the Tubac Nature Center board will continue to work closely with stakeholders, as design solutions are developed, before making major decisions adjacent to residential neighborhoods.

IAP2 Spectrum of Public Participation



IAP2's Spectrum of Public Participation was designed to assist with the selection of the level of participation that defines the public's role in any public participation process. The Spectrum is used internationally, and it is found in public participation plans around the world.

		INCREASING IMPACT ON THE DECISION 				
		INFORM	CONSULT	INVOLVE	COLLABORATE	EMPOWER
PUBLIC PARTICIPATION GOAL		To provide the public with balanced and objective information to assist them in understanding the problem, alternatives, opportunities and/or solutions.	To obtain public feedback on analysis, alternatives and/or decisions.	To work directly with the public throughout the process to ensure that public concerns and aspirations are consistently understood and considered.	To partner with the public in each aspect of the decision including the development of alternatives and the identification of the preferred solution.	To place final decision making in the hands of the public.
	PROMISE TO THE PUBLIC	We will keep you informed.	We will keep you informed, listen to and acknowledge concerns and aspirations, and provide feedback on how public input influenced the decision.	We will work with you to ensure that your concerns and aspirations are directly reflected in the alternatives developed and provide feedback on how public input influenced the decision.	We will look to you for advice and innovation in formulating solutions and incorporate your advice and recommendations into the decisions to the maximum extent possible.	We will implement what you decide.

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Figure 19 - Spectrum of Public Participation (Source IAP2 International Federation 2018).

3.2.2 Survey

A 10-minute online survey was conducted from January 16, 2023 to February 23, 2023 in order to gather community feedback on ways the site in its current condition is used by community members and to guide initial conceptual design work based on the desires and needs communicated by respondents. The survey was developed and distributed online via email and newsletters from the Tubac Nature Center and members of the Tubac Nature Preserve Partners Committee to various networks and received 189 responses.

Survey data, summarized in Figure 20 (See Appendix V for full results) was utilized to:

- Guide decisions on the design.
- Gauge community interest levels for participation in the processes (refer back to Figure 19).
- Gather contact information for updates and invitations to a later workshop.



SURVEY RESULTS SUMMARY

As of February 23, 2023



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& Landscape Architecture

How many people did we reach?



...and want the following **BENEFITS** for the Tubac community



EDUCATIONAL OPPORTUNITIES



MORE TOURISM



HEALTHY RIVER



MORE SOCIALIZING

People want to **ENHANCE** existing uses and features...



BIRDING



"NATURAL FEEL"



HIKING / WALKING



ECOSYSTEMS

Most **CONCERNS** have to do with...

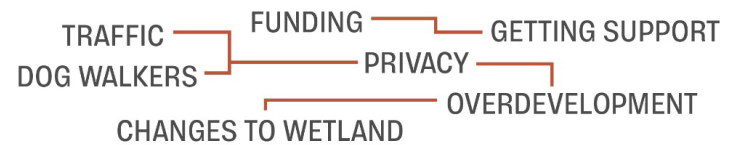


Figure 20 - Survey Results Summary prepared for Tubac Nature Center newsletter.

3.3.1 Meeting at Santa Cruz Valley Citizen's Council – February 13, 2023

The Tubac Nature Center had a brief presentation during the Santa Cruz Valley Citizen's Council Meeting on February 13, 2023 (See Appendix VI for presentation slides).

- Community members, whether they had completed the survey or not, had an opportunity to express concerns and ask questions regarding aspects of the project.
- The feedback echoed some of the survey findings, and also brought to light additional concerns from adjacent neighborhoods (Figures 21 and 22 show some of the most relevant questions that emerged after this presentation).

CITIZEN'S COUNCIL PRESENTATION FEEDBACK

February 13, 2023

Question: Has Santa Cruz County been a part of the conversation around this project?

Answer: We will coordinate with the county as we approach a plan that's more prepared for execution. We will ask for help with the needed equipment to remove salt cedar when time comes to work on the borrow pit area.

Question: What will you do about privacy concerns from people with adjacent property?

Answer: We plan to meet with concerned communities to discuss possible design solutions to keep their backyards safe and private. Increased control over this land, plants for screening, and stronger police presence as offered by the county's sheriff, are options. Moreover, any structures will be concentrated around the park.



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Figure 21 - Questions and Answers from the Santa Cruz Valley Citizen's Council Presentation.

CITIZEN'S COUNCIL PRESENTATION FEEDBACK

February 13, 2023

Question: Will your plans for the borrow pit area create any hazards for us?

Answer: Any work in the borrow pit is intended to increase its capacity and potential as a managed wetland. The removal of invasive species such as salt cedar will actually make the wetland area safer, as those plants are a fire risk.

Question: What about increased traffic? Will our neighborhoods become visitor parking lots?

Answer: There will be parking near the preserve's entrance. Signage is to be installed to penalize violations and discourage visitors from parking in residential areas.



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Figure 22 - Questions and Answers from the Santa Cruz Valley Citizen's Council Presentation.

3.3.2 Community Planning Workshop – March 30, 2023

The community design workshop was held on March 30, 2023. At this workshop, participants were divided into six groups that included representatives from each neighborhood. Each group was presented with a draft site plan and various materials (colored dots associated with amenities, tree cutouts, scales, etc.) and asked to work together as a team to develop a concept map. Once all six groups completed their concept maps, participants were encouraged to explore other teams' maps and record what they liked, what they felt was missing, and what similarities they observed to their group's concept. Finally, all participants contributed to an open discussion about their concerns regarding site design.

- The design exercise and open discussion allowed the community to more clearly express concerns, discuss them together, and come to a resolution and vision that all participants could support, particularly regarding expectations regarding the necessary buffering between the preserve and the adjacent neighborhoods.
- The notes and maps from each team were synthesized to inform a revised concept from the design team.

See figures 23-30 from the workshop activities. These show some of the talking points that were then discussed together as well as the groups that attended the workshop.

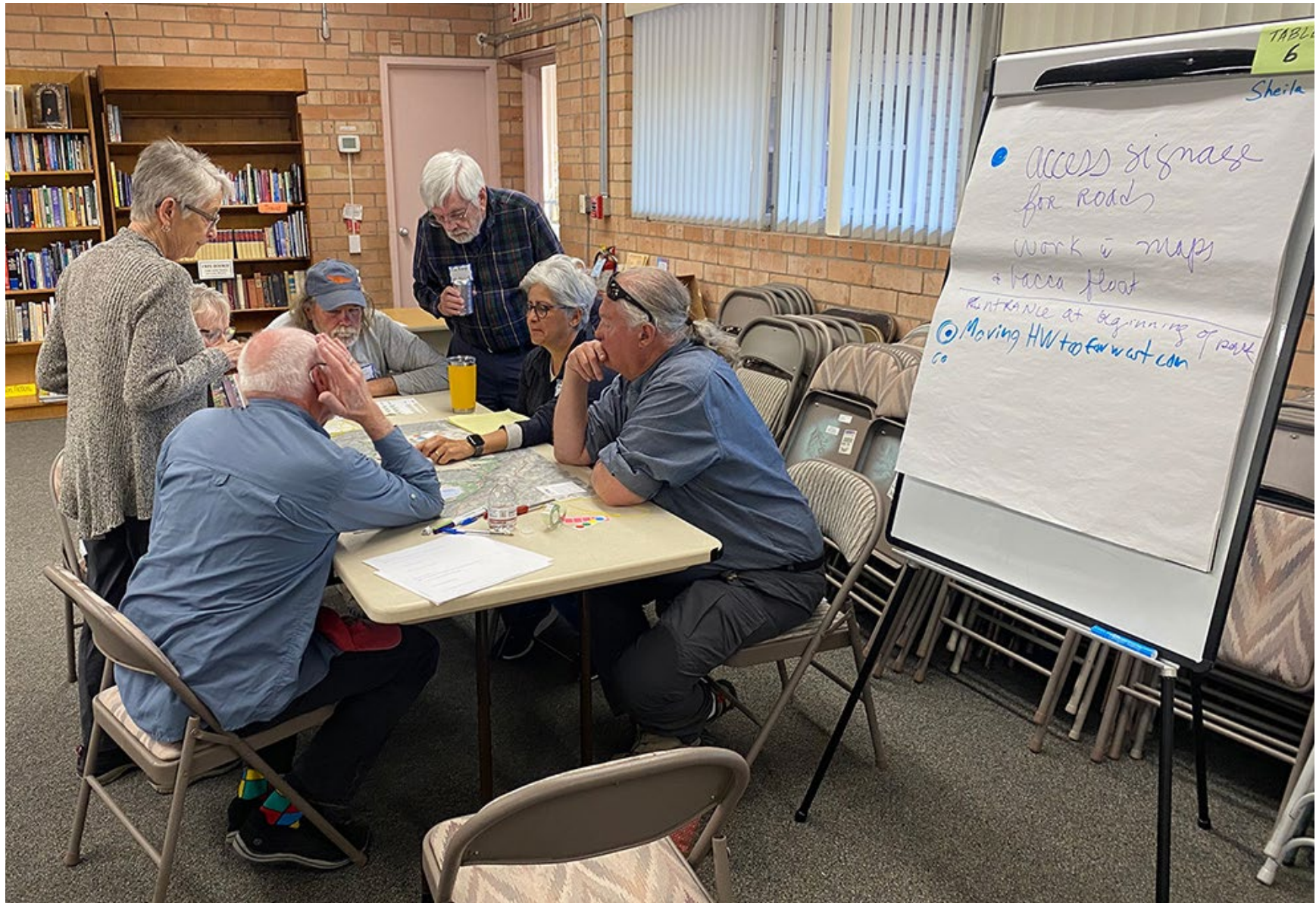


Figure 23 - One of the groups working together during the community planning workshop.



Figure 24 - One of the groups working together during the community planning workshop.



Figure 25 - One of the groups working together during the community planning workshop.



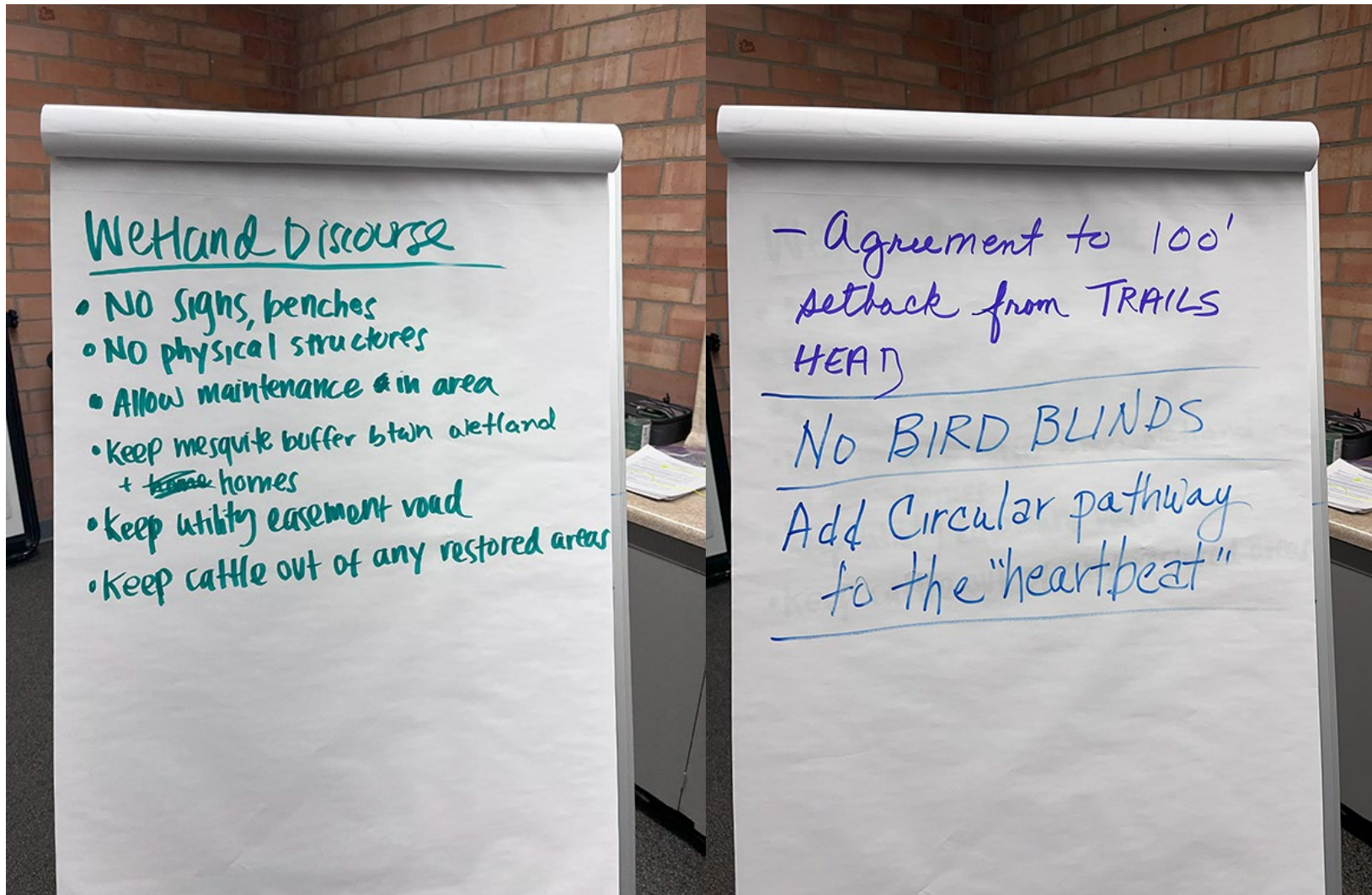
Figure 26 - One of the groups working together during the community planning workshop.



Figure 27 - One of the groups working together during the community planning workshop.



Figure 28 - One of the groups working together during the community planning workshop.



Wetland Discourse

- NO signs, benches
- NO physical structures
- Allow maintenance in area
- Keep mesquite buffer btwn wetland + ~~home~~ homes
- Keep utility easement road
- Keep cattle out of any restored areas

- Agreement to 100'
setback from TRAILS
HEAD

NO BIRD BLINDS

Add Circular pathway
to the "heartbeat"

Figure 29 - Boards used in the meeting with points of discussion that were then discussed as a group with all attendees.

- Entrance further N.
- Classroom near Bathroom
- Hawk watch close to fence
- Wetland platform on east end of wetland
- Support for tree screening

Discussion Points

- Signage / No Access
- Set back issues / ^{Respecting} Houses
 - Trail around ^{not all} borrow pit
- Deal w/cattle - Fence out from Restoration Area
- Parking: Need signage in HOAs to notify for Residents only - (^{It's their} guest parking)
- Restrooms
- Start minimal (shade)
 - Financial plan (maintain)

Figure 30 - Board compiling discussion points and concerns discussed with workshop attendees.

3.4 Revisions

The conceptual master plan went through several revisions and represents broad ideas emerging from the community engagement process to inform later technical drawings. The plan most recently was adjusted to reflect the input received from attendees of the community planning workshop held on March 30, 2023. Key adjustments include:

- The new preserve entrance from Ron Morriss County Park was shifted further north to be closer to the proposed parking area for more direct access (Figure 31).
- An informational kiosk is proposed to be placed close to the preserve entrance for wayfinding, and to inform visitors of upcoming events and other relevant information pertaining to the preserve (Figure 31).
- The Hawk Watch platform was not included at this time, as the placement and design needed to be discussed further with the Hawk Watch professionals. However, a proposed overhead shade structure is included near the preserve entrance to provide shade during Hawk Watch activities (Figure 31).
- The remains of the acequia are emphasized on the map to ensure this historic element is remembered. This creates opportunities for interpretation and education (Figure 31).
- The wetland platform was moved to the southeast corner of the constructed wetland to better address privacy concerns of neighbors in the adjacent neighborhood and to provide better viewing and photography opportunities for

birders and platform users. Final location should be determined by wetland experts as part of the wetland design plans (Figure 32).

- Benches around the wetland were removed from the plan to encourage visitors to remain closer to the platform area and the existing trails (Figure 32).
- Pollinator-attracting plants are suggested at different locations throughout the site, rather than having a centralized butterfly/pollinator garden (Figure 31 and 32).

3.5 Agreements with the community

Over the stages of community engagement of this project, neighbors have communicated many concerns to the TNP partners committee. As described earlier, feedback from the survey informed communications with the public and initial design plans. Later on, feedback from the community planning workshop and later feedback and collaboration between the community and the committee informed the work in this report to propose design solutions that best address concerns from the Tubac community. Below are the agreements reached with the community through the community engagement and collaboration activities:

- Retain all existing trails, including the utility easement road that serves as a trail around the constructed wetland.
- Keep a 100' setback from the back of patio walls in Cielito Lindo and Trailhead. Vegetation to be cared for, but no structures to be built there.

- Keep benches and viewing platform away from the west side of the preserve, and always respect views, directing visitors' attention toward the preserve and away from homes.
- Keep cattle out of any restored areas.
- Keep structures close to the preserve's entrance.
- Prioritize habitat work in the borrow pit area during initial stages of the project. Offer the wetland restoration specialists' plans to the stakeholders for review and comment.

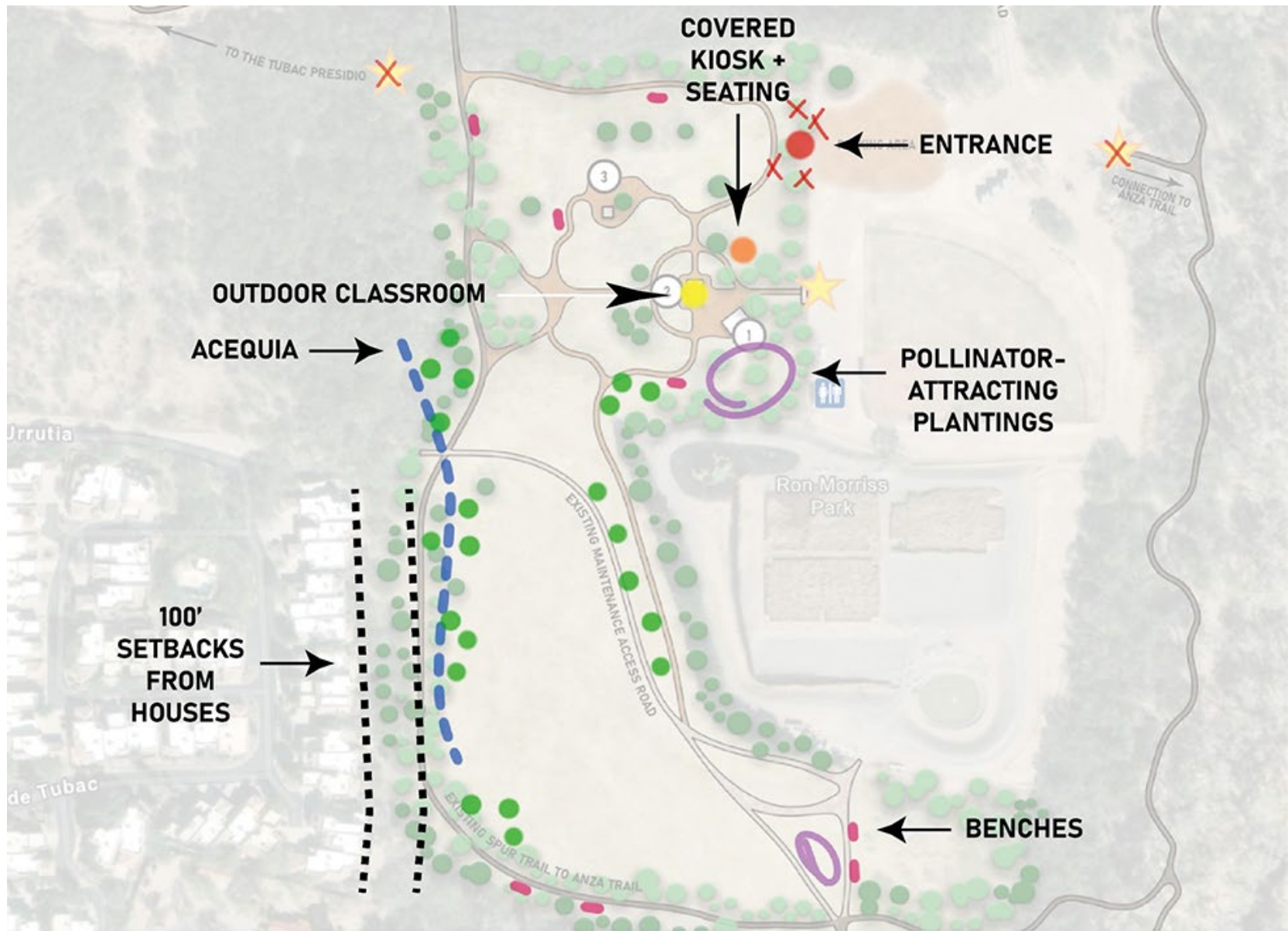


Figure 31 - Compilation of Community Feedback - North end.

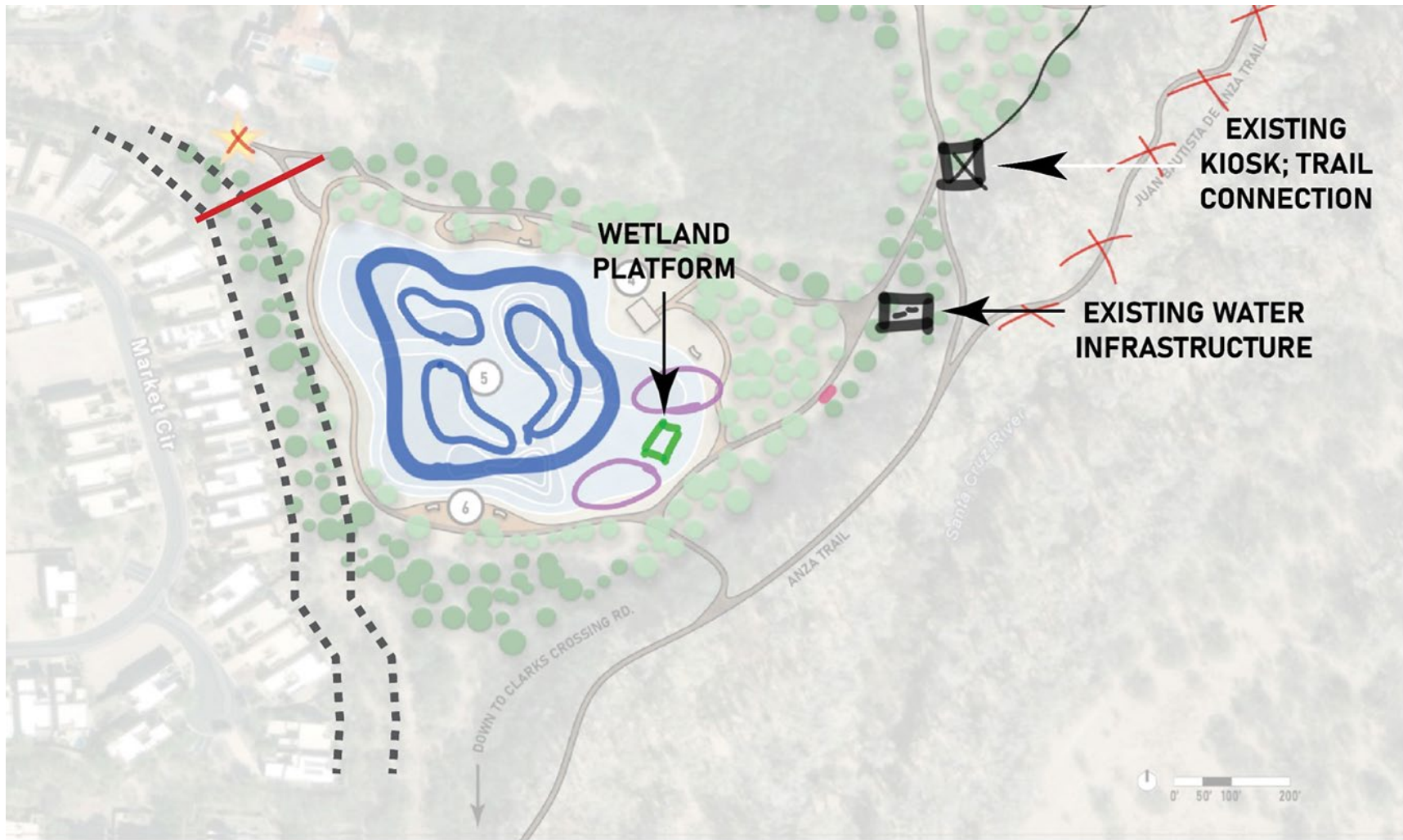


Figure 32 - Compilation of Community Feedback - South end.

4.0 Conceptual Design Solution

4.1 Proposed conceptual master plan

The proposed conceptual master plan for the Phase 1 site (Figure 33) strives to:

- Provide a clear and welcoming entry from the Ron Morriss County Park, and effective wayfinding along the trails throughout (Figure 34),
- Facilitate room for expansion/overflow from the park for Hawk Watch (Figure 34),
- Provide an outdoor classroom for educational and recreational activities within the preserve (Figure 34),
- Facilitate birding opportunities in a constructed wetland area at the borrow pit (Figure 35),
- Maintain privacy for neighboring residential properties (Figures 34 and 35),
- Minimize impact with strategically selected materials to not take away from the site's natural beauty and feel,
- Leave most of the land area untouched, aside from recommended plant remediation to remove invasive plant material and to establish a diverse palette of native plants and pollinators (Figures 34 and 35),
- Maintain and enhance existing trails for accessibility with a strategic addition of a few new paths and trails (Figures 34 and 35),
- Provide more seating and shade for comfort and safety (Figures 34 and 35).

- To protect the privacy of neighbors, benches will not be added on the west side of the property and those that are placed within sight of the houses will face the opposite direction.



Figure 33 - Master Plan (See appendix VII for a full quality copy).

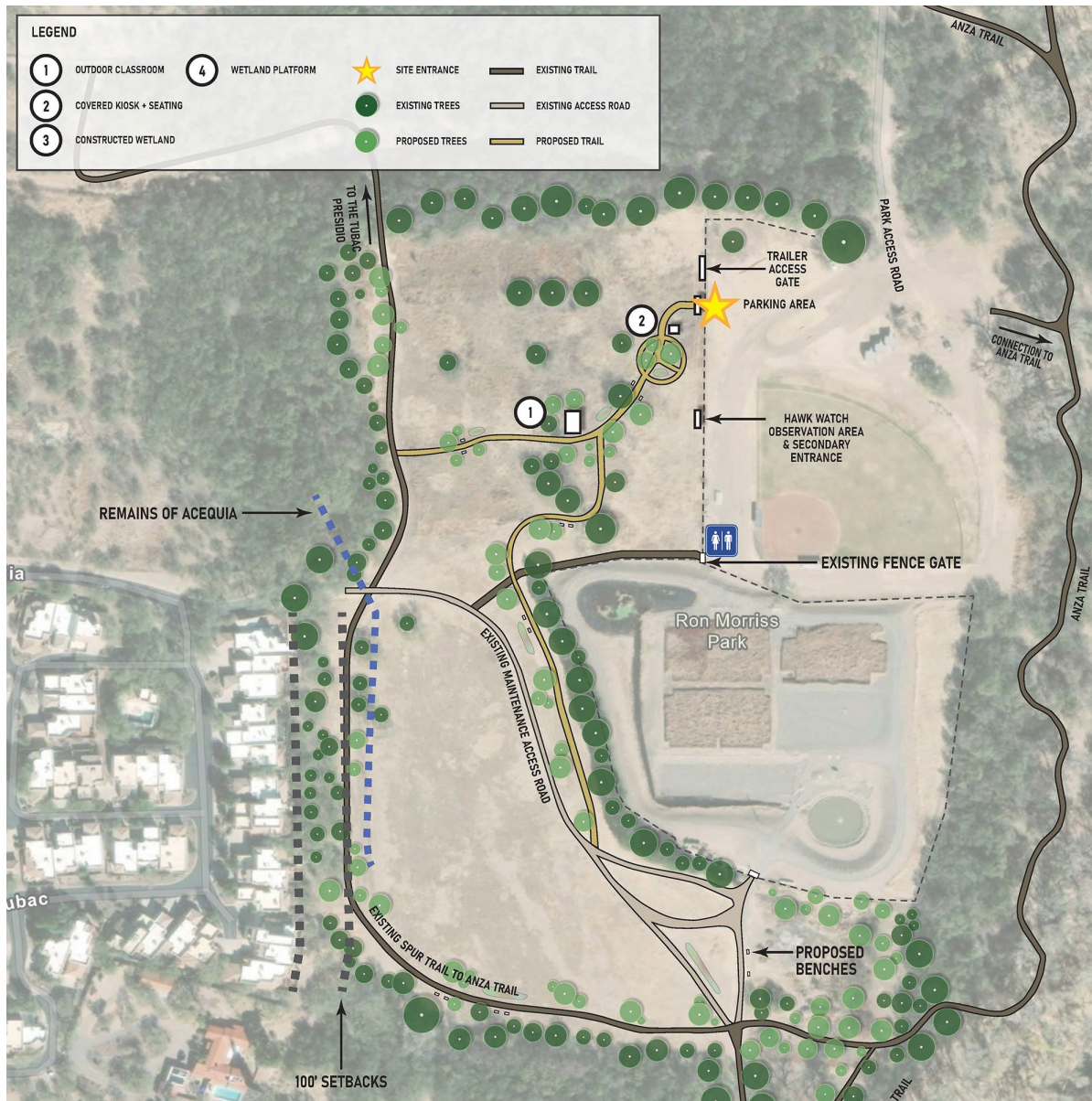


Figure 34 - Master Plan - North end enlargement.



Figure 35 - Master Plan - South end enlargement.

4.2 Public Space

The conceptual master plan is intended to create a framework to ensure the nature preserve as a public space with attention to *accessibility, specificity, authenticity, adaptability, and functionality*.

4.2.1 Accessibility

- Orientation and wayfinding are achieved through strategic cues comprehensively across the site that help visitors understand where they are, where they came from and where they are going. Orientation and wayfinding strategies include:
 - Clear public entrance/gateway from Ron Morriss County Park (See Figure 36),
 - A variety of options for access and circulation with clear hierarchy
 - Clearly defined trails with appropriate signage for direction options at nodes,
 - Viewpoints and sightlines to localized landmarks (i.e., shade structure),
 - Distinct areas within the site (open grass/wildflower area, wetland, adjacent lowland riparian forest),
 - Trails map at entry kiosk.

- Universal access is important for enhancing mobility for a wide audience of visitors.
 - When possible, path materials, dimensions, amenities and other features should be designed and maintained following the United States Access Board guidelines on Outdoor Developed Areas. As recommended, “Designers, owners, and operators are encouraged, but are not required, to exceed the minimum requirements where possible to provide increased accessibility and opportunities for people with disabilities to enjoy trails and other outdoor developed areas.”
 - Use smooth trails meeting or exceeding minimum widths (Figure 37 and 38) and slopes on existing and proposed trails throughout the site (Figure 38).
 - Use and maintain level transitions and crossings between surface types and trail intersections (Figure 39), particularly at intersections with the wastewater treatment facility access road.
 - The proposed trails are generally level, but where grade change merits, particularly at the constructed wetland, use ramps (Figure 40) and not steps. Minimum standards should be exceeded here to accommodate bi-directional access.
 - Provide accessible space for access to amenities such as tables (Figure 41), benches (Figure 42), and on viewing platform (Figure 43).



Figure 36 - Nature Preserve entrance from Ron Morriss County Park

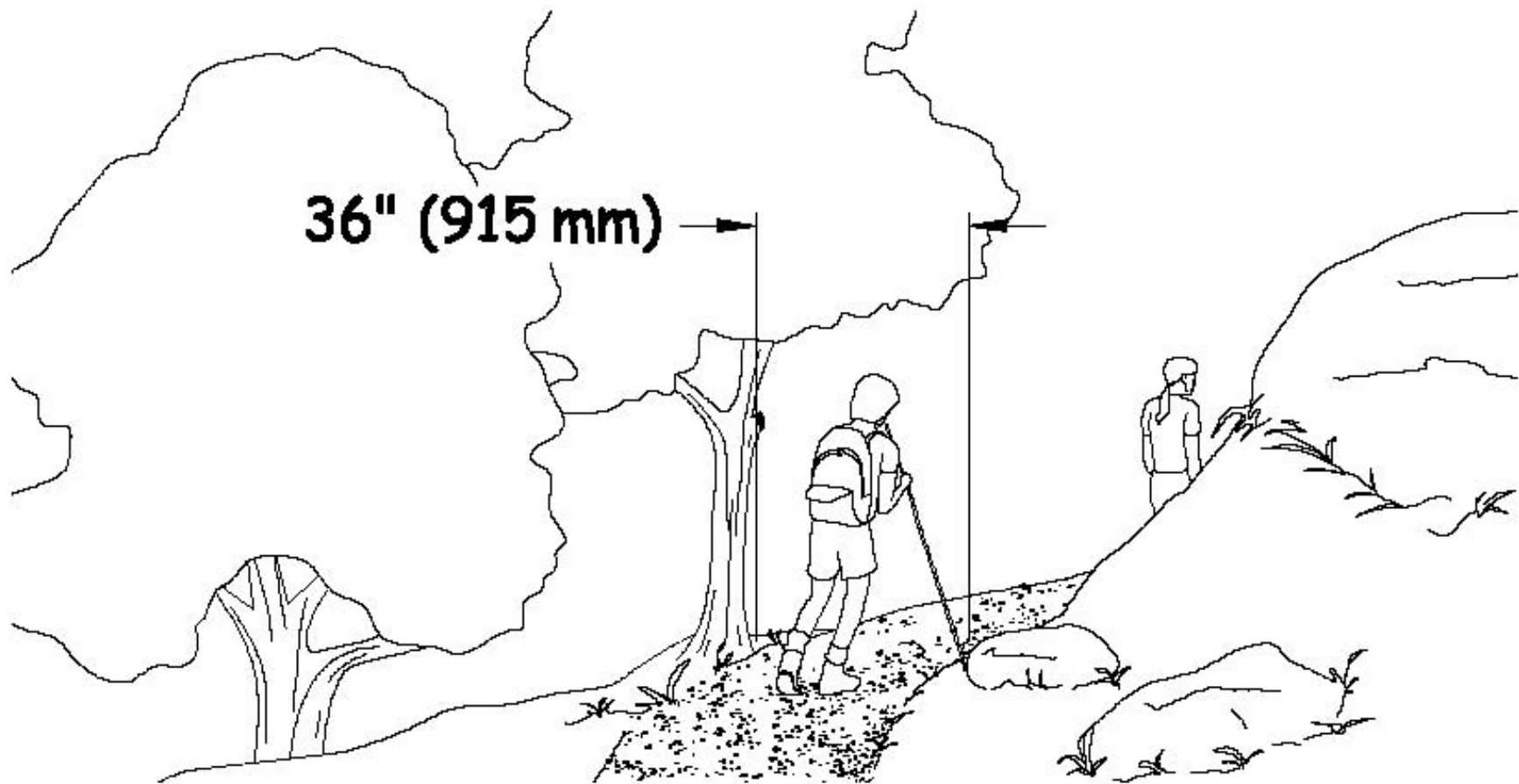


Figure 37 - Sample guideline showing minimum trail width. Source: USAB

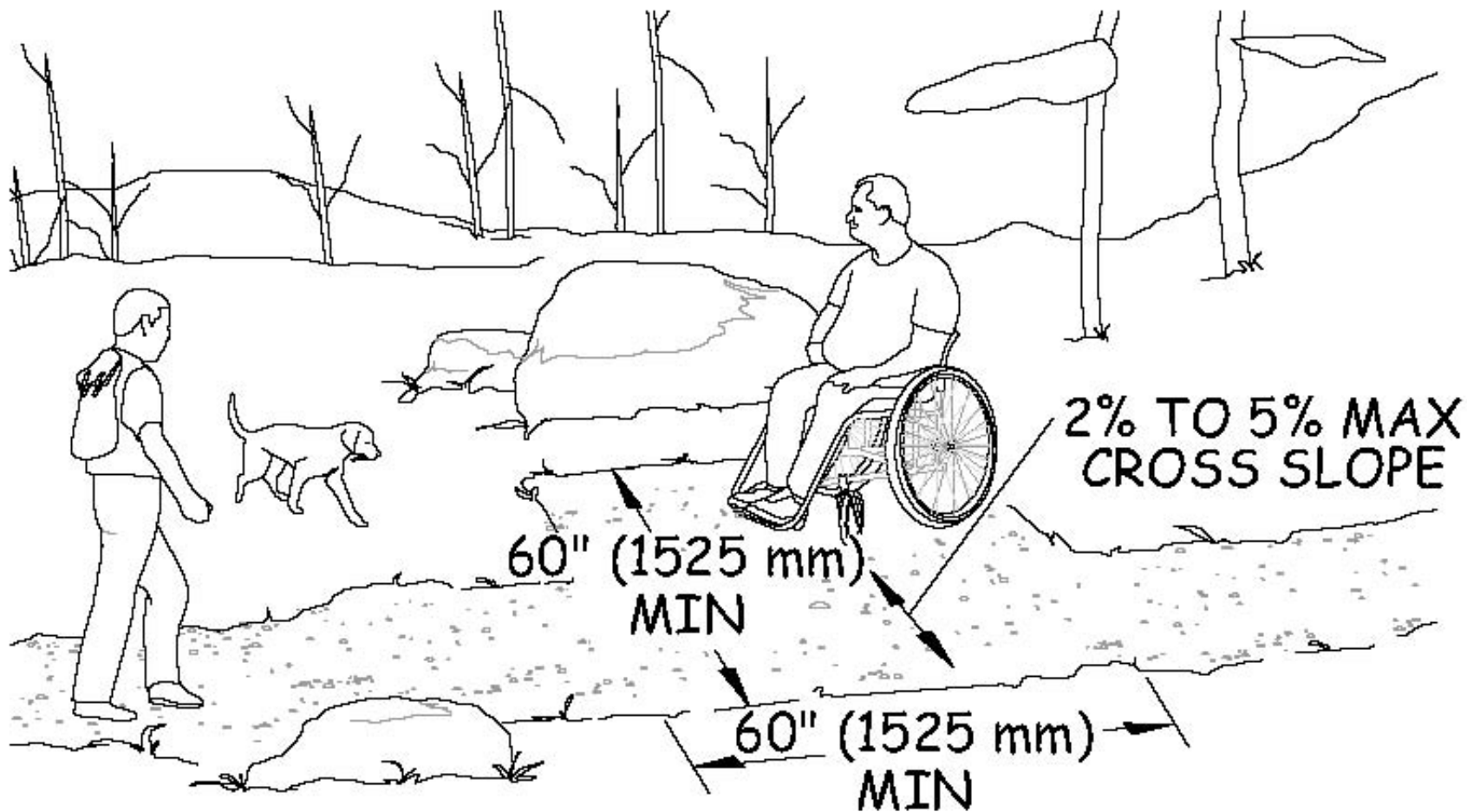


Figure 38 - Sample guideline showing minimum trail dimensions for passing and maximum surface cross slopes.
Source: USAB

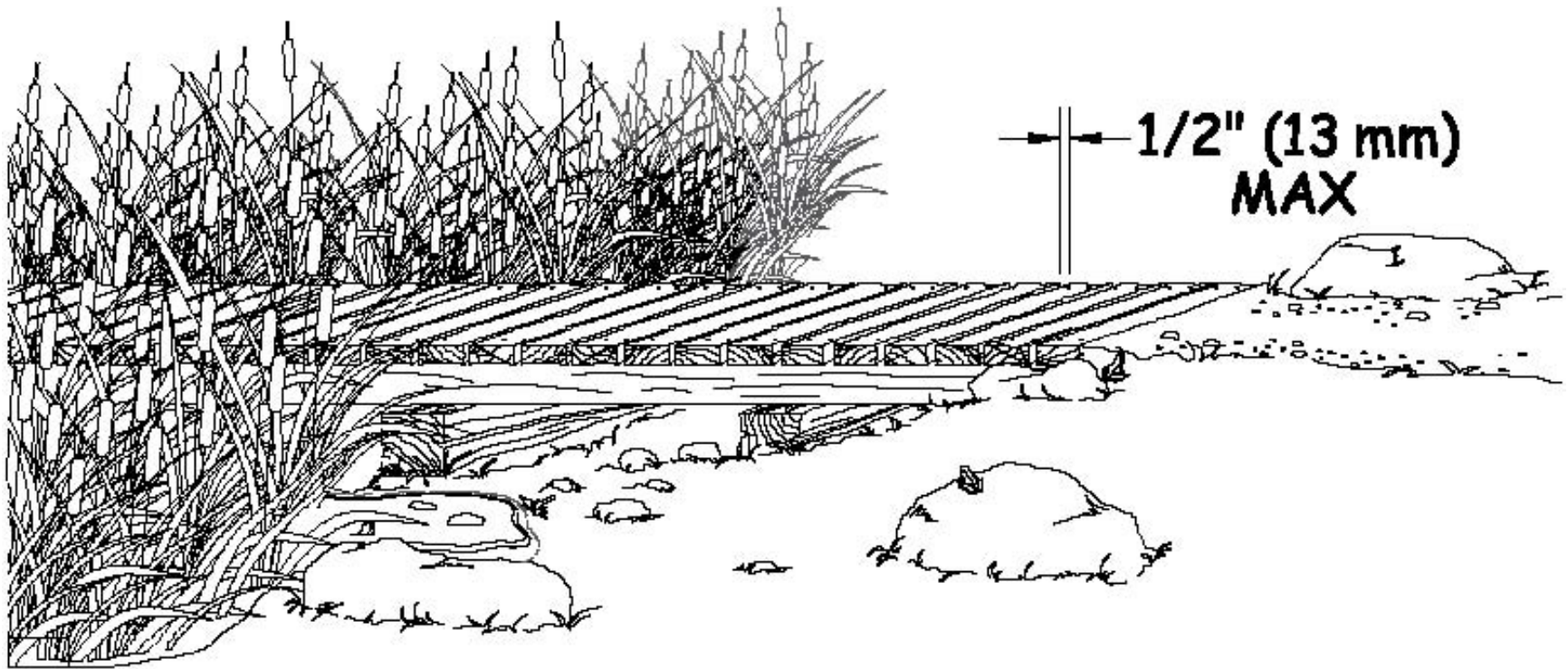


Figure 39 - Sample guidelines showing smooth transitions and surface considerations for accessibility. Source: USAB

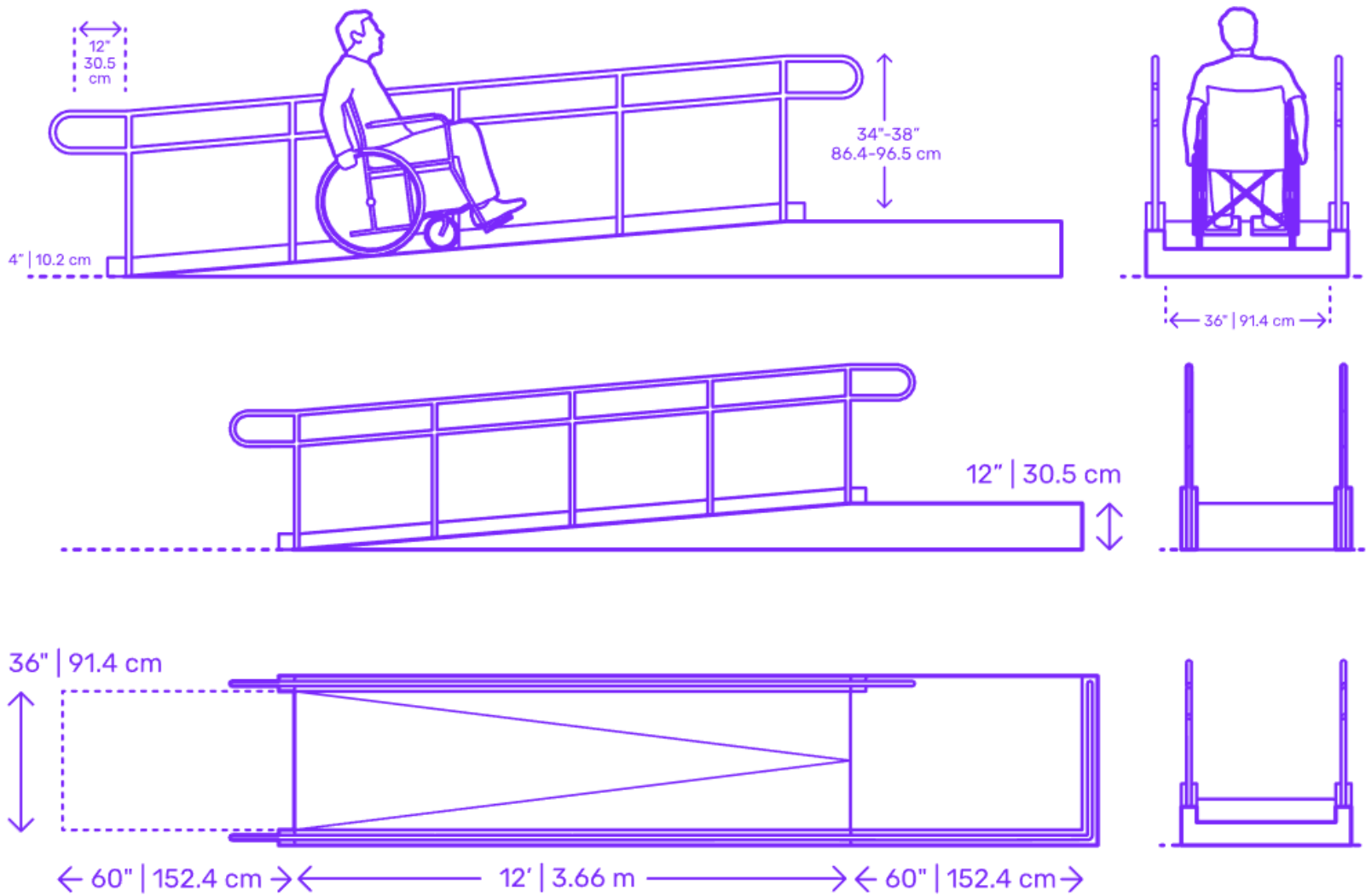


Figure 40 - Sample guidelines for minimum ramp dimensions. Source: Dimensions.com

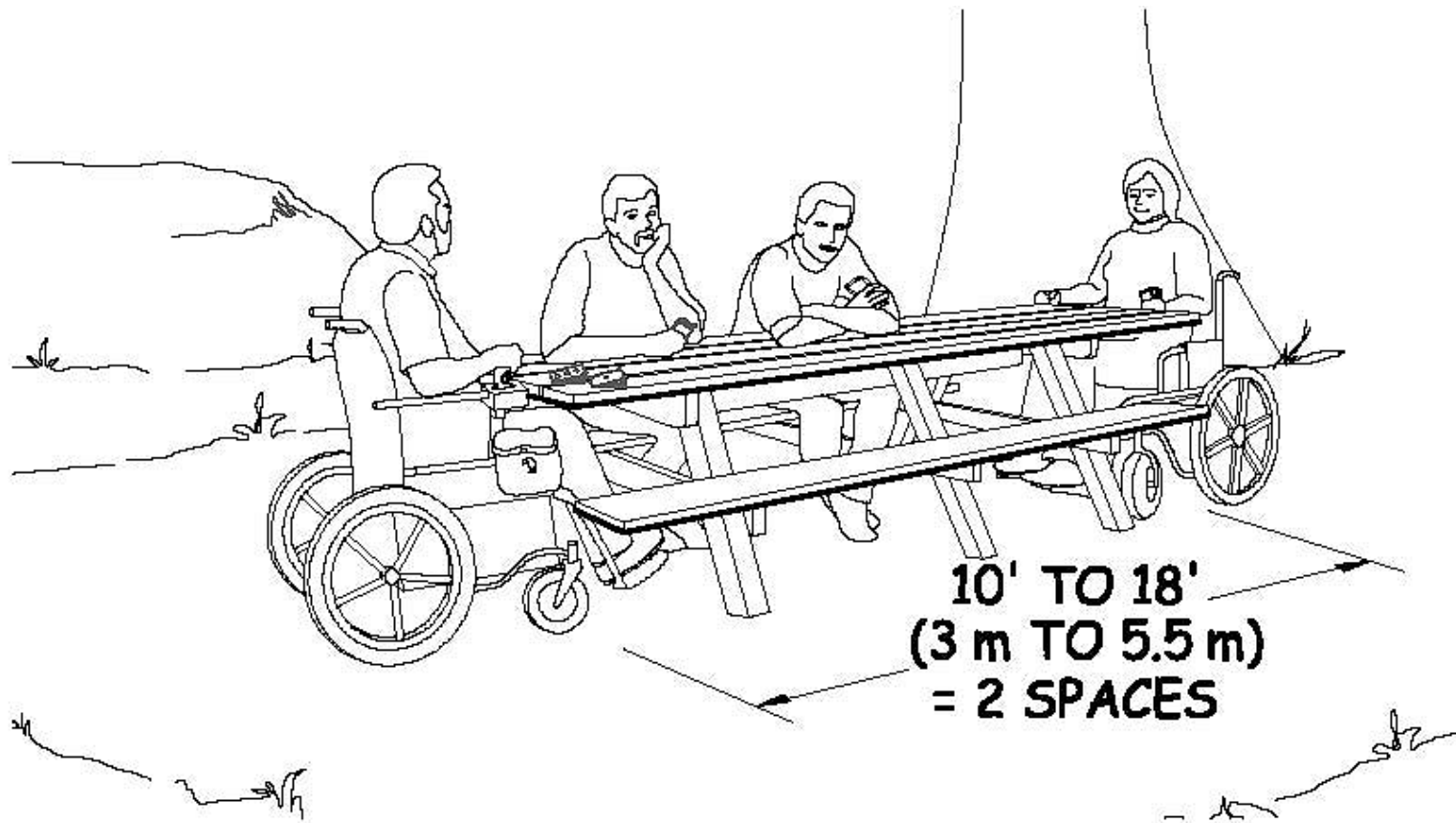


Figure 41 - Sample guideline showing enhanced access to picnic tables. Source: USAB

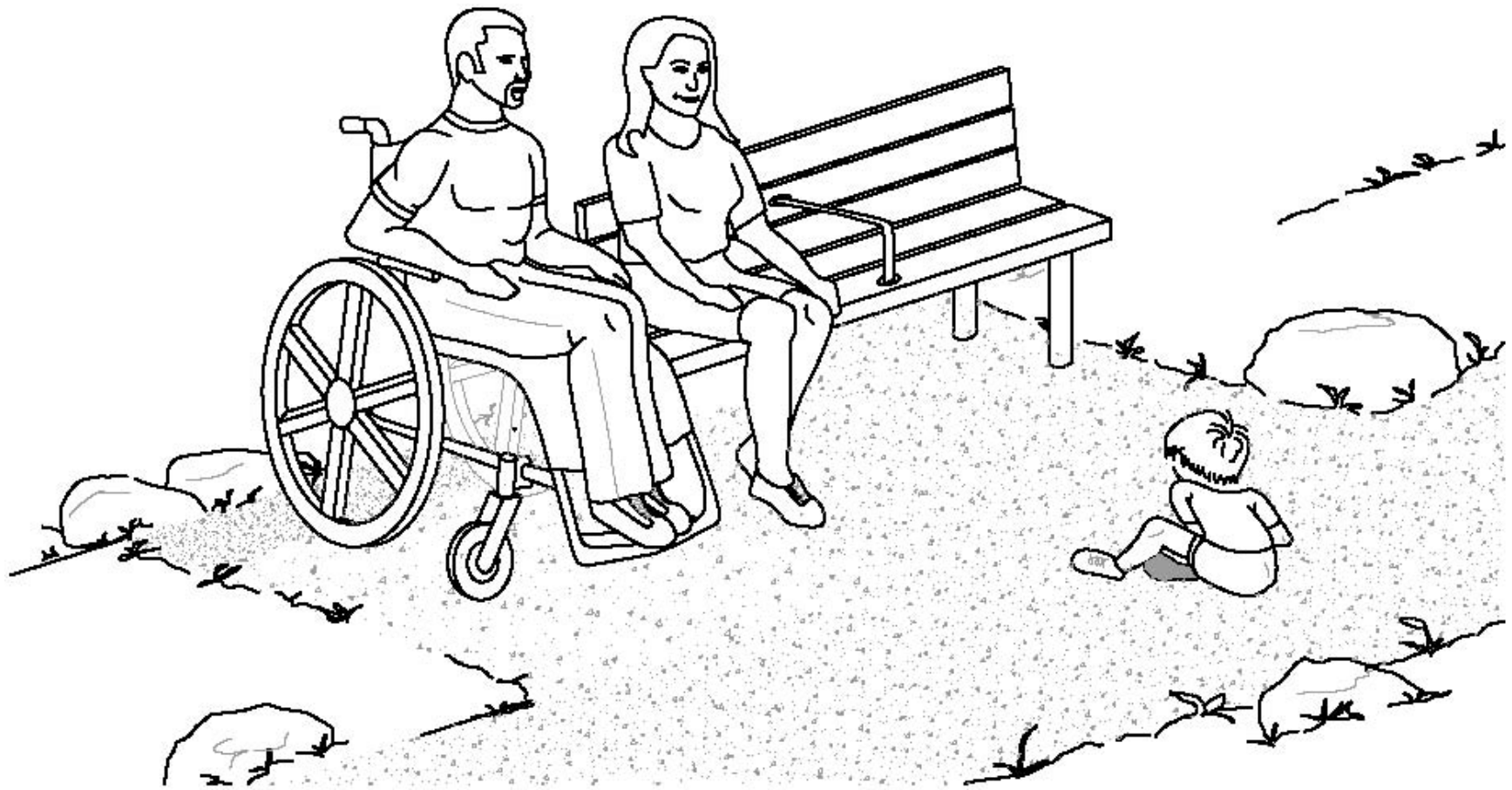


Figure 42 - Sample guideline showing enhanced space accessibility for benches. Source: USAB

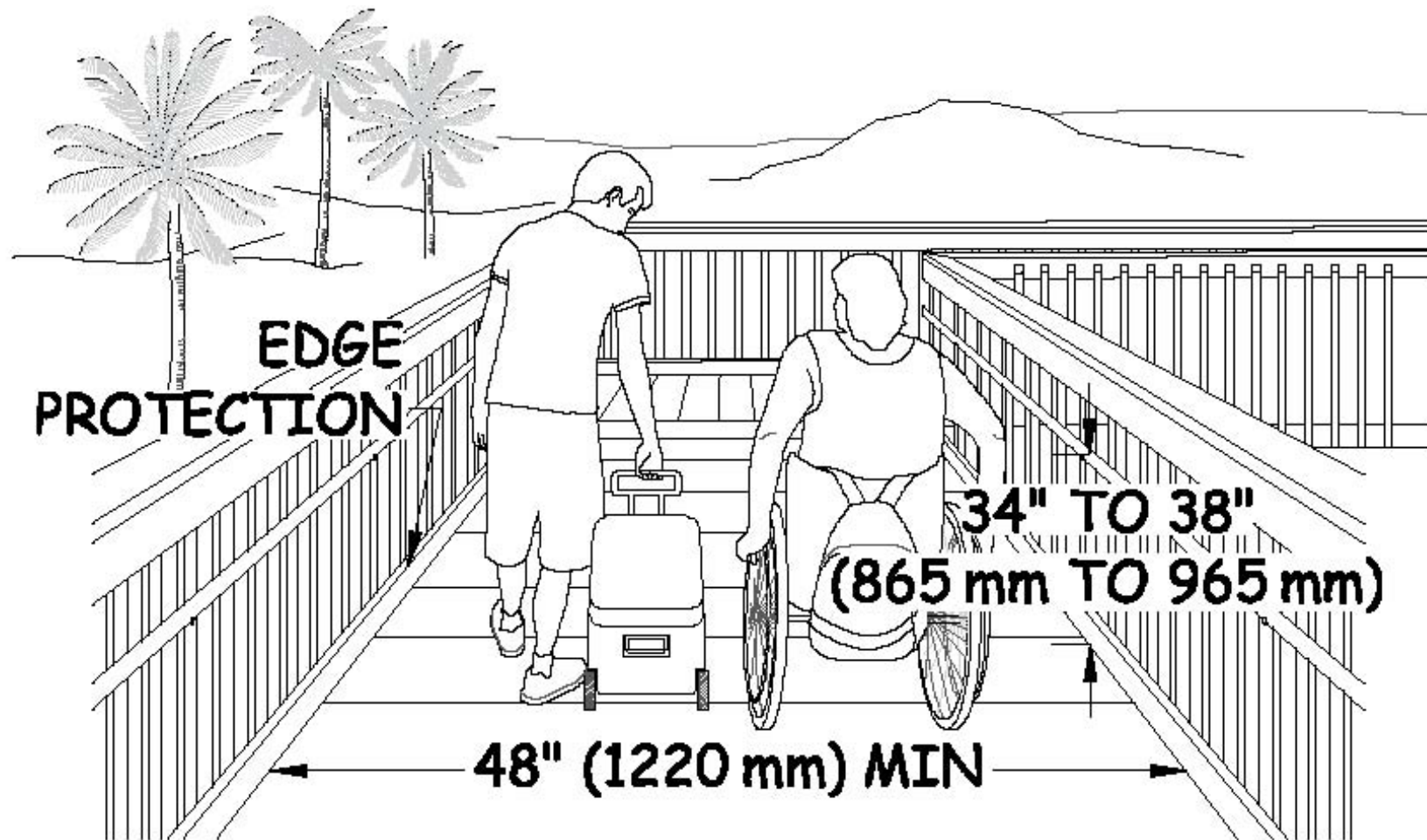


Figure 43 - Sample guideline for minimum platform width and edge characteristics. Source: USAB

4.2.2 Specificity and Authenticity

The public process revealed a desire to keep the project with a local place-based feel of nature endemic to the Santa Cruz River corridor that speaks to all the senses.

- Construction materials used should be natural and artistic with a priority on local sourcing, especially for artistic craft.
- Any labels or signage should be prioritized for tactile features, artistic appearance, and congruency with sturdy natural materials (wood, stone, steel).
- Plant materials should be native with a variety of textures, colors, interest through the seasons, fragrances, etc.
- Trails and features are to be minimal and strategic in connecting visitors with the natural landscape. For example, the wetland platform should be sufficiently sized for universal accessibility and protrude strategically into the wetland to immerse the visitor into the restored habitat (Figure 44).



Figure 44 - Platform within the constructed wetland with vegetation restoration and strategic placement to avoid visual conflict with neighboring community.

4.2.3 Adaptability and Functionality

- Shade from trees and seating should be located strategically throughout the site and along the trail network.
- Entry kiosk and classroom should be sized for a variety of group uses and roofed for shade and rain protection to facilitate year-round function (Figures 45 and 46).
- Spaces should be designed to accommodate a variety of social opportunities for enhancing current uses and accommodating future uses, from the intimate (morning walk) to the public (Hawk Watch event).



Figure 45 - Shaded entry kiosk



Figure 46 - Shaded outdoor classroom

Section 5.0 Next Steps

5.1 Conclusion

This report provides a clear review of the 7-month process to research, consult with stakeholders, and prepare conceptual design recommendations and restoration framework of the Phase 1 area of the Tubac Nature Preserve for the first 5 years. This time frame allows the Tubac Nature Center, the community, and partners to act upon the high priority recommendations that will address immediate ecological restoration needs and accessibility to the public.

Though our expectation is to achieve much more, we (the Tubac Nature Center) are committing ourselves to the following timetable as a minimum:

By the end of year 1 after the conveyance,

- We will complete a professionally designed entrance feature from Ron Morriss County Park into the Preserve.
- We will complete the trail from the entrance to the Anza Trail south of the sewage treatment plant.

By the end of year 2 after the conveyance,

- We will have a professionally prepared wetland restoration plan for the borrow pit wetland in hand and be ready to implement the plan.

By the end of year 3 after the conveyance,

- We will have a river/forest restoration plan prepared by a professional organization completed.

By the end of year 4 after the conveyance,

- We will have a professionally done restoration plan for the open grasses/wildflower area aimed at improving the area for pollinator species.

The eight appendices provide guidance and best practices that will assist in the future design processes to develop more detailed aspects of the preserve and its amenities including accessible trails, artistic signage, entrance, kiosk, ramada, and other seating and viewing areas.

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