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San Antonio Missions National Historical Park
San Antonio, Texas

Environmental Assessment

Mission San Juan de Capistrano San Juan Farm: Demonstration Area and Agricultural Fields with a Barn, Parking Lot, Visitor Contact Station, and Trails

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Mission San Juan, NPS 2011b



Current San Juan Labore, URS, 2010

Mission San Juan de Capistrano

San Juan Farm: Demonstration Area and Agricultural Fields with a Barn, Parking Lot, Visitor Contact Station, and Trails

SUMMARY

The San Antonio Missions National Historical Park (SAAN) was established by Public Law, 92 Stat. 3635, P.L. 95-629, approved November 10, 1978. The park which is located on alternate sides of the San Antonio River preserves the 18th century Spanish missions of San Antonio. The missions are historically and architecturally significant remnants of the Spanish quest for lands and Christian converts in the New World. Survival of the mission communities rested on their being able to be self-sustaining. The crops cultivated at Mission San Juan de Capistrano (Mission San Juan) characterized the mission landscape and served both as staples and as commodities for sale or trade with the presidio, other missions, and other civilian communities in the area. The park General Management Plan (GMP) therefore identifies the mission as an economic center, an important interpretive theme for Mission San Juan. Today, although the historic labores for farm fields are still visible, the landscape surrounding Mission San Juan has changed considerably from the Spanish colonial landscape as it has been manipulated for various uses. The proposed action, creating the San Juan Farm, would restore the land surrounding Mission San Juan resulting in a landscape that is more representative of the Spanish colonial period. The initiatives would enhance the interpretive themes of the mission as discussed in the park GMP, provide additional visitor services, and take advantage of ongoing development that is currently taking place adjacent to the park and which have complementary objectives.

Three action alternatives, plus the no-action alternative, were identified based on program goals and objectives, internal and external scoping, guidance from existing park plans, and policy guidance from the National Park Service (NPS).

No-Action Alternative

Under this alternative, the San Juan farm would not be developed and no related modifications to the existing park infrastructure would be made. Visitors would continue to visit the mission compound and utilize the existing Yanaguana Trail. The existing labores would continue to be mowed and project objectives would not be met as visitors would not have the opportunity to experience the demonstration farm and agricultural landscape.

Alternative 1 – Minimum Action

Alternative 1 includes re-introducing farming activities at Mission San Juan. The farming activities would include initiating a 2.5-acre demonstration farming area and preparing 5 acres of prepared agricultural land or leased/special use agricultural fields. Proposed farming activities would be further extended by creating a 2.5-acre orchard, a 1.5-acre vineyard, and a 1-acre animal corral. This action would enable SAAN to meet the project objective of illustrating Spanish colonial farming technology and practices by creating an opportunity for the public to learn San Juan's distinct history through demonstrations and interpreters. The action also includes the construction of supporting infrastructure. This infrastructure includes a barn and farming implements/equipment storage sheds, an asphalt parking lot, and various pedestrian trails. This infrastructure would allow the project objective of providing the necessary visitor services and facilities in order to accommodate visitors and farm equipment to be met as well as the objective of promoting connectivity. The demonstration farm and the prepared agricultural

fields also provide an opportunity for the park to promote and enhance community and local partnerships and to make a contribution to the local economy.

Alternative 2 – Medium Action

Alternative 2 would include all of components as described under alternative 1 with some notable additions. This alternative includes extending the farming activities that were described under alternative 1. This extension would further address the established project objectives by creating additional opportunities for the public to learn San Juan's distinct history through demonstrations, wayside exhibits and interpreters. The extension of the farming activities would also further rehabilitate the modified cultural landscape, provide additional opportunities to promote and enhance community and local partnerships and contribute to the local economy.

Alternative 3 – Maximum Action (Preferred Alternative)

Alternative 3 would include all of components of alternatives 1 and 2 but under this alternative the prepared agricultural land or leased/special use permit agricultural areas would be greatly extended. In addition, under this alternative, Villamain Road would become an access controlled NPS road which would be closed to traffic during the night.

This EA has been prepared in compliance with the National Environmental Policy Act (NEPA) to provide the decision-making framework that 1) analyzes a reasonable range of alternatives to meet objectives of the proposal, 2) evaluates potential issues and impacts to Mission San Juan's resources and values, and 3) identifies mitigation measures to lessen the degree or extent of these impacts. Resource topics included in this document because the resultant impacts may be greater-than-minor include soils, vegetation, wildlife, cultural landscapes, historic structures and districts, archeological resources, visitor use and experience, park operations and management and socioeconomics. All other resource topics were dismissed because the project would result in negligible or minor effects to those resources. No major effects are anticipated as a result of this project. Public scoping was conducted to assist with the development of this document and comments were received, in support of the proposed project.

NOTE TO REVIEWERS AND RESPONDENTS

If you wish to comment on the environmental assessment, you may post comments online at http://parkplanning.nps.gov/san_juan_ea or mail comments to: Susan Snow, 2202 Roosevelt Avenue, San Antonio, Texas 78210-4919.

This environmental assessment is available for public review for 30 days. Before including your address, phone number, e-mail address, or other personal identifying information in your comment, you should be aware that your entire comment – including your personal identifying information – may be made publicly available at any time. Although you can ask us in your comment to withhold your personal identifying information from public review, we cannot guarantee that we will be able to do so.

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PURPOSE AND NEED

Introduction

The San Antonio Missions Historical Park (SAAN) is considering various improvements to the area of the park surrounding Mission San Juan de Capistrano (Mission San Juan). These improvements consist of the development of the San Juan Farm. The farm would include a demonstration area with a barn, parking lot, visitor contact station, and trails. The proposed improvements would enrich the interpretive themes of the mission, restore the existing cultural landscape and encourage connectivity to other local development initiatives whose objectives are complementary to demonstration farm. The purpose of this environmental assessment (EA) is to examine the environmental impacts associated with the proposed improvements. This EA was prepared in accordance with the National Environmental Policy Act (NEPA) of 1969, regulations of the Council on Environmental Quality (CEQ) (40 Code of Federal Regulations [CFR] §1508.9), and the National Park Service (NPS) Director's Order (DO)-12 (Conservation Planning, Environmental Impact Analysis, and Decision-Making).

Background

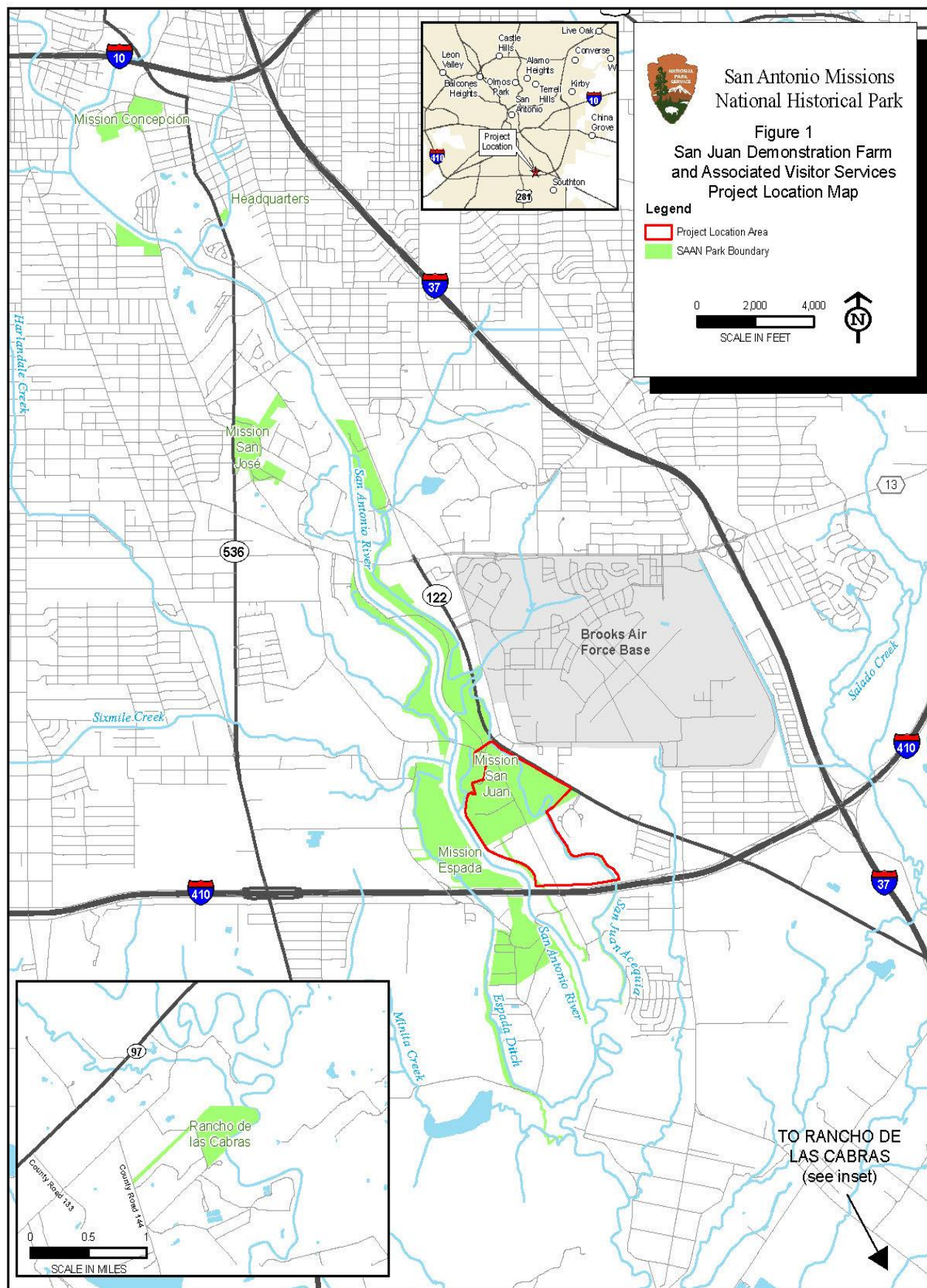
SAAN was established by Public Law, 92 Stat. 3635, P.L. 95-629, approved November 10, 1978. The park is located on alternate sides of the San Antonio River as it flows through the southern half of San Antonio. The 18th century Spanish missions within the park are historically and architecturally significant remnants of the Spanish quest for lands and Christian converts in the New World and are the largest concentration of Spanish colonial resources in the United States (U.S.). SAAN consists of Mission Concepción, Mission San José, Mission San Juan, and Mission Espada (NPS 1982). *Figure 1* shows the park boundaries and the location of the proposed park improvements.

As stated in the park's General Management Plan and Development Concept Plan (GMP/DCP), the purpose of the park is to:

...provide for the preservation, restoration, and interpretation of the Spanish Missions of San Antonio, Texas, for the benefit and enjoyment of present and future generations of Americans, there is hereby established the San Antonio Missions National Historical Park...consisting of Concepción, San José, San Juan, and Espada Missions, together with areas and features historically associated therewith.

NPS plays a key role in the management of Mission San Juan in cooperation with the Catholic Archdiocese of San Antonio who own the mission compound itself and shares management responsibilities with SAAN. Most of the adjacent property is now owned and managed solely by SAAN, although the City of San Antonio owns and operates the public streets and the San Antonio River Authority (SARA) manages the river (Thoms et. al 2001).

Mission San Juan was founded in 1731 along the banks of the San Antonio River. The mission, the Franciscan clergy, and the support staff, including artisans hired from interior Mexico, functioned to transform Native Americans, mostly hunter-gatherers, into productive Spanish citizens who served the Crown as farmers, skilled laborers, and artisans who became practitioners of the Catholic faith (Rock 1999) (Thoms et. al. 2001). In 1794, with the signing of a formal decree stating partial secularization, non-religious lands and goods were divided amongst mission converts. By this time, Mission San Juan was already in a state of decline.



During the years following partial secularization, the area witnessed the establishment of several homesteads in areas surrounding Mission San Juan. The secession of Mexico from Spain in 1821 was followed by a decree of full secularization of the San Antonio missions in 1823. By 1824 the Mission San Juan Acequia (irrigation channel) and labores (agricultural fields) fell under the jurisdiction of the local town council and civil authorities, although the Catholic Church retained control of the main Mission church and chapel (Thoms et. Al. 2001).

After secularization, agricultural production continued in the labores through the 19th century, and several mills were established nearby along the San Antonio River. Ownership of lands surrounding the missions changed frequently. By 1837, the City of San Antonio was incorporated by the Texas Congress, marking an influence over Mission San Juan, its labores, acequia system and the San Antonio River which continued well into the 20th century (Thoms et. al. 2001).

Throughout the many periods of Mission San Juan's existence, a struggle between human aspirations and natural processes has defined many of the challenges faced by residents of the mission. This contest is evident still today, as erosion, climate and time slowly wear away at the mission's landscape, structures and buildings. In addition, the growth of the City of San Antonio has resulted in a landscape that has changed considerably since the historic mission period. The landscape can be classified as "disturbed lands", or lands that have been manipulated for various uses. As a result, Mission San Juan is under considerable stress to maintain the rural setting and sense of its historic past (NPS 2011a).

The main components of the current Mission San Juan landscape are the mission compound, labores, acequia, trails, roads and parking areas (**Figure 2**).

The Mission Compound

All Texas missions had a similar arrangement which includes a pueblo, or Indian village, surrounding the church and convento, or priest's dwelling. The pueblo was generally enclosed by a defensive wall by the 1760s. The present configuration of Mission San Juan is representative of this organization. Key components of the mission compound include the convento, church, parish offices, "tufa house", restrooms and inner courtyard.

Labores

The agricultural tradition of the area is still generally retained through the continued presence of the labores or communal fields. These labores were tended during the Spanish colonial times and are evident today as open mowed fields. Fed by the San Juan acequia system, beans, corn, chili peppers, squash, pumpkins, melons, potatoes, sugar cane, and cotton were successfully produced on the labores. These labores are primarily located to the south and east of the mission compound.

Acequias

The acequia system is the oldest form of irrigation in continuous use in the U.S. (Gilbert 1990, 41). The construction of the San Juan acequia in 1731 and the cultivation of the labores, or communal farmlands, took priority over the construction of permanent dwellings and other structures (Rock 1993). The San Juan acequia stands as one of two surviving Mission-period acequia systems that remain to date in the San Antonio area, the other being the Espada acequia. The mouth of the San Juan acequia is located on the east bank of the San Antonio River, opposite Mission San José. Water from the San Antonio River was diverted into the acequia by the San Juan dam, from which point water flowed south before reconnecting to the San Antonio River. Once within the San Juan Acequia, water flowed roughly 2.5 miles to a point just east of Mission San Juan. At this point the acequia divided into two smaller canals,

known as the acequia afuera, or outside canal, and the acequia en medio, or the middle canal. It was from these two branches of the acequia afuera and acequia en medio that lateral ditch canals were dug to irrigate crops grown on Mission San Juan's labores (NPS 2011a.)

Trails

The Yanaguana Trail is currently located to the southwest of the mission compound. The 0.3 mile interpretive trail winds through a riparian forest which separates the mission grounds from the remnant San Antonio River to the west. The trail, which was constructed between 1988 and 1989 and rehabilitated in 2007, is largely comprised of concrete, with several bridges constructed of structural pressure treated wood and composite plastic and wood fiber decking.

Within the mission compound, a path within the interior mission complex is paved, in part to reduce wear and tear on the ground. This pathway was installed between 1998 and 2007, and constructed of concrete with ragged edges that jut in and out in a random pattern that allows for a less formal threshold between sidewalk and adjacent vegetation. The result is a more natural looking walkway. This type of sidewalk is the main circulation path for the entire mission grounds. The path follows the interior mission boundaries to form a loop around a turf area comprising the central mission grounds. The mission convento workroom ruins, restrooms, the mission's unfinished stone church, the post-colonial Tufa House, the Native American quarters along the north and west walls, the interior turf area, the original mission well, and the present day chapel are all accessible from this path.

Roads/Parking Facilities

Present day vehicular circulation near the Mission San Juan grounds consists of asphalt paved roads and two parking areas, one designated for public visitors, the other a private drive named River Street for those associated with the present Catholic church. Mission Parkway, Villamain Road, Graf Road, Presa Street and Mission Road (also known as Ashley Road) are large paved roads that are adjacent to the boundaries of the mission. River Street is an asphalt and gravel-surfaced access road to the rectory, parish buildings and mission church gravel parking lot, which has a small (30'x 30') concrete pad for parking.

The NPS parking area is entered from Mission Parkway a short distance from its intersection with Ashley Road (Mission Road), Villamain Road and Graf Road. The gravel and asphalt public parking area, which accommodates thirty-six cars, is bordered on the north side by wooden bollards, each interconnected with a steel cable. Visitors and park staff, including rangers, maintenance and service personnel, use this parking area. The road running through the public parking lot makes a loop, allowing for bus circulation, with an informal drop off point at the northwest corner.

Purpose and Need

Park interpretive themes are the key stories through which visitors connect park resources to the larger ideas, meaning, and values of which they are a part of. The primary themes of Mission San Juan are related to the mission as an economic center and include "*how the San Antonio missions became self-sufficient and self-sustaining outposts for the Spanish Empire*"; "*how the San Antonio missions system accelerated the encounter, adaptation, and assimilation of cultures that created a dynamic, complex and diverse community that has evolved from an outpost on the edge of the Spanish Empire into our nation's 7th largest city*".

Planning documentation has identified the creation of a demonstration farm as a critical component to enable the interpretation of these themes. The demonstration farm would illustrate, through hands-on practical programs and demonstrations, how the missions became self-sustaining and how indigenous people were assimilated into Spanish society by conveying

the transformative process the Native Americans experienced as they adapted from a nomadic hunting and gathering economy to an economy based on agriculture, mercantile trade, and obedience and obligation to foreign institutions. SAAN is on the United States tentative list for nomination as a World Heritage Site. A successful nomination is a high priority of the Secretary of the Interior. The demonstration farm is an integral piece to the World Heritage nomination as it protects, preserves, and restores critical pieces of the park's cultural landscapes including the acequia and labores systems of Mission San Juan. No activity or demonstration program that currently exist within the park that can convey these primary park themes to the public as effectively as a working demonstration farm would, creating a need to develop a demonstration farm in order to provide an opportunity for the public to learn San Juan's distinct history through interpretive initiatives. Historic documentation shows not only the use of the larger labores but also the diversification of agricultural pursuits beyond crop production including orchards. There is therefore a need to include this diversification of agricultural activities into the demonstration farm.

Infrastructure from the original farming operations is still evident in the form of the historic labores and the San Juan Acequia. The presence of these two factors facilitate the creation of a demonstration farm as they are key components to mission era farming infrastructure. Despite these two key aspects of the farming operations being in place, the current landscape does not however have the necessary infrastructure needed to adequately support farming activities or visitor services. This lack of infrastructure to support the farming activities would limit the success of the proposed farming activities. There is therefore a need to introduce storage facilities for farming equipment such as a barn and farming implement storage sheds. The lack of visitor support services currently at the mission would limit the visitor experience and educational benefits that would be associated with the demonstration farm. There is therefore a need to introduce infrastructure that would provide a venue that includes basic services as well as educational opportunities for visitors to the mission, such as a visitor contact station and pedestrian trail networks. Additional support services would also include a need to provide adequate parking facilities for the mission and surrounding attractions.

Overtime, many of the properties surrounding the mission compound, which were originally labores used to produce crops for mission population, were reclaimed for either residential or small-scale private agricultural operations. This has resulted in a cultural landscape surrounding the mission that does not accurately represent the Spanish Colonial landscape. Since its creation in 1978, SAAN has acquired many acres of these properties surrounding the mission through fee purchase and donations. The acquisition of these properties, some of which is still ongoing in association with the San Antonio River Improvements Project (SARIP), has been conducted in order to create an opportunity to rehabilitate the modified cultural landscape surrounding Mission San Juan in order to enhance the historic integrity the landscape surrounding the mission. There is therefore a need to re-establish the historic labores which surround the mission compound and reintroduce agricultural activities onto these labores. The introduction of these farming activities also creates a need to establish a mechanism such as special use agricultural fields or the lease of prepared agricultural fields in order to successfully manage and operate the additional farming operations.

SAAN has a number of operational partners due to the shared ownership of portions of the land within the park boundaries. This shared ownership has resulted in a number of cooperative agreements implemented to promote the shared management and use of park resources. These partners include the City of San Antonio, SARA, Bexar County and the ArchDiocese. The area surrounding the Mission San Juan and the park in general is currently undergoing a number of development initiatives which are complementary to the SAAN themes and objectives and can be expected to result in an increase in the number of park visitors. These

projects include the SARIP, the Missions Trail Project, and the construction of the Mission Library. The presence of these local initiatives has created a need for SAAN to promote local connectivity within the area.

The development initiatives and partnering arrangements have created a need as well as opportunities for SAAN to promote and enhance existing local partnerships through new joint initiatives, create new local partnerships and also contribute to the local economy through the development of the San Juan Farm. In May of 2011, SAAN, Los Compadres de San Antonio Missions National Historical Park (Los Compadres), Western National Parks Association, and the National Parks Conservation Association funded an economic impact study for the park that was carried out by the Department of Economics at the University of Texas at San Antonio. As part of the study, the potential contribution that a demonstration farm at Mission San Juan would make to the local economy was considered. The study estimates the demonstration farm could generate nearly \$18.5 million annually to the San Antonio area economy and add over 200 employment opportunities.

The purpose of this project is to restore the cultural landscape and further develop the San Juan Farm.

The project is needed in order to accomplish the objectives discussed below:

- *Objective 1:*

Illustrate Spanish colonial farming technology and practices and create an opportunity for the public to learn San Juan's distinct history through interpretive initiatives.

- *Objective 2:*

Provide necessary visitor services and facilities in order to accommodate visitors and farming equipment.

- *Objective 3:*

Rehabilitate the modified cultural landscape surrounding Mission San Juan where feasible and appropriate while preserving and enhancing historic integrity.

- *Objective 4:*

Promote local connectivity within the area, especially to adjacent development initiatives.

- *Objective 5:*

Promote and enhance community and local partnerships and contribute to the local economy through the development of the San Juan Farm.

Relationship to Other Plans and Policies

This project has been developed in a manner consistent with NPS legal mandates and *Management Policies 2006* (NPS 2006). Developing the Mission San Juan Farm is directly associated with the park's enabling legislation and existing park planning documents. The park's enabling legislation charges the NPS with the responsibility for the "preservation, restoration, and interpretation of the Spanish Missions of San Antonio, for the benefit and enjoyment of present and future generations."

In 1982, a GMP/DCP was developed for SAAN. The GMP/DCP was developed based on the November 1981 Environmental Assessment, in which alternatives for the management of the park were described and analyzed. DCPs were integrated with in the GMP. A DCP is a plan that presents more detail than a GMP, addressing the management actions or physical

development of the park. The SAAN GMP/DCP provides broad direction for management of the park and identifies actions to improve the quality of both visitor and employee experience, as well as to improve management and protection of historic values and natural resources for each of the Missions.

Such planning documents are required for all national parks, and are developed early on in the park's existence. The GMP developed for this park was in response "to the establishing legislation's requirement that a 'final master plan be submitted to Congress 'indicating (A) the facilities needed to accommodate the health, safety, and interpretive needs of the visiting public; (B) the location and estimated cost of all facilities; and (C) the projected need for any additional facilities within the park" (SAAN 2000).

According to the GMP/DCP, the primary park interpretive theme of Mission San Juan is the mission as an economic center. Based on agriculture, the mission economy provided not only subsistence but also surplus for trade. The GMP/DCP recommended the following in connection with the management Mission San Juan:

The GMP/DCP recommended that the mission croplands or labores, their accompanying acequia systems, and other water control features should be generally interpreted at San Juan.

Cultural Resources

"The historic structures at Mission San Juan will be stabilized and preserved, and the compound grounds will be maintained generally as they are now. The intrusive and inadequate restrooms will be removed, and new restrooms will be installed elsewhere. The existing parking area and the section of Mission Parkway skirting the east compound wall will be eliminated and the area rehabilitated to a condition more harmonious with the historic scene."

"The Daura house and, when available, several adjacent residences will be removed to enhance the primary historic setting. The convento and the house (c. 1850) on the east side, of the compound will be adaptively used."

Interpretive Experience

"Upon arriving at Mission San Juan, visitors will proceed along a walkway from the parking area on the north of the compound through the main or north gate where they will be introduced to the site's themes and informed of the interpretive display area in the convento. They will then follow a walkway that skirts a series of mission structures and leads to the church in the compound. After viewing the church, visitors will have an opportunity to stop at the convento's interpretive display area, avail themselves of complimentary or purchasable publications, and obtain interpretive information regarding the mission's themes."

"From the interpretive display area, visitors will have three options. First, they may proceed on the walkway within the compound and enjoy the resources listed under Supportive Resources for Interpretation. The second option is to follow a loop trail outside the compound's southwest gate leading to a wooded area and old river channel with relevant natural resources and historic values (present day Yanaguana Trail). The trail will also relate the evolution of the natural landscape to its present altered state and provide the visitor with an opportunity to experience some solitude. The third option is for visitors to take a trail which leads south to a portion (about 5 acres) of the San Juan labores or farmlands, which will be maintained to replicate the croplands of the mission during the Spanish colonial period. The fields will be irrigated as they once were by lateral branches from the San Juan Acequia. "

"Trails will connect Mission San Juan with the San Juan Acequia, Espada Acequia and Aqueduct, and the Labores of Espada. Appropriate interpretive developments will be provided at

these features and at the Espada Dam for those visitors who desire to enhance their basic park experience by visiting these resources.”

Visitor Support Services

“A new entrance road (approximately 350 ft.) will provide visitors with a vista of the compound and its, main (north) gate before terminating at a new parking area (35 vehicles) to the northeast. The existing parking area and the section of Mission Parkway skirting the east compound wall will be removed. A new restroom structure (350 sq. ft.) with temporary holding tanks will be built adjacent to the parking area. A new driveway (with parking capacity) for the pastor and adjacent residents will be constructed between the northwest corner of the compound and Ashley Road to minimize conflict with pedestrians approaching the main gate and to protect residents' privacy. The city has agreed to realign the Ashley Road and Villamain Road intersection to provide for a safer and more gradual road curve.”

“The convento will be adaptively used for an interpretive display area (720 sq. ft.) and a small site office. The house (c. 1850) on the east side of the compound will be adapted for storage and multipurpose use. The existing gift shop, operated by the archdiocese, will be eliminated. Cold drinking water will be available for visitors.”

“Walkways will connect the parking area and the periphery of the compound. Trail segments will branch off the walkway system. Approximately 1,500 feet of walkway and 4,000 feet of trail will be required. Pedestrian bridges will be developed to directly connect San Juan with the resources on the west side of the San Antonio River. To support management of the fields, an outbuilding or shed will be needed for storage. An existing farm road will provide access for field maintenance.” (NPS 1982).

Of the actions outlined above, the following have been successfully implemented as part of previous park improvement projects:

- The historic structures at Mission San Juan have been stabilized and preserved, and the compound grounds are being maintained generally as they are now.
- The Daura house and several adjacent residences have been removed in order to enhance the primary historic setting.
- A walkway within the compound has been created.
- Visitors can follow a loop trail outside the compound's southwest gate leading to a wooded area and old river channel with relevant natural resources and historic values (present day Yanaguana Trail).
- A driveway was created for the parish.
- The convento has been adaptively used for an interpretive display area and a small site office. Park visitors have the opportunity to stop at the convento's interpretive display area.
- The house (Tufa house) on the east side of the compound has been adapted for storage and multipurpose use.
- The existing gift shop, operated by the Archdiocese, has been eliminated.
- An existing farm road has been used to provide access for field maintenance (currently the fields are mowed twice per year).

Of the recommended actions described above, the proposed park improvements would address or contribute to the following:

- The existing parking area and the section of Mission Parkway skirting the east compound wall would be eliminated and the area rehabilitated to a condition more harmonious with the historic scene.

- Ashley Road and Villamain Road intersection would be modified to provide for a safer and more gradual road curve
- Visitors would be able to take a trail which would lead the San Juan labores.
- The labores would be maintained to replicate the croplands of the mission during the Spanish colonial period.
- To support management of the fields, an outbuilding or shed would be constructed.
- Trails would connect Mission San Juan with the San Juan Acequia, Espada Acequia and Aqueduct, and the Labores of Espada.

The GMP also outlined DCP actions that would support the interpretation of the site theme and provided recommendations for managing Mission San Juan resources and operations. These actions were presented in four phases, as show in **Table 1**.

Table 1 – GMP Mission San Juan Recommendations

Phase	Action
1	Upgrade utilities in historic structures* Multipurpose facility (adaptive use)* Staff office (adaptive use)* Realign Ashley Road and Villamain Road intersection (by city) Remove houses for future site development* Relocate utilities for future site development
2	New parking area with access road New driveway* with parking capacity Interpretive displays area (adaptive use) New restrooms with holding tank Walkways in compound* and to parking Interpretive media* Remove former roads and parking areas Remove old restrooms
3	Demonstration farm New farm storage building Trails outside compound* Interactive media Remove intrusions on historic scene* Rehabilitate landscape and provide buffer screens New pedestrian bridges over river channels Tie-in to proposed city sewer main extension
4	Restore historic structures and landscape where feasible and appropriate Provide bus shuttle shelter

* Already Implemented

Recommended actions that have been completed to date are marked with an asterisk above. Of the remaining actions, the proposed park improvements would address the following Phase 2 recommended actions:

- New parking area with access road,
- Walkways in compound and to parking,
- Interpretive media,
- Remove former roads and parking areas.

The proposed park improvements would address the following Phase 3 recommended actions:

- Demonstration farm,
- New farm storage building,
- Trails outside compound,
- Rehabilitate landscape and provide buffer screens

The proposed park improvements would address the following Phase 4 recommended actions:

Restore historic structures and landscape where feasible and appropriate. As demonstrated above, the proposed project is consistent with the GMP/GDP goals of addressing the overall park enabling legislative responsibilities of preservation, restoration, and interpretation of the Spanish Missions of San Antonio. The proposed park improvements also include a number of the initiatives that are directly consistent with the actions outlined in the GMP/DCP.

The proposed park improvements do however include modifying some aspects of the GMP/DCP recommended actions as well as extending and introducing new actions. These modifications and additions are primarily a result of the length of time since the GMP/DCP recommendations were made, as the study was published in the early 1980's. The operational history since these recommendations were made has provided park staff with an insight into park management and operational needs that was not available when the planning initiatives that were conducted over 30 years ago. Rapidly increasing visitor numbers, regional and local demographics and large scale local development initiatives such as the SARIP, have influenced park needs and management objectives. As a result of these influences, the following modifications are included as part of the proposed park improvements:

- The GMP recommended 35 car parking area, would be expanded to accommodate up to 140 cars. This expansion is based on a need to accommodate rapidly increasing number of visitors to the park. The parking area would serve as a centralized parking area for the immediate area which would also include SARA Mission San Juan Portal park traffic, consolidating three potential parking areas into one centralized facility.
- The proposed park improvements include the development of a visitor contact station for Mission San Juan. This action would remove the interpretative display area from the convento in order to address the inappropriate use. The visitor contact station would introduce the park visitor to the site's themes rather than the convento as described in the GMP/GDP. All of the functions of the convento as described in the GMP/GDP including the interpretive display area, would be transferred to the visitor contact station.
- In addition to removing the section of Mission Parkway skirting the east compound wall, the proposed park improvements include converting Villamain Road from a public road to access controlled NPS facility.

In addition, the park's Comprehensive Interpretive Plan (CIP), completed in 2002 and updated in 2011, articulates the need for a demonstration farm and its interpretive themes, goals and objectives and the variety of ways and methods that they could be met.

The local community and park partners have strongly expressed their desire for the development of a Spanish Colonial Demonstration Farm. The passing of the 2008 Visitor Venue Tax is a powerful statement expressing the local community's desire to invest local public funding to fulfill this undeveloped component. Subsequent partnering efforts between SAAN, Los Compadres, the City of San Antonio, SARA, and Bexar County in order to assist the park in acquisition, restoration, and preservation of the Mission San Juan labores and the restoration of the San Juan Acequia system illustrate a long term commitment by the community to help SAAN realize this goal.

The park also has a vegetation management plan, “Controlling Chinaberry and Glossy Privet”, August 2000. The plan outlines how the encroachment of exotic species is threatening the natural and cultural viewscape of the park and altering the interpretation and significance of the resource. The park currently controls these populations through a field (or *labor*) mowing program. The implementation of the proposed project would ensure that invasive vegetation is controlled.

Scoping

Scoping is a process to identify the resources that may be affected by a project proposal and to explore possible alternative ways of achieving the proposal while minimizing adverse impacts. SAAN conducted internal scoping with appropriate NPS staff, as described in more detail in the Consultation and Coordination chapter. The park also conducted external scoping with the public and interested and affected groups and agencies.

External scoping was initiated with the distribution of a scoping letter to inform the public of the proposed project and to generate input on the preparation of this EA. The scoping letter was mailed to over 270 addresses which included federal, state, local agencies and local landowners. Scoping information was also posted on the park’s website. A public scoping meeting was held on January 12, 2011. A total of 16 people attended the meeting, which included an open house, a formal presentation in which the preliminary project alternatives were described, and a question and answer session.

A public comment period commenced on January 11, 2011 and was open until January 27, 2011. In total, 5 letters and emails, and one comment on the NPS planning, environment and public comment (PEPC) website were received during the scoping period. Overall no major concerns were raised regarding any of the proposed alternatives. One comment was received in support of alternative 2 – medium action. Other comments received were from a consulting agency and Native American tribes offering guidance on future project coordination efforts.

Impact Topics Retained For Further Analysis

Impact topics for this project have been identified on the basis of federal laws, regulations, and orders; NPS *Management Policies 2006*; and NPS knowledge of resources at SAAN. Impact topics that are carried forward for further analysis in this EA are listed below and further analyzed in the *Environmental Consequences* chapter.

Impact topics retained for further analysis are:

- Vegetation
- Soils
- Historic Structures and Districts
- Visitor Use and Experience
- Socioeconomics
- Wildlife
- Cultural Landscapes
- Archeological Resources
- Park Operations and Management

Impact Topics Dismissed From Further Analysis

In this section, NPS takes a “hard look” at all potential impacts by considering the direct, indirect, and cumulative effects of the proposed action on the environment, along with

connected and cumulative actions. Impacts are described in terms of context and duration. The context or extent of the impact is described as localized or widespread. The duration of impacts is described as short-term, ranging from days to three years in duration, or long-term, extending up to 20 years or longer. The intensity and type of impact is described as negligible, minor, moderate, or major, and as beneficial or adverse. The NPS equates “major” effects as “significant” effects. The identification of “major” effects would trigger the need for an EIS. Where the intensity of an impact could be described quantitatively, the numerical data is presented; however, most impact analyses are qualitative and use best professional judgment in making the assessment.

The NPS defines “measurable” impacts as moderate or greater effects. It equates “no measurable effects” as minor or less effects. “No measurable effect” is used by NPS in determining if a categorical exclusion applies or if impact topics may be dismissed from further evaluation in an EA or EIS. The use of “no measurable effects” in this EA pertains to whether NPS dismisses an impact topic from further detailed evaluation in the EA. The reason NPS uses “no measurable effects” to determine whether impact topics are dismissed from further evaluation is to concentrate on the issues that are truly significant to the action in question, rather than amassing needless detail in accordance with CEQ regulations at 1500.1(b).

In this section of the EA, NPS provides a limited evaluation and explanation as to why some impact topics are not evaluated in more detail. Impact topics are dismissed from further evaluation in this EA if:

- they do not exist in the analysis area, or
- they would not be affected by the proposal, or the likelihood of impacts are not reasonably expected, or
- through the application of mitigation measures, there would be minor or less effects (i.e. no measurable effects) from the proposal, and there is little controversy on the subject or reasons to otherwise include the topic.

Due to there being no effect or no measurable effects, there would either be no contribution towards cumulative effects or the contribution would be low. For each issue or topic presented below, if the resource is found in the analysis area or the issue is applicable to the proposal, then a limited analysis of direct and indirect, and cumulative effects is presented.

Topography, Geology

According to the NPS *Management Policies 2006*, NPS will preserve and protect geologic resources and features from adverse effects of human activity, while allowing natural processes to continue.

The proposed park improvements would not result in large-scale excavations, including cuts, fills, or borings. Any impacts to topography and geology would be adverse, temporary and negligible to minor. As these effects are minor or less in degree, this topic is dismissed from further analysis.

Ethnographic Resources

National Park Service’s DO-28 *Cultural Resource Management Guideline* defines ethnographic resources as any site, structure, object, landscape, or natural resource feature assigned traditional legendary, religious, subsistence, or other significance in the cultural system of a group traditionally associated with it. According to DO-28 and Executive Order 13007 on sacred sites, the NPS should try to preserve and protect ethnographic resources.

No specific ethnographic resources, including tribal resources, have been identified by the park or were raised as issues during public scoping which included a public scoping meeting and tribal coordination efforts. Therefore no impacts to significant ethnographic resources are expected. As these effects are minor or less in degree, this topic is dismissed from further analysis.

Prime and Unique Farmlands

The Farmland Protection Policy Act of 1981, as amended, requires federal agencies to consider adverse effects to prime and unique farmlands that would result in the conversion of these lands to non-agricultural uses. Prime or unique farmland is classified by the U.S. Department of Agriculture's Natural Resources Conservation Service, and is defined as soil that particularly produces general crops such as common foods, forage, fiber, and oil seed; unique farmland produces specialty crops such as fruits, vegetables, and nuts.

The majority of soils within the project area are considered prime farmland soils. The proposed park improvements would not result in the conversion of land to non-agricultural uses. It is anticipated that the proposed park improvements would result in mostly beneficial effects to prime farmland soils, and any adverse effects would be negligible. As these effects are minor or less in degree, this topic is dismissed from further analysis.

Museum Collections

According to DO-24 *Museum Collections Management*, the NPS requires the consideration of impacts on museum collections (historic artifacts, natural specimens, and archival and manuscript material), and provides further policy guidance, standards, and requirements for preserving, protecting, documenting, and providing access to, and use of, NPS museum collections.

The proposed park improvements would result in surficial ground disturbances, particularly during the preparation of the labores for cultivation. These actions would be closely monitored in order to ensure that any artifacts that are discovered are cataloged and stored appropriately. The action alternatives would therefore result in beneficial effects to museum collections, and any adverse effects would be negligible. As these effects are minor or less in degree, this topic is dismissed from further analysis.

Threatened, Endangered, Rare, and Protected Species

The Endangered Species Act of 1973 requires examination of impacts on all federally-listed threatened, endangered, and candidate species. Section 7 of the Endangered Species Act requires all federal agencies to consult with the U.S. Fish and Wildlife Service to ensure that any action authorized, funded, or carried out by the agency does not jeopardize the continued existence of listed species or critical habitats. In addition, the NPS *Management Policies 2006* and DO-77 *Natural Resources Management Guidelines* require NPS to examine the impacts on federal candidate species, as well as state-listed threatened, endangered, candidate, rare, declining, and sensitive species.

There are no federally listed plant, or wildlife, species known to occur at Mission San Juan. Two species listed by the State of Texas as threatened including the peregrine falcon (*Falco peregrinus*) and the Texas tortoise (*Gopherus berlandieri*), have been observed within SAAN. No effect to these two species is anticipated as a result of the proposed park improvements.

No effects to federally threatened, endangered, proposed, and candidate species are anticipated as a result of the proposed park improvements. Walking surveys would be

performed prior to any construction activities. Based on mitigation measures, it is anticipated that potential effects are minor or less in degree, this topic is dismissed from further analysis.

Water Resources

NPS policies require protection of water quality consistent with the Clean Water Act of 1977 (CWA). The purpose of the CWA is to "restore and maintain the chemical, physical, and biological integrity of the Nation's waters." To enact this goal, the U.S. Army Corps of Engineers (USACE) has been charged with evaluating federal actions that result in potential degradation of waters of the U.S. and issuing permits for actions consistent with the CWA. The U.S. Environmental Protection Agency (EPA) also has responsibility for oversight and review of permits and actions that affect waters of the U.S.

Most of SAAN resides along either side of the San Antonio River, which flows south from downtown San Antonio. Like water quality for any large city, surface water quality is affected by storm water run-off (that can contain pesticides), and by the quality of municipally treated sewage. The most recent data published by SARA in their annual Texas Clean Rivers Basin Highlights Report indicates that water quality in the San Antonio River does not meet the EPA standard for bacteria, and, therefore, is considered impaired.

All of the proposed action alternatives include the construction and operation of agricultural fields for both grazing and crop production. Agricultural activities have the potential to impact water resources both through water usage and through the potential contribution of pollutants to downstream water resources. Pollutants resulting from agricultural activities include sediment, herbicides, pesticides, and fertilizer.

All construction activities would be performed in accordance with the Texas Discharge Elimination System Construction General Permit. Conditions of the permit would ensure that unacceptable impacts to water quality do not result from construction activities.

Due to the unique position of the park, and longstanding ownership of the adjacent farmlands, the park is granted a share of the water managed in the acequia system. SAAN has established annual water rights to 1200 acre-feet of water. Water was returned to the acequia system in September 2011 as a part of a separate project. Once operational, the San Juan Farm would utilize best management practices, including sustainable farming strategies, in order to ensure that run-off generated from the farming activities does not contain substances that could be detrimental to aquatic life present in both in the acequia system and the San Antonio River. In addition, as flood irrigation can result in a loss of water due to inefficiencies of the approach, NPS would further utilize best management practices in order to implement water conservation measures in an effort to minimize the loss of water within the system. As a result of these efforts it is anticipated that the potential impacts to water resources would be sufficiently mitigated so that potential impacts would be minor in degree. This topic is therefore dismissed from further analysis.

Wetlands

For regulatory purposes under § 404 of the CWA, the term wetlands means "those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas."

Executive Order 11990 Protection of Wetlands requires federal agencies to avoid adversely impacting wetlands, where possible. Further, §404 of the CWA authorizes the USACE to prohibit or regulate, through a permitting process, the discharge of dredged or fill material within

1 waters of the U.S. NPS policies for wetlands as stated in NPS *Management Policies 2006* and
2 DO-77-1 *Wetlands Protection* strive to prevent the loss or degradation of wetlands and to
3 preserve and enhance the natural and beneficial values of wetlands. In accordance with DO-
4 77-1, proposed actions that have the potential to adversely impact wetlands must be addressed
5 in a Statement of Findings for wetlands.

6 National Wetlands Inventory (NWI) maps identify one area that could have wetland
7 characteristics, and could be considered a water of the U.S. within the jurisdiction of the
8 USACE. The area is located east of Villamain Road and falls primarily within the electric utilities
9 right-of-way. Efforts during final design would ensure that the proposed park improvements
10 avoid this area. Therefore, a Statement of Findings for Wetlands would not be prepared. As
11 these effects are minor or less in degree, this topic is dismissed from further analysis.

12 **Floodplains**

13 Executive Order 11988 Floodplain Management requires all federal agencies to avoid
14 construction within the 100-year floodplain unless no other practicable alternative exists. NPS
15 under NPS *Management Policies 2006* and DO-77-2 *Floodplain Management* will strive to
16 preserve floodplain values and minimize hazardous floodplain conditions. According to DO-77-
17 2 *Floodplain Management*, certain construction within a 100-year floodplain requires preparation
18 of a Statement of Findings for floodplains.

19 The western end of the labores fall with the 100-year floodplain (Map #48029C0580G,
20 September 29, 2010) (FEMA 2011). As there are no structural improvements that would be
21 located within the 100-year floodplain, the proposed park improvements would not impact
22 floodplain functions and values or increase flood risks to development. Therefore, a Statement
23 of Findings for floodplains would not be prepared. As these effects are minor or less in degree,
24 this topic is dismissed from further analysis.

25 **Indian Trust Resources**

26 Secretarial Order 3175 requires that any anticipated impacts to Indian trust resources from a
27 proposed project or action by the Department of Interior agencies be explicitly addressed in
28 environmental documents. The federal Indian trust responsibility is a legally enforceable
29 fiduciary obligation on the part of the U.S. to protect tribal lands, assets, resources, and treaty
30 rights, and it represents a duty to carry out the mandates of federal law with respect to American
31 Indian and Alaska Native tribes. The proposed park improvements would not affect any federally
32 recognized American Indian or Alaska Native tribes. As these effects are minor or less in
33 degree, this topic is dismissed from further analysis.

34 **Soundscapes**

35 An important component of the NPS mission is the preservation of natural soundscapes
36 associated with national park units. Natural soundscapes exist in the absence of human-
37 caused sound. The natural ambient soundscape is the aggregate of all the natural sounds that
38 occur in park units, together with the physical capacity for transmitting natural sounds. Natural
39 sounds occur within and beyond the range of sounds that humans can perceive and can be
40 transmitted through air, water, or solid materials. The frequencies, magnitudes, and durations
41 of human-caused sound considered acceptable vary among NPS units as well as potentially
42 throughout each park unit, being generally greater in developed areas and less in undeveloped
43 areas.

44 Existing sounds in this area are most often generated from vehicular traffic (visitors and
45 employees entering/leaving the park), and from traffic travelling on Villamain Road and South

Presa Street. Additional noise sources in the vicinity of San Juan Mission include the rail corridor that parallels Villamain Road to the east, Stinson Municipal Airport to the west, and IH 410 to the south. An increase in patrons and the use of farm equipment at the park would have the potential to increase noise levels associated with the park.

During construction, human-caused sounds would likely increase due to construction activities, equipment, vehicular traffic, and construction crews. Any sounds generated from construction would be temporary, lasting only as long as the construction activity is generating the sounds, and would have an adverse negligible to minor impact on visitors and employees. As these effects are minor or less in degree, this topic is dismissed from further analysis.

Lightscares

In accordance with NPS Management Policies 2006, NPS strives to preserve natural ambient lightscares, which are natural resources and values that exist in the absence of human caused light. No additional lighting is anticipated as part of the proposed park improvements. As these effects are minor or less in degree, this topic is dismissed from further analysis.

Environmental Justice

Executive Order 12898 General Actions to Address Environmental Justice in Minority Populations and Low-Income Populations requires all federal agencies to incorporate environmental justice into their projects by identifying and addressing disproportionately high and adverse human health or environmental effects of their programs and policies on minorities and low-income populations and communities.

The populations of the U.S. Census blocks in which Mission San Juan is located range from 0 to 100 percent minority. Adjacent blocks share the same range of minority percentages. As the proposed San Juan Farm would be available for use by all park staff and visitors regardless of race or income, the construction workforces would not be hired based on their race or income, and as the project would promote community involvement through community gardens and farmers markets, it appears as though the proposed park improvements would not have disproportionate health or environmental effects on minorities or low-income populations or communities. As these effects are minor or less in degree, this topic is dismissed from further analysis.

Land Use

The agricultural uses of the area include farming and ranching activities from the 18th century to the 20th century. As the mission secularized in 1824, the religious land use of the landscape diminished. Conversely, the residential use of the landscape increased as former mission lands were sold off and subdivided, the agricultural tradition of the area has however, to a degree, been maintained. Since its inception, the park has actively acquired these properties in an effort to preserve the landscape surrounding Mission San Juan. Although this represents a change in land use, these properties were historically being utilized for agricultural pursuits. The proposed park improvements would be appropriate considering the importance of the use of the land throughout the history of Mission San Juan (NPS 2010). It is anticipated that the proposed improvements would therefore enhance the existing agricultural nature of the area rather than impact established land uses. As these effects are minor or less in degree, this topic is dismissed from further analysis.

Air Quality

The Clean Air Act (CAA) of 1963 (42 USC 7401 et seq.) was established to promote public health and welfare by protecting and enhancing the nation's air quality. The act establishes

specific programs that provide special protection for air resources and air quality related values associated with NPS units. Section 118 of the CAA requires a park unit to meet all federal, state, and local air pollution standards. Further, the CAA provides that the federal land manager has an affirmative responsibility to protect air quality related values (including visibility, plants, animals, soils, water quality, cultural resources, and visitor health) from adverse pollution impacts.

Construction activities such as hauling materials and operating heavy equipment could result in temporary increases of vehicle exhaust, emissions, and fugitive dust in the general area of the proposed park improvements. Any exhaust, emissions, and fugitive dust generated from construction activities would be temporary and localized and would likely dissipate rapidly.

The operation of the proposed park improvements would result in a negligible degradation of local air quality resulting primarily from farm equipment emissions. Negligible benefits could also result through the addition of pedestrian facilities which could result in a reduction in vehicle miles travelled. The Class II air quality designation for the park would not be affected by the proposed park improvements. As these effects are minor or less in degree, this topic is dismissed from further analysis.

Climate Change

Although climatologists are unsure about the long-term results of global climate change, it is clear that the planet is experiencing a warming trend that affects ocean currents, sea levels, polar sea ice, and global weather patterns. Although these changes will likely affect winter precipitation patterns and amounts in SAAN, it would be speculative to predict localized changes in temperature, precipitation, or other weather changes, in part because there are many variables that are not fully understood and there may be variables not currently defined. Impacts from construction equipment emissions would be temporary and would not measurably contribute to global climate change. An anticipated increase in park visitation may have a negligible effect on global climate change. This negligible effect would be mitigated through NPS sustainability initiatives which would be integrated into the design, construction, and operation of future park facilities. As these effects are minor or less in degree, this topic is dismissed from further analysis.

ALTERNATIVES CONSIDERED

A total of three action alternatives and the no-action alternative have been identified for the project. These alternatives were presented to the public during a project scoping meeting and discussed with an interdisciplinary team of NPS employees during a project planning workshop. Conceptual layouts of the no-action and action alternatives are presented in **Figures 2, 3, 4 and 5**. A summary table comparing alternative components is presented at the end of this chapter.

Alternatives Considered

No-Action Alternative

Under this alternative, the San Juan Farm would not be developed and no related modifications to the existing park infrastructure would be made. Visitors would continue to visit the mission compound and utilize the existing Yanaguana Trail. The existing labores would continue to be mowed and project objectives would not be met as visitors would not have the opportunity to experience the demonstration farm and agricultural landscape (**Figure 2**).

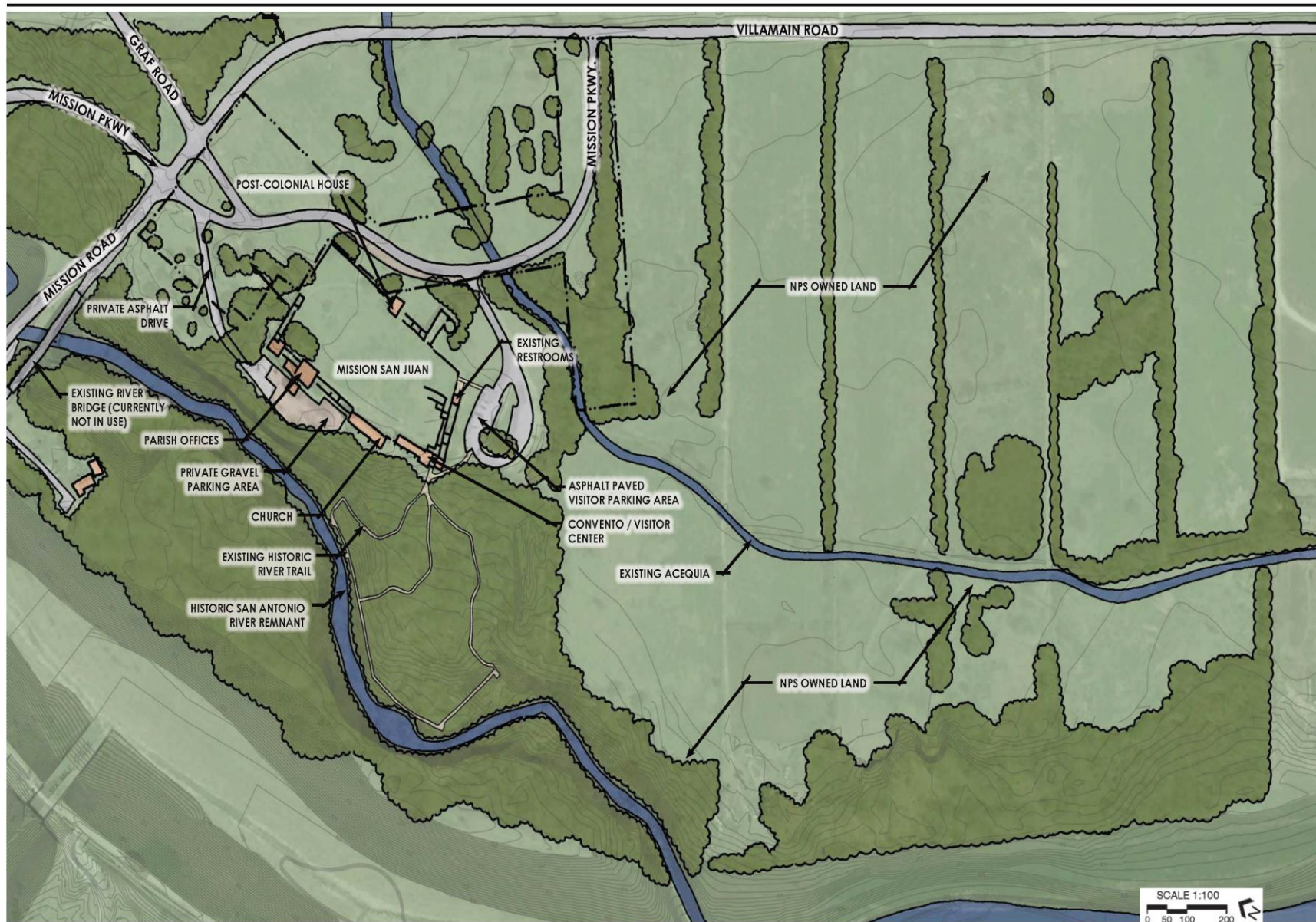
It should be noted that ongoing projects associated with the SARIP would result in some modifications being made to the existing park infrastructure as part of separate projects. These modifications would include the development of the San Juan portal, the re-watering of the San Juan Acequia and the development of the Acequia Trail. These actions, which are separate from the proposed San Juan farm, are therefore described and considered as part of the cumulative impacts scenario.

Alternative 1 – Minimum Action

Alternative 1 includes re-introducing farming activities at Mission San Juan. The farming activities would include initiating a 2.5-acre demonstration farming area and preparing 5 acres of agricultural land that would be available for leasing. Proposed farming activities would be further extended by creating a 2.5-acre orchard, a 1.5-acre vineyard, and a 1-acre animal corral. This action would enable SAAN to meet the project objective of illustrating Spanish colonial farming technology and practices by creating an opportunity for the public to learn San Juan's distinct history through demonstrations and interpreters. The action also includes the construction of supporting infrastructure. This infrastructure includes a barn and farming implements/equipment storage sheds, an asphalt parking lot, and various pedestrian trails. This infrastructure would allow the project objective of providing the necessary visitor services and facilities in order to accommodate visitors and farm equipment to be met as well as the objective of promoting connectivity. The demonstration farm and the prepared agricultural fields also provide an opportunity for the park to promote and enhance community and local partnerships and to make a contribution to the local economy through the development of the San Juan Farm.

The main components of this alternative are mapped in **Figure 3** and are further described below:

- **Demonstration farm:** All of the crop production would take place on the existing labores. The farm would enable the demonstration of the agricultural pursuits of the Mission Indians which took place on these labores under the guidance of the Franciscan missionaries and their lay assistants. The existing labores are currently grassed open fields as shown in the **Photograph 1**.



AUGUST 13, 2011



SAN ANTONIO MISSIONS NATIONAL HISTORICAL PARK
MISSION SAN JUAN de CAPISTRANO DEMONSTRATION FARM



FIGURE 2

EXISTING SITE LAYOUT
PMIS 162745



JULY 26, 2011



SAN ANTONIO MISSIONS NATIONAL HISTORICAL PARK
MISSION SAN JUAN de CAPISTRANO DEMONSTRATION FARM



FIGURE 3 SCHEMATIC LAYOUT DIAGRAM
Minimum Action PMIS 162745



Photograph 1: Representative Photograph of Current Labores at Mission San Juan (CLI, 2011)

As shown in **Exhibit 2**, the demonstration farm would be located to the east of the south end of the mission compound, and east of the San Juan acequia. The labores would be ploughed, prepared and cultivated with plants that would be representative of those grown in the Spanish colonial period. Crops may include corn, wheat, beans, sugar cane and squashes (Rock 2001). The fields would be irrigated as they once were by utilizing the lateral branches from the San Juan Acequia. Water is being restored to the San Juan Acequia as a separate action as described in the *Cumulative Impacts Scenario Section*. It is anticipated that volunteer labor would assist with the cultivation of the demonstration farm.

The fields would be interpreted to visitors as part of Mission San Juan's theme through interpreters and demonstrations. Traditional farming implements and approaches would be used to the greatest extent practicable, particularly on the demonstration farm labores. Key activities and persons responsible for these activities are the following:

- Field preparation would be conducted by the current grounds crew, shifting their current responsibility of mowing the labores to disking the field in preparation of planting. It is estimated that the demonstration field would take approximately 4 hours to prepare utilizing one or two individuals.
- Planting would be approached in the same manner as the current volunteer day park clean-ups. Coordination for all volunteer events is through the volunteer coordinator, chief of interpretation and facility manager. Previous experience indicates the park would expect 25-50 volunteers and that one staff member would need to be assigned for every 10-15 volunteers. Existing staff from various divisions would be available to manage volunteers.
- Acequia management would continue to be done by 1 FTE acequia maintenance worker and a crew of seasonal staff /volunteers in conjunction

with a landscape architect. Approximately 50% of the acequia manager's time, 8 weeks of seasonal labor, and five percent of the landscape architect's time is currently dedicated to San Juan acequia maintenance.

- Weeding would be performed as a one to two times per-season volunteer event. Individual volunteers could weed at any time under the supervision of the volunteer coordinator and the landscape architect.
- Harvesting would be performed in the same manner as planting. It is anticipated that produce would be donated to the San Antonio Food Bank.

Allowances would be made for the use of mechanized farming equipment including tractors when appropriate. SAAN park management, in collaboration with various teaming partners as described later in this section, would develop a farming management plan based on expert input as part of a separate effort. The plan would establish a protocol for farming practices as well as various policies. Some areas of policy development that would be considered include the use of mechanized farming equipment, water quality control measures for irrigation, storm water run-off controls, water conservation measures, water usage limits, crop choice and planting regimes, and soil conservation control measures.

Staffing for the alternative 1 is described later in this section, it should be noted however that fields would only be prepared as the supporting systems necessary to ensure the appropriate management of the field, including infrastructure and labor, are available.

- **Leased/Special Use Agricultural Fields:** The alternative would include the establishment of special use agricultural fields or prepared agricultural fields. It is envisioned that local farmers would have the opportunity to lease these prepared agricultural fields. The farming management plan would also establish would also establish protocols for the operation and management of these fields including developing terms and conditions associated with the use of these of the prepared agricultural fields or special use permit agricultural areas.
- **The orchard, vineyard and corral:** These features would complement the demonstration farm labores and would be created adjacent to the eastern and northern side of the mission compound and west of the acequia. The corral would be located on what is currently the Mission San Juan parking lot as described below. The vineyard and orchard would be located on the area generally affected by the access reconfiguration as described below. The acequia would also be used to irrigate the orchard, vineyard and corral. These features would provide an opportunity to demonstrate agricultural pursuits beyond crop production.



Photograph 2: These roads and poles will be removed. This area will be orchard and vineyard.

- **Barn and Storage Sheds:** The barn would be located to the west of Villamain Road, in-between the acequia and the labores. Although 1.5 acres is identified for the barn, the structure would be approximately 3000 square foot, located within the footprint as shown in **Exhibit 2**. This footprint is dominated by the current Mission Parkway loop as shown in **Photograph 3**. Four farming implement storage sheds, approximately 400 square foot each, would also be constructed for the storage of necessary farming tools and equipment. A shed would be constructed adjacent to the orchard, vineyard, on the east side of acequia, close to the animal corral and on the east side of the prepared agricultural area. Design of these features is still in the preliminary phase but conceptual design objectives include constructing structures that are compatible with the current San Juan landscape.



Photograph 3: Maintenance barn will be where the road is currently located in the foreground.

- **Access Reconfiguration:** As part of this alternative, the entrance road would be reconfigured closing the Mission Parkway Loop, and Graf Road south of Villamain. These road closures would allow for the removal of approximately 1,700 linear feet of paved road promoting the rehabilitation of the cultural landscape, mainly through the establishment of the vineyard and orchard.



Photograph 4: View towards mission compound from northeast corner of proposed parking lot. Both visible roads will be removed.

- **Parking lot:** Present day vehicular circulation at Mission San Juan consists of asphalt paved roads and two parking areas, one designated for public visitors, the other for the Catholic church (NPS 2010). The public gravel and asphalt parking area which is entered from Mission Parkway, a short distance from its intersection with Ashley Road (Mission Road), Villamain Road and Graf Road, is 10, 440 square feet and accommodates thirty-six cars. The parking lot serves as shared parking for rangers, maintenance and service personnel. The road running through the public parking lot makes a loop, allowing for bus circulation (NPS 2010). As shown in **Photograph 5**, the current parking lot is situated in an area between the mission compound and the labores. The access reconfiguration described above would enable the parking lot to be relocated directly north of the Mission compound and expanded. This move, along with the access reconfiguration described above would provide the necessary visitor services and facilities to accommodate visitors by creating a distinct arrival point at the entrance of the mission, minimizing vehicle related circulation infrastructure within the historic landscape. The former parking would be removed and a corral developed.



Photograph 5: The current parking lot at Mission San Juan

- **Trail Connection:** Under this alternative, a connection to the SARIP Bergrs Mill Trail would be established. The connection would be initiated at the San Juan Acequia Trail at the intersection with Mission Road and run to the east, generally following the alignment of Mission Road.
- **Staffing:** As part of this alternative, the following modifications and additions would be made to the park staffing:
 - Educational programming and outreach would be based on a curriculum already being developed by existing park educational staff. It is assumed that a GS-9, Step 5 park ranger would lead 36 specialized school tours assuming 2.5 hours/tour.
 - Interpretive staffing at the farm provided by the existing Mission San Juan park guide. Staffing would be four days a week and assumes a GS-5, Step 5 park guide.
 - A GS 11 Farm Manager position would be introduced. The farm manager would develop long range partnerships with educational institutions to provide curriculum guidance, student assistance, and agricultural research on the farm's operations and maintenance. This position would also manage and develop existing partnerships with the local community and youth oriented organizations to assist in daily farming operations. This position would develop partnerships with local organizations and businesses to harvest and distribute the produce grown. The farm manager would also develop a leasing program to lease the remaining agricultural fields to individuals and organizations to ensure the cultural landscape is maintained through agricultural use. By leasing the remaining labores, maintenance and operations of these fields would be the responsibility of the leasee and not NPS operations. These savings can be reapplied to the operations and maintenance of the core farm and visitor use

area. Any proceeds from leasing arrangements would be used to augment operations and maintenance costs.

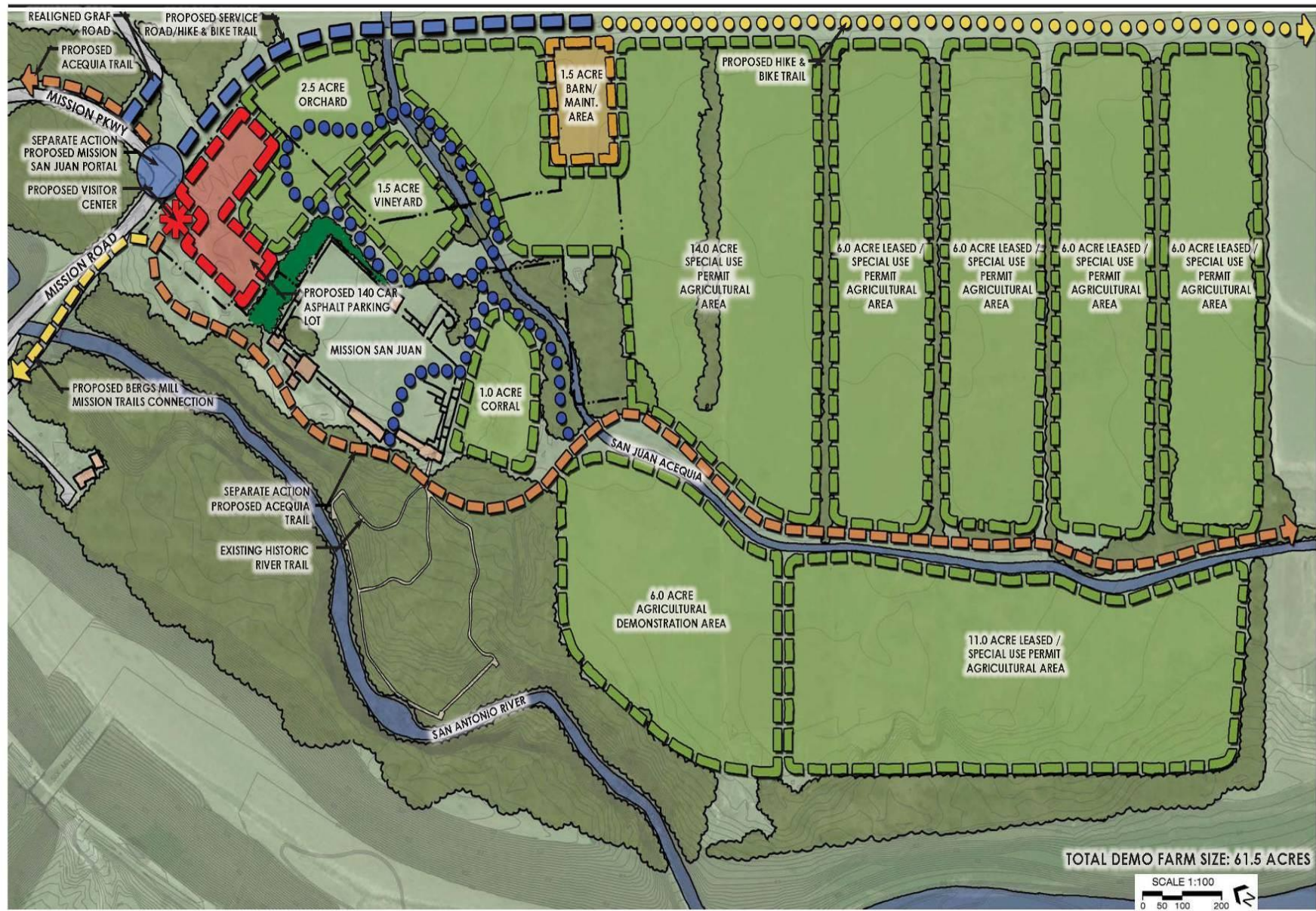
- A WG -7 subject-to-furlough maintenance position would be introduced in order to assist with the day-to-day maintenance and operations of the demonstration farm, trails, and acequias. The additional maintenance staff would be stationed at the farm and would perform the field preparation, planting, weeding, and harvesting activities in coordination with volunteer partnerships developed by the farm manager.
- A GS-9 subject-to-furlough law enforcement ranger would be introduced. The creation of the demonstration farming prepared agricultural area would utilize areas of the park that have been previously unutilized. Similarly, the creation of a connection to the Bergs Mill Trail would promote local connectivity, but would also likely increase human traffic through Mission San Juan. These areas could require increased ranger presence and enforcement to protect newly constructed park assets and to patrol the added trails for visitor safety. The law enforcement ranger would provide a dedicated law enforcement and resource protection service for all of the park lands along Villamain Road, relieving other law enforcement staff to conduct more frequent patrols of other areas of the park.

- **Partnerships:** As previously discussed, the development and operation of the San Juan farm has, and would, rely heavily on park partnerships. This alternative therefore includes the development of operations agreements with community, civic, educational, and youth oriented organizations for farm upkeep, planting, harvesting, weeding, and interpretive development. Several local organizations have expressed an interest in forming partnerships with SAAN to assist with the farm. These organizations include the Girl Scouts of Southwest Texas, Toyota Community Service Branch, NuStar Energy Corporation, Texas A&M, and the local San Juan/Bergs Mill Community Members. Additional potential partners could include Bexar County Master Gardeners, Alamo Area Council of Boy Scouts, Bexar County 4H Club, the San Antonio Food Bank, Farmers Market, San Antonio Restaurant Association, Randolph Air Force Base Family Services and Fort Sam Houston Air Force Base Family Services.

An additional key partnership is with Los Compadres. Los Comadres has established an advisory committee to oversee design and construction of the San Juan Farm and also oversee, manage, and distribute funds from a proposed operations and maintenance endowment. In addition, Los Compadres serves as an advocate for the development of the San Juan farm.

Alternative 2 – Medium Action

Alternative 2 would include all of components as described under alternative 1 with some notable additions. This alternative includes extending the farming activities that were described under alternative 1. This extension would further address the established project objectives by creating additional opportunities for the public to learn San Juan's distinct history through demonstrations, wayside exhibits and interpreters. The extension of the farming activities would also rehabilitate the modified cultural landscape while preserving and enhancing historic integrity, provide additional opportunities to promote and enhance community and local partnerships and contribute to the local economy. These additional components are described below:



OCTOBER 14, 2010



SAN ANTONIO MISSIONS NATIONAL HISTORICAL PARK
MISSION SAN JUAN de CAPISTRANO DEMONSTRATION FARM

**FIGURE 4**

SCHEMATIC LAYOUT DIAGRAMS
MEDIUM ACTION

- 1 • **Extension of the Farming Activities:** The demonstration farming area would be
2 expanded onto the previously prepared agricultural area to create a 6 acre
3 demonstration farming area. Additional agricultural land would be re-established by
4 expanding the farming activities further onto existing labores to the east. Under this
5 alternative, a total of approximately 41-acres of prepared agricultural land or special
6 use permit agricultural area would be created. As described under alternative 1,
7 these fields would only be prepared for agricultural production as the supporting
8 systems necessary to ensure the appropriate management of the fields, including
9 infrastructure and labor, are available.
- 10 • **Visitor Contact Station:** A small visitor center is currently located in the church
11 convent building. This alternative includes creating a new visitor contact station,
12 resolving the current inappropriate use of the historic structure. The revised visitor
13 contact station would play an important role as the initial dissemination point of
14 essential information regarding the history of Mission San Juan and the significance
15 of the labores. This information would be presented through both exhibits and
16 interaction with NPS staff. The visitor contact station would be located adjacent to the
17 reconfigured entrance on Mission Road, and the new location parking lot. The design
18 of 2500 square-foot contact station is still in the preliminary phase but conceptual
19 design objectives include constructing the contact station in a manner that is
20 compatible with the current San Juan landscape. Addition design objectives include a
21 commitment to utilize sustainable building technologies when designing, building and
22 operating the visitor contact station to the greatest extent possible.



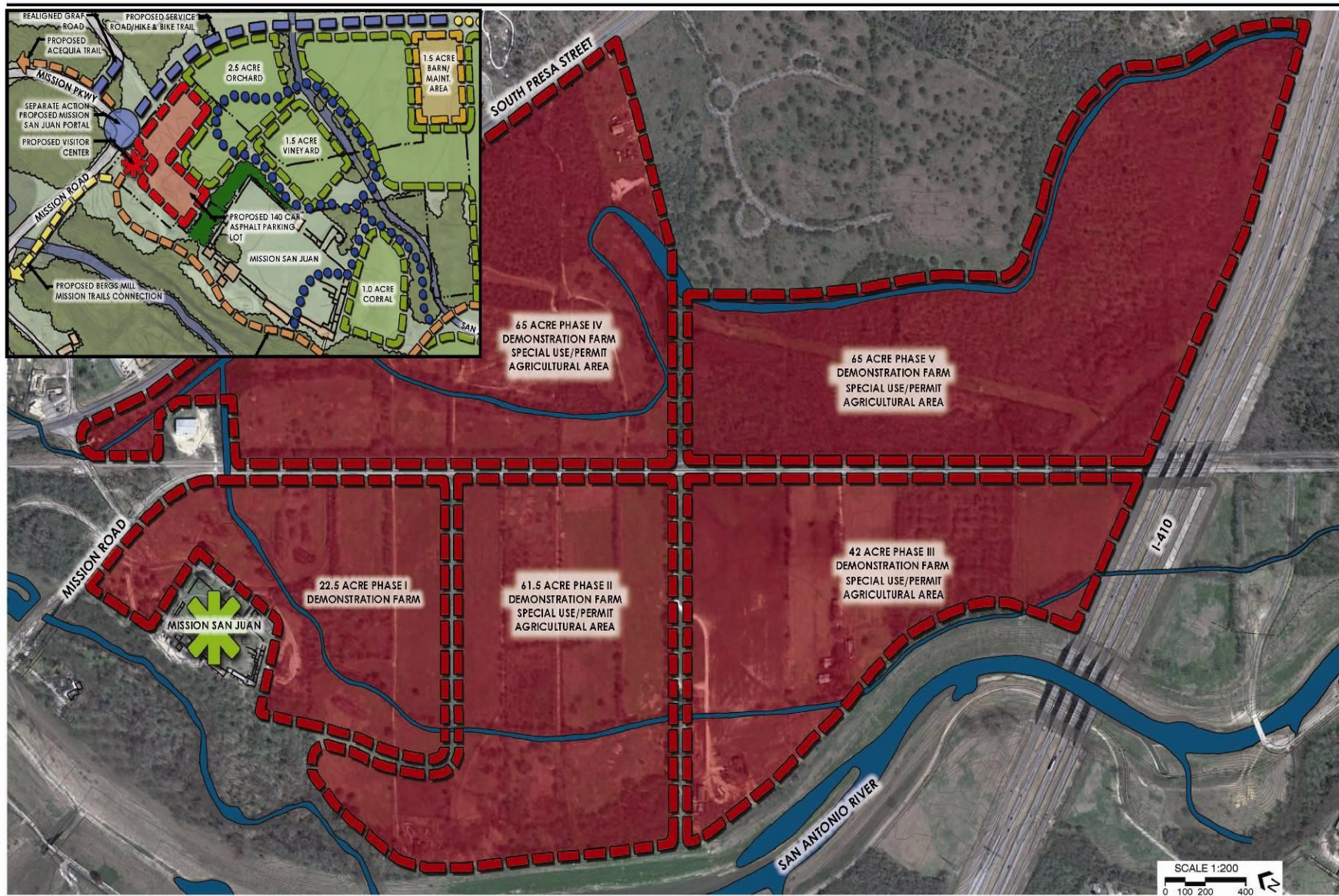
23 Photograph 6: Foreground: Proposed orchard area. Background: Area of proposed parking lot and future
24 visitor contact station. Road separating to be removed.

- 25 • **Extension of the Trail Network:** The pedestrian trail network extension would
26 include encircling the vineyard and following the edge of the corral connecting to the
27 San Juan Acequia Trail (separate action). A separate part of the pedestrian trail
28 extension would run through the mission compound, also connecting to the San Juan
29 Acequia Trail. A hike and bike trail would also be created following the alignment of
30 Villamain Road.

Alternative 3 – Maximum Action

Alternative 3 would include all of components of alternatives 1 and 2 but under this alternative the prepared agricultural land or special use permit agricultural areas would be greatly extended. In addition, under this alternative, Villamain Road would become an access controlled NPS road which would be closed to traffic during the night. These additional components are described below:

- **Further Extension of the Farming Activities:** The farming practices would be extended to the historic labores to the southeast, across Villamain Road creating an additional 130-acres of leased farmland and into the southern historic labores, creating an additional 42-acres of farmland. A total of 208-acres of special use permit agricultural land would be reestablished. The labores that would be re-established under this alternative include areas that were sold prior to the establishment of SAAN and have been developed as private residences or small-holding farming operations. Following the creation of SAAN, NPS has been acquiring these historically significant lands for incorporation into SAAN. Over time it is envisioned that agricultural activities, including demonstration farming, would be able to extend onto these properties.
- **Access Control Villamain Road:** This alternative includes changing Villamain Road from a public road to access controlled NPS road. Following the extension of the farming activities, Villamain Road would bisect the farming area creating an eastern portion which encompasses the mission compound and a western portion that encompassed the additional historic labores described above. Creating access control on Villamain Road would reduce the traffic on the road enhancing the cultural landscape and enabling the park to further ensure the safety of park visitors and workers especially while traversing from the one side of the farm to the other. The closure would also enable NPS staff to more effectively police the area. This aspect of the alternative is dependent on final agreement with the City of San Antonio and SARA.



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SAN ANTONIO MISSIONS NATIONAL HISTORICAL PARK
MISSION SAN JUAN de CAPISTRANO DEMONSTRATION FARM



FIGURE 5

SCHEMATIC LAYOUT DIAGRAMS
MAXIMUM ACTION

Mitigation Measures

The following mitigation measures were developed to minimize the degree and/or severity of adverse effects that would result from the implementation of the action alternatives.

Design:

- Hike and bike and pedestrian trails would be designed and installed in a manner that is consistent with existing trails in terms of width and material usage.
- Commitment to incorporate sustainable building technologies into the design of the contact station and barn.
- Ensure through design approach that additions, alterations, or related new construction would not destroy historic materials, features, and spatial relationships that characterize the cultural landscape. New features would be designed in a way that they are differentiated from the old but are also compatible with the historic materials, features, and massing of the landscape.
- Additions and adjacent or related new construction are designed in such a way that should the structure need to be removed in the future, the essential form and integrity of the cultural landscape would be unimpaired.
- Comprehensive documentation of any features to be replaced, removed, or altered should precede actual physical work as defined by the Section 106 coordination process. All SHPO required mitigation measures must be in place prior to any physical work being undertaken.
- A Storm Water Pollution Prevention Plan (SW3P) would be developed during project design and implemented and maintained during construction to minimize impacts as specified by EPA regulations for construction projects. The SW3P would include both construction and staging areas.

Construction:

- Construction zones, particularly for the barn, parking lot and contact station, would be identified and fenced with construction tape or some similar material prior to any construction activity. The fencing would define the construction zone and confine activity to the minimum area required for construction. All protection measures would be clearly stated in the construction specifications, and workers would be instructed to avoid conducting activities beyond the construction zone as defined by the construction zone fencing.
- Although only minimal disturbance is anticipated, re-vegetation and re-contouring of disturbed areas would take place following construction. Re-vegetation efforts would rely primarily on the use of native vegetation. The replacement of non-native Bermuda and St. Augustine grasses with native grasses as the primary ground cover is preferable. Planting would include only native trees, primarily mesquite, live oak, cedar elm, flowering or desert willow, redbud, and pecan.
- Weed control methods would be implemented to minimize the introduction of noxious weeds. Construction equipment would be washed prior to entering the work site for the first time.
- Disturbed soils are susceptible to erosion until revegetation takes place, standard erosion control measures such as silt fences and/or sand bags would be used to minimize any potential soil erosion.

- Fugitive dust generated by construction would be controlled by spraying water on the construction site, if necessary.
 - To reduce noise and emissions, construction equipment would not be permitted to idle for long periods of time.
 - To minimize possible petrochemical leaks from construction equipment, the contractor would regularly monitor and check construction equipment to identify and repair any leaks.
 - If construction activities are scheduled within the nesting season for birds protected under the MBTA, generally April 1 through July 15, pre-construction surveys would be conducted for nests. No construction activities would be conducted in identified nesting areas until the young have fledged.
 - All ground penetrating activities will be monitored by a professional archeologist.
 - Should construction unearth previously undiscovered cultural resources, work would be stopped in the area of any discovery, and the park would consult with the state historic preservation officer and the Advisory Council on Historic Preservation, as necessary, according to §36 CFR 800.13, *Post Review Discoveries*. In the unlikely event that human remains are discovered during construction, provisions outlined in the Native American Graves Protection and Repatriation Act (1990) would be followed.
 - NPS would ensure that all contractors and subcontractors are informed of the penalties for illegally collecting artifacts or intentionally damaging paleontological materials, archeological sites, or historic properties. Contractors and subcontractors would also be instructed on procedures to follow in case previously unknown paleontological or archeological resources are uncovered during construction.
 - To minimize the potential for impacts to park visitors, variations on construction timing may be considered.
 - Construction personnel would be responsible for ensuring trash is properly disposed of and not left uncontained onsite overnight. A trash abatement program, which would include recycling initiatives, would be initiated during pre-construction phases of the project, and would continue throughout the duration of the project.
 - Walking surveys would be performed by NPS personnel prior to any activities that have the potential to harm or displace wildlife.
- Operations:
- Trails within and surrounding the proposed improvements would be for pedestrian use only. A hike and bike trail is however proposed along Villamain Road, the formal rulemaking process will be followed prior to the potential introduction of bicycle use on the trail.
 - Preserve air quality through such things as using propane equipment instead of gasoline-burning models and encourage staff and volunteers to take public transportation when possible.
 - In the context of a historic farming demonstration, establish farming practices protocol and policies for both demonstration farm and leased farmland, areas of policy development should include:
 - Water quality control measures for irrigation, storm water run-off from fields
 - Water conservation measures for irrigation

- Managing water usage within the limits set by water rights
- Soil conservation control measures to mitigate potential soil erosion
- Cultural resource discovery and recovery standards to help minimize the disturbance of archeological resources and/or provide guidance on recordation during the operation of the San Juan Farm
- Crop choice and rotation
- The use of mechanized machinery
- Labor requirements
- Leasing agreements, including terms and conditions

Alternatives Considered and Dismissed

As previously discussed, the establishment of a demonstration farm is an initiative that was identified in early park planning documentation. Detailed planning efforts were initiated in 2001 through the development of park vision statements created by the NEPA Interdisciplinary Team. Through these ongoing efforts many approaches and strategies have been considered for the implementation of the demonstration farm, many of which were subsequently dismissed.

There are a number of elements of the proposed project that are essentially pre-determined by the historic landscape. These elements include irrigation methods and the positioning of the labores. The use of the acequias for irrigation is a vital component of the Spanish colonial farming practices. Any alternatives that considered irrigation methods that would not utilize the historic acequia system were therefore dismissed. In addition, any alternatives that did not utilize the historic labores or extended the improvements beyond the extent of the historic labores were also dismissed. These alternatives were dismissed on the basis that utilizing the historic farming land use patterns and features was vital in order to meet the need, purpose and objectives of the proposed project.

Historic records also pre-determined the farming methods to be employed at the San Juan Farm approaches including when and what to plant. An alternative was considered that consisted of the creation of a generic, non-location specific demonstration farm. This alternative was dismissed as only farming practices that are representative of the agricultural tradition of Mission San Juan would meet the need, purpose and objectives of the proposed project.

Early alternatives also considered a much larger demonstration farming area when compared to the range of alternatives being analyzed. Based on ongoing research and site visits conducted of operational demonstration farms, it was determined that the range of reasonable alternatives should include a smaller demonstration farming area in order to ensure effective operations and management. All the alternatives considering a large demonstration farming area were therefore dismissed.

The alternatives presented in this document all include the construction of a barn. While developing the project, the park considered retrofitting an existing barn for re-use. After further consideration, it was determined that the vertical clearance of the barn would need to be increased in order to accommodate the required farming equipment. This alternative was therefore dismissed based on the costs involved with making the required structural modifications, coupled with cost of retrofitting the existing structure.

Alternative Summaries

Table 2 summarizes the key components of alternatives 1, 2 and 3, and compares the ability of each of these alternatives to meet the project objectives (as identified in the *Purpose and Need* chapter). **Table 3** summarizes the anticipated environmental impacts of the no-action alternative and alternatives 1, 2 and 3. Only those impact topics that have been carried forward for further analysis are included in this table. The *Environmental Consequences* chapter provides a more detailed explanation of these impacts.

Table 2 – Alternatives Summary and Project Objectives

No-Action Alternative		Alternative 1 – Minimum Action	Alternative 2 – Medium Action	Alternative 3 – Maximum Action
Alternative Summary	No modifications would be made to park infrastructure.	Alternative 1 components include: Creating a demonstration farming area and agricultural field preparation. Creating an orchard, vineyard and corral to further extent agricultural activities. Creating a barn and storage sheds to support agricultural activities. Creating a parking lot and pedestrian trail connection to Bergs Mill Trail. Reconfiguring the entrance road network.	Alternative 2 would have the same elements as Alternative 1 but would include the following components: Further extending the farming activities. Creating a visitor contact station. Creating a hike and bike trail along Villamain Road.	Alternative 3 would have the same elements as Alternatives 1 and 2 but would include the following components: Further extending the farming activities. Changing Villamain Road from a public road to access controlled NPS road.
Project Objectives	Meets Project Objectives?	Meets Project Objectives?	Meets Project Objectives?	Meets Project Objectives?
Illustrate Spanish colonial farming technology and practices, create an opportunity to learn San Juan's history through interpretive initiatives.	No, the alternative would not demonstrate Spanish colonial farming technology and would not provide an opportunity to learn about San Juan's history.	Meets objective, this alternative would illustrate Spanish colonial farming technology and provide an opportunity to learn San Juan history through demonstrations and interpreters.	Meets objective, this alternative would illustrate Spanish colonial farming technology and provide an opportunity to learn San Juan history through demonstrations, wayside exhibits and interpreters.	Meets objective, this alternative would illustrate Spanish colonial farming technology and provide an opportunity to learn San Juan history through demonstrations, wayside exhibits and interpreters.
Provide necessary visitor services and facilities in order to accommodate visitors and farming equipment.	No, visitor services and facilities needed to support the farm would not be provided.	Partially meets objective, this alternative would provide facilities needed to support the farm including the barn but only very basic visitor services would be provided through the	Meets objective, this alternative would provide facilities needed to support the farm including the barn. Visitor services would also be provided through the contact	Meets objective, this alternative would provide facilities needed to support the farm. Visitor services would also be provided through the contact station, improved

		improved parking lot and pedestrian trails.	station, improved parking lot and pedestrian trails.	parking lot and pedestrian trails.
Rehabilitate the modified cultural landscape surrounding Mission San Juan where feasible and appropriate while preserving and enhancing historic integrity.	No, the modified cultural landscape would not be rehabilitated.	Partially meets objective, this alternative would rehabilitate the cultural landscape but only within close proximity to the mission	Meets objective, this alternative would rehabilitate a large portion of the cultural landscape.	Meets objective, this alternative would rehabilitate the cultural landscape to the extent of the park boundary.
Promote local connectivity especially to the ongoing adjacent development initiatives	No, local connectivity would not be promoted.	Meets objective, local connectivity would be enhanced through the creation of a link to the Berg Mill Trail, through the extension of the existing trail system and through reconfiguring the parking lot and entrance road.	Meets objective, local connectivity would be enhanced through the creation of a link to the Berg Mill Trail, through the extension of the existing trail system and through reconfiguring the parking lot and entrance road.	Meets objective, local connectivity would be enhanced through the creation of a link to the Berg Mill Trail, through the extension of the existing trail system and through reconfiguring the parking lot and entrance road.
Promote and enhance community and local partnerships and contribute to the local economy through the development of the San Juan Farm.	No, would not promote and enhance community partnerships.	Meets objective, the demonstration farm creates an opportunity to strengthen community partnerships and make a contribution to the local economy through increase park visitors.	Meets objective, the demonstration farm creates an opportunity to strengthen community partnerships. The potential to create farmland leasing opportunities would also promote community partnerships and contribute to the local economy through crop production and increased park visitors.	Meets objective, the demonstration farm creates an opportunity to strengthen community partnerships. The additional farmland provides an excellent opportunity to lease farmland to local community, strengthening partnerships and contributing to the local economy.

Table 3 – Environmental Impact Summary

Impact Topic	No-Action Alternative	Alternative 1 -Minimum Action	Alternative 2 – Medium Action	Alternative 3 – Maximum Action
Soils	No impacts to soils as there would be no ground disturbance or construction activities. When considered with other past, present, and reasonably foreseeable future actions, this alternative would not contribute incrementally to the adverse, local, short-and/or long-term, and minor cumulative effect on soils.	Impacts on soil resources would be adverse, site-specific, short-and long term, and minor. These impacts would primarily result from the ground disturbance and the associated potential erosion resulting from the preparation of the agricultural fields. When considered with other past, present, and foreseeable future actions, alternative 1 would contribute an incremental adverse, site-specific, long-term, negligible cumulative effect on soil resources.	Alternative would increase the potential for erosion to remove small quantities of soil and would therefore result in adverse, site-specific, short-term and minor to moderate impact. These impacts would primarily result from the ground disturbance and the associated potential erosion resulting from the preparation of the agricultural fields. When considered with other past, present, and foreseeable future actions, the implementation of alternative 2 would contribute an incremental adverse or beneficial, local, short- and/or long-term, minor cumulative effect on soil resources.	Alternative would increase the potential for erosion to remove small quantities of soil and would therefore result in adverse, site-specific, short-term moderate impact on soils. These impacts would primarily result from the ground disturbance and the associated potential erosion resulting from the preparation of the agricultural fields. When considered with other past, present, and foreseeable future actions, the implementation of the alternative 3 would contribute an incremental adverse, site-specific, long-term, minor to moderate cumulative effect on soil resources.

Table 3 – Environmental Impact Summary

Impact Topic	No-Action Alternative	Alternative 1 -Minimum Action	Alternative 2 – Medium Action	Alternative 3 – Maximum Action
Vegetation	No impacts to vegetation as there would be no ground disturbance or construction activities. When considered with other past, present, and reasonably foreseeable future actions, this alternative would not contribute incrementally to the adverse, local, short-and/or long-term, and minor cumulative effect on vegetation.	Impacts to vegetation would be adverse, site-specific, short- and/or long-term and minor. Impacts would be primarily associated with the ground disturbances resulting from preparing the agricultural lands and constructing the supporting infrastructure. When considered with other past, present, and reasonably foreseeable future actions, the implementation of alternative 1 would contribute an incremental adverse, site-specific, long-term, negligible cumulative effect on vegetation.	Impacts to vegetation would be adverse, site-specific, long-term and minor due to the removal of primarily non-native species. Adverse, site-specific, short-term and negligible impacts could also result from construction activities. When considered with other past, present, and reasonably foreseeable future actions, the implementation of alternative 2 would contribute an incremental adverse, site-specific, long-term, negligible to minor cumulative effect on vegetation.	Impacts are anticipated to be adverse, site-specific, long-term and moderate. . These moderate impacts primarily result from the removal of pecan-sugarberry forest and Silver Beardgrass - Johnsongrass Herbaceous Vegetation. Adverse, site-specific, short-term and minor impacts could also result from construction activities. When considered with other past, present, and reasonably foreseeable future actions, the implementation of alternative 3 would contribute an incremental adverse, site-specific, long-term, moderate cumulative effect on vegetation.

Table 3 – Environmental Impact Summary

Impact Topic	No-Action Alternative	Alternative 1 -Minimum Action	Alternative 2 – Medium Action	Alternative 3 – Maximum Action
Wildlife	No impacts to wildlife as there would be no ground disturbance, vegetation removal or construction activities. When considered with other past, present, and foreseeable future actions, the no-action alternative would not contribute a noticeable incremental impact to the overall adverse, local, short- and/or long-term, and minor cumulative effect on wildlife.	Impacts to wildlife are anticipated to be adverse, local, short- and/or long-term, and negligible to minor. Adverse, direct and/or indirect, site-specific, short- and/or long-term, negligible impacts could also result from construction activities. These impacts would result from disturbances to area wildlife and their habitat. When considered with other past, present, and reasonably foreseeable future actions, the implementation of alternative 1 would contribute an incremental adverse, site-specific, long-term, minor cumulative effect on wildlife.	Impacts to wildlife are anticipated to be adverse, local, short and/or long-term, and minor due to disturbances to area wildlife and their habitat. Adverse, site-specific, short- and/or long-term, negligible to minor impacts could also result from construction activities. These impacts would result from disturbances to area wildlife and their habitat. When considered with other past, present, and reasonably foreseeable future actions, the implementation of alternative 2 would contribute an incremental adverse, long-term, site-specific and minor cumulative effect on wildlife.	Impacts to wildlife are anticipated to be adverse, short -and long-term, site-specific and moderate. Adverse, direct and/or direct, site-specific, short- and/or long-term, minor impacts could also result from construction activities. These impacts would result from disturbances and removal of wildlife habitat which could result in displacements. When considered with other past, present, and reasonably foreseeable future actions, the implementation of alternative 3 would contribute an incremental, long-term, site-specific, minor adverse cumulative effect on wildlife.

Table 3 – Environmental Impact Summary

Impact Topic	No-Action Alternative	Alternative 1 -Minimum Action	Alternative 2 – Medium Action	Alternative 3 – Maximum Action
Cultural Landscapes	Adverse, local, long-term, minor to moderate impacts to the cultural landscape. When considered with other past, present, and foreseeable future actions, the no-action alternative would contribute an incremental adverse, local, long-term, minor cumulative effect to the cultural landscape.	Impacts to cultural landscapes would be beneficial local, long-term and moderate effect as the integrity of setting and feeling and association would be enhanced through the re-introduction of agricultural activities. When considered with other past, present, and foreseeable future actions, the implementation of alternative 1 would contribute an incremental beneficial, local, long-term, minor to moderate cumulative effect to the cultural landscape.	Impacts to cultural landscapes would be beneficial, local, long-term and moderate as the integrity of setting and feeling and association would be enhanced through the re-introduction of agricultural activities and the introduction of interpretation tools such as the visitor contact station. When considered with other past, present, and foreseeable future actions, the implementation of alternative 2 would contribute an incremental beneficial, local, long-term, moderate cumulative effect to the cultural landscape.	Impacts on the cultural landscape would be beneficial, local, long-term, and moderate as the continued expansion of farming operations would further contribute to a visually pleasing, open agricultural related landscape benefitting the integrity of setting and feeling and association. When considered with other past, present, and foreseeable future actions, the implementation of alternative 3 would contribute an incremental beneficial, local, long-term, moderate cumulative effect to the cultural landscape.

Table 3 – Environmental Impact Summary

Impact Topic	No-Action Alternative	Alternative 1 -Minimum Action	Alternative 2 – Medium Action	Alternative 3 – Maximum Action
Historic Structures and Districts	No direct impacts to historic districts or structures would result from this alternative. When considered with other past, present, and foreseeable future actions, the no-Action alternative would not contribute a noticeable incremental impact to the beneficial, local, long-term, minor cumulative effect on historic structures and the historic district.	Impacts to historic structures and the historic district would be beneficial, local, long-term, minor to moderate as the alternative would enhance contributing features and patterns of land use, spatial organization and views and vistas primarily through the re-introduction of agricultural activities. When considered with other past, present, and foreseeable future actions, the implementation of alternative 1 would contribute an incremental beneficial, local, long-term, moderate cumulative effect on historic structures and historic districts.	Impacts to historic structures and the historic district would be beneficial local, long-term and moderate as the alternative would further enhance contributing features and patterns of land use, spatial organization and views and vistas while allowing for the protection of existing cultural landscape resources and the further re-introduction of existing features and new uses necessary in order to meet the project objectives. When considered with other past, present, and foreseeable future actions, the implementation of alternative 2 would contribute an incremental beneficial, local, long-term, moderate cumulative effect on historic structures and historic districts.	Impacts to historic structures and the historic district would be the same as described in Alternative 2 but would also include additional beneficial local, long-term and moderate as the extended agricultural operations would further enhance contributing features and patterns of land use, spatial organization and views and vistas. When considered with other past, present, and foreseeable future actions, the implementation of alternative 3 would contribute an incremental beneficial, local, long-term, moderate cumulative effect on historic structures and historic districts.

Table 3 – Environmental Impact Summary

Impact Topic	No-Action Alternative	Alternative 1 -Minimum Action	Alternative 2 – Medium Action	Alternative 3 – Maximum Action
Archeological Resources	No direct impacts to archeological resources. When considered with other past, present, and foreseeable future actions, the no-action alternative would provide no noticeable incremental impact to the overall adverse or beneficial, local short- and/or long-term and negligible to moderate cumulative effects on archeological resources.	Adverse, site-specific, short-term negligible to minor impact on could however result from the discovery of unknown archeological resources. Construction phase archeological monitoring would ensure that any archeological resources that are disturbed would be appropriately coordinated per the Texas Antiquities Code. As a result of these efforts, should archeological resources be discovered, beneficial, local, long-term, minor impacts could result from the potential contributions made to the archeological record of the Spanish colonial period. The implementation of alternative 1 would contribute an incremental adverse or beneficial, local, short- and/or long-term, minor to moderate cumulative effect on archeological resources.	Adverse, site-specific, short-term negligible to minor impact on could however result from the discovery of unknown archeological resources. Construction phase archeological monitoring would ensure that any archeological resources that are disturbed would be appropriately coordinated per the Texas Antiquities Code. As a result of these efforts, should archeological resources be discovered, beneficial, local, long-term, minor impacts could result from the potential contributions made to the archeological record of the Spanish colonial period. When considered with other past, present, and foreseeable future actions, the implementation of alternative 1 would contribute an incremental adverse or beneficial, local, short- and/or long-term, minor to moderate cumulative effect on archeological resources.	Potential to adversely impact potentially eligible archeological sites. Additional historical research and subsurface testing is required in order to determine eligibility. Additional Section 106 coordination would be conducted as needed. Once eligibility has been determined, the park would implement the necessary actions in order to avoid, minimize or mitigate adverse impacts to these resources, ensuring minor adverse impacts. The further expansion of the re-introduction of the farming activities could also disturb unknown archeological resources resulting in adverse, site-specific, long-term and minor impacts.

Table 3 – Environmental Impact Summary

Impact Topic	No-Action Alternative	Alternative 1 -Minimum Action	Alternative 2 – Medium Action	Alternative 3 – Maximum Action
Visitor Use and Experience	Adverse, indirect, site-specific, long-term, negligible impacts to visitor use and experience as existing mechanisms to for visitors to experience the natural and cultural history of the San Antonio Missions would not be enhanced and new mechanisms would not be introduced. When considering other past, present, and foreseeable future actions, as visitor experience would not appreciably change, the no-action alternative would result in only a slight incremental adverse, local, long-term, negligible effect to the overall moderate beneficial cumulative effect to visitor use and experience.	Impact to visitor use and experience would be beneficial, local, long-term, and moderate. These beneficial impacts to visitor use and experience would primarily result from the re-introduction of farming activities and improvements to parking, circulation and connectivity. When considered with other past, present, and reasonably foreseeable future actions, the implementation of alternative 1 would contribute an incremental beneficial, local, long-term, moderate cumulative effect on visitor use and experience.	Impact to visitor use and experience would be beneficial, local, long-term, and moderate. These beneficial impacts to visitor use and experience would primarily result from the extension of farming activities increasing educational and recreational opportunities for the park visitor and the creation of a visitor contact station which would provide the visitor with an opportunity to gain an understanding of the mission labores and the vital role that they played in the dominant theme of mission life. When considered with other past, present, and reasonably foreseeable future actions, the implementation of alternative 2 would contribute an incremental beneficial, local, long-term, moderate cumulative effect on visitor use and experience effects at the park.	Impact to visitor use and experience would be beneficial, local, long-term, and moderate. The benefits would primarily result from the further expansion of agricultural activities which would further enhance viewsheds, interpretation, educational and recreational opportunities for the park visitor. When considered with other past, present, and reasonably foreseeable future actions, the implementation of alternative 3 would contribute an incremental beneficial, local, long-term, moderate cumulative effect on visitor use and experience effects at the park.

Table 3 – Environmental Impact Summary

Impact Topic	No-Action Alternative	Alternative 1 -Minimum Action	Alternative 2 – Medium Action	Alternative 3 – Maximum Action
Park Operations and Management	Adverse, indirect, long-term, negligible impact on park operations and management as the existing operations and management structure may not be sufficient to accommodate the anticipated increase in park visitors that would result from the various actions described in the cumulative impacts scenario. When considered with other past, present, and foreseeable future actions, the no-action alternative would contribute an incremental adverse, long-term, negligible cumulative effect on the park operations and management as the existing operations and management structure may not be sufficient to accommodate the anticipated increase in park visitors.	Increased budget requirements could result in adverse, site-specific, short-and/or long-term, and moderate impacts. Opportunities for support through the National Park Service system and local partnerships have however been identified and efforts are currently underway to secure the resources necessary to address potential adverse impacts to the parks operations and management as previous SAAN operations and management structures may not be sufficient to accommodate the anticipated increase in visitor traffic. As a result of these efforts it is anticipated that the potential adverse impacts would be sufficiently mitigated to result in in adverse, site-specific, short-and/or long-term, and minor impacts on park operations and management. It is anticipated that the alternative could contribute an incremental adverse, site-specific, short-and/or long-term, minor cumulative effect.	Impacts on park operations and management would be adverse, site-specific, short-and/or long-term, and minor. As it is assumed that the adjustments made to the park operations and management for alternative 1 would be sufficient to accommodate the introduction of alternative 2. In addition, by increasing the leasing operations, the remaining labores, maintenance and operations of these fields would be the responsibility of the leasee and not the NPS operations. These savings would be reapplied to the operations and maintenance of the core farm and visitor use area. Impacts on park operations and management would be adverse, site-specific, short-and/or long-term, and minor. The alternative could contribute an incremental adverse, site-specific, short and/or long-term, minor cumulative effect.	Impacts on park operations and management would be adverse, site-specific, short-and/or long-term, and minor to moderate. Impacts are primarily associated with the operation and management of the extended farming activities. This expansion would however only progress as the park implemented management and funding sources allow. This approach would ensure that potential adverse impacts associated with preparing large tracts of land without sufficient leasing agreements or support services are avoided. The alternative could contribute an incremental adverse, site-specific, short- and/or long-term, minor to moderate cumulative effect.

Table 3 – Environmental Impact Summary

Impact Topic	No-Action Alternative	Alternative 1 -Minimum Action	Alternative 2 – Medium Action	Alternative 3 – Maximum Action
Socio-economics	Based on this anticipated increase in the number of people visiting the park, as park visitors spend money in the local area, the no-build alternative could result in indirect, beneficial, local, long-term negligible impact on socioeconomics. When considered with other past, present, and foreseeable future actions, the no-action alternative would contribute an indirect beneficial, local, long-term negligible impact to the beneficial, regional, long-term and moderate cumulative effect on socioeconomics.	Overall, alternative 1 would result in a beneficial, regional, long-term, and moderate impact on socioeconomics as the alternative would result in an increase in the number of people visiting the park who in turn, contribute to the local economy. When considered with other past, present, and foreseeable future actions, alternative 1 would contribute a beneficial, local, long-term moderate impact to the beneficial, regional, long-term and moderate cumulative effect on socioeconomics.	Overall, impacts on socioeconomics would be beneficial, local, long-term, and moderate and result from the economic potential offered by the extended lease/special use agricultural areas. When considered with other past, present, and foreseeable future actions, alternative 2 would contribute a beneficial, local, long-term moderate impact to the beneficial, regional, long-term and moderate cumulative effect on socioeconomics.	Overall, impacts on socioeconomics as a result of alternative 3 would be beneficial, local, long-term, and moderate and primarily result from the further economic opportunities offered by the extended lease/special use agricultural area. When considered with other past, present, and foreseeable future actions, alternative 3 would contribute a beneficial, local, long-term and moderate impact to the beneficial, regional, long-term and moderate cumulative effect on socioeconomics.

Environmentally Preferable Alternative

According to the CEQ regulations implementing NEPA (43 CFR 46.30), the environmentally preferable alternative is the alternative “that causes the least damage to the biological and physical environment and best protects, preserves, and enhances historical, cultural, and natural resources. The environmentally preferable alternative is identified upon consideration and weighing by the Responsible Official of long-term environmental impacts against short-term impacts in evaluating what is the best protection of these resources. In some situations, such as when different alternatives impact different resources to different degrees, there may be more than one environmentally preferable alternative.”

Alternative 3 is the environmentally preferable alternative for several reasons, 1.) The alternative would include the demonstration farm and the facilities needed to support the farm and park visitors. 2.) The alternative would maximize the rehabilitation of the modified cultural landscape surrounding the mission. 3) While there would be some ground disturbance and vegetation removal, all of the disturbances would be in areas of previously disturbed elements of the biological and physical environment. 4.) The extended reclaimed farmland included under this alternative would contribute to the sustainability of the local community through the production of food crops and through additional economic opportunities created by the extended farmland.

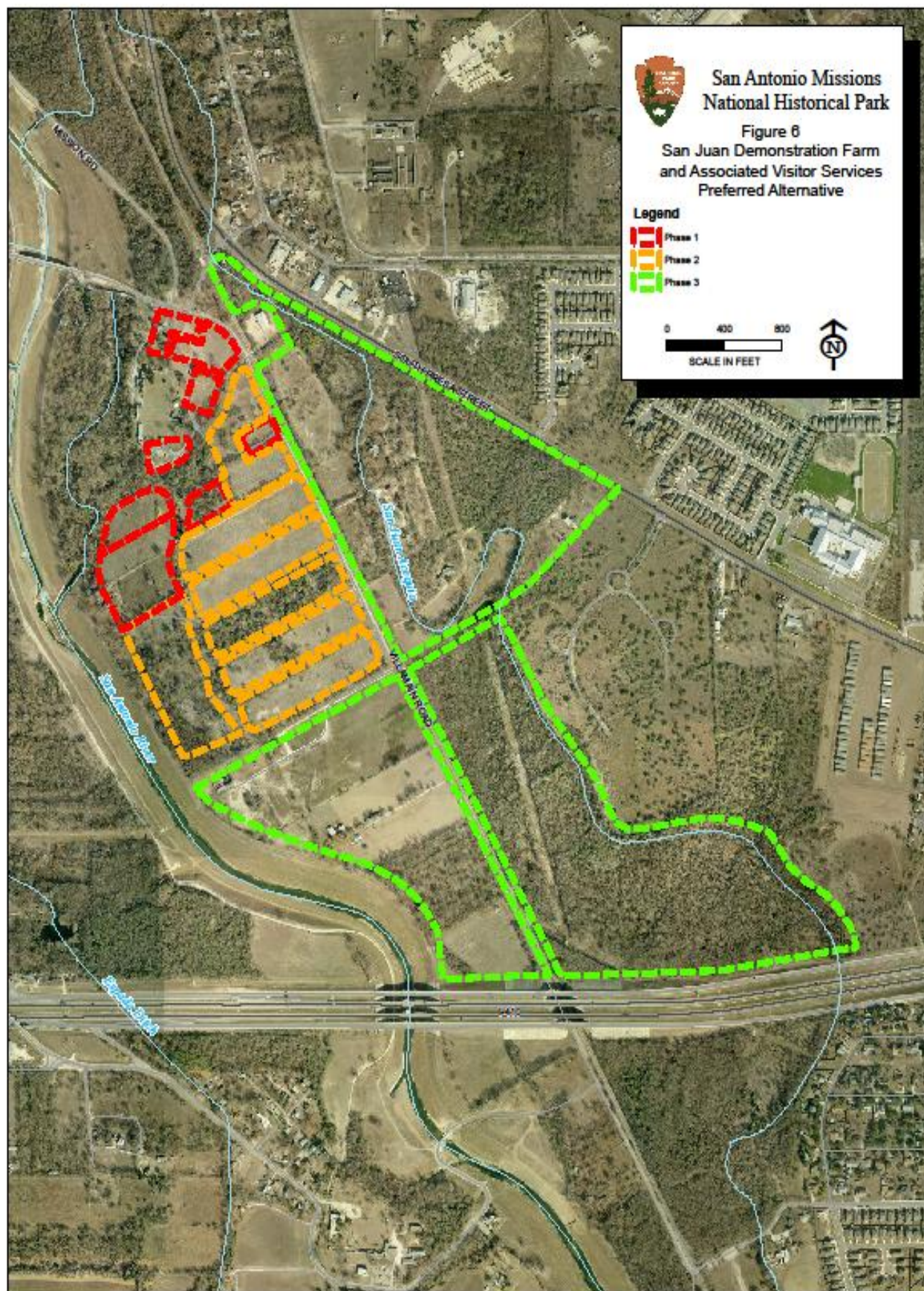
For these reasons, Alternative 3 causes the least damage to the biological and physical environment and best protects, preserves, and enhances historical, cultural, and natural resources, thereby making it the environmentally preferable alternative.

By contrast, the no-action alternative is not the environmentally preferable alternative because, the biological and physical environments within the project area are generally previously disturbed and the no-action alternative would not protect, preserve, and enhance historical, cultural, and natural resources. Therefore, 1.) Spanish colonial farming technology would not be demonstrated and an opportunity to learn about San Juan’s history would not be provided. 2.) No visitor services or facilities needed to support the farm would be provided. 3.) The modified cultural landscape would not be rehabilitated. 4.) Local connectivity and community partnerships would not be promoted.

Preferred Alternative

No new information came forward from public scoping or consultation with other agencies to necessitate the development of any new alternatives, other than those described and evaluated in this document. Alternative 3 is the environmentally preferable alternative and better meets the project objectives; therefore, it is also considered the NPS preferred alternative.

As each alternative represents a progression of the extent of the proposed park improvements, it is suggested that NPS rather consider each alternative as a project phase that can be implemented, as resources are available, to ultimately provide the preferred alternative, alternative 3. For the remainder of the document, alternative 3 will be referred to as the preferred alternative. A conceptual layout of the preferred alternative, including phases 1, 2 and 3 are presented in **Figure 6**.



AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

This chapter analyzes the potential environmental consequences, or impacts, that would occur as a result of implementing the proposed park improvements. Resources analyzed in this chapter include: soils, vegetation, wildlife, cultural landscapes, historic structures and districts, and archeological resources. Visitor use and experience and park operations are also analyzed in addition to the resources listed. Direct, indirect, and cumulative effects are analyzed for each resource topic carried forward. The analysis is based on the schematic layouts presented and described in the previous chapter. Potential impacts are described in terms of type, context, duration, and intensity. General definitions of terms are provided below, while more specific impact thresholds are given for each resource at the beginning of each resource section.

- **Type** describes the classification of the impact as either beneficial or adverse, direct or indirect:
 - *Beneficial*: A positive change in the condition or appearance of the resource or a change that moves the resource toward a desired condition.
 - *Adverse*: A change that moves the resource away from a desired condition or detracts from its appearance or condition.
 - *Direct*: An effect that is caused by an action and occurs in the same time and place.
 - *Indirect*: An effect that is caused by an action but is later in time or farther removed in distance, but is still reasonably foreseeable.
- **Context** describes the area or location in which the impact would occur. Are the effects site-specific, local, regional, or even broader?
- **Duration** describes the length of time an effect would occur, either short-term or long-term:
 - *Short-term* impacts generally last only during construction, and the resources resume their pre-construction conditions following construction.
 - *Long-term* impacts last beyond the construction period, and the resources may not resume their pre-construction conditions for a longer period of time following construction.
- **Intensity** describes the degree, level, or strength of an impact. For this analysis, intensity has been categorized into negligible, minor, moderate, and major. Because definitions of intensity vary by resource topic, intensity definitions are provided separately for each impact topic analyzed in this EA.

Cumulative Impacts Scenario

The CEQ regulations, which implement NEPA (42 USC 4321 et seq.), require the assessment of cumulative impacts in the decision-making process for federal projects. Cumulative effects are defined as "the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions" (40 CFR 1508.7). Cumulative effects are considered for both the no-action and action alternatives.

Cumulative effects were determined by combining the impacts of the alternative with other past, present, and reasonably foreseeable future actions. Therefore, it was necessary to identify other ongoing or reasonably foreseeable future projects at SAAN and, where applicable, the surrounding area. The geographic scope for this analysis includes elements mostly within and

adjacent to the park's boundaries, while the temporal scope includes projects within a range of approximately 5 to 10 years. Given this, the following projects were identified for the purpose of conducting the cumulative effects analysis:

San José Cultural Landscape Restoration

The current cultural landscape within the Mission San José compound, located approximately 2.4 miles to the northwest of Mission San Juan, has been greatly modified over time diminishing the integrity of the cultural setting of the mission. A project is currently in the planning phase that would restore the cultural landscape surrounding the mission, increase the cultural integrity of the setting and promote connectivity to local development initiatives which are complementary to the park's mission statement.

Dependent on the outcome of the project planning process, important elements of this project could include combining the Huisache "bowl" and the Harris House "bowl" and closing and removing San José Drive. The removal of these elements would both restore the cultural landscape and create an open space which could be used as a public gathering area. Other elements being considered as part of this project include reconfiguring the parking lot and the outdoor recreational area at Harris House, expanding the current trail system, and creating an adaptive use restroom facility. Environmental clearance for this project is anticipated in early 2012.

San Antonio River Improvement Project

The San Antonio River Improvement Project (SARIP) is a \$358.3 million multi-year project that is currently underway and aims to restore and enhance 13 miles of the San Antonio River both north and south of downtown San Antonio. The project is a collaborative effort between the City of San Antonio, Bexar County, SARA, the USACE, and the San Antonio River Foundation. Enhancements include flood control, amenities, ecosystem restoration and recreational improvements (SARIP 2011). SARA provides project and technical management as well as overall project coordination between the project partners. SARA will also conduct on-going operation and maintenance activities when the SARIP project is completed.

SARIP is comprised of four distinctive reaches: the Museum Reach, a four-mile segment of the river from Hildebrand Avenue south to Lexington Avenue; the Downtown Reach, a segment of the original River Walk from Lexington Avenue to Houston Street; the Eagleland, a one-mile segment from South Alamo to Lonestar Boulevard; and the Mission Reach, an eight-mile section of the river extending from Lonestar Boulevard south to Loop 410 South (SARIP 2011). The Mission Reach is in close proximity to Mission San Juan.

The Mission Reach Ecosystem Restoration and Recreation Project will restore riverine features and riparian woodlands, reintroduce native plants, enhance aquatic habitat, and reconnect the river to the historic missions that relied on it hundreds of years ago. The connections will be made through the development of "mission portals." These portals will be located at Mission Concepción, Mission San Jose, Mission San Juan and Mission Espada. The portals will feature historic and artistic interpretations of the story of the missions and highlight their social and cultural importance to the area. The portals will reinforce the importance of the river to the missions and encourage visitors to circulate between the missions and the river.

Before the river was channelized in the 1950-60s, it meandered through the city, passing near San Antonio's historic missions. Today, the old river channel is still evident. The Mission Reach project will also restore two historic remnants of the river. The result will allow park visitors to see how the river may have looked 250 years ago, at the height of the mission period (SARIP 2011).

1 According to an Economic Impact Study conducted in 2011, it is anticipated that the impact of
2 these SARIP construction projects is expected to exceed \$518 million, and support an average
3 of 981 additional jobs per year over the four years from 2010 through 2013 (Halaby et al. 2011).

4 Project planners are working closely with NPS to ensure that the relationship of the river and the
5 missions are clearly illustrated and that the portals are included in all park planning initiatives.
6 The Mission San Juan Farm would be fully integrated with the SARIP and will serve as a
7 highlighted activity for users of the San Antonio River and its new system of trails. Bexar
8 County is providing funding for the portals, with additional private funding being provided by the
9 San Antonio River Foundation (SARIP 2011).

10 **Re-Watering the San Juan Acequia**

11 The San Juan acequia was established in 1731 and was used for watering farmland on the east
12 side of the San Antonio River. The acequia begins on the east bank of the river, across from
13 Mission San Jose, and flows south. It is thought that the acequia watered over 500 acres
14 (Guerra 1987). The mouth of the San Juan acequia is located on the east bank of the San
15 Antonio River, opposite Mission San José. Water from the San Antonio River was diverted into
16 the acequia by the San Juan dam, from which point water flowed south before reconnecting to
17 the San Antonio River. Once within the San Juan Acequia, water flowed roughly 2.5 miles to a
18 point just east of Mission San Juan. Here the acequia divided into two smaller canals which are
19 evident today, known as the acequia afuera (or outside canal) and the acequia en medio (or
20 middle canal). It was from these two branches of the acequia afuera and acequia en medio that
21 lateral ditch canals were dug to irrigate crops grown on Mission San Juan's labores. The
22 channelization of the San Antonio River in 1957 resulted in the severing of water flow to the San
23 Juan Acequia and the burial of the original San Juan Dam with backfill from the widening and
24 straightening of the river. A new San Juan Dam was constructed in the 1960's, but failed during
25 a major flood in 1977. SARA began pumping water from below the failed San Juan Dam
26 through pipes into the former river channel and the San Juan Acequia. The pumping ended in
27 1979 when the flow of the acequia was interrupted downstream (NPS 2010). No water has
28 flowed in the San Juan Acequia since except for a brief period in October 1992 when the NPS
29 pumped water to temporarily revive the acequia for a media event to publicize plans to restore
30 the Spanish irrigation (McWilliams 2009). A joint venture between SAAN, the City of San
31 Antonio, Los Compadres, the Conservation Society, and SARA returned water to the acequia
32 system in September 2011 (NPS 2010b).



Photograph 7: The current San Juan Acequia

San Juan Acequia Trail

As an extension of the SARIP, a trail is planned along the historic San Juan Acequia. The trail will begin at the San Juan Diversion Dam and heads southward toward Mission San Juan. The trail will then enter the labores, running parallel with the San Juan Acequia, to a point where it will join the existing trail network near Mission Espada (**Figure 2, 3 and 4**).

Mission Reach Hike/Bike Trail

The Mission Reach Hike and Bike Trail runs from Mission Concepción to Mission Espada, along eight miles of dedicated paved pathways that are reserved for the hiker and biker, offering scenic views and local trail connectivity. Phase I and II of the project have been completed to date.

Mission Library

Construction of the Mission Library was recently completed and the library opened on April 30, 2011. The building is located on the historic Mission Drive-in property, adjacent to Mission San José. The library will be an important community facility serving as a place of both learning and as a community focal point for local residents. It is anticipated that the library's mission and purpose will be complementary to that of SAAN and that a long-term partnerships and learning opportunities will result.

Invasive Species Control Program

SAAN ecological studies have documented 318 wildlife species within the park. This includes 23 species of non-native animals. Non-native animals often adversely affect native flora and fauna by displacing or consuming native animals and their habitat. The park has an ongoing program in place to control the populations of some non-native species, focusing on those that cause the most damage to native plants and wildlife such as feral pigs. These efforts also include managing invasive non-native vegetation within the park (SAAN 2011).

Stinson Municipal Airport – Runway Extension

A runway extension was recently completed at Stinson Municipal Airport. The runway previously had a length of 4,835 feet, and is now approximately 5,002, making Stinson more appealing for a wider variety of general aviation aircraft, including small corporate jets. Additional improvements include an extension of taxiways, replacement and upgrade of taxiway lighting and navigational aids for both runways, a new engine run-up area for Runway 32 and a helipad (SA Aviation Dpt. 2010).

Catholic Church Improvements

The Catholic Church operates and maintains the parts of the mission buildings used for religious services. Each mission serves an active congregation and is a cultural anchor for the congregants. In 2009, the Archdiocese of San Antonio spent over \$1.3 million to restore and maintain the parts of the mission church buildings in its care. A project is also currently underway to stabilize the San Juan Church.

Rancho de las Cabras Visitor Services

The Rancho de las Cabras site contains the only physical remains of the Ranchos used to raise livestock for the San Antonio Missions (Mission Espada). The property is significant in the areas of American history, agriculture, archeology, and culture. Currently, the Rancho property does not have the required visitor services needed to promote public use of the property. A project is currently in the planning phase that would improve the site in order to make it more suitable for public use.

Dependent on the outcome of the project planning process, important elements of this project could include realigning and gravel paving the entrance road from County Road 144, creating a gravel 25 car parking area, and an open air visitor center that would include a sitting area, indoor office, interpretative panels, and a restroom. A pedestrian trail would also be proposed that would create a loop inside the ruins and a loop outside of the ruins. Environmental clearance for this project is anticipated in early 2012.

Soils

Affected Environment

According to the NPS *Management Policies 2006*, NPS will preserve and protect geologic resources and features from adverse effects of human activity, while allowing natural processes to continue. These policies also state that NPS will strive to understand and preserve the soil resources of park units and prevent, to the extent possible, the unnatural erosion, physical removal, or contamination of the soil, or its contamination of other resources.

The area of potential affect associated with the proposed park improvements primarily consist of Karnes loam soil type within and immediately surrounding the Mission San Juan compound and Frio clay loam on the San Juan labores. Both soils are San Antonio River alluvial soils types, and are relatively easy to use for cultivation of agriculture (Thoms et. al. 2001).

Soils surrounding the mission compound are generally previously disturbed. This disturbance is associated with a long history of plowing associated with agricultural activities as well as disturbances associated with the urban encroachments onto the historic landscape. Within the mission compound, soils are also generally disturbed as a result of disruptions associated with a number of site excavations which took place during the 20th century.

Intensity Level Definitions

Intensity thresholds of soil impacts are defined as follows:

Negligible: The action would result in a change in soils or a geologic feature, but the change would be at the lowest level of detection or not measurable.

Minor: The action would result in a detectable change, but the change would be slight and local soils or geologic resources might be slightly altered in a way that would be noticeable. There could be changes in a soil's profile in a relatively small area, but the change would not appreciably increase the potential for erosion.

Moderate: The action would result in a clearly detectable change in soils or geologic resources. Soils would be obviously altered, or a few features would show changes. There could be a loss or alteration of the topsoil in a small area, or the potential for erosion to remove small quantities of additional soil would increase.

Major: The action would result in the permanent loss of an important soil or geologic resource, or there would be highly noticeable, widespread changes in many soils or features. There would be a permanent loss or alteration of soils or geologic resources in a relatively large area, or there would be a strong likelihood for erosion to remove large quantities of additional soil as a result of the action.

Impacts of the No-Action Alternative

Under this alternative, no modifications would be made to park infrastructure. The San Juan Farm with a demonstration area, prepared agricultural fields, barn, parking lot and trails would not be developed. As a result, there would be no ground disturbance or construction activities with associated impacts to soils.

Cumulative Effects: The past, present, and reasonably foreseeable future actions with the

potential to affect soils are related primarily to development around the park and other park development initiatives not related to the San Juan Farm project. These initiatives include the San José Cultural Landscape Restoration project, the San Antonio River Improvement Project, the San Juan Acequia Trail, the Mission Reach Hike/Bike Trail, the Mission Library and the Stinson Municipal Airport Runway Extension.

All of these projects have had or have the potential to affect soil resources. Impacts to soils as a result of construction have or would however be regulated under the Texas Discharge Elimination System Construction General Permit. Impacts of the actions on soil resources are therefore anticipated to have been sufficiently managed and mitigated to result in an adverse, local, short- and/or long-term, minor cumulative effect on soil resources. When considered with other past, present, and foreseeable future actions, the no-action alternative would not contribute a noticeable incremental impact to the adverse, local, short- and/or long-term, negligible cumulative effect on soil resources.

Conclusion: The no-action alternative would result in no impacts to soils as there would be no ground disturbance or construction activities. When considered with other past, present, and reasonably foreseeable future actions, this alternative would not contribute incrementally to the adverse, local, short- and/or long-term, and negligible cumulative effect on soils.

Impacts of Alternative 1 - Minimum Action

Alternative 1 would involve the re-introduction of farming activities including a 2.5 acre demonstration farm, 5-acre prepared agricultural area, orchard, vineyard and corral as well as the introduction of a barn and farm implement storage structures.

The re-introduction of the farming activities could affect soils through the shallow ground disturbing activities associated with preparing the labores for cultivation. These activities would primarily involve plowing. If not properly managed, the re-plowing of the labores could result in large tracts of exposed soil. These soils would temporarily be destabilized and susceptible to soil erosion. Mitigation measures would be implemented in order to ensure that the potential for soil erosion is properly managed during the conversion of the fallow agricultural land to active agricultural fields. In addition, all construction activities would be performed in accordance with the Texas Discharge Elimination System Construction General Permit. This permit would ensure that all soil disturbing activities are properly managed. Best management practices could include the use of silt fencing and straw bales to control potential soil erosion while the labores are re-established.

Once operational, the demonstration farm would utilize additional operational best management practices, including developing farming strategies and user mandates in order to ensure potential soil erosion is properly managed. These operational best management practices would include controls on the timing of plowing, planting and harvesting. The historic rows of woody vegetation separating the labores would also be preserved and maintained. This fence row style vegetation would provide a mechanism to capture loose sediment that may be disturbed by rain or wind.

The orchard would be created adjacent to, and northeast of the mission compound. The vineyard would be created adjacent to, and east of the mission compound. The corral would be created adjacent to, and south of the mission compound. The corral would be developed on the former mission parking lot. The development of the corral would therefore include shallow excavations associated with the removal of the existing asphalt. The western side of the vineyard would utilize an area that is currently the roadbed of Mission Parkway loop. The construction of Mission Parkway would have disturbed the soil within this portion of the vineyard. The remaining portion of the vineyard and the orchard are also located in an area in

which, although is currently open and grassed, soils conditions have been disturbed through contemporary construction and demolitions. Although only minimal disturbance is anticipated, re-vegetation and re-contouring of the disturbed areas would take place following construction. The non-native Bermuda and St. Augustine grasses would be replaced with native grasses where possible.

These construction and operational measures would preserve the soil resources of the park and prevent, to the extent possible, the unnatural erosion, physical removal, or contamination of the soil, or its contamination of other resources due to farming activities. As a result of these efforts it is anticipated that the potential impacts to soils would be sufficiently mitigated to result in adverse, local, long-term, minor impacts.

The barn would be located to the west of Villamain Road, in-between the acequia and the labores. This grassed area is currently bisected by the Mission Parkway loop. The construction of the barn would involve shallow excavations that would result in effects that are minor or less in degree.

The four storage sheds would also be constructed for the storage of necessary farming tools and equipment. A shed would be constructed adjacent to the orchard, vineyard, on the east side of acequia, close to the animal corral and on the east side of the prepared agricultural area. The storage sheds adjacent to the orchard, vineyard, on the east side of acequia, close to the animal corral are all in areas with soil that have been previously disturbed as described above. The construction of the storage sheds would involve shallow excavations that would result in effects that are minor or less in degree.

As part of this alternative, the entrance road would be reconfigured by closing and removing the Mission Road loop, and Graf Road south of Villamain. These road closures would allow for the removal of approximately 1,700 linear feet of paved road promoting the rehabilitation of the cultural landscape. The parking lot would be constructed directly north of the mission at the current intersection of Mission Parkway, Graf Road and River Street. The construction of these roadbeds has resulted in soil disturbance within this area of the park. The reconfiguring of the roadways would remove impermeable asphalt. Opportunities to plant native grasses to stabilize soils would also be present. These features are located in previously disturbed areas and/or involve shallow excavations within topsoil. The construction and operation of these features would therefore result in effects that are minor or less in degree.

Overall, this alternative would have a potential adverse, site-specific, short-and/or long term, minor impact on soils.

Cumulative Effects: The past, present, and reasonably foreseeable future actions with the potential to affect soils would be the same as described under the no-action alternative and include the San José Cultural Landscape Restoration project, San Antonio River Improvement Project, the San Juan Acequia Trail, the Mission Reach Hike/Bike Trail, the Mission Library and the Stinson Municipal Airport Runway Extension.

All of these projects have had or have the potential to affect soil resources. Impacts to soils as a result of construction have or would be regulated under the Texas Discharge Elimination System Construction General Permit. Impacts of the actions on soil resources are therefore anticipated to have been sufficiently managed and mitigated to result in adverse, local, long-term, negligible cumulative effect on soil resources. When considered with other past, present, and foreseeable future actions, alternative 1 would contribute an incremental adverse, site-specific, long-term, negligible cumulative effect on soil resources.

Conclusion: Overall, under alternative 1, impacts on soil resources would be adverse, site-specific, short-and/or long term, and minor. These impacts would primarily result from the

ground disturbance and the associated potential erosion resulting from the preparation of the agricultural fields. When considered with other past, present, and foreseeable future actions, alternative 1 would contribute an incremental adverse, site-specific, long-term, negligible cumulative effect on soil resources.

Impacts of Alternative 2 - Medium Action

Alternative 2 would include all of components of alternative 1 but with some notable additions. A visitor contact station would be developed, along with an extended pedestrian trail network within the compound and surrounding the corral, vineyard and orchard. A hike and bike trail would also be created along Villamain Road and agricultural activities would be further extended onto the historic labores.

The visitor contact station would be located adjacent to the parking lot. This area is currently the location of Mission Parkway and open grassed land with previously disturbed soils. The construction of the visitor contact station would involve shallow excavations that would result in effects to soil resources that are minor or less in degree.

The pedestrian trail network extension would include encircling the vineyard and following the edge of the corral connecting to the San Juan Acequia Trail (separate action). An additional extension would run through the mission compound, also connecting to the San Juan Acequia Trail. Under this alternative, a hike and bike trail would also be developed following the alignment of Villamain Road. These trails would be located in areas with previously disturbed soils, including the portion of the pedestrian trail within the mission compound as the original topography within the mission walls was disrupted during a number of site excavations which took place during the 20th century. The installation of these trails would require minor surficial soil disturbance. As a result it is anticipated that the trail extensions would result in effects on soil resources that are minor or less in degree.

The further extension of the re-introduction of the farming activities has the potential to affect soils. As with alternative 1, if not properly managed, the re-plowing of the labores could result in large tracts of exposed soil which would be susceptible to soil erosion. Mitigation measures would be implemented in order to ensure that the potential for soil erosion is properly managed during the conversion of the fallow agricultural land to active agricultural fields.

In addition all construction activities would be performed in accordance with the Texas Discharge Elimination System Construction General Permit. This permit would ensure that all soil disturbing activities are properly managed.

Once operational, the demonstration farm would utilize additional operational best management practices, including developing farming strategies and user mandates in order to ensure potential soil erosion is properly managed. These operational best management practices would include controls on the timing of plowing, planting and harvesting. The historic rows of woody vegetation separating the labores would also be preserved and maintained. This fence row style vegetation would provide a mechanism to capture loose sediment that may be disturbed by rain or wind. As a result of these efforts it is anticipated that the potential impacts to soils would be mitigated. This alternative would increase the potential for erosion to remove small quantities of soil and would therefore result in adverse, site-specific, short-term and minor to moderate impact on soils.

Overall, alternative 2 would result in adverse, site-specific, short-term and minor to moderate impact on soils.

Cumulative Effects: The past, present, and reasonably foreseeable future actions with the potential to affect soils would be the same as described under the no-action alternative and

include the San José Cultural Landscape Restoration project, the San Antonio River Improvement Project, the San Juan Acequia Trail, the Mission Reach Hike/Bike Trail, the Mission Library and the Stinson Municipal Airport Runway Extension.

All of these projects have had or have the potential to affect soil resources. Impacts to soils as a result of construction have or would however be regulated under the Texas Discharge Elimination System Construction General Permit. Impacts of the actions on soil resources are therefore anticipated to have been sufficiently managed and mitigated to result in adverse, local, long-term, minor cumulative effect on soil resources. When considered with other past, present, and foreseeable future actions, alternative 2 would contribute an incremental adverse, site-specific, long-term, minor cumulative effect on soil resources.

Conclusion: Overall, alternative 2 would increase the potential for erosion to remove small quantities of soil and would therefore result in adverse, site-specific, short-term and minor to moderate impact on soils. These impacts would primarily result from the ground disturbance and the associated potential erosion resulting from the preparation of the agricultural fields. When considered with other past, present, and foreseeable future actions, the implementation of alternative 2 would contribute an incremental adverse or beneficial, local, short- and/or long-term, minor to moderate cumulative effect on soil resources.

Impacts of Alternative 3 - Maximum Action (Preferred Alternative)

Impacts to soil resources as a result of the implementation of the preferred alternative would be similar to that of alternative 1 and 2 as related to the area mission compound, demonstration farm, orchard, corral, and trails. The preferred alternative does however include re-establishing additional labores and closing Villamain Road to city traffic. The closure of Villamain Road to city traffic would not affect soil resources.

The prepared agricultural fields or lease/special use agricultural area would utilize historic labores that were sold prior to the establishment of SAAN and which have been developed as private residences or small-holding farming operations. Many of the properties have been subsequently acquired by NPS over past several years. If not properly managed, the additional vegetation removal and re-plowing of these historic labores could result in large tracts of exposed soil which would be susceptible to soil erosion. Mitigation measures would be similar to those described under alternative 1 and 2. These fields would only be prepared for agricultural production as the supporting systems necessary to ensure the appropriate management of the fields, including infrastructure and labor, are available to ensure that soil erosion is properly controlled.

As a result of these efforts it is anticipated that the potential impacts to soils would be largely mitigated. This alternative would increase the potential for erosion to remove small quantities of soil and would therefore result in adverse, site-specific, short- and/or long-term moderate impact on soil resources.

Cumulative Effects: The past, present, and reasonably foreseeable future actions with the potential to affect soils would be the same as described under the no-action alternative and include the San José Cultural Landscape Restoration project, the San Antonio River Improvement Project, the San Juan Acequia Trail, the Mission Reach Hike/Bike Trail, the Mission Library and the Stinson Municipal Airport Runway Extension.

All of these projects have had or have the potential to affect soil resources. Impacts to soils as a result of construction have or would however be regulated under the Texas Discharge Elimination System Construction General Permit. Impacts of the actions on soil resources are therefore anticipated to have been sufficiently managed and mitigated to result in adverse, local, long-term, minor cumulative effect on soil resources. When considered with other past, present,

1 and foreseeable future actions, the preferred alternative would contribute an incremental
2 adverse, site-specific, long-term, minor to moderate cumulative effect on soil resources.

3 *Conclusion:* Overall, the preferred alternative would increase the potential for erosion to remove
4 small quantities of soil and would therefore result in adverse, site-specific, short- and/or long-
5 term moderate impact on soil resources. These impacts would primarily result from the ground
6 disturbance and the associated potential erosion resulting from the preparation of the
7 agricultural fields. When considered with other past, present, and foreseeable future actions,
8 the implementation of the preferred alternative would contribute an incremental adverse, site-
9 specific, long-term, minor to moderate cumulative effect on soil resources.

Vegetation

Affected Environment

According to NPS' *Management Policies 2006*, NPS strives to maintain all components and processes of naturally evolving park unit ecosystems, including the natural abundance, diversity, and ecological integrity of plants (NPS 2006).

SAAN contains a variable mix of trees, shrubs and herbaceous vegetation, both native and introduced. In the riparian area, along the San Antonio River and its tributaries, large stands of trees occur which primarily consist of pecan (*Carya illinoensis*), black willow (*Salix nigra*), sugarberry (*Celtis laevigata*), and box elder (*Acer negundo*). Trees including hackberry (*Celtis pallida*), huisache (*Acacia farnesiana*), and mesquite (*Prosopis glandulosa*) are common on the San Juan labores. In addition to the natives, a few non-native trees such as chinaberry (*Melia azedarach*) and privet (*Ligustrum japonicum*) are present within the park but, as discussed, are actively being removed by the park (Cogan 2007).

In and around the missions, shrubs are common both as associates to the woodlands and as small stands interspersed among the labores. Common species include blackbrush acacia (*Acacia rigidula*), Texas hogplum (*Colubrina texensis*), rough leaf dogwood (*Cornus drummondii*), and Brazilian bluewood (*Condalia hookeri*). Some of the trees are also present as shrubs; including black willow, hackberry, and huisache (Cogan 2007).

Around the missions, Virginia wildrye, Ozarkgrass (*Limnnodea arkansana*), and purple threeawn (*Aristida purpurea*) are common. Widespread naturalized grasses are also present including bermudagrass (*Cynodon dactylon*), yellow bluestem, Kleberg's bluestem (*Dichanthium annulatum*), and Johnsongrass (*Sorghum halepense*) (Cogan 2007).

The close proximity of the park to the city and the historical use of the lands for farming and ranching have greatly altered the appearance and composition of the southern tallgrass prairie type. Much of the original prairie with its characteristic vast expanses of tall grasses and oak have been altered or cleared for home building, grazing and planting. Although some vegetation remains as it was during the Spanish colonial times, the vegetative landscape has been altered by the continued settlement of the area bringing increased exotic vegetation, as well as artificially dense vegetation along the historic acequias (Cogan 2007).

The U.S. Geological Survey (USGS) and NPS formed the USGS-NPS Vegetation Mapping Program to cooperatively inventory and map the vegetation in the U.S. National Parks. No rare or unusual vegetation was identified surrounding Mission San Juan. According to the study, vegetation found within the area of potential affect associated with the proposed action can be classified into the following groups (Cogan, 2007):

- Bermuda Grass Herbaceous Alliance
- Honey Mesquite - Granjeno / Prickly-pear species - South Texas Ericameria Woodland
- Pecan Sugarberry Forest
- Cedar Elm - Sugarberry / Possum-haw / Virginia Wild Rye Forest
- Chaparro - Prieto Shrubland
- Huisache - (Honey Mesquite) Woodland
- Silver Beardgrass - Johnsongrass Herbaceous
- Planted/Cultivated

- Orchards/Vineyards/Groves

- Agricultural Business

Based on the Cogan 2007 descriptions of the vegetation types, the following groups are characterized by a dominance of native vegetation:

- Honey Mesquite - Granjeno / Prickly-pear species - South Texas Ericameria Woodland
- Pecan Sugarberry Forest
- Cedar Elm - Sugarberry / Possum-haw / Virginia Wild Rye Forest
- Chaparro - Prieto Shrubland
- Huisache - (Honey Mesquite) Woodland

Impact Analysis

The impact analysis of vegetation was based on the knowledge and best professional judgment of planners and biologists, data from park records, and studies of similar actions and effects, when applicable.

Intensity Level Definitions

The intensity thresholds of an impact on vegetation communities are defined as follows:

- Negligible:** The action might result in a change in vegetation, but the change would not be measurable or would be at the lowest level of detection.
- Minor:** The action might result in a detectable change, but the change would be slight and have a local effect on a population. This could include changes in the abundance or distribution of individuals in a local area but not changes that would affect the viability of local populations. Changes to local ecological processes would be minimal.
- Moderate:** The action would result in a clearly detectable change in a population and could have an appreciable effect. This could include changes in the abundance or distribution of local populations but not changes that would affect the viability of regional populations. Changes to local ecological processes would be of limited extent.
- Major:** The action would be severely adverse or exceptionally beneficial to a population. The effects would be substantial and highly noticeable, and they could result in widespread change and be permanent. This could include changes in the abundance or distribution of a local or regional population to the extent that the population would not be likely to recover (adverse) or would return to a sustainable level (beneficial). Important ecological processes would be altered, and “landscape-level” (regional) changes would be expected.

Impacts of the No-Action Alternative

Under this alternative, no modifications would be made to park infrastructure. The San Juan Farm with a demonstration area, prepared agricultural fields, barn, parking lot and trails would not be developed. As a result, there would be no ground disturbance or construction activities with associated impacts to vegetation.

Cumulative Effects: The past, present, and reasonably foreseeable future actions with the potential to affect vegetation, are related primarily to development around the park, and other

park development initiatives not related to the San Juan Farm project. These initiatives include the San José Cultural Landscape Restoration project, San Antonio River Improvement Project, the San Juan Acequia Trail, the Mission Reach Hike/Bike Trail, the Mission Library, Rancho de las Cabras Visitor Services and the Stinson Airport runway extension. All of these projects have resulted in individual negligible impacts to vegetation through ground disturbance and vegetation removal. It is however anticipated that where impacts to vegetation are or were necessary as part of these projects, impacts have been or would be limited to the greatest extent possible and mitigated as required. As a result, the overall cumulative effect of other past, present, and reasonably foreseeable future actions on vegetation would be adverse, local, short- and/or long-term, and minor.

When considered with other past, present, and foreseeable future actions, the no-action alternative would not contribute a noticeable incremental impact to the overall adverse, local, short- and/or long-term, and minor cumulative effect on vegetation.

Conclusion: The no-action alternative would not result in impacts to vegetation as there would be no ground disturbance or construction activities. When considered with other past, present, and reasonably foreseeable future actions, this alternative would not contribute incrementally to the adverse, local, short- and/or long-term, and minor cumulative effect on vegetation.

Impacts of Alternative 1 - Minimum Action

The demonstration farm would utilize the existing historic labores. It is not anticipated that fencerow vegetation, which is primarily pecan, separating the labores would be disturbed. Vegetation replaced as a result of the re-introduction of farming activities on the labores would primarily consist of silver beardgrass - Johnsongrass herbaceous vegetation and to a much lesser extent, pecan sugarberry. Impacts to these vegetation types as a result of the farming activities are estimated in **Table 4** and are anticipated to be adverse, site-specific, long-term, and minor.

This alternative also includes creating an orchard, vineyard and corral adjacent to the eastern and northern side of the mission compound and west of the acequia. These additional elements would impact pecan sugarberry forest, Bermuda grass herbaceous alliance and small portion of Silver Beardgrass - Johnsongrass and Cedar Elm - Sugarberry / Possum-haw / Virginia Wild Rye Forest. Impacts to these vegetation types as a result of the farming activities are estimated in **Table 4** and are anticipated to be adverse, site-specific, long-term, and negligible.

The proposed, barn, storage sheds, parking lot, and the connection to Bergs Mill Trail would result in minor ground disturbances and vegetation loss. Vegetation types that would be impacted include honey mesquite - granjeno / prickly-pear species - South Texas ericameria woodland, bermuda grass herbaceous alliance, Huisache - (Honey Mesquite) Woodland, Pecan - Sugarberry Forest and Cedar Elm - Sugarberry / Possum-haw / Virginia Wild Rye Forest. Impacts to these vegetation types as a result of the implementation of these supporting services are estimated in **Table 4** and are anticipated to be adverse, site-specific, long-term, and negligible.

1

Table 4 – Approximate Vegetation Impacts – Alternative 1

	Dominant Status	Vegetation Type	Approximate Impact (Acres)
<i>Barn</i>	-	Bermuda Grass Herbaceous Alliance	0.27
	-	Huisache - (Honey Mesquite) Woodland	0.13
	Native	Pecan - Sugarberry Forest	0.25
<i>Corral</i>	-	Bermuda Grass Herbaceous Alliance	0.20
	Native	Pecan - Sugarberry Forest	0.23
	-	Silver Beardgrass - Johnsongrass Herbaceous Vegetation	0.03
<i>Vineyard</i>	-	Bermuda Grass Herbaceous Alliance	0.68
	Native	Pecan - Sugarberry Forest	0.21
<i>Orchard</i>	-	Bermuda Grass Herbaceous Alliance	1.46
	Native	Cedar Elm - Sugarberry / Possum-haw / Virginia Wild Rye Forest	0.05
		Pecan - Sugarberry Forest	0.18
<i>Parking Lot</i>	-	Bermuda Grass Herbaceous Alliance	0.01
	Native	Cedar Elm - Sugarberry / Possum-haw / Virginia Wild Rye Forest	0.52
		Honey Mesquite - Granjeno / Prickly-pear species - South Texas Ericameria Woodland	0.25
<i>Farm Fields</i>	Native	Cedar Elm - Sugarberry / Possum-haw / Virginia Wild Rye Forest	0.23
		Pecan - Sugarberry Forest	0.31
	-	Silver Beardgrass - Johnsongrass Herbaceous Vegetation	6.89
TOTAL			11.9

*Impacts reported are estimates and do not include transportation of residential mapped land use

2 During construction, only minimal disturbance to vegetation outside the footprint of the
3 supporting infrastructure, as described above, is anticipated. Re-vegetation and re-contouring
4 of any disturbed areas would take place following construction and would utilize native
5 vegetation. The potential to introduce invasive species is also increased during construction
6 activities due to contaminated soils, construction equipment, and vehicles driving into the park.
7 Mitigative measures would be implemented in order to reduce the potential for impacts from
8 noxious weeds displacing native species. Construction related impacts would be adverse, site-
9 specific, short-term, and negligible.

10 *Cumulative Effects:* The past, present, and reasonably foreseeable future actions with the
11 potential to affect vegetation, would be the same as described under the no-action alternative
12 and include the San José Cultural Landscape Restoration project, San Antonio River
13 Improvement Project, the San Juan Acequia Trail, the Mission Reach Hike/Bike Trail, the
14 Mission Library, Rancho de las Cabras Visitor Services and the Stinson Airport runway
15 extension.

16 All of these projects have resulted in individual negligible impacts to vegetation through ground
17 disturbance and vegetation removal. It is however anticipated that where impacts to vegetation
18 are or were necessary as part of these projects, impacts have been or would be limited to the
19 greatest extent possible and mitigated as required. As a result, the overall cumulative effect of

other past, present, and reasonably foreseeable future actions on vegetation would be adverse, local, short- and/or long-term, and minor.

The implementation of alternative 1 could cause adverse, site-specific, short- and/or long-term, minor impacts as a result of the re-introduction of farming activities on the labores and the development of the supporting services. Additional adverse, site-specific, short-term negligible impacts could result from construction activities. When considered with other past, present, and reasonably foreseeable future actions, the implementation of alternative 1 would contribute an incremental adverse, site-specific, long-term, negligible cumulative effect on vegetation.

Conclusion: Overall, under alternative 1, impacts to vegetation would be adverse, site-specific, short- and/or long-term, and minor. These impacts are primarily associated with ground disturbances resulting from the preparation of the agricultural fields the construction of the supporting infrastructure. When considered with other past, present, and reasonably foreseeable future actions, the implementation of alternative 1 would contribute an incremental adverse, site-specific, long-term, negligible cumulative effect on vegetation.

Impacts of Alternative 2 - Medium Action

Alternative 2 would include all of the components of alternative 1 but would also increase the extent of the proposed park improvements by further extending the farming activities and trail network and constructing a visitor contact station.

Alternative 2 would continue to re-introduce farming activities onto the existing labores. This extension of the farmland would impact huisache (honey mesquite) woodland, cedar elm-sugarberry/Possum-haw/Virginia wild rye forest and further impact silver beardgrass - Johnsongrass herbaceous vegetation. Impacts to these vegetation types as a result of farming activities are estimated in **Table 5** and are anticipated to be adverse, site-specific, long-term, and minor.

Additional elements of this alternative include further extending the trail system by creating a pedestrian trail that enters the mission compound, encircles the vineyard, and establishes a connection to the future San Juan Acequia Trail. These additional elements would impact pecan sugarberry forest, Bermuda grass herbaceous alliance and a small portion of agricultural business. Impacts to these vegetation types as a result of the trail extension are estimated in **Table 5** and are anticipated to be adverse, site-specific, long-term, and negligible.

Table 5 – Approximate Vegetation Impacts – Alternative 2

Status	Vegetation Type	Approximate Impact (Acres)
Non-native species dominant	Agricultural Business	0.27
	Bermuda Grass Herbaceous Alliance	1.00
	Residential	3.18
	Silver Beardgrass - Johnsongrass Herbaceous Vegetation	22.95
Total		27.40
Native species dominant	Cedar Elm - Sugarberry / Possum-haw / Virginia Wild Rye Forest	3.80
	Huisache - (Honey Mesquite) Woodland	5.87
	Pecan - Sugarberry Forest	3.01
Total		12.68

Construction related impacts would be similar to those described under alternative 1 but would be at a slightly larger scale due to the increased extent of farming activities. Construction related impacts would be adverse, site-specific, short-term, and negligible to minor.

Cumulative Effects: The past, present, and reasonably foreseeable future actions with the potential to affect vegetation, would be the same as described under the no-action alternative and include the San José Cultural Landscape Restoration project, San Antonio River Improvement Project, the San Juan Acequia Trail, the Mission Reach Hike/Bike Trail, the Mission Library, Rancho de las Cabras Visitor Services and the Stinson Airport runway extension.

All of these projects have resulted in individual negligible impacts to vegetation through ground disturbance and vegetation removal. It is however anticipated that where impacts to vegetation are or were necessary as part of these projects, impacts have been or would be limited to the greatest extent possible and mitigated as required. As a result, the overall cumulative effect of other past, present, and reasonably foreseeable future actions on vegetation would be adverse, local, short- and/or long-term, and minor.

The implementation of alternative 2 could cause adverse, site-specific, short and long-term, minor impacts as a result of the re-introduction of farming activities on the labores and the development of supporting services. Additional adverse, site-specific, short-term negligible to minor impacts could result from construction activities. When considered with other past, present, and reasonably foreseeable future actions, the implementation of alternative 2 would contribute an incremental adverse, site-specific, long-term, negligible to minor cumulative effect on vegetation.

Conclusion: Overall, under alternative 2, impacts to vegetation would be adverse, site-specific, long-term, and minor due to the removal of predominantly non-native species. Adverse, site-specific, short-term, and negligible to minor impacts could also result from construction activities. When considered with other past, present, and reasonably foreseeable future actions, the implementation of alternative 2 would contribute an incremental adverse, site-specific, long-term, negligible to minor cumulative effect on vegetation.

Impacts of Alternative 3 - Maximum Action (Preferred Alternative)

The preferred alternative would include all of the components of alternative 1 and 2 but would further increase the extent of the re-introduction of farming activities and include the development of a hike and bike trail adjacent to Villamain Road.

The extension of the prepared agricultural fields or lease/special use agricultural area, to the east of Villamain Road, would utilize land that was previously part of the labores but has subsequently been reclaimed as grazing land or has been left unused allowing for the establishment of large woody vegetation. Vegetation in the affected area has been characterized as predominately pecan – sugarberry forest with some silver beardgrass - Johnsongrass herbaceous vegetation, honey mesquite - granjeno / prickly-pear species - South Texas Ericameria woodland and privet shrubland. Impacts to these vegetation types as a result of the extended farming activities are estimated in **Table 6** and, despite representing successional growth, are anticipated to be adverse, site-specific, long-term, and moderate.

The extension of the farmland to the east between Villamain Road and South Presa Street would impact huisache - (honey mesquite) woodland, silver beardgrass - Johnsongrass herbaceous vegetation, Bermuda grass herbaceous alliance, cedar elm - sugarberry / possumhaw / Virginia wildrye forest, residential, chaparro - prieto shrubland, and pecan – sugarberry forest. Impacts to these vegetation types as a result of the extended farming activities are estimated in **Table 6** and are anticipated to be adverse, site-specific, long-term, and moderate.

The extension of farmland west of Villamain Road would impact vegetation that has previously been classified as either planted/cultivated, agricultural business or orchards/vineyards/groves. In addition the silver beardgrass - Johnsongrass herbaceous vegetation would be further

impacted. Impacts to these vegetation types as a result of the extended farming activities are estimated in **Table 6** and are anticipated to be adverse, short-term, site-specific, adverse, and minor.

An additional element of this alternative involves creating a hike and bike trail following the alignment of Villamain Road. It is not anticipated that the Villamain Road trail would result in impacts to vegetation as the existing roadway right-of-way would be utilized.

Table 6 – Approximate Vegetation Impacts – Preferred Alternative*

Status	Vegetation Type	Approximate Impact (Acres)
Non-native species dominant	Agricultural Business	2.42
	Bermuda Grass Herbaceous Alliance	3.06
	Orchards / Vineyards / Groves	9.91
	Planted / Cultivated	22.89
	Privet Shrubland Stand	0.48
	Communications and Utilities	4.52
	Silver Beardgrass - Johnsongrass Herbaceous Vegetation	23.82
Total		67.10
Native species dominant	Cedar Elm - Sugarberry / Possum-haw / Virginia Wild Rye Forest	9.96
	Chaparro - Prieto Shrubland	2.31
	Honey Mesquite - Granjeno / Prickly-pear species - South Texas Ericameria Woodland	0.12
	Huisache - (Honey Mesquite) Woodland	20.40
	Pecan - Sugarberry Forest	61.38
Total		94.17

*Phase 3 impacts estimated assuming entire footprint is impacted

Construction related impacts would be similar to those described under alternatives 1 and 2 but would be at a larger scale due to the increased extent of farming activities. Construction related impacts would be adverse, site-specific, short-term, and minor

Cumulative Effects: The past, present, and reasonably foreseeable future actions with the potential to affect vegetation, would be the same as described under the no-action alternative and include the San José Cultural Landscape Restoration project, San Antonio River Improvement Project, the San Juan Acequia Trail, the Mission Reach Hike/Bike Trail, the Mission Library, Rancho de las Cabras Visitor Services and the Stinson Airport runway extension.

All of these projects have resulted in individual negligible impacts to vegetation through ground disturbance and vegetation removal. It is however anticipated that where impacts to vegetation are or were necessary as part of these projects, impacts have been or would be limited to the greatest extent possible and mitigated as required. As a result, the overall cumulative effect of other past, present, and reasonably foreseeable future actions on vegetation would be adverse, local, short- and/or long-term, and minor.

The implementation of the preferred alternative could cause adverse, site-specific, short- and/or long-term, moderate impacts as a result of the re-introduction of farming activities on the labores and the development of supporting services. Additional adverse, site-specific, short-term negligible impacts could result from construction activities. When considered with other past, present, and reasonably foreseeable future actions, the implementation of the preferred

1 alternative would contribute an incremental adverse, site-specific, long-term, moderate
2 cumulative effect on vegetation.

3 *Conclusion:* Overall, under the preferred alternative, impacts on the vegetation from the
4 extension of the farmland to the east of Villamain Road are anticipated to be adverse, site-
5 specific, long-term and moderate. These moderate impacts primarily result from the removal of
6 pecan-sugarberry forest and Silver Beardgrass - Johnsongrass Herbaceous Vegetation.
7 Impacts from the extension of farmland west of Villamain Road are anticipated to be adverse,
8 short-term, site-specific, adverse, and minor. Adverse, site-specific, short-term, and minor
9 impacts could also result from construction activities. When considered with other past,
10 present, and reasonably foreseeable future actions, the implementation of the preferred
11 alternative would contribute an incremental adverse, site-specific, long-term, moderate
12 cumulative effect on vegetation.

Wildlife

Affected Environment

According to NPS *Management Policies 2006*, NPS strives to maintain all components and processes of naturally evolving park unit ecosystems, including the natural abundance, diversity, and ecological integrity of animals (NPS 2006).

Bexar County lies on the edge of the Balcones Escarpment, in a transition region between the Edwards Plateau and the Rio Grande Plain to the south. This creates a great diversity of ecological features, which in turn provides habitat for a great diversity of plants and animals. However, only a small portion of those ecological features or habitats are contained within the boundaries of SAAN (Duran 2004). Despite this, there are many types of wildlife found with SAAN with 318 species being documented within the park (NPS 2011b).

Birds are most numerous, with 222 species and counting. Species to note include the Green Kingfisher (*Chloroceryle americana*), Crested Caracara (*Caracara cheriway*), and the Scissor-tailed Flycatcher (*Tyrannus forficatus*). The federally listed threatened and endangered Peregrine Falcon (*Falco peregrinus*) also occasionally migrates through the park (SAAN, 2011). Thirty-eight species of herptofauna (reptiles and amphibians) have also been documented. This includes seven species of frogs and toads; six species of turtles; six lizards; and 19 snakes. Commonly encountered species include Red-eared Sliders (*Trachemys scripta elegans*), Ground Skinks (*Scincella lateralis*), and the Diamondback Water Snake (*Crotalus atrox*).

Thirty-one mammals are found in the park and include six species of mice, five species of bats, foxes, coyotes, deer, and raccoons. Armadillos and Collared Peccaries are also sometimes observed (SAAN 2011). Twenty-seven species of fish inhabit park waters. Common species include largemouth bass (*Micropterus salmoides*), catfish (*Ictalurus punctatus*), carp (*Cyprinus carpio*), mosquitofish (*Gambusia affinis*), five species of shiner (*Notropis* sp.), and four species of sunfish (*Lepomis* sp.) (NPS 2011b).

One species found in the park is listed by the State of Texas as threatened: the Texas Tortoise (*Gopherus berlandieri*) (NPS 2011b). No effects to this species are anticipated as a result of the proposed park improvements. There is potential to find these species throughout the park, including the area of potential effect associated with the proposed park improvements.

Impacts Analysis

Effects on wildlife include both direct and indirect effects and can be considered in terms of whether they are short- and/or long-term. Direct impacts on wildlife include the accidental or intentional mortality of an individual or population, injury, or stress from species flight. Direct contact with certain species may induce injury, leading to death of the animal. Within this analysis, impacts on wildlife in the park were assessed based on the type of action proposed and were compared to the available scientific literature, known animal behaviors, and general ecology.

Intensity Level Definitions

The intensity thresholds of an impact on wildlife are defined as follows:

Negligible: The action might result in a change in wildlife, but the change would not be measurable or would be at the lowest level of detection.

Minor: The action might result in a detectable change, but the change would be slight and have a local effect on a population. This could include changes in the abundance or distribution of individuals in a local area but not changes that

would affect the viability of local populations. Changes to local ecological processes would be minimal.

Moderate: The action would result in a clearly detectable change in a population and could have an appreciable effect. This could include changes in the abundance or distribution of local populations but not changes that would affect the viability of regional populations. Changes to local ecological processes would be of limited extent.

Major: The action would be severely adverse or exceptionally beneficial to a population. The effects would be substantial and highly noticeable, and they could result in widespread change and be permanent. This could include changes in the abundance or distribution of a local or regional population to the extent that the population would not be likely to recover (adverse) or would return to a sustainable level (beneficial). Important ecological processes would be altered, and "landscape-level" (regional) changes would be expected.

Impacts of the No-Action Alternative

Under the no-action alternative, there would be no change to existing conditions. The San Juan Farm with a demonstration area, prepared agricultural fields, barn, parking lot and trails would not be developed. As a result, there would be no ground disturbance, vegetation removal or construction activities with associated direct and indirect impacts to terrestrial or aquatic wildlife populations.

Cumulative Effects: The past, present, and reasonably foreseeable future actions with the potential to affect vegetation, are related primarily to development around the park, and other park development initiatives not related to the development of San Juan Farm. These initiatives include the San José Cultural Landscape Restoration project, the San Antonio River Improvement Project, the San Juan Acequia Trail, the Mission Reach Hike/Bike Trail, Rancho de las Cabras Visitor Services and the Mission Library. All of these actions have the potential to impact habitat which could in turn affect wildlife living within the area surrounding Mission San Juan.

It is anticipated where disturbances to wildlife are necessary as part of the adjacent development, the populations would generally use other areas of the local habitats. As a result, the overall cumulative effect of other past, present, and foreseeable future actions on vegetation would be adverse, local, short- and/or long-term, and minor. When considered with other past, present, and foreseeable future actions, the no-action alternative would not contribute a noticeable incremental impact to the overall adverse, local, short- and/or long-term, and minor cumulative effect on wildlife.

Conclusion: The no-action alternative would not result in impacts to wildlife as there would be no ground disturbance, vegetation removal or construction activities. When considered with other past, present, and foreseeable future actions, the no-action alternative would not contribute a noticeable incremental impact to the overall adverse, local, short- and/or long-term, and minor cumulative effect on wildlife.

Impacts of Alternative 1 - Minimum Action Alternative

The demonstration farm would utilize existing historic labores. The re-introduction of the farming activities would result in the loss of potential foraging habitat and cover for some terrestrial species such as mice, raccoons and cottontails. Due to the lack of cover that the labores provide, these remnant agricultural fields are however considered low quality habitat for larger terrestrial species. The resultant agriculture fields could also create additional browsing

opportunities. Fencerow vegetation separating the labores would be not be disturbed. This fencerow vegetation could be utilized by avian species as habitat and for shelter for smaller terrestrial species while traversing the labores. Generally, wildlife inhabiting the San Juan area is considered common, and tolerant of moderate amounts of disturbance. Overall, impacts to wildlife as a result of the re-introduction of farming activities are anticipated to be adverse, local, long- and short-term, and negligible to minor.

The proposed orchard, vineyard and corral adjacent to the eastern and northern side of the mission compound and west of the acequia would result in minor ground disturbances and potential habitat loss. The corral would be located in an area that is currently a parking lot and the other components are located in previously disturbed areas associated with the Mission Parkway loop all of which are considered low quality habitat. The development of the orchard, vineyard and corral would therefore result in adverse, local, long-term, negligible impact on wildlife.

The proposed barn, storage sheds, parking lot, and connection to the Berg Mill Trail would result in minor ground disturbances and additional potential habitat loss. These features are however mostly located in previously disturbed areas that are also considered low quality habitat. Limited tree and shrub removal may result in minor wildlife habitat loss particularly for avian species. Impacts to wildlife as a result of developing these supporting services would be adverse, site-specific, long-term and negligible.

Wildlife would be temporarily affected by construction crews and their equipment. During construction, wildlife would experience slight effects from noise and disturbances associated with the heavy equipment and vehicles driving within the park. The noise may result in the temporary movement of wildlife away from the construction areas which could result in stress from species flight. Potential direct impacts may result from mortality caused by wildlife being hit by moving vehicles. Walking surveys would be conducted by NPS personnel prior to the initiation of any construction activities that have the potential to harm or displace wildlife. Wildlife populations generally could use other areas of the local habitats without having much of an adverse effect on the population. Therefore, adverse, direct and/or indirect, site-specific, short- and/or long-term, negligible impacts could also result from construction activities.

Once operational, best management practices, including sustainable farming strategies would be employed to ensure that run-off generated from the farming activities does not contain substances that could be detrimental to aquatic life present in both in the acequias and the San Antonio River. During the operation of the San Juan Farm, NPS would be committed to practicing and teaching responsible environmental stewardship, ensuring the protection of local wildlife to the greatest extent possible.

Cumulative Effects: The past, present, and reasonably foreseeable future actions with the potential to affect wildlife, would be the same as described under the no-action alternative and include the San José Cultural Landscape Restoration project, the San Antonio River Improvement Project, the San Juan Acequia Trail, the Mission Reach Hike/Bike Trail, Rancho de las Cabras Visitor Services and the Mission Library. All of these actions have the potential to impact habitat which could in turn affect wildlife living within the area surrounding Mission San Juan. Impacts of the actions would have an overall cumulative adverse, direct and/or indirect, local, short- and/or long-term, minor effect on wildlife.

As a result of the re-introduction of farming activities and supporting services, the implementation of alternative 1 would result in impacts that are anticipated to be adverse, local, long and short-term, and negligible to minor. Adverse, direct and/or indirect, site-specific, short- and/or long-term, negligible impacts could also result from construction activities. When considered with other past, present, and reasonably foreseeable future actions, the

implementation of alternative 1 would contribute an incremental adverse, site-specific, long-term, minor cumulative effect on wildlife.

Conclusion: Overall, under alternative 1, impacts on the wildlife would be adverse, local, short- and/or long-term, and negligible to minor. Adverse, direct and/or indirect, site-specific, short- and/or long-term, negligible impacts could also result from construction activities. These impacts would result from disturbances to area wildlife and their habitat. When considered with other past, present, and reasonably foreseeable future actions, the implementation of alternative 1 would contribute an incremental adverse, site-specific, long-term, minor cumulative effect on wildlife.

Impacts of Alternative 2 - Medium Action Alternative

Alternative 2 would include all of the components of alternative 1 but would also increase the extent of the proposed park improvements by further extending the farming activities and includes a visitor center and an extended trail network.

The additional farming activities would continue to expand activities onto the existing labores. Again, the farming activities would result in the permanent loss of potential foraging habitat for some species but could also create additional foraging opportunities for browsers, particularly with the creation of orchards and vineyards. Again, it is not anticipated that fencerow vegetation separating the labores would be disturbed, benefiting local wildlife. Overall, impacts to wildlife as a result of the extension of the farming activities would be similar to alternative 1 and are anticipated to be adverse, local, short- and/or long-term, and minor.

Additional elements of this alternative include further extending the trail system by creating a trail that encircles the vineyard, a connection to the future San Juan Acequia Trail and a trail within the mission compound, all of which would result in minor ground disturbances and potential habitat loss. The extended trails are however located mostly in previously disturbed areas that are considered low quality habitat. The extended trail network would therefore result in adverse, local, long-term, negligible impacts on wildlife.

Once operational, best management practices would be employed similar to those described under alternative 1. Impacts to wildlife a result of construction would be similar to impacts described under alternative 1. Disturbances would however be more extensive as additional land would need to be prepared in order to accommodate the expansion of the farming activities. Therefore, adverse, direct and/or indirect, site-specific, short- and/or long-term, negligible to minor impacts could also result from construction activities.

Cumulative Effects: The past, present, and reasonably foreseeable future actions with the potential to affect wildlife, would be the same as described under the no-action alternative and include the San José Cultural Landscape Restoration project, the San Antonio River Improvement Project, the San Juan Acequia Trail, the Mission Reach Hike/Bike Trail, Rancho de las Cabras Visitor Services and the Mission Library. All of these actions have the potential to impact habitat which could in turn affect wildlife living within the area surrounding Mission San Juan. Impacts of the actions would have an overall cumulative adverse, direct and/or indirect, local, short- and/or long-term, minor effect on wildlife.

The implementation of alternative 2 would be adverse, local, short- and/or long-term, and minor due to the additional loss of habitat associated with the alternative. Adverse, direct and/or indirect, site-specific, short- and/or long-term, negligible to minor impacts could also result from construction activities. When considered with other past, present, and reasonably foreseeable future actions, the implementation of alternative 2 would contribute an incremental adverse, long-term, site-specific, and minor cumulative effect on wildlife.

Conclusion: Overall, under alternative 2, impacts on the wildlife would be adverse, local, short- and/or long-term, and minor. Impacts to wildlife as a result of the extended trail network are anticipated to be adverse, local long-term, and negligible. Adverse, site-specific, short- and/or long-term, negligible to minor impacts could also result from construction activities. These impacts would result from disturbances to area wildlife and their habitat. When considered with other past, present, and reasonably foreseeable future actions, the implementation of alternative 2 would contribute an incremental adverse, long-term, site-specific, and minor cumulative effect on wildlife.

Impacts of Alternative 3 - Maximum Action (Preferred Alternative)

The preferred alternative would include all of the components of alternative 1 and 2 but would further increase the extent of the proposed park improvements.

The extension of the prepared agricultural fields or lease/special use agricultural area, to the east of Villamain Road would utilize land that was previously part of the labores but has subsequently been reclaimed as grazing land or has been left unused allowing for the establishment of large woody vegetation. These existing labores are considered low to medium quality habitat for wildlife. The areas that would be cleared of large woody vegetation are however considered higher quality habitat. These large stands of trees provide shelter and foraging opportunities for both avian and terrestrial species.

Based on a review of park species lists, terrestrial species that could potentially be displaced as a result of this alternative include Coastal Plain Toad (*Bufo nebulifer*), Texas Spiny Lizard (*Sceloporus olivaceus*), Western Coachwhip (*Masticophis flagellum testaceus*), Rough Green Snake (*Opheodrys aestivus*), Fox Squirrel (*Sciurus niger*), White-footed Mouse (*Peromyscus leucopus*), Deer Mouse (*Peromyscus maniculatus*), Hispid Cotton Rat (*Sigmodon hispidus*), Virginia Opossum (*Didelphis virginiana*), Nine-banded Armadillo (*Dasypus novemcinctus*), Eastern Cottontail (*Sylvilagus floridanus*), Raccoon (*Procyon lotor*), Eastern Red Bat (*Lasiurus borealis*), the Hoary Bat (*Lasiurus cinereus*) and feral pigs (*Sus scrofa*).

Avian species that could potentially be displaced include White-winged Dove (*Zenaida asiatica*), Mourning Dove (*Zenaida macroura*), Yellow-billed Cuckoo (*Coccyzus americanus*), Greater Roadrunner (*Geococcyx californianus*), Red-bellied Woodpecker (*Melanerpes carolinus*), White-eyed Vireo (*Vireo griseus*), Black-crested Titmouse (*Baeolophus atricristatus*), Carolina Wren (*Thryothorus ludovicianus*), Bewick's Wren (*Thryomanes bewickii*), Blue-gray Gnatcatcher (*Poliophtila caerulea*), Cedar Waxwing (*Bombycilla cedrorum*), Northern Cardinal (*Cardinalis cardinalis*), and the Painted Bunting (*Passerina ciris*).

Generally, these species are considered common, and tolerant of moderate amounts of disturbance and which could use other areas of the local habitats without having much of an adverse effect on the population. The use of the historic labores for agriculture would result in adverse, short- and/or long-term, site-specific moderate impacts to wildlife.

An additional element of this alternative involves creating a hike and bike trail following the alignment of Villamain Road. It is not anticipated that the Villamain Road trail would result in impacts to wildlife as it would most likely be located within existing transportation right-of-way.

Impacts to wildlife as a result of construction would be similar to impacts described under alternatives 1 and 2. Disturbances would however be more extensive as additional historic labores would be cleared to accommodate the expansion of the farming activities. Therefore, adverse, direct and/or indirect, site-specific, short- and/or long-term, minor impacts could result from construction activities.

1 *Cumulative Effects:* The past, present, and reasonably foreseeable future actions with the
2 potential to affect wildlife, would be the same as described under the no-action alternative and
3 include the San José Cultural Landscape Restoration project, the San Antonio River
4 Improvement Project, the San Juan Acequia Trail, the Mission Reach Hike/Bike Trail, Rancho
5 de las Cabras Visitor Services and the Mission Library. All of these actions have the potential to
6 impact habitat which could in turn affect wildlife living within the area surrounding Mission San
7 Juan. Impacts of the actions would have an overall cumulative adverse, direct and/or indirect,
8 local, short- and/or long-term, minor effect on wildlife.

9 The implementation of the preferred alternative would result in adverse, short- and/or long-term,
10 site-specific moderate impacts to wildlife. Adverse, direct and/or indirect, site-specific, short-
11 and/or long-term, minor impacts could also result from construction activities. When considered
12 with other past, present, and reasonably foreseeable future actions, the implementation of the
13 preferred alternative would contribute an incremental, long-term, site-specific, minor adverse
14 cumulative effect on wildlife.

15 *Conclusion:* Overall, under the preferred alternative, impacts on the wildlife would be adverse,
16 short- and/or long-term, site-specific, and moderate. Adverse, direct and/or indirect, site-
17 specific, short- and/or long-term, minor impacts could also result from construction activities.
18 These impacts would result from disturbances and removal of wildlife habitat which could result
19 in displacements. When considered with other past, present, and reasonably foreseeable future
20 actions, the implementation of the preferred alternative would contribute an incremental, long-
21 term, site-specific, minor, adverse cumulative effect on wildlife.

Cultural Landscapes

According to the NPS DO-28 Cultural Resource Management Guideline, a cultural landscape is a reflection of human adaptation and use of natural resources, and is often expressed in the way land is organized and divided, patterns of settlement, land use, systems of circulation, and the types of structures that are built. The character of a cultural landscape is defined by both physical materials, such as roads, buildings, walls, and vegetation, and by use reflecting cultural values and traditions.

The cultural landscape of Mission San Juan tells the story of hundreds of years of human interaction with the land and is rich in features that contribute to the cultural landscape's integrity as a valuable historic cultural resource. This section discusses the integrity of the current cultural landscape within the area of potential affect associated with the proposed park improvements and analyzes how the proposed alternatives may affect this integrity. The analysis is based on the 2011 Cultural Landscape Inventory (CLI) which the THC concurred with on 5/10/2011. A more detailed discussion of landscape contributing features and patterns is presented in the *Historic Structures and Districts Section*.

Given this history, Mission San Juan's period of significance spans from 1731, the year of its initial construction, to 1978, the year in which the SAAN was established. This period incorporates the continuous occupation and use of San Juan Mission grounds and labores, and the operation of the mission acequia systems up until the mid-20th century. The mission's landscape represents its significance through its association with early Spanish colonial architecture, engineering, agriculture, religion, social history, ethnic heritage, archeology, settlement, community planning and development, and regional Native American genealogical and cultural patterns (NPS 2011a).

Affected Environment

Evaluation of the Seven Aspects of Integrity

The seven aspects of integrity defined by the National Park Service for use in assessing National Register of Historic Places (NRHP) eligibility were applied to the evaluation of the integrity of Mission San Juan. These seven aspects are integrity of location, design, setting, materials, workmanship, feeling, and association.

Location

Location is the physical place where the historic property was constructed or the place where a historic event occurred. The majority of the existent physical features at Mission San Juan that contribute to the significance of the cultural landscape remain in the same location as during the period of significance. The exception is the course of the San Antonio River, which was moved in in the 1950s. Remnants of the original San Antonio River still pass nearby the Mission San Juan, which is visually accessible to the public along the existing river trail (Yanaguana Trail). Mission San Juan retains integrity of location (NPS 2011a).

Design

Design is the combination of elements that create the form, space, structure, and style of a property. It results from conscious decisions made during the original conception and planning of a property or its significant alteration. The design of a historic property reflects the functions, technologies, and aesthetics of its period of significance; and can include elements such as massing, spatial arrangement, site layout, texture and color of materials, style of ornamental detailing and type of vegetation (NPS 2011a).

While some basic improvements to the site have been undertaken since 1978, the core design and vernacular layout of the Mission San Juan complex still maintains many of its original design elements. Although some portions of the acequia have been rerouted through culverts, one can still easily understand how they were used to irrigate the San Juan labores. The long, narrow spatial pattern of the labores is also evident as they were designed to correspond with the gravity fed irrigation systems which are still visible today (NPS 2011a).

The arrangement of mission buildings and structures accurately represents the way these elements were originally placed on the landscape. The mission grounds are roughly a rectangular complex with buildings and walls defining the perimeter, surrounding a central, grassy, open area. Buildings were used for religious services, food storage, offices, living quarters and workshops, where Native American recruits were taught Spanish culture and language as well as agriculture, crafts and building skills. Today, the mission church still serves as a cultural and spiritual center for the local parish community (NPS 2011a).

Overall, the main contributing elements of the mission design remain today and include the walled mission complex, the acequia system, labores, and the San Juan dam. As a result, Mission San Juan retains integrity in its design (NPS 2011a).

Setting

Setting is the physical environment of a historic property. Whereas location refers to the specific place where a property was built or an event occurred, setting refers to the character of the place in which the property played its historical role. Setting includes the physical elements of a site, including character-defining features, such as spatial organization, land use, vegetation, topography, and circulation (NPS 2011a). These specific elements are discussed in more detail in the *Historic Structures and Districts Section*.

The integrity of setting outside of the mission boundaries has been compromised due to spread of urbanization which has occurred throughout San Antonio. The urban growth in the areas surrounding Mission San Juan has created an atmosphere seemingly different than that of the Mission and Post-Mission Eras. The historic scenery at San Juan would have included a rural setting (NPS 2011a). New roads and circulation patterns have also contributed to the degradation of setting.

However, given the site's more remote location on the south edge of San Antonio, development near San Juan is less than in adjacent areas to the north. As a result, some integrity of setting is retained (NPS 2011a).

Within the mission boundaries, many landscape features have been retained which were present during the period of significance. The mission acequia and its small-scale features, the Post-Colonial Tufa House, most of the Mission Era-related buildings and structures, and the celebration of Catholic mass all contribute to the park's historic setting. However, a number of site excavations took place during the 20th century, disrupting the original topography within the mission walls, while two centuries of land ownership changes outside of the mission walls has preserved much of the original configuration of the historic San Juan labores.

Some changes during the NPS Era have added, altered and removed individual features, such as buildings and small-scale features. However, most of these contemporary changes to the site, such as the installation of restrooms and the rehabilitation and repurposing of the San Juan convento as a museum and NPS office, occurred within the period of significance. Many of these non-Spanish Colonial intrusive features have however been removed since the NPS era. Despite urbanization, excavations and other alteration, the setting at Mission San Juan maintains its integrity (NPS 2011a).

Materials

Materials are the physical elements that were combined or deposited during a particular period of time and in a particular pattern or configuration to form a historic property. The choice and combination of materials reveal the preference of those who created the property and indicate the availability of particular types of materials and technologies (NPS 2011a).

Overall, the historic and natural materials of Mission San Juan landscape remain. Alterations to topography and soil conditions during the channelization of the San Antonio River are notable exceptions. Within the mission grounds, historic elements such as adobe, stone, wood and brick remain evident in the construction of buildings and structures. Following the secularization of the missions, new materials were introduced to the site, reflecting an Anglo influence on the settlements landscape, as evident in the use of sandstone and some Austin limestone. Further on, the 20th century introduced more materials to the San Juan site, with concrete sidewalks and asphalt parking lots aiding in circulation of park visitors, and composite products of recycled wood and plastic fibers used for decking purposes along the interpretive Yanaguana Trail. Despite these contemporary additions in materials, the presence of historic materials reflects the transition of cultural preferences and technologies, and thus, indicates retention of material integrity within the site (NPS 2011a).

Workmanship

Workmanship is the physical evidence of the crafts of a particular culture or people during any given period in history or prehistory. It is evidence of artisans' labor and skill in constructing or altering a building, structure, object or site. Workmanship can apply to the property as a whole or to its individual components (NPS 2011a).

Expressions of workmanship during the period of significance at Mission San Juan are evident in the construction of the San Juan acequia and its associated features, the San Juan dam, and the various mission structures and buildings. Despite periods of flooding, neglect, and exchange of ownership, coupled with challenging climatic conditions, the landscape of Mission San Juan still reflects the workmanship that went into establishing, developing and maintaining most of the features associated with the mission. Integrity of workmanship is therefore maintained (NPS 2011a).

Feeling

Feeling is a property's expression of the aesthetic or historic sense of a particular period of time. It results from the presence of physical features that, taken together, convey the property's historic character. In conjunction with location and setting, feeling describes what the property feels like or the senses it evokes to a person on the property (NPS 2011a).

The integrity of feeling is present at Mission San Juan. The rural, or at least less-developed, feel of the surrounding areas of San Juan greatly contribute to this integrity of feeling. The cumulative effect of natural systems and features, views and vistas, cluster arrangements, small-scale features, as well as the sense of the revealing of a time and place no longer present evoked by the site, all contribute to the integrity of feeling. These features will be discussed further in the *Historic Structures and Districts Section*. The presence of the historic labores also contributes to this integrity, as does the attendance by local residents at Catholic mass in the mission Church (NPS 2011a). Current distractions to this feeling include passing aircraft from the nearby Stinson Municipal Airport which is located approximately 3000 feet from the mission compound, light pollution from the San Antonio area at night, as well as the NPS and Catholic Archdioceses parking lots and associated infrastructure such as light poles, air conditioning units, and other utilities.

Association

Association is the direct link between an important historical event or person and a historic property. A property retains association if it is the place where the event or activity occurred and is sufficiently intact to convey that relationship to an observer. Like feeling, association is based on individual preference (NPS 2011a).

At Mission San Juan, mission buildings and structures, the San Juan acequia, and its related features, the mission's adjacency to the San Antonio River, and the rural feeling of a bygone era all contribute to this association. The sense of what life was like at the mission and the effort it took to construct its important features is evident by walking in and around the grounds. There is a direct visual and visceral link between the mission property and observer, a link which is made even stronger when the observer has been informed about the site's history (NPS 2011a).

The natural environment, mission labores, structures, buildings and acequia have remained in place and nearly intact since the eighteenth century. These features convey a direct link with historic events. The broad event of the adaptation to the land for an agrarian-based lifestyle is seen in the mission being set in a natural environment, between natural and man-made water courses, and adjacent to fertile soils, all which provided a way for mission inhabitants to survive. Mission San Juan also retains its quality of association with Spanish colonization of northern New Spain. After initial exploration, the northern expansion of New Spain was founded upon religious conversion and spearheaded by a handful of Franciscans friars. The mission buildings, structures, labores, dam and acequia at Mission San Juan convey association with this event. Mission San Juan retains strong historic associations (NPS 2011a).

All seven categories of integrity (location, design, setting, materials, workmanship, feeling, and association) are currently retained at Mission San Juan. Overall, the mission and its associated landscape are an intact surviving example of an 18th century agrarian-based Franciscan mission which endured and evolved despite numerous hardships, the influences of the forces of nature and disparate cultural preferences (NPS 2011a).

Impact Analysis

Intensity Level Definitions

For purposes of analyzing potential impacts to cultural landscapes, the thresholds of change for the intensity of an impact are defined as follows:

- Negligible:** Impact(s) is at the lowest levels of detection- barely perceptible and not measurable. For purposes of Section 106, the determination of effect would be no adverse effect.
- Minor:**
 - Adverse: The impact would not affect a character defining pattern(s) or feature(s) of a National Register of Historic Places (NRHP) eligible or listed cultural landscape. For purposes of Section 106, the determination of effect would be no adverse effect.
 - Beneficial: The result is preservation of character defining patterns and features in accordance with the Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for the Treatment of Cultural Landscapes. For purposes of Section 106, the determination of effect would be no adverse effect.
- Moderate:** Adverse: The impact would alter a character defining pattern(s) or feature(s) of the cultural landscape but would not diminish the integrity of the landscape to the extent that its National Register eligibility is jeopardized. For purposes of Section 106, the determination of effect would be no adverse effect.

Beneficial: The result is rehabilitation of a landscape or its pattern and feature in accordance with the Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for the Treatment of Cultural Landscapes. For purposes of Section 106, the determination of effect would be no adverse effect.

Major: Adverse: The impact would alter a character defining pattern(s) or feature(s) of the cultural landscape to the extent that it is no longer eligible to be listed in the National Register. For purposes of Section 106, the determination of effect would be adverse effect.

Beneficial: The result would be of exceptional benefit to the landscape or its pattern(s) and feature(s) For the purposes of Section 106, the determination of effect would be no adverse effect.

Impacts of the No-Action Alternative

Under this alternative, no modifications would be made to the existing conditions. The San Juan Farm with a demonstration area, prepared agricultural fields, barn, parking lot and trails would not be developed. As the mission currently retains integrity, no impacts to the cultural landscape, either beneficial or adverse would result from the no-action alternative.

Cumulative Effects: The past, present, and reasonably foreseeable future actions with the potential to affect cultural landscapes are related primarily to development around the park and other park development initiatives not related to the development of the San Juan Farm. These initiatives include the San José Cultural Landscape Restoration project, the re-watering of the San Juan Acequia, the San Juan Acequia Trail and the Stinson Airport runway extension.

The San José Cultural Landscape Restoration project is currently in the planning phase, the project would restore the cultural landscape surrounding Mission San José, enhancing the integrity of the setting, feeling and association. The planned re-watering of the San Juan Acequia would also make a large contribution to enhancing the integrity of design, setting, feeling and association through re-establishing the historic system. The San Juan Acequia Trail would indirectly benefit the integrity of design, setting, feeling and association as it would provide the park visitor an opportunity to interact with the cultural landscape. The runway extension of the Stinson Airport has had an adverse impact on the integrity of feeling through the distraction that the more frequent passing of larger aircraft offers.

With the exception of Stinson Airport, these projects have the potential to benefit the local cultural landscape as the projects would restore, enhance and protect the local cultural landscape. It can be suggested that these benefits would offset the adverse impacts generated by Stinson Airport. These actions would therefore have an overall beneficial, local, long-term, moderate cumulative effect on the cultural landscape.

The no-action alternative does not impact the cultural landscape, and the current cultural landscape maintains integrity. When considered with other past, present, and foreseeable future actions, the no-action would therefore not incrementally add to the overall beneficial, local, long-term, moderate cumulative effect on the cultural landscape.

Conclusion: The no-action alternative does not impact the cultural landscape or the integrity of the cultural landscape. When considered with other past, present, and foreseeable future actions, the no-action would not incrementally add to the overall beneficial, local, long-term, moderate cumulative effect on the cultural landscape.

Impacts of Alternative 1 – Minimum Action Alternative

Alternative 1 would include the re-introduction of farming activities to the mission. This would

1 include a 2.5 acre demonstration farm, a 5-acre prepared agricultural area, an orchard, vineyard
2 and corral as well as the construction of a barn and farming implement storage structures.

3 The establishment of the 2.5 acre demonstration farm and the 5-acre prepared agricultural area
4 would not affect the Mission San Juan's integrity of location, design, materials, and
5 workmanship for the period of significance. The re-introduction of farming activities would
6 enhance the integrity of setting and feeling as the resultant landscape would be more consistent
7 with the historic rural agricultural setting of Mission San Juan. In addition, the farming activities
8 associated with the operational labores would convey a direct link to historic events, fulfilling a
9 key project objective and greatly enhancing the integrity of association for the park visitor.

10 The orchard and vineyard would be located in area that is currently a grassed open space that
11 is bisected by Mission Parkway and Graf Road. The conversion of this area to agriculture would
12 not affect the Mission San Juan's integrity of location, design, materials, and workmanship. The
13 development of these features would add to the rural agricultural setting and agricultural related
14 activities, further enhancing the integrity of setting, feeling and association.

15 The animal corral would be located in a previously disturbed area that is currently the mission
16 parking lot. The removal of the parking lot would not affect the Mission San Juan's integrity of
17 location, design, materials, and workmanship for the period of significance. The parking lot
18 currently forms a visual and physical barrier that separated the mission compound from the
19 labores where the demonstration area would be located. The removal of the parking lot, which
20 is discussed below, and the creation of the corral would further enhance the integrity of setting
21 and feeling and association as the parking area would be replaced with an agricultural related
22 activity.

23 The anticipated re-introduction of the farming activities is therefore key to meeting the project
24 objectives that are related to the cultural landscape. These objectives include illustrating and
25 demonstrating Spanish colonial farming technology and practices and rehabilitating the modified
26 cultural landscape surrounding Mission San Juan to the greatest extent possible. The resultant
27 landscape would be both functional as it would produce crops, but also enable the park visitor to
28 experience what life was like at the mission, and would therefore result in a beneficial, local,
29 long-term, moderate effect on the cultural landscape. For purposes of Section 106 under the
30 NHPA, the determination of effect related to the demonstration farm, orchard, corral and
31 vineyard, based on the previously disturbed nature of the area, is anticipated to be "no adverse
32 effect".

33 The construction of a barn would take place at a location that is currently bisected by Mission
34 Parkway. The construction of the four farming implement storage sheds would take place in
35 open grassed areas. The introduction of these structures would not affect the integrity of
36 location, design and setting for the period of significance. The structures do however have the
37 potential of affect the integrity of feeling, association, workmanship and materials. The location
38 and conceptual design of these structures indicate that structures would be installed in a
39 manner that is respectful of the current cultural landscape. Complementary design, color
40 choices and the use of vegetative screens would mitigate the impact of these structures on the
41 cultural landscape. It is therefore not anticipated that these structures would adversely affect
42 the overall integrity of feeling, association, workmanship and materials for the period of
43 significance and would therefore result in an adverse, local, long-term, minor effect on the
44 cultural landscape. For purposes of Section 106 under the NHPA, the determination of effect
45 related to the construction of the barn and storage sheds is anticipated to be "no adverse
46 effect".

47 The proposed improvements to the current entrance roadway configuration and parking facilities
48 would affect an area that is directly north of the Mission compound that is currently a grassed

open area bisected by the existing roadways. Over time, new roads and circulation patterns have contributed to the degradation of setting resulting in adverse impacts. This area also previously had contemporary housing which has been removed. The proposed reconfiguration would reduce the encroachment of these facilities onto the cultural landscape as Mission Road and Graf Road, south of Villamain and the current parking lot would be closed and removed. The parking facilities would be consolidated and located at the entrance of the mission, away from the labores and to the north of the mission compound. This location is sensitive to the main viewsheds of the mission compound which are primarily of the labores located to the south and east of the compound. These access and parking improvements would indirectly enhance the integrity of setting, feeling and association as the current roadway, parking lot and associated utilities would be removed, allowing a continuous landscape to be created from the mission compound to the labores. This action would therefore result in a beneficial, local, long-term, minor effect on the cultural landscape. For purposes of Section 106 under the NHPA, the determination of effect related to roadway and parking improvements is anticipated to be “no adverse effect”.

Overall, the alternative would not affect the Mission San Juan’s integrity of location, design, materials, and workmanship and generally enhance the integrity of setting and feeling and association. The modifications outlined above are necessary in order to meet project objectives which include illustrating Spanish colonial farming technology and practices, providing necessary visitor services and facilities in order to accommodate visitors, promoting local connectivity within the area. The alternative would therefore result in a beneficial, local, long-term, moderate effect on the cultural landscape. All modifications that would result from the implementation of alternative 1 would be installed in accordance with NPS DO-28 and Secretary of the Interior Standards. For purposes of Section 106 under the NHPA, the determination of effect is anticipated to be “no adverse effect.” A Cultural Landscape Report should also be completed for Mission San Juan in order to formalize the long-term management approach to the cultural landscape.

Cumulative Effects: Past, present, and reasonably foreseeable future actions with the potential to affect cultural landscapes would be the same as described under the no-action alternative and include the San José Cultural Landscape Restoration project, the planned re-watering of the San Juan Acequia, the San Juan Acequia Trail and the extension of the Stinson Airport Runway.

With the exception of Stinson Airport, these projects have the potential to benefit the local cultural landscape as the projects would restore, enhance and protect the local cultural landscape. It can be suggested that these benefits would offset the adverse impacts generated by Stinson Airport. These actions would therefore have an overall beneficial, local, long-term, moderate cumulative effect on the cultural landscape.

The implementation of alternative 1 would not affect Mission San Juan’s integrity of location, design, materials, and workmanship and generally enhance the integrity of setting, feeling and association. When considered with other past, present, and foreseeable future actions, the implementation of alternative 1 would contribute an incremental beneficial, local, long-term, minor to moderate cumulative effect on the cultural landscape.

Conclusion: Overall, under alternative 1, impacts on the cultural landscape would be beneficial local, long-term, and moderate as the integrity of setting and feeling and association would be enhanced through the re-introduction of agricultural activities. When considered with other past, present, and foreseeable future actions, the implementation of alternative 1 would contribute an incremental beneficial, local, long-term, minor to moderate cumulative effect on the cultural landscape.

Impacts of Alternative 2 – Medium Action Alternative

Alternative 2 would include all of components of alternative 1 but with some notable additions, including a visitor contact station, and an extended trail network within and surrounding the mission compound, corral, vineyard and orchard and along Villamain Road. Agricultural activities would also be extended further onto the historic labores.

Impacts to the cultural landscape as a result of the implementation of alternative 2 would be similar to that of alternative 1. Under this alternative the re-establishment of farming activities would be extended approximately 41.5 acres and encompass all of the historic labores located to the east of Villamain Road. This additional expansion would continue to strengthen the connection to the historic rural agricultural setting of the area. As this would continue to enhance the integrity of setting and feeling and association of the as the landscape, this action would have a beneficial local, long-term, moderate impact on the cultural landscape. For purposes of Section 106 under the NHPA, the determination of effect related to the extension of farming activities is anticipated to be “no adverse effect”.

The visitor contact station would be located adjacent to the reconfigured entrance on Mission Road, and the new location parking lot in area that is previously disturbed grassed open space. The introduction of the visitor contact station would not affect the integrity of location, design, setting, workmanship and materials for the period of significance. Furthermore, it would remove the inappropriate use of the historic structure as the current visitor contact station. The visitor contact station would strengthen the link between the mission property and observer by ensuring that the observer has been informed about the site’s history. The effect of the addition of this contemporary addition to the cultural landscape would be mitigated through the use of compatible design approaches. The visitor contact station would be located away from the labores and to the north of the mission compound. This location is sensitive to the main viewsheds of the mission compound which are primarily of the labores located to the south and east of the compound. This action would result in an adverse, local, short-term, negligible effect and indirect beneficial local, long-term, minor effect on the cultural landscape. For purposes of Section 106 under the NHPA, the determination of effect related to the construction of the visitor contact station is anticipated to be “no adverse effect”.

The extension of the trail network would introduce an additional contemporary feature to the cultural landscape. The introduction of the trails would however not affect the integrity of location, design, and workmanship of the cultural landscape as related to the period of significance. The use of local materials that complement the current landscape would ensure no adverse impacts to the integrity of materials would result from the construction of the trails. The trails themselves would have a negligible adverse effect on the cultural landscape and would be an important tool in providing the park visitor with the opportunity to interact with the landscape. This allows the visitor a sense of enhanced setting, feeling, and association that the various other components of this alternative would provide. For purposes of Section 106 under the NHPA, the determination of effect related to the construction of the extended trail network is anticipated to be “no adverse effect”.

The effect of the addition of these contemporary additions to the cultural landscape would be mitigated by the overall retention of integrity within the site. This action would result in an adverse, local, long-term, negligible effect on the cultural landscape. For purposes of Section 106 under the NHPA, the determination of effect related to the construction of the barn and storage sheds is anticipated to be “no adverse effect”.

Overall, the alternative would not affect the Mission San Juan’s integrity of location, design, materials, and workmanship for the period of significance and generally enhance the integrity of setting and feeling and association. These modifications are necessary in order to further meet

project objectives which include rehabilitating the modified cultural landscape surrounding Mission San Juan and promoting local connectivity within the area. The alternative would therefore result in a beneficial, local, long-term, moderate effect on the cultural landscape. All modifications that would result from the implementation of alternative 2 would be installed in accordance with NPS DO-28 and Secretary of the Interior Standards. For purposes of Section 106 under the NHPA, the determination of effect is anticipated to be “no adverse effect.” A Cultural Landscape Report should also be completed for Mission San Juan in order to formalize the long-term management approach of the cultural landscape.

Cumulative Effects: Past, present, and reasonably foreseeable future actions with the potential to affect cultural landscapes would be the same as described under the no-action alternative and include the San José Cultural Landscape Restoration project, the planned re-watering of the San Juan Acequia, the San Juan Acequia Trail and the extension of the Stinson Airport runway.

With the exception of Stinson Airport, these projects have the potential to benefit the local cultural landscape as the projects would restore, enhance and protect the local cultural landscape. It can be suggested that these benefits would offset the adverse impacts generated by Stinson Airport. These actions would therefore have an overall beneficial, local, long-term, moderate cumulative effect on the cultural landscape.

The implementation of alternative 2 would not affect the Mission San Juan’s integrity of location, design, materials, and workmanship and would generally further enhance the integrity of setting and feeling and association. When considered with other past, present, and foreseeable future actions, the implementation of alternative 2 would contribute an incremental beneficial, local, long-term, moderate cumulative effect on the cultural landscape.

Conclusion: Overall, under alternative 2, impacts on the cultural landscape would be beneficial, local, long-term, and moderate as the integrity of setting and feeling and association would be enhanced through the re-introduction of agricultural activities and the introduction of interpretation tools such as the visitor contact station. When considered with other past, present, and foreseeable future actions, the implementation of alternative 2 would contribute an incremental beneficial, local, long-term, moderate cumulative effect on the cultural landscape.

Impacts of Alternative 3 – Maximum Action (Preferred Alternative)

Impacts to the cultural landscape as a result of the implementation of preferred alternative would be similar to that of alternative 1 and 2 as related to the area demonstration farming area, the orchard, corral, trails, barn, farming implement storage shed, roadway and parking improvements and the trail network.

The preferred alternative does however include further extending the prepared agricultural fields or lease/special use agricultural area onto additional labores. The labores that would be re-established under this alternative include areas that were sold prior to the establishment of SAAN and which have been developed as private residences or small-holding farming operations. These developments tended to compromise the integrity of setting of the mission. Many of the properties have subsequently been acquired by NPS over past several years and cleared of structures. This alternative includes expanding the agricultural operations onto these reclaimed historic labores which include areas of wooded successional growth. This continued expansion of farming operations would further contribute to a visually pleasing and historically compatible, open, agricultural related landscape. As this action would continue to enhance the integrity of setting and feeling and association of the as the landscape, this action would have a beneficial local, long-term, moderate impact on the cultural landscape. For purposes of Section 106 under the NHPA, the determination of effect related to the extension of farming activities is

1 anticipated to be “no adverse effect”.

2 The closure of Villamain Road to city traffic would also benefit the cultural landscape as
3 vehicular traffic currently bisecting the farming fields would be reduced. This action would
4 further enhance the integrity of setting, feeling and association of the landscape, and result in a
5 beneficial local, long-term, negligible impact on the cultural landscape. For purposes of Section
6 106 under the NHPA, the determination of effect related to the closure of Villamain Road is
7 anticipated to be “no adverse effect”.

8 Overall the preferred alternative would have a beneficial, local, long-term, and moderate impact
9 on the cultural landscape. All modifications that would result from the implementation of the
10 preferred alternative would be installed in accordance with NPS DO-28 and Secretary of the
11 Interior Standards. For purposes of Section 106 under the NHPA, the determination of effect
12 related to the preferred alternative is anticipated to be “no adverse effect”. A Cultural Landscape
13 Report should also be completed for Mission San Juan in order to formalize the long-term
14 management approach to the cultural landscape.

15 *Cumulative Effects:* Past, present, and reasonably foreseeable future actions with the potential
16 to affect cultural landscapes would be the same as described under the no-action alternative
17 and include the San José Cultural Landscape Restoration project, the planned re-watering of
18 the San Juan Acequia, the San Juan Acequia Trail and the extension of the Stinson Airport
19 runway.

20 With the exception of Stinson Airport, these projects have the potential to benefit the local
21 cultural landscape as the projects would restore, enhance and protect the local cultural
22 landscape. It can be suggested that these benefits would offset the adverse impacts generated
23 by Stinson Airport. These actions would therefore have an overall beneficial, local, long-term,
24 moderate cumulative effect on the cultural landscape.

25 The implementation of the preferred alternative would not affect the Mission San Juan’s integrity
26 of location, design, materials, and workmanship and would further enhance the integrity of
27 setting and feeling and association when compared with alternative 1 and 2. When considered
28 with other past, present, and foreseeable future actions, the implementation of the preferred
29 alternative would contribute an incremental beneficial, local, long-term, moderate cumulative
30 effect on the cultural landscape.

31 *Conclusion:* Overall, under the preferred alternative, impacts on the cultural landscape would be
32 beneficial, local, long-term, and moderate as the continued expansion of farming operations
33 would further contribute to a visually pleasing, open agricultural related landscape benefitting
34 the integrity of setting and feeling and association. When considered with other past, present,
35 and foreseeable future actions, the implementation of the preferred alternative would contribute
36 an incremental beneficial, local, long-term, moderate cumulative effect on the cultural
37 landscape.

1 Historic Structures and Districts

2 Affected Environment

3 NPS DO-28 *Cultural Resource Management Guideline* defines “historic properties” as any site,
4 district, building, structure, or object eligible or listed in the NRHP, which is the nation’s
5 inventory of historic places and the national repository of documentation on property types and
6 their significance. The term “historic structures” refers to constructed works that are
7 architecturally designed or engineered to serve a human activity. These may include buildings,
8 roads, trails, bridges, irrigation ditches, or earthen berms. Historic districts are groups of
9 buildings, properties or sites that have been designated as historically or architecturally
10 significant.

11 NPS would protect and manage cultural resources in its custody through effective research,
12 planning, and stewardship and in accordance with these policies and guidelines. Section 106 of
13 the NHPA requires federal agencies to take into account the effects of their undertakings on
14 historic properties and to afford the Advisory Council on Historic Preservation an opportunity to
15 comment on the consultation process.

16 *Application of the Four NRHP Criteria of Significance*

17 All resources identified by the application of archival and field research were evaluated by
18 applying the four NRHP criteria of eligibility. The four criteria are defined in the Secretary of the
19 Interior guidelines published under the authority of the National Historic Preservation Act
20 (NHPA). To be considered eligible for inclusion in the NRHP, a resource must meet at least one
21 of the four criteria. The Secretary of the Interior guidelines state that:

22 The quality of significance in American history, architecture, archeology, and culture is present
23 in districts, sites, buildings, structures, and objects that possess integrity of location, design,
24 setting, materials, workmanship, feeling, and association, and:

25 (a) that are associated with events that have made a significant contribution to the broad
26 patterns of history; or

27 (b) that are associated with the lives of persons significant in the city or the state’s past; or

28 (c) that embody the distinctive characteristics of a type, period, or method of construction, or
29 that represent the work of a master, or that represent a significant and distinguishable entity
30 whose components may lack individual distinction; or

31 (d) that have yielded, or may be likely to yield, information important in prehistory or history [36
32 CFR § 60.4].

33 *Background*

34 Mission San Juan as a whole possesses historic landscape integrity and is significant on an
35 international level under National Register Criterion A, for its association with events and historic
36 trends that have made significant contributions to the broad patterns of history; under Criterion
37 C, for the distinctive characteristics of a type, period or method of construction; and under
38 Criterion D, for the important historic information the site has yielded and is likely to yield. The
39 following section discusses the National Register criterion of significance in more detail. The
40 section then discusses the contributing features and patterns found at, and, surrounding the
41 mission, including the area of potential affect associated with the proposed park improvements
42 and then analyzes the effect of the proposed project alternatives may have on these
43 contributing features and patterns.

Criterion A - Broad Patterns of History

Spain's determination in the 15th and 16th centuries to Christianize the Western Hemisphere constitutes one of the most important movements in modern history. As a religious force that became dominant within a short time span over a massive land area, the missionary effort that began in 1492 has had no equivalent in the past five centuries. Of all the entities that contributed to the Hispanization of the indigenous populations in the Americas, perhaps none was more effective than the frontier missions. As an implement of both the Church and the State, the mission enabled the Spanish government to extend its religious, social, and political influences beyond Europe to create a New World empire (NPS 2011a).

Mission San Juan is integrally linked with the social history and ethnic heritage associated with Spain's 17th century exploration, 18th century expansion and settlement into Texas and the American Southwest, as well as the Catholic Church's acculturation and religious indoctrination of Native Americans. Except for a twenty-one year period from 1886 (at which time a hurricane destroyed the roof of the main church) to 1907 (when the roof was repaired) Catholic mass services have been administered continuously since 1731. As demonstrated by this continuum of residential and religious use, Mission San Juan has served as a social focal point for the surrounding community for nearly three centuries (NPS 2011a).

The mission has had a direct impact on the development of regional settlement patterns, circulation systems, land use patterns, water conveyance, agricultural technologies, and trade and commerce, most of which still remain visible today. In as much as the urban sprawl from nearby San Antonio has greatly affected the resources and setting of the other mission sites, Mission San Juan represents an excellent example of how a mission operated as a cohesive system comprised of individual but interrelated components (NPS 2011a).

Criterion C - Landscapes Significant for their Design or Physical Characteristics

Mission San Juan embodies the distinctive characteristics of a defined type of landscape, which is an early Spanish colonial mission settlement. More specifically, planning of the mission compound, layout and architecture are examples of one of two major styles of missions found in the United States - the Texan mission that is characterized by a large central plaza entirely enclosed by a fortified perimeter of structures built into the compound walls (NPS 2010). The engineering feat of the design and construction of the San Juan acequia system is another example of the significance of the manipulation of the physical characteristics of the landscape present at the time of the mission's establishment. So important to the survival of mission residents, the building of the San Juan acequia in 1731 and the cultivation of labores, took priority over the construction of permanent dwellings and other structures (NPS 2011a).

Criterion D - Potential for Information

Mission San Juan has yielded, and has a high potential to yield, valuable information about early Spanish colonial settlement patterns and landscape organization in the San Antonio River region of Texas. The mission's archeological resources are abundant and have been extensively studied. The site also may be expected to yield archeological information concerning culture of the Native Americans who were predominate in the San Antonio River valley before the Spanish arrived. Below-ground resources have the ability to provide information concerning non-extant above-ground features such as: the compound wall, the adobe church, the convento, the granary, acequias, and other structures such as workrooms. These resources have the potential to contribute significant information relating to agriculture and irrigation technologies, architecture, land use patterns, and the overall evolution of the physical development in and around the compound (NPS 2011a).

1 *Historic Districts*

2 Mission San Juan Capistrano was entered into the National Register on February 23, 1972.
3 According to CLI, the National Register nomination gives a brief description of the history of the
4 property and its built structures, but does not adequately document the cultural landscape, and
5 does not cover the entire period of significance, which extends from 1731 to 1978. The mission
6 is also included in the Mission Parkway Historic/Archeological National Register District.

7 The nomination form for the Mission Parkway Historic District lists a large number of
8 contributing features. Of these, the Mission San Juan and the San Juan Acequia are directly
9 associated with the proposed project. The nomination form for the mission itself also lists a
10 large number of contributing features. Based on these resources, combined with the CLI
11 findings, the list of contributing features and patterns for Mission San Juan is presented below.
12 Contributing features or patterns that the proposed project has the potential to interact with are
13 identified with a "*" notation.

14 *Mission San Juan Contributing Features/ Landscape Characteristics*

15 Archeological Contributing Features*:

- 16 • Below grade foundations of First Stone Church
- 17 • Below grade foundations of Original Mission Wall
- 18 • Below grade foundations of structures to west of present day Mission Church
- 19 • Artifacts related to the mission era yet to be discovered*
- 20 • Sites of former buildings, structures, and circulation features

21 Buildings and Structural Contributing Features:

- 22 • Church and Sacristy
- 23 • Convento
- 24 • Well
- 25 • Unfinished Church Ruins
- 26 • Tufa House
- 27 • North & West Wall Native American Quarters Ruins
- 28 • East Side Compound Walls and Wall Ruins
- 29 • Acequia
- 30 • Porteria
- 31 • Hospederia
- 32 • South Ruins
- 33 • Reconstructed Building/Restroom
- 34 • Well north of mission north gate

35 Circulation Contributing Features*:

- 36 • Mission Road (Ashley Road)
- 37 • Villamain Road*
- 38 • Graf Road*
- 39 • Presa Street
- 40 • San Antonio and Aransas Pass Railroad Company railroad tracks
- 41 • Berg's Mill Bridge (Ashley Bridge)

1 Cluster Arrangements Contributing Patterns*:

- 2 • San Juan acequia*
- 3 • San Juan Labores*
- 4 • San Juan mission grounds, structures, buildings, infrastructure*
- 5 • Bergs Mill Cluster

6 Constructed Water Contributing Features:

- 7 • Old San Juan Dam
- 8 • Head gate near old San Juan dam
- 9 • Sluice gates along San Juan acequia
- 10 • Diversion dams along San Juan acequia
- 11 • Acequia madre
- 12 • Acequia en medio
- 13 • Acequia afuera
- 14 • Acequia desagües
- 15 • San Juan well
- 16 • Acequia lateral ditches*
- 17 • San Juan Well
- 18 • Remnants of San Antonio River original alignment (pre-circa 1957)

19 Cultural Traditions Contributing Patterns*:

- 20 • Continuation of religious traditions by family descendants and the Catholic Church
- 21 • Blending of cultural traditions between Native Americans and Spanish missionaries
- 22 • Establishment of acequia system and agricultural fields whose roots represent
- 23 Moorish and European cultural traditions of water conveyance*
- 24 • Multi-racial and multi-ethnic character of mission residents
- 25 • Access to irrigation water through the acequia system*

26 Land Use Contributing Patterns:

- 27 • Agricultural land use*
- 28 • Religious use of the church
- 29 • Residential use associated with the 18th and 19th centuries
- 30 • Scenic and recreational uses*

31 Natural Features and Patterns:

- 32 • Original alignment of San Antonio River
- 33 • Gentle southward sloping terrain
- 34 • River bends
- 35 • Broad, alluvial soil areas
- 36 • Native limestone
- 37 • Native soils for the making of jacal structures
- 38 • Local vegetation for sustenance and firewood

Small Scale Features:

- Sluice Gates
- Small concrete and stone diversion dams
- Concrete lined irrigation ditches south of the mission grounds
- Wood posts and barb wired fences

Spatial Organization Contributing Patterns*:

- Relationship between spatial patterns and natural systems
- Orthogonal, inward-oriented spatial arrangement of mission complex in close proximity to the San Antonio River
- Placement of mission grounds between irrigation system and San Antonio River, allowing for a natural out and overflow of water
- Original alignment of the San Antonio River
- Cluster of buildings imbedded into compound walls
- Interior courtyard enclosed and protected by buildings and structures
- San Juan labores and associated soils*
- San Juan acequia system

Vegetation Patterns

- Pecan trees along historic labores*
- Tree west of Tufa House
- Grassy courtyard area*
- Dense riparian vegetation west of the mission along the original alignment of the San Antonio River
- Scattered, less dense vegetation east of the mission*

Views and Vistas Contributing Patterns

- Views of the mission church and other structures from within the grounds and near the river
- View of the original alignment of the San Antonio River and local riparian ecology from the Yanguana Trail
- Views of the river from Ashley Road
- Broad landform views of the mission labores*
- Views to acequias*
- Enclosed views from within mission buildings and structures

Impact Analysis

Intensity Definitions

For purposes of analyzing potential impacts to historic structures and districts, the thresholds of change for the intensity of an impact are defined as follows:

Negligible: Impact(s) is at the lowest levels of detection- barely perceptible and not measurable. For purposes of Section 106, the determination of effect would be no adverse effect.

Minor: Adverse: The impact would not affect a character defining pattern(s) or feature(s) of a NRHP eligible or listed historic districts and would not have a permanent effect on the integrity of any historic structures. For purposes of Section 106, the determination of effect would be no adverse effect.

Beneficial: The result is preservation of character defining patterns and features in accordance with the Secretary of the Interior's Standards for the Treatment of Historic Properties. For purposes of Section 106, the determination of effect would be no adverse effect.

Moderate: Adverse: The impact would alter a character defining pattern(s) or feature(s) of the historic structure or district but would not diminish the integrity of the district to the extent that its National Register eligibility is jeopardized. For purposes of Section 106, the determination of effect would be no adverse effect.

Beneficial: The result is rehabilitation of a landscape or its pattern and feature in accordance with the Secretary of the Interior's Standards for the Treatment of Historic Properties. For purposes of Section 106, the determination of effect would be no adverse effect.

Major: Adverse: The impact would alter a character defining pattern(s) or feature(s) of the historic structure or district to the extent that it is no longer eligible to be listed in the National Register. For purposes of Section 106, the determination of effect would be adverse effect.

Beneficial: The result is of exceptional benefit to the landscape or its pattern(s) and feature(s). For purposes of Section 106, the determination of effect would be no adverse effect.

Impacts of No-Action Alternative

Under this alternative, no modifications would be made to the existing conditions. The San Juan Farm with a demonstration area, prepared agricultural fields, barn, parking lot and trails would not be developed. No impacts to contributing features or patterns of historic resources or districts, either beneficial or adverse, would result from the no-action alternative.

Cumulative Effects: The past, present, and reasonably foreseeable future actions with the potential to affect historic structures or the district are related primarily to development around the park and other park development initiatives not related to the development of the San Juan Farm project. These initiatives include the San José Cultural Landscape Restoration project which is currently in the planning phase. The project would restore the cultural landscape surrounding Mission San José, enhancing the integrity of the historic district. The planned re-watering of the San Juan Acequia would also make a large contribution to enhancing the integrity of district. The San Juan Acequia Trail would also indirectly benefit the integrity of the district by providing the park visitor an opportunity to interact with the cultural landscape.

These projects therefore have the potential to benefit the historic district as the projects would rehabilitate, enhance and protect the local historic resources. Impacts to these features would be regulated under Section 106 of the NHPA. Impacts of the actions are therefore anticipated to have an overall beneficial, local, long-term, minor cumulative effect on historic structures and districts. When considered with other past, present, and foreseeable future actions, the no-action alternative would not contribute a noticeable incremental impact to the beneficial, local, long-term, minor cumulative effect on the historic district, structures and contributing features of the period of significance.

Conclusion: Under the no-action alternative, the demonstration farm and associated services would not be developed. No direct impacts to the historic district, structures and contributing features of the period of significance would result from this alternative. When considered with other past, present, and foreseeable future actions, the no-action alternative would not contribute a noticeable incremental impact to the beneficial, local, long-term, minor cumulative effect on the historic district, structures and contributing features of the period of significance.

Impacts of Alternative 1 – Minimum Action Alternative

The establishment of the 2.5 acre demonstration farm and prepared agricultural fields would not require the removal, replacement or modification of any of the contributing archeological, building and structural, small scale features or natural features and patterns or constructed water features. The farming activities would also not impact the vegetation contributing feature identified as the pecan trees along the edges of the labores. The establishment of the demonstration farm would not require the removal, replacement or modification of any contributing patterns related to cultural traditions. The introduction of the demonstration farm would benefit cluster arrangement and spatial organization contributing features by re-establishing the San Juan labores and enhance land use contributing patterns by re-introducing the agricultural land use and improving the scenic and recreational value of the park. In addition, the farming activities would benefit the views and vistas contributing pattern by enhancing views of the mission labores and the acequias.

The orchard and vineyard would be located in area that is a previously disturbed grassed open space bisected by Mission Parkway and Graf Road. The conversion of this area to agriculture would not require the removal, replacement or modification of contributing archeological, circulation, building and structural, natural, small scale or constructed water features. In addition, the orchard and vineyard would not require the removal or replacement of any contributing patterns related to cluster arrangements, cultural traditions or spatial organization. The introduction of the orchard and the vineyard would benefit land use contributing patterns by enhancing agricultural land use as well as the scenic and recreational value of the park. The development of the orchard and vineyard would impact the scattered, less dense vegetation east of the mission which is identified as a vegetation contributing pattern.

The corral would be located in area that is currently the Mission parking area. The development of the corral would not require the removal, replacement or modification of contributing archeological, circulation, building and structural, natural, small scale or constructed water contributing features. In addition, the corral would not require the removal or replacement of any contributing patterns related to cluster arrangements, cultural traditions or spatial organization. Replacing the current parking lot with a corral would enhance agricultural land use and views and vistas contributing patterns. In addition, although the CLI identified spatial organization contributing patterns would not be affected, the action is anticipated to have a beneficial effect on the mission spatial organization as the post-colonial parking lot is currently an intrusion on the cultural landscape that forms a visual and physical barrier separating the mission compound from the labores. This intrusion would be removed and replaced with a land-use that would enhance the integrity of the historic district. The development of the orchard and vineyard would impact the scattered, less dense vegetation east of the mission which is identified as a vegetation contributing pattern.

The anticipated re-introduction of the farming activities is therefore key to meeting the project objectives of illustrating and demonstrating Spanish colonial farming technology and practices and rehabilitating the modified cultural landscape surrounding Mission San Juan while enhancing cultural landscape contributing features and patterns. Although the introduction of the orchard, vineyard and corral would impact the scattered, less dense vegetation east of the

mission, this impact is regarded as negligible in the context of the beneficial effects described above.

Overall, the actions described above are anticipated to have a beneficial local, long-term, moderate effect on the historic district, structures and contributing features of the period of significance. For purposes of Section 106 under the NHPA, the determination of effect related to the demonstration farm, orchard, vineyard and corral is anticipated to be “no adverse effect.”

The construction of a barn would take place in an area that is currently bisected by the Mission Parkway loop. The construction of the four storage sheds would take place in an open grassed area. The development of these structures would not require the removal, replacement or modification of archeological, buildings and structural, natural features and patterns, small scale features, circulation or constructed water contributing features. In addition the development of these structures would not require the removal, replacement or modification of cluster arrangements, land use, cultural traditions, spatial organization, vegetation and land use contributing patterns.

The construction of the barn and storage structures does however have the potential to affect the views and vistas contributing pattern of which the CLI identify as views of the labores. The location and conceptual design of these structures indicate that the structures would be installed in a manner that is respectful of the current views of the labores. Complementary design, color choices and the use of vegetative screens would mitigate the impact of these structures on park views and vistas. It is therefore not anticipated that these structures would adversely affect the mission. In addition the barn structure is located a distance away from the mission compound in an area that is currently the Mission Parkway and would most likely be shielded from the viewshed by the woody vegetation associated with the San Juan Acequia. The introduction of these structures is necessary in order to meet project the objective of providing necessary facilities to accommodate equipment for the operation of the farm. As these structures would be designed in a manner to be as least intrusive as possible, mitigating potential impacts to views and vistas, this action would result in an adverse, local, long-term, negligible effect on the historic district, structures and contributing features of the period of significance. For purposes of Section 106 under the NHPA, the determination of effect related to the construction of the barn and storage sheds is anticipated to be “no adverse effect”.

The proposed improvements to the current entrance roadway configuration and parking facilities would affect an area that is directly north of the Mission compound that is a previously disturbed grassed open area bisected by existing roadways. Reconfiguring the roadway would not require the removal, replacement or modification of any of the CLI identified archeological, buildings and structural, natural features and patterns, small scale features, or constructed water contributing features. In addition the development of these structures would not require the removal, replacement or modification of any of the CLI identified cluster arrangements, land use, cultural traditions, spatial organization, vegetation, views and vistas and land use contributing patterns.

The access improvements would however directly affect the identified circulation contributing features of Mission Road, Villamian Road and Graf Road. The portion of Mission Road and Graf Road that is south of Villamain would be closed. These closures would however enhance the circulation surrounding the mission. In addition, although the CLI identified spatial organization contributing patterns would not be affected, the action is anticipated to have a beneficial effect on the mission spatial organization as the action would enable the existing parking lot be removed and a new parking to be constructed at the entrance of the park property. This modification to circulation contributing features, is necessary in order to meet project objectives such as providing necessary visitor services and facilities in order to

1 accommodate visitors, and promoting local connectivity within the area. This action would result
2 in an adverse, local, long-term, negligible effect on historic resources. For purposes of Section
3 106 under the NHPA, the determination of effect related to the access and parking modifications
4 is anticipated to be “no adverse effect.”

5 Overall, the alternative would allow for the protection of existing cultural landscape resources,
6 but also re-introduce existing features and new uses necessary in order to meet the project
7 objectives as described above. The modifications and introductions of new structures would
8 however enhance the appearance and visitor experience of the historic structures and district. It
9 is anticipated that alternative 1 would have a beneficial, local, long-term, minor to moderate
10 effect on the historic district, structures and contributing features of the period of significance.
11 All modifications that would result from the implementation of alternative 1 would be installed in
12 accordance with NPSDO-28 and Secretary of the Interior Standards. For the purposes of
13 Section 106 of the NHPA, the determination of effect is anticipated to be “no adverse effect.”

14 *Cumulative Effects:* The past, present, and reasonably foreseeable future actions with the
15 potential to affect historic structures would be the same as described under the no-action
16 alternative and include the San José Cultural Landscape Restoration project, the planned re-
17 watering of the San Juan Acequia and the San Juan Acequia Trail. None of these projects
18 would adversely affect historic structures. A number of these initiatives have the potential to
19 affect the historic district contributing features or patterns. The San José Cultural Landscape
20 Restoration project is currently in the planning phase, the project would restore the cultural
21 landscape surrounding Mission San José, enhancing the integrity of the district. The planned
22 re-watering of the San Juan Acequia would also make a large contribution to enhancing the
23 integrity of district. The San Juan Acequia Trail would also indirectly benefit the integrity district
24 by providing the park visitor an opportunity to interact with the cultural landscape.

25 These projects therefore have the potential to benefit the historic district as the projects would
26 rehabilitate, enhance and protect the local historic resources. Impacts to these features would
27 be regulated under Section 106 of the NHPA. Impacts of the actions are therefore anticipated
28 to have an overall beneficial, local, long-term, minor cumulative effect on the historic district,
29 structures and contributing features of the period of significance. When considered with other
30 past, present, and foreseeable future actions, the implementation of alternative 1 would
31 contribute an incremental beneficial, local, long-term, moderate cumulative effect to the historic
32 structures and the district.

33 *Conclusion:* Overall, under alternative 1, impacts on the historic district, structures and
34 contributing features of the period of significance would be beneficial, local, long-term, and
35 minor to moderate as the alternative would enhance contributing features and patterns of land
36 use, spatial organization and views and vistas primarily through the re-introduction of
37 agricultural activities. When considered with other past, present, and foreseeable future actions,
38 the implementation of alternative 1 would contribute an incremental beneficial, local, long-term,
39 moderate cumulative effect on the historic district, structures and contributing features of the
40 period of significance.

41 **Impacts of Alternative 2 – Medium Action Alternative**

42 Alternative 2 would include all of components of alternative 1 but with some notable additions. A
43 visitor contact station would be developed, along with an extended trail network within and
44 surrounding the corral, vineyard and orchard and along Villamain Road. The agricultural
45 activities would also be further extended onto the historic labores.

46 The visitor contact station would be located adjacent to the reconfigured entrance on Mission
47 Road, and the new location parking lot in a previously disturbed grassed open area. The

1 construction of the contact station would not require the removal, replacement or modification of
2 any of the CLI identified archeological, circulation, buildings and structural, natural features and
3 patterns, small scale features, or constructed water contributing features. In addition the
4 development of these structures would not require the removal, replacement or modification of
5 any of the CLI identified cluster arrangements, land use, cultural traditions, spatial organization,
6 vegetation, and land use contributing patterns.

7 The visitor contact station does have the potential to affect the CLI identified views and vistas
8 contributing pattern of landform views of the labores. The visitor contact station is however
9 located away from the labores and to the north of the mission compound. This location is
10 sensitive to the viewsheds of the mission compound which are primarily of the labores located
11 to the south and east of the compound. Although not enhancing contributing features and
12 patterns, the introduction of this structure has an important role to play in facilitating park visitors
13 understanding of the various contributing features of the historic structures that they would
14 interact with while visiting the park. In addition, the visitor contact station would resolve the
15 inappropriate use of the church convento as the current visitor contact area. The construction of
16 the visitor contact station would therefore have an adverse and beneficial, local, long-term,
17 negligible to moderate effect on the historic district, structures and contributing features of the
18 period of significance. For purposes of Section 106 under the NHPA, the determination of effect
19 related to the visitor contact station is anticipated to be "no adverse effect".

20 The extension of the farming activities would have similar impacts as described under
21 alternative 1. No contributing features or patterns would be adversely affected. The extended
22 agricultural operations would further enhance contributing features and patterns of land use,
23 spatial organization and views and vistas. This action would therefore have a beneficial, local,
24 long-term, moderate impact on the contributing features and patterns of the historic district,
25 structures and contributing features of the period of significance. For purposes of Section 106
26 of the NHPA, the determination of effect is anticipated to be "no adverse effect."

27 The extension of the trail system has the potential to interact with a number of contributing
28 features and patterns which include the mission grounds, structures, buildings, and
29 infrastructure. The extension would also potentially affect the contributing pattern of scenic and
30 recreational uses. The vegetation contributing pattern of the scattered, less dense vegetation
31 located to the east of the mission and the views and vistas contributing pattern of enclosed
32 views from within mission buildings and structures.

33 This component would however have similar impacts as described for the visitor contact station
34 and barn. The trail would be designed in a manner to be as unobtrusive to the landscape as
35 possible, avoiding direct impacts to historic structures. As with the contact station, while not
36 enhancing contributing features and patterns, the introduction of the trail system has important
37 role to play in facilitating park visitors understanding of the various contributing features of the
38 historic structures that they would interact with while using the trail system. The construction of
39 the trail system would therefore have an adverse and beneficial, local, long-term, negligible to
40 moderate effect on the historic district, structures and contributing features of the period of
41 significance. For purposes of Section 106 under the NHPA, the determination of effect related
42 to the contact station is anticipated to be "no adverse effect".

43 Overall, as with alternative 1, the alternative would allow for the protection of existing cultural
44 landscape resources, while further re-introducing existing features and new uses necessary in
45 order to meet the project objectives. The introduction of the visitor contact station and trail
46 system would provide an important mechanism for the park visitor to experience the historic
47 resources at Mission San Juan. It is therefore anticipated that alternative 2 would have a
48 beneficial, local, long-term, moderate effect on the historic district, structures and contributing

features of the period of significance. All modifications that would result from the implementation of alternative 2 would be installed in accordance with NPS DO-28 and Secretary of the Interior Standards. For the purposes of Section 106 of the NHPA, the determination of effect is anticipated to be “no adverse effect.”

Cumulative Effects: The past, present, and reasonably foreseeable future actions with the potential to affect historic are the same as described under the no action alternative. None of these projects would adversely affect historic structures. A number of these initiatives have the potential to affect the historic district contributing features and patterns. The San José Cultural Landscape Restoration project is currently in the planning phase, the project would restore the cultural landscape surrounding Mission San José, enhancing the integrity of the district. The planned re-watering of the San Juan Acequia would also make a large contribution to enhancing the integrity of district. The San Juan Acequia Trail would also indirectly benefit the integrity district by providing the park visitor an opportunity to interact with the cultural landscape.

These projects therefore have the potential to benefit the historic district as the projects would rehabilitate, enhance and protect the local historic resources, resulting in a beneficial, local, long-term, moderate cumulative effect on the cultural landscape. Impacts to these features would be regulated under Section 106 of the NHPA. Impacts of the actions are therefore anticipated to have an overall beneficial, local, long-term, minor cumulative effect on historic structures and districts. When considered with other past, present, and foreseeable future actions, the implementation of alternative 2 would contribute an incremental beneficial, local, long-term, moderate cumulative effect on historic structures and districts.

Conclusion: Overall, under alternative 2, impacts on historic structures and the district would be beneficial local, long-term, and moderate as the alternative would further enhance contributing features and patterns of land use, spatial organization and views and vistas while allowing for the protection of existing cultural landscape resources and further re-introduction of existing features and new uses necessary in order to meet the project objectives. When considered with other past, present, and foreseeable future actions, the implementation of alternative 2 would contribute an incremental beneficial, local, long-term, moderate cumulative effect on the historic district, structures and contributing features of the period of significance.

Impacts of Alternative 3 – Maximum Action (Preferred Alternative)

The preferred alternative would include all of components of alternatives 1 and 2 but would also include further expanding the prepared agricultural fields or lease/special use permit agricultural areas. The labores that would be re-established under this alternative include areas that were sold prior to the establishment of SAAN and which have been developed as private residences or small-holding farming operations. They have been subsequently acquired by NPS over past several years.

The extension of the farming activities would have similar impacts as described under alternative 1 and 2. No contributing features or patterns would be adversely affected. The extended agricultural operations would further enhance contributing features and patterns of land use, spatial organization and views and vistas. This action would therefore have a beneficial local, long-term, moderate impact on the contributing features and patterns of the historic district, structures and contributing features of the period of significance. All modifications that would result from the implementation of the preferred alternative would be installed in accordance with NPS DO-28 and Secretary of the Interior Standards. For purposes of Section 106 of the NHPA, the determination of effect is anticipated to be “no adverse effect.”

Cumulative Effects: The past, present, and reasonably foreseeable future actions with the potential to affect historic are the same as described under the no action alternative. None of

1 these projects would adversely affect historic structures. A number of these initiatives have the
2 potential to affect the historic district contributing features and patterns. The San José Cultural
3 Landscape Restoration project is currently in the planning phase, the project would restore the
4 cultural landscape surrounding Mission San José, enhancing the integrity of the district. The
5 planned re-watering of the San Juan Acequia would also make a large contribution to enhancing
6 the integrity of district. The San Juan Acequia Trail would also indirectly benefit the integrity
7 district by providing the park visitor an opportunity to interact with the cultural landscape.

8 These projects therefore have the potential to benefit the historic district as the projects would
9 rehabilitate, enhance and protect the local historic resources. Impacts to these features would
10 be regulated under Section 106 of the NHPA. Impacts of the actions are therefore anticipated
11 to have an overall beneficial, local, long-term, minor cumulative effect on historic structures and
12 districts. When considered with other past, present, and foreseeable future actions, the
13 implementation of the preferred alternative would contribute an incremental beneficial, local,
14 long-term, moderate cumulative effect on historic structures and districts.

15 *Conclusion:* Overall, under the preferred alternative, impacts on historic structures and the
16 district would be beneficial local, long-term, and moderate as the extended agricultural
17 operations would further enhance contributing features and patterns of land use, spatial
18 organization and views and vistas. When considered with other past, present, and foreseeable
19 future actions, the implementation of the preferred alternative would contribute an incremental
20 beneficial, local, long-term, moderate cumulative effect on historic structures and district.

Archeological Resources

Affected Environment

In addition to the NHPA and the NPS *Management Policies 2006*, the NPS DO-28A *Archeology* affirms a long-term commitment to the appropriate investigation, documentation, preservation, interpretation, and protection of archeological resources inside units of the National Park System. As one of the principal stewards of America's heritage, NPS is charged with the preservation of the commemorative, educational, scientific, and traditional cultural values of archeological resources for the benefit and enjoyment of present and future generations. Archeological resources are nonrenewable and irreplaceable, so it is important that all management decisions and activities throughout the National Park System reflect a commitment to the conservation.

The San Antonio missions, including Mission San Juan, were designated as State Archeological Landmarks in 1983 by the Texas Antiquities Committee. Eleven archaeological investigations have been conducted at Mission San Juan since the 1930s. The bulk of archaeological work at Mission San Juan has taken place since the late 1960s. From 1967 to 1971, Mardith Schuetz, as representative of San Antonio's Witte Museum, directed excavations and mitigation activities at Mission San Juan in response to a request by the Catholic Archdiocese of San Antonio. In 1983, excavations related to foundation stabilization took place in the floor of the post-Colonial, or Tufa, house situated on the east wall. In addition, representatives from the University of Texas at San Antonio's Center for Archaeological Research (CAR-UTSA) carried out excavations at Mission San Juan in the 1980s and 1990s (Thoms et. al. 2001). An in-house pedestrian survey of all labores within alternatives 1 and 2 was completed by SAAN staff in 2009. In addition, a pedestrian survey, which included backhoe trenching, was conducted in 2009 on the portion of the preferred alternative located to the west of Villamain Road.

Many of the excavations referenced above were undertaken with the goal of recovering artifact assemblages that were representative of Mission Indian lifeways. Evidence for abundant pottery making at Mission San Juan has been revealed in the artifact inventories from these excavations (Thoms et. al 2001). Pedestrian or Phase 1 archeological surveys have been conducted within the Area of Potential Affect (APE) of the proposed park improvements. Known archeological resources identified within the APE are listed in **Table 7**.

Table 7 – Known Archeological Resources within APE

Name	State#	Remarks
Bazan House and store foundations	41BX247	Remains of what was a store, saloon, and house complex which served the local community, later used as a "feather factory". Removed in the 1990s.
San Juan acequia	41BX268	NRHP eligible
Lewis farmstead	41BX1784	Potentially eligible (Property will be acquired through SARA donation)
Ringelstein pre-historic campsite	41BX1785	Potentially eligible(Property will be acquired through SARA donation)
Lillian Daura House	41BX263	Originally occupied by 2 or 3 doctors prior to the Daura's emigration into the Bergs Mill community. Removed in the 1990s.
Olsen House Foundations	none	Located north of San Juan. Foundations removed in the 1990s.
Felix Alanis House	none	Located north of San Juan. Removed in the 1990s.
Balvin Garcia House	none	Located north of San Juan. Removed in the 1990s.

1 Impact Analysis

2 Intensity Level Definitions

3 The results of archeological investigations will continue to inform landscape understanding and
 4 interpretation of the Spanish colonial missions. When archeological resources cannot be
 5 avoided in relation to such work, documentation of existing archeological conditions,
 6 archeological excavations, and other mitigation measures would precede site work. Affects to
 7 archeological resources can be beneficial or adverse, direct or indirect, or short- or long- term.
 8 For the purposes of this analysis, levels of impact to archeological resources were defined as
 9 follows:

10 **Negligible:** The impact on archeological sites is at the lowest levels of detection, barely
 11 perceptible and not measurable.

12 **Minor:** The impact on archeological sites is measurable or perceptible, but it is slight and
 13 localized within a relatively small area of a site or a group of sites. The impact
 14 does not affect the character defining features of a State Archeological Landmark
 15 or NRHP eligible or listed archeological site and would not have a permanent
 16 effect on the integrity of any archeological sites.

17 **Moderate:** The impact is measurable and perceptible. The impact changes one or more
 18 character defining feature(s) of an archeological resource but does not diminish
 19 the integrity of the resource to the extent that its State Archeological Landmark or
 20 NRHP eligibility is jeopardized.

21 **Major:** The impact on archeological site(s) is substantial, noticeable, and permanent.
 22 The impact is severe or of exceptional benefit. For State Archeological
 23 Landmark or NRHP eligible or listed archeological sites, the impact changes one
 24 or more character defining feature(s) of an archeological resource, diminishing
 25 the integrity of the resource to the extent that it is no longer eligible as a State
 26 Archeological Landmark or for listing in the National Register.

27 Impacts of the No-Action Alternative

28 Under this alternative, no modifications would be made to park infrastructure. The San Juan
 29 Farm with a demonstration area, prepared agricultural fields, barn, parking lot and trails would
 30 not be developed. As a result, there would be no ground disturbance with associated impacts to
 31 archeological resources.

32 *Cumulative Effects:* The past, present, and reasonably foreseeable future actions with the
 33 potential to affect archeological resources are related primarily to development around the park
 34 and other park development initiatives not related to the San Juan Farm project. As part of the
 35 SARIP, the Mission Reach is reconnecting the San Antonio River with Mission San Juan
 36 through “portal parks” and developing an extensive new system of trails along the river. The
 37 San José Cultural Landscape Restoration project is currently in the planning phase, the project
 38 would restore the cultural landscape surrounding Mission San José. The San Juan Acequia
 39 Trail is a trail that is planned to be installed generally following the alignment of the San Juan
 40 Acequia. In addition the Mission Reach Hike/Bike Trail is currently under construction,
 41 developing eight miles of trails connecting the missions. The Mission Library was recently built
 42 on the historic Mission Drive-in property, adjacent to Mission San José.

43 All of the actions described above have the potential to disturb archeological resources. It is
 44 however anticipated that all of these actions would or have followed the correct investigative,
 45 reporting and mitigation protocols as required by the Texas Antiquities Code. Through this

coordination process, adverse impacts resulting from disturbances have or would be mitigated through the benefits derived from the resultant additions to the archeological record. The overall cumulative effect of other past, present, and foreseeable future actions on archeological resources could be adverse or beneficial, local short- and/or long-term, and negligible to minor.

When considered with other past, present, and foreseeable future actions, the no-action alternative would provide no noticeable incremental impact to the overall adverse or beneficial, local short- and/or long-term, and negligible to moderate cumulative effects on archeological resources.

Conclusion: The no-action alternative would not include ground penetrating activities and no direct impacts to archeological resources would result as the archeological record would remain undisturbed. When considered with other past, present, and foreseeable future actions, the no-action alternative would provide no noticeable incremental impact to the overall adverse or beneficial, local short- and/or long-term and negligible to minor cumulative effects on archeological resources.

Impacts of Alternative 1 – Minimum Action Alternative

The San Juan Acequia is the only known NRHP eligible archeological resource that the farming activities would have potential to affect. The proposed action would however not result in any large-scale excavations or modifications to the resource and is therefore not anticipated that the proposed action would adversely affect this eligible resource. The shallow ground disturbing activities associated with preparing the labores for cultivation could result in the discovery of previously unknown archeological resources. Historic farming operations, involving repeated plowing could have however disturbed archeological remains. A pedestrian survey of the labores was complete in 2009 by SAAN staff. The survey did not result in the discovery of any significant artifacts. The existing labores are therefore considered to have a low potential for archeological resources.

The orchard would be created adjacent to and northeast of the mission compound. The vineyard would be created adjacent to and east of the mission compound. The corral would be created adjacent to and south of the mission compound. The corral would be developed on the former mission parking lot. The development of the corral would therefore include shallow excavations associated with the removal of existing asphalt. The western side of the vineyard would utilize an area that is currently Mission Parkway. The construction of Mission Parkway would have disturbed the soil within this portion of the vineyard. The remaining portion of the vineyard and the orchard are also located in an area in which, although is currently open and grassed, has been previously disturbed through contemporary construction and demolitions. Based on previous disturbance, this area is considered to have a low potential for archeological resources. An acequia lateral associated with the Lillian Daura house (removed from the landscape in the 1990s) is located in this area. This lateral would either be reused or preserved. The construction of these features would not affect any known NRHP eligible archeological resources.

Overall, adverse, site-specific, short-term, and minor impacts could result from the reintroduction of farming activities. During the operation of the farm, the potential to discover archeological resources would still be relevant based primarily on the plowing of the labores. It is anticipated that the farm would provide an opportunity to educate visitors, volunteers and tenants on the importance of preserving archeological resources. If archeological resources are discovered during operation of the farm, a contribution to the Spanish Colonial period archeological record could be made. As a result, the operation of the farm could have a beneficial, local, long-term, minor impact on archeological resources.

1 The barn would be located to the west of Villamain Road, in-between the acequia and the
2 labores, where the current Mission Parkway is located. The construction of the barn would not
3 affect any known NRHP eligible archeological resources. The construction of the roadway
4 would have previously disturbed soils. This area is therefore considered to have a low potential
5 for archeological resources.

6 The four storage sheds would also be constructed for the storage of farming tools and
7 equipment. A shed would be constructed adjacent to the orchard and vineyard, on the east side
8 of acequia, close to the animal corral and on the east side of the prepared agricultural area.
9 The construction of the sheds would not affect any known NRHP eligible archeological
10 resources. The storage sheds adjacent to the orchard and vineyard, on the east side of
11 acequia, and close to the animal corral are all in areas that have been previously disturbed as
12 described above. The shed located on the east side of the prepared agricultural area is located
13 in an area that was evaluated during the 2009 SAAN pedestrian survey, which did not reveal
14 any significant artifacts.

15 As part of this alternative, the entrance road would be reconfigured by closing and removing the
16 Mission Road loop, and Graf Road south of Villamain. These road closures would allow for the
17 removal of approximately 1,700 linear feet of paved road promoting the rehabilitation of the
18 cultural landscape. A parking lot would be constructed directly north of the mission at the
19 current intersection of Mission Parkway, Graf Road and River Street. The parking lot would be
20 located in an area that was previously the Balvin Garcia House, Felix Alanis House and the
21 Olsen House. The Balvin Garcia and Felix Alanis house sites are located in the open grass
22 area that would not be impacted. The Olsen's house site would be impacted by the construction
23 of the parking lot. All of these structures were removed during the 1990s. Despite the disturbed
24 nature of the soils in this area, the former presence of these structures may result in higher
25 potential to encounter archeological resources.

26 Construction phase archeological monitoring would ensure that any archeological resources
27 that are disturbed would be appropriately coordinated per the Texas Antiquities Code. As a
28 result of these efforts, should archeological resources be discovered, beneficial, local, long-
29 term, minor impacts could result from the potential contributions made to the archeological
30 record of the Spanish colonial period.

31 Overall, this alternative would result in adverse, site-specific, short-term negligible to minor
32 impact resulting from the discovery of unknown archeological resources.

33 Coordination with the THC has been initiated. As final plans are developed, Section 106
34 coordination would be completed to ensure compliance with the NHPA. It is anticipated that the
35 THC would concur with a finding of "no adverse effect".

36 *Cumulative Effects:* Past, present, and reasonably foreseeable future actions with the potential
37 to affect archeological resources would be the same as described under the no-action
38 alternative and include the SARIP, the San José Cultural Landscape Restoration project, the
39 San Juan Acequia Trail, Mission Reach Hike/Bike Trail and the Mission Library. It is however
40 anticipated that all of these actions would or have followed the correct investigative, reporting
41 and mitigation protocols as required by the Texas Antiquities Code. Through this coordination
42 process, adverse impacts resulting from disturbances have or would be mitigated through the
43 benefits derived from the resultant additions to the archeological record. The overall cumulative
44 effect of other past, present, and foreseeable future actions on archeological resources could be
45 adverse or beneficial, local short- and/or long-term, and negligible to moderate.

46 The implementation of alternative 1 could disturb archeological resources but could also
47 contribute to the archeological record. The alternative could therefore result in adverse or

beneficial, site-specific or local, short- and/or long-term, and minor to moderate impacts on archeological resources. When considered with other past, present, and foreseeable future actions, the implementation of alternative 1 would contribute an incremental adverse or beneficial, local, short- and/or long-term, minor to moderate cumulative effect on archeological resources.

Conclusion: Overall, adverse, site-specific, short-term negligible to minor impact on could however result from the discovery of unknown archeological resources. Construction phase archeological monitoring would ensure that any archeological resources that are disturbed would be appropriately coordinated per the Texas Antiquities Code. As a result of these efforts, should archeological resources be discovered, beneficial, local, long-term, minor impacts could result from the potential contributions made to the archeological record of the Spanish colonial period. When considered with other past, present, and foreseeable future actions, the implementation of alternative 1 would contribute an incremental adverse or beneficial, local, short- and/or long-term, minor to moderate cumulative effect on archeological resources.

Impacts of Alternative 2 – Medium Action Alternative

Alternative 2 would include all of components of alternative 1 but with some notable additions. A visitor contact station would be developed, along with an extended pedestrian trail network within the mission compound and surrounding the corral, vineyard and orchard. A hike and bike trail would also be created along Villamain Road. The agricultural activities would also be further extended onto the historic labores.

The visitor contact station would be located adjacent to the parking lot. The construction of the visitor contact station would not affect any known NRHP eligible archeological resources. As previously discussed, this open grassed area has been previously disturbed and is considered to have a low potential for archeological resources.

The pedestrian trail network extension would include encircling the vineyard and following the edge of the corral connecting to the San Juan Acequia Trail (separate action). A separate part of the trail extension would run through the mission compound, also connecting to the San Juan Acequia Trail. Under this alternative, a hike and bike trail would also be installed following the alignment of Villamain Road. The trails would be located in areas that have been previously disturbed and would not affect any known NRHP eligible archeological resources. The portion of the trail that would run through the mission compound has the potential to affect known NRHP eligible archeological resources. A number of site excavations have however taken place within the mission walls which have disrupted the original topography within the area. The installation of the trail would also only result in only surficial soil disturbance. As a result, it is anticipated that the trail extension within the compound would not result in an adverse effect to known NRHP eligible archeological resources and result in site-specific, long-term, negligible impacts.

The further expansion of the re-introduction of the farming activities would not adversely affect known NRHP eligible archeological resources. The additional shallow ground disturbing activities associated with preparing the additional labores for cultivation could however disturb unknown archeological resources. Historic farming operations, involving repeated plowing, could have disturbed these archeological remains. A pedestrian survey of the labores was complete in 2009 by SAAN staff. The survey did not result in the discovery of any significant artifacts. Adverse, site-specific, long-term and minor impacts could result from the further extension of the reintroduction of farming activities.

Construction phase archeological monitoring would ensure that any archeological resources that are disturbed would be appropriately coordinated per the Texas Antiquities Code. As a

1 result of these efforts, should archeological resources be discovered, beneficial, local, long-
2 term, minor impacts could result from the potential contributions made to the archeological
3 record of the Spanish colonial period.

4 During the farming activities the potential to discover archeological resources would still be
5 relevant based primarily on the plowing of the labores. It is anticipated that the farm would
6 provide an opportunity to educate visitors, volunteers and tenants on the importance of
7 preserving archeological resources. If during operation of the farm, archeological resources are
8 discovered, the operation of the farm could make an important contribution to the Spanish
9 Colonial period archeological record. As a result, the operation of the farm could have a
10 beneficial, local, long-term, minor impact on archeological resources.

11 Overall, this alternative would not adversely affect known NRHP eligible archeological
12 resources. Adverse, site-specific, short-term minor impacts could however result from the
13 discovery of unknown archeological resources. As with alternative 1, construction phase
14 archeological monitoring would ensure that any archeological resources that are disturbed
15 would be appropriately coordinated per the Texas Antiquities Code. As a result, should
16 archeological resources be discovered, beneficial, local, short- and/or long-term minor to
17 moderate impacts could result from potential contributions made to archeological record of the
18 Spanish colonial period.

19 Coordination with the THC has been initiated. As final plans are developed, Section 106
20 coordination would be completed to ensure compliance with the NHPA. It is anticipated that the
21 THC would concur with a finding of "no adverse effect".

22 *Cumulative Effects:* Past, present, and reasonably foreseeable future actions with the potential
23 to affect archeological resources would be the same as described under the no-action
24 alternative and include the SARIP, San José Cultural Landscape Restoration project, the San
25 Juan Acequia Trail, Mission Reach Hike/Bike Trail and the Mission Library.

26 It is anticipated that all of these actions would or have followed the correct investigative,
27 reporting and mitigation protocols as required by the Texas Antiquities Code. Through this
28 coordination process, adverse impacts resulting from disturbances have or would be mitigated
29 through the benefits derived from the resultant additions to the archeological record. The overall
30 cumulative effect of other past, present, and foreseeable future actions on archeological
31 resources could be adverse or beneficial, local short- and/or long-term, and negligible to
32 moderate.

33 The implementation of alternative 2 could disturb additional archeological resources but also
34 could make further contributions to the archeological record and could therefore result in
35 adverse or beneficial, site-specific or local, short- and/or long-term, and minor to moderate
36 impacts on archeological resources. When considered with other past, present, and
37 foreseeable future actions, the implementation of alternative 2 would contribute an incremental
38 adverse or beneficial, local, short- and/or long-term, minor to moderate cumulative effect on
39 archeological resources.

40 *Conclusion:* Overall, alternative 2, adverse, site-specific, short-term negligible to minor impact
41 could however result from the discovery of unknown archeological resources. Construction
42 phase archeological monitoring would ensure that any archeological resources that are
43 disturbed would be appropriately coordinated per the Texas Antiquities Code. As a result of
44 these efforts, should archeological resources be discovered, beneficial, local, long-term, minor
45 impacts could result from the potential contributions made to the archeological record of the
46 Spanish colonial period. When considered with other past, present, and foreseeable future
47 actions, the implementation of alternative 1 would contribute an incremental adverse or

beneficial, local, short- and/or long-term, minor to moderate cumulative effect on archeological resources.

Impacts of Alternative 3 – Maximum Action (Preferred Alternative)

Impacts to archeological resources as a result of the implementation of preferred alternative would be similar to that of alternative 1 and 2 as related to the area mission compound, demonstration farm, orchard, corral, and trails. The preferred alternative does however include re-establishing additional labores and closing Villamain Road to city traffic. The closure of Villamain Road to city traffic would not affect archeological resources. The labores that would be re-established under this alternative include areas that were sold prior to the establishment of SAAN and which have been developed as private residences or small-holding farming operations. The properties have subsequently been acquired by NPS over past several years.

The further extension of the farming operations would result in additional ground disturbing activities and an increased potential that unknown archeological resources could be encountered.

Archeological investigations were conducted on the 55-acre portion of the preferred alternative that is located to the west of Villamain Road. This study was conducted in support of property acquisition associated with SARIP mitigation efforts. The property will be donated to and incorporated into SAAN. Eight archeological sites were discovered during pedestrian survey, which included backhoe trenching. Of these sites, three were determined to be either eligible or potentially eligible.

The previously discussed San Juan Acequia was the site determined to be eligible. Although the extension of the farming activities would be in close proximity to the eligible resource, it is not anticipated that the proposed action would adversely affect the eligible resource. The potentially eligible archeological resources are the Lewis Farmstead and the Ringelstein prehistoric campsite.

The Lewis farmstead was a pecan orchard throughout much of the twentieth century, and Garrett Lewis operated it in the 1950s and 1960s as a pecan orchard and egg farm. A pedestrian survey of the Ringelstein pre-historic campsite revealed widely scattered prehistoric artifacts, including several lithic tools. Current evidence suggests that the site has a high probability to contain intact buried archeological remains in stratified alluvial contexts.

The preferred alternative has the potential to adversely impact these potentially eligible archeological sites. Following the acquisition of the property, additional historical research and subsurface testing would be conducted in order to determine eligibility. Additional Section 106 coordination would be conducted as needed. The preferred alternative therefore has a potential to result in adverse, site-specific or local, short-and/or long-term, minor to moderate impacts to potentially eligible archeological resources. Following a determination of eligibility, the park would implement the necessary actions in order to avoid, minimize or mitigate adverse impacts to these resources.

The further expansion of the re-introduction of the farming activities could also disturb unknown archeological resources. Adverse, site-specific, long-term and minor impacts could therefore result from the further extension of the reintroduction of farming activities.

Construction phase archeological monitoring would ensure that any archeological resources that are disturbed would be appropriately coordinated per the Texas Antiquities Code. As a result of these efforts, should archeological resources be discovered, beneficial, local, long-term, minor impacts could result from the potential contributions made to the archeological record of the Spanish colonial period.

1 During the farming activities the potential to discover archeological resources would still be
2 relevant based primarily on the plowing of the labores. It is anticipated that the farm would
3 provide an opportunity to educate visitors, volunteers and tenants on the importance of
4 preserving archeological resources. If during operation of the farm, archeological resources are
5 discovered, following correct recovery procedures, the operation of the farm could make an
6 important contribution to the Spanish Colonial period archeological record. As a result, the
7 extension of the farming activities could have a beneficial, local, long-term, minor to moderate
8 impact on archeological resources.

9 *Cumulative Effects:* Past, present, and reasonably foreseeable future actions with the potential
10 to affect archeological resources would be the same as described under the no-action
11 alternative and include the SARIP, the San José Cultural Landscape Restoration project, the
12 San Juan Acequia Trail, Mission Reach Hike/Bike Trail and the Mission Library. It is however
13 anticipated that all of these actions would or have followed the correct investigative, reporting
14 and mitigation protocols as required by the Texas Antiquities Code. Through this coordination
15 process, adverse impacts resulting from disturbances have or would be mitigated through the
16 benefits derived from the resultant additions to the archeological record. The overall cumulative
17 effect of other past, present, and foreseeable future actions on archeological resources could be
18 adverse or beneficial, local short- and/or long-term, and negligible to moderate.

19 The preferred alternative has the potential to adversely impact potentially eligible archeological
20 sites. Additional historical research and subsurface testing is required in order to determine
21 eligibility. Additional Section 106 coordination would be conducted as needed. Once eligibility
22 has been determined, the park would implement the necessary actions in order to avoid,
23 minimize or mitigate adverse impacts to these resources. The further expansion of the re-
24 introduction of the farming activities could also disturb unknown archeological resources
25 resulting in adverse, site-specific, long-term and minor impacts.

26 When considered with other past, present, and foreseeable future actions, the implementation
27 of the preferred alternative would contribute an incremental adverse or beneficial, local, short-
28 and/or long-term, minor to moderate cumulative effect on archeological resources.

29 *Conclusion:* The preferred alternative has the potential to adversely impact potentially eligible
30 archeological sites. Additional historical research and subsurface testing and coordination is
31 required in order to determine eligibility. Once eligibility has been determined, the park would
32 implement the necessary actions in order to avoid, minimize or mitigate adverse impacts to
33 these resources, ensuring minor adverse impacts. The further expansion of the re-introduction
34 of the farming activities could also disturb unknown archeological resources resulting in
35 adverse, site-specific, long-term and minor impacts.

1 Visitor Use and Experience

2 Affected Environment

3 According to the NPS *Management Policies 2006*, the enjoyment of park resources and values
 4 by people is part of the fundamental purpose of all park units. NPS is committed to providing
 5 appropriate, high quality opportunities for visitors to enjoy the parks, and will maintain within the
 6 parks an atmosphere that is open, inviting, and accessible to every segment of society. Further,
 7 NPS will provide opportunities for forms of enjoyment that are uniquely suited and appropriate to
 8 the superlative natural and cultural resources found in the parks. The NPS *Management*
 9 *Policies 2006* also state that scenic views and visual resources are considered highly valued
 10 associated characteristics that NPS should strive to protect.

11 The missions of San Antonio play an important part in defining the city's culture. Their presence
 12 also helps drive the city's hospitality and tourism industry. The Mission San Juan grounds are
 13 open to the public free of charge. The San Juan Mission Church, Rectory and Parish Building
 14 are maintained by the Archdiocese of San Antonio. As such, the rectory and parish building are
 15 off limits to the public. The church, however, hosts mass on weekends and on holy days, which
 16 are open to the public. Park staff also unlock the church every day in order to allow visitors to
 17 tour the interior.

18 Within the area of potential affect associated with the proposed park improvements, the mission
 19 compound itself is open to the public and a primary point of interest for visitors to the mission to
 20 tour. Visitors to the mission also utilize the Yanaguana Trail. The 1/3 mile trail takes visitors to
 21 a small section of the San Antonio River that has not been channelized. In addition to the trail
 22 visitors can also view the historic San Juan acequia system that is located just outside of the
 23 mission compound.

24 The park is open year-round, the number of people visiting the park has steadily increased,
 25 averaging over 1 million visitors per year, with 1.7 million visitors received in 2009. Mission San
 26 Juan received 78, 392 visitors during 2009.

27 Impact Analysis

28 The impact analysis was based on the knowledge and best professional judgment of planners
 29 and biologists, data from park records, and studies of similar actions and effects, when
 30 applicable. The methodology used for assessing impacts to visitor use and experience is based
 31 on how the development of the San Juan Farm would affect the visitor, particularly with regards
 32 to the visitors' enjoyment of Mission San Juan's resources.

33 Intensity Level Definitions

34 **Negligible:** Visitors would not be affected or changes in visitor use and/or experience would
 35 be below or at the level of detection. Any effects would be short-term. The
 36 visitor would not likely be aware of the effects associated with the alternative.

37 **Minor:** Changes in visitor use and/or experience would be detectable, although the
 38 changes would be slight and likely short-term. The visitor would be aware of the
 39 effects associated with the alternative, but the effects would be slight.

40 **Moderate:** Changes in visitor use and/or experience would be readily apparent and likely
 41 long-term. The visitor would be aware of the effects associated with the
 42 alternative and would likely be able to express an opinion about the changes.

43 **Major:** Changes in visitor use and/or experience would be readily apparent and have
 44 substantial long-term consequences. The visitor would be aware of the effects

associated with the alternative and would likely express a strong opinion about the changes.

Impacts of No–Action Alternative

Under this alternative, no modifications would be made to park infrastructure. The San Juan Farm with a demonstration area, barn, parking lot, trails would not be developed. Mission San Juan currently offers educational opportunities for visitors to experience the natural and cultural history of the San Antonio Missions. The No- Action alternative would however result in adverse, indirect, site-specific, long-term, negligible impacts to visitor use and experience as these current opportunities would not be enhanced under the no-action alternative.

Cumulative Effects: The past, present, and reasonably foreseeable future actions with the potential to affect visitor use and experience are related primarily to development around the park and other park development initiatives not related to the San Juan Farm project. The initiatives with the potential to affect visitor use and experience include the San José Cultural Landscape Restoration, the SARIP, the Mission Library, the catholic church improvements, Rancho de las Cabras Visitor Services and the San Juan Acequia Trail.

The San José Cultural Landscape Restoration project would enhance park viewsheds and cultural integrity, the SARIP, San Juan Acequia Trail and the Mission Reach Hike and Bike Trail and the Mission Library would provide recreational and educational opportunities. In addition, it is anticipated that these projects, combined with the continual growth of the population of City of San Antonio will result in increased public interest in the area and demand to visit Mission San Juan.

These actions could have an adverse, local, short-term, minor effect on visitor use and experience because of the inconvenience of construction noise, dust, and possible access restrictions. Ultimately, however, these actions would have or have had a beneficial, local, long-term, moderate effect on visitor use and experience based on the improvements to the visual and natural environment, interpretive opportunities and entertainment opportunities that would be created both within the park and the immediate surrounds.

Under this alternative, adverse, indirect, site-specific, long-term, negligible impacts to visitor use and experience may result as visitor use and experience would not be enhanced. When considering other past, present, and foreseeable future actions, the no-action alternative would result in only a slight incremental adverse, local, long-term, negligible effect to the overall moderate beneficial cumulative effect to visitor use and experience within the area.

Conclusion: The no-action alternative would result in adverse, indirect, site-specific, long-term, negligible impacts to visitor use and experience as existing mechanisms for visitors to experience the natural and cultural history of the San Antonio Missions would not be enhanced and new mechanisms would not be introduced. When considering other past, present, and foreseeable future actions, as visitor experience would not appreciably change, the no-action alternative would result in only a slight incremental adverse, local, long-term, negligible effect to the overall moderate beneficial cumulative effect to visitor use and experience.

Impacts of Alternative 1 – Minimum Action

Alternative 1 would involve the re-introduction of farming activities including a 2.5 acre demonstration farm, 5-acre prepared agricultural area, orchard, vineyard, corral and the introduction of a barn and storage structures.

The demonstration farm would be developed utilizing the existing labores. In addition to the labores, an orchard, vineyard and corral would also be established. The farm would

1 demonstrate the agricultural pursuits of the Mission Indians which took place on the labores, or
2 farmlands, under the guidance of the Franciscan missionaries and their lay assistants. The
3 farm would offer the park visitor a unique opportunity to experience relevant farming practices
4 and to gain an insight into how the landscape would have appeared during the mission's period
5 of significance while also enhancing the park viewsheds and cultural integrity.

6 The barn would be located to the west of Villamain Road, in-between the acequia and the
7 labores where the current Mission Parkway is located. Four storage sheds would also be
8 constructed for the storage of necessary farming tools and equipment. The barn has an indirect
9 effect on visitor use and experience as they provide some of the infrastructure that is necessary
10 to enable the farm to operate successfully, a key to enhancing visitor use and experience.

11 Currently the parking facility at the mission is insufficient to meet the demand and is also in a
12 state of disrepair. This alternative includes relocating the parking lot. As part of this alternative,
13 the entrance road would be reconfigured closing the Mission Road loop, and Graf Road south of
14 Villamain. These road closures would allow for the removal of approximately 1,700 linear feet of
15 paved road promoting the rehabilitation of the cultural landscape. This along with the relocation
16 of the parking lot, would accommodate visitors by creating a distinct arrival point at the entrance
17 of the mission, minimizing vehicle related circulation infrastructure within the historic landscape.
18 The anticipated improvement in parking facilities and circulation would have a beneficial, site-
19 specific, long-term, minor impact on visitor use and experience.

20 This alternative also includes creating a connection to the existing Berg Mill Trail. This
21 connection would encourage local connectivity and provide additional user opportunities for park
22 visitors to explore nearby Mission San Jose and the surrounds.

23 The combination of these proposed actions would have beneficial, local, long-term, moderate
24 impact on visitor use and experience.

25 All of the actions discussed above would have an adverse, site-specific, short-term and minor
26 impact on visitor use and experience as a result of construction activities and the temporary
27 presence of construction equipment, materials, and crews. Portions of project areas currently
28 used by visitors would be temporarily limited to visitor use during construction. Noise and dust
29 from construction activities would also adversely affect visitor use and experience; however all
30 construction-related impacts would be short-term and cease following the construction activities.

31 *Cumulative Effects:* The past, present, and reasonably foreseeable future actions with the
32 potential to affect visitor use and experience are the same as described under the no action
33 alternative and include the San José Cultural Landscape Restoration project, the SARIP, the
34 Mission Library, the catholic church improvements, Rancho de las Cabras Visitor Services and
35 the San Juan Acequia Trail.

36 These actions could have an adverse, local, short-term, minor effect on visitor use and
37 experience because of the inconvenience of construction noise, dust, and possible access
38 restrictions. Ultimately, however, these actions would have or have had a beneficial, local, long-
39 term, moderate effect on visitor use and experience based on the improvements to the visual
40 and natural environment, interpretive opportunities and entertainment opportunities that would
41 be created both within the park and the immediate surrounds.

42 Alternative 1 would ultimately have a beneficial, local, long-term, moderate effect on visitor use
43 and experience. Additional adverse, site-specific, short-term, negligible impacts could result
44 from construction activities. When considered with other past, present, and reasonably
45 foreseeable future actions, the implementation of alternative 1 would contribute an incremental
46 beneficial, local, long-term, moderate cumulative effect on visitor use and experience.

Conclusion: Overall, under alternative 1, impacts on visitor use and experience would be beneficial, local, long-term, and moderate. These beneficial impacts to visitor use and experience would primarily result from the re-introduction of farming activities and improvements to parking, circulation and connectivity. When considered with other past, present, and reasonably foreseeable future actions, the implementation of alternative 1 would contribute an incremental beneficial, local, long-term, moderate cumulative effect on visitor use and experience.

Impacts of Alternative 2 - Moderate Action Alternative

Alternative 2 would include all of components of alternative 1 but with some notable additions. A visitor contact station would be developed, along with an extended pedestrian trail network within the compound and surrounding the corral, vineyard and orchard. In addition a hike and bike trail would be created along Villamain Road. The agricultural activities would also be extended further onto the historic labores.

The creation of a contact station would provide important support to the demonstration farm. The center would give the visitor an opportunity to gain an understanding of the mission labores and the vital role that they played in the dominant theme of mission life in the eighteenth century, that of the provision of food. The contact station would serve as starting point of the demonstration farm experience in which the visitor would be able to review brochures and exhibits, and hear presentations by interpreters.

The proposed further extension of the trail network would result in additional benefits to local connectivity and provide additional opportunities for park visitor use and experience when compared to alternative 1. These additional benefits would primarily result from the trails surrounding the orchard and vineyard areas, creating a connection to the future San Juan Acequia Trail, and the SARIP. While promoting connectivity and encouraging exercise, the trails would also provide an avenue to educate park users regarding the cultural resources through the use of wayside exhibits. The extended trail network would therefore result in beneficial, local, long-term, minor to moderate effects on visitor use and experience.

The trails within and surrounding the proposed improvements would be for pedestrian use only. A hike and bike trail is however proposed along Villamain Road, the formal rulemaking process will be followed prior to the potential introduction of bicycle use on the trail.

The extension of the re-introduction of farming activities would result in additional benefits to visitor use and experience when compared to alternative 1. The benefits would primarily result from the additional landscape rehabilitation which would further enhance viewsheds, as well as interpretation, educational and recreational opportunities for the park visitor. This action would have beneficial, local, long-term, moderate, impact on visitor use and experience.

The alternative would therefore further enhance the interpretational, educational, and recreational opportunities for the park visitor while protecting cultural resources and allowing for public access, and enjoyment. This alternative would have a beneficial, local, long-term and moderate, impact on visitor use and experience.

Construction impacts would be similar to the impacts described under alternative 1. It is anticipated that these impacts would be adverse, site-specific, short-term, and minor.

Cumulative Effects: The past, present, and reasonably foreseeable future actions with the potential to affect visitor use and experience are the same as described under the no-action alternative and include the San José Cultural Landscape Restoration project, the SARIP, the Mission Library, the catholic church improvements, Rancho de las Cabras Visitor Services and the San Juan Acequia Trail.

These actions could have an adverse, local, short-term, minor effect on visitor use and experience because of the inconvenience of construction noise, dust, and possible access restrictions. Ultimately, however, these actions would have or have had a beneficial, local, long-term, moderate effect on visitor use and experience based on the improvements to the visual and natural environment, interpretive opportunities and entertainment opportunities that would be created both within the park and the immediate surrounds.

Overall, alternative 2 would have a beneficial, local, long-term, moderate impact on visitor use and experience. When considered with other past, present, and reasonably foreseeable future actions, the implementation of alternative 2 would contribute an incremental beneficial, local, long-term, moderate cumulative effect on visitor use and experience.

Conclusion: Overall, under alternative 2, impacts on visitor use and experience would be beneficial, local, long-term, and moderate. These beneficial impacts to visitor use and experience would primarily result from the extension of farming activities increasing educational and recreational opportunities for the park visitor and the creation of a visitor contact station which would provide the visitor with an opportunity to gain an understanding of the mission labores and the vital role that they played in the dominant theme of mission life. When considered with other past, present, and reasonably foreseeable future actions, the implementation of alternative 2 would contribute an incremental beneficial, local, long-term, moderate cumulative effect on visitor use and experience.

Impacts of Alternative 3 - Maximum Action (Preferred Alternative)

The preferred alternative would include all of components of alternatives 1 and 2 with some notable additions. The further extension of the re-introduction of farming operations would result in additional benefits to visitor use and experience when compared to alternatives 1 and 2. The benefits would primarily result from the proposed expansion, which would utilize the maximum area available. The alternative would further enhance viewsheds, interpretation, educational and recreational opportunities for the park visitor. These combined proposed actions would have a beneficial, local, long-term and moderate impact on visitor use and experience.

The closure of Villamain Road to city traffic would also result in additional benefits to local connectivity and provide additional opportunities for park visitor use and experience when compared to alternatives 1 and 2. These additional benefits would primarily result from the controlled access of Villamain Road and would be local, long-term, and minor.

Construction impacts would be similar to the impacts described under alternatives 1 and 2. It is anticipated that, based on the significant footprint expansion of the farming activities, these impacts would be adverse, site specific, short-term, and minor to moderate.

Cumulative Effects: The past, present, and reasonably foreseeable future actions with the potential to affect visitor use and experience are related primarily to development around the park and other park development initiatives not related to the development of the San Juan Farm. The initiatives with the potential to affect visitor use and experience include the San José Cultural Landscape Restoration project, the SARIP, the Mission Library, the catholic church improvements, Rancho de las Cabras Visitor Services and the San Juan Acequia Trail.

These actions could have an adverse, local, short-term, minor effect on visitor use and experience because of the inconvenience of construction noise, dust, and possible access restrictions. Ultimately, however, these actions would have or have had a beneficial, local, long-term, moderate effect on visitor use and experience based on the improvements to the visual and natural environment, interpretive opportunities and entertainment opportunities that would be created both within the park and the immediate surrounds.

1 The preferred alternative would have a beneficial, local, long-term and moderate impact to
2 visitor use and experience. When considered with other past, present, and reasonably
3 foreseeable future actions, the implementation of the preferred alternative would contribute an
4 incremental beneficial, local, long-term, moderate cumulative effect on visitor use and
5 experience at the park.

6 *Conclusion:* Overall, under the preferred alternative, impacts on visitor use and experience
7 would be beneficial, local, long-term and moderate. The benefits would primarily result from the
8 further expansion of agricultural activities which would further enhance viewsheds,
9 interpretation, educational and recreational opportunities for the park visitor. Additional adverse,
10 site-specific, short-term minor to moderate impacts could result from construction activities.
11 When considered with other past, present, and reasonably foreseeable future actions, the
12 implementation of the preferred alternative would contribute an incremental beneficial, local,
13 long-term, moderate cumulative effect on visitor use and experience.

Park Operations and Management

Affected Environment

The park currently employs approximately 45 people and utilizes 120 volunteers. Employees at Mission San Juan are primarily involved with staffing the adaptive use visitor interpretation area located in the church convento. Additional park operations and management functions include providing management oversight of the historic structures and grounds, security and mowing the lawns twice per year.

The park is open year-round, the number of people visiting the park has steadily increased, averaging over 1 million visitors per year, with 1.7 million visitors received in 2009. Annual park visitor numbers are approaching 2 million people per year and visitation is anticipated to continue to increase. Mission San Juan (or the area of potential effect associated with the proposed park improvements) received 78,392 visitors during 2009. Mission San Juan currently has one full-time interpretive guide.

It is anticipated that the various new programs, venues, and park development projects, as described in the Cumulative Impacts Scenario, combined with the proposed project could draw an estimated 395,043 more visitors to the park and more than double the park's economic impact in 2016.

Impact Analysis

The impact analysis was based on the knowledge and best professional judgment of planners and biologists, data from park records, and studies of similar actions and effects, when applicable. The methodology used for assessing impacts to visitor use and experience is based on that the development of the San Juan Farm would affect the park, particularly with regards to park operations.

Intensity Level Definitions

The discussion of impacts on park operations and management focuses on the staff needed to ensure visitor and resident safety, and the ability of park staff to protect and preserve resources. Park staff knowledge was used to evaluate the impacts of each alternative, and the evaluation is based on the current description of park operations. The intensity thresholds of an impact for Park Management and Operations are defined as follows:

Negligible: Park operations would not be affected, or effects would not be measurable or would be outside of normal variability. There would not be a noticeable effect on park operations.

Minor: Effects on park operations and facilities would be slightly detectable but would not be expected to have an overall effect on the ability of the park staff to provide services and facilities to the visiting public.

Moderate: Effects on park operations and facilities would be clearly detectable and could have a noticeable effect on the park's ability to provide adequate services and facilities to visitors and staff. Measures such as increased staffing and funding might be necessary to provide services and facilities to the visiting public.

Major: Effects would have a substantial influence on park operations and facilities and would include impacts that would change the park's ability to provide adequate services and facilities to visitors and staff. Increased staff and funding would be needed, or other park programs would have to be eliminated.

Impacts of No–Action Alternative

Under this alternative, no modifications would be made to parks operations or management systems. The no-action alternative would contribute an incremental adverse, long-term, negligible effect on the park operations and management as the existing operations and management structure may not be sufficient to accommodate the anticipated increase in park visitors that could result from the various actions as described in the cumulative impacts scenario.

Cumulative Effects: The past, present, and reasonably foreseeable future actions with the potential to impact park operations and management are related primarily to development around the park and other park development initiatives not related to the development of the San Juan farm. The initiatives with the potential to affect park operations and management include the San José Cultural Landscape Restoration, the SARIP, the Mission Library the San Juan Acequia Trail, the catholic church improvements, Rancho de las Cabras Visitor Services and the re-watering of the San Juan Acequia. It is anticipated that these projects combined with the continual growth of the population of City of San Antonio would result in increased public interest in the area and an associated increased demand to visit Mission San Juan.

These actions could all have an overall adverse, local, short- and/or long-term, minor impact on park operations and management as previous SAAN operations and management structures may not be sufficient to accommodate the anticipated increase in visitor traffic. When considered with other past, present, and foreseeable future actions, the no-action alternative would contribute an adverse, indirect, long-term, negligible cumulative effect on park operations and management as the existing operations and management structure may not be sufficient to accommodate the anticipated increase in park visitors.

Conclusion: No modifications would be made to park operations or infrastructure. The no-action alternative would contribute an adverse, indirect, long-term, negligible impact on park operations and management as the existing operations and management structure may not be sufficient to accommodate the anticipated increase in park visitors that could result from the various actions described in the cumulative impacts scenario. When considered with other past, present, and foreseeable future actions, the no-action alternative would contribute an incremental, adverse, long-term, negligible cumulative effect on the park operations and management as the existing operations and management structure may not be sufficient to accommodate the anticipated increase in park visitors.

Impacts of Alternative 1 – Minimum Action Alternative

Alternative 1 would involve the re-introduction of farming activities including a 2.5-acre demonstration farm, 5-acre prepared agricultural area, orchard, vineyard, corral, barn and storage structures. Under alternative 1, impacts would be primarily associated with the operation and management of these elements.

The costs of the operation of this alternative have been estimated using FMSS and gross CESS. Estimates and are presented in **Table 8**. A description of each of these items is included in the *Alternatives Considered* section of this document.

Table 8 – Estimated Operation Cost

Operations	Cost
Field Preparation	\$755.00
Planting	\$2,186.00
Acequia Maintenance	\$59,166.00
Weeding/Field Maintenance	\$4,372.00
Harvest Expense	\$2,186.00
Education Programming & Outreach	\$3,257.00
Interpretation Staffing	\$39,748.00
Partnership Development	\$5,620.00
Total	\$117,290.00

During the cost estimating process, a number of operational efficiencies, which are quantified in **Table 8**, were identified and include:

- Adjusting park staff priorities and reprogramming job functions of staff already conducting similar work. For example acequia maintenance is currently being performed by existing park staff. An interpretive ranger is already stationed at Mission San Juan. These positions would be dedicated to the demonstration farm with little disruption of service to visitors.
- Supplies, materials and equipment located in a utility barn at Mission San José and equipment housed at park headquarters would be relocated to the proposed barn and storage sheds. This would allow the equipment that is currently housed at the park's warehouse located 20 minutes away at Port San Antonio (decommissioned Kelly Air Force Base) to be moved onsite. This would make the storage more accessible, consolidate storage of equipment, and reduce transit time.

Table 9 – Estimated Operational Efficiencies

Operations	Cost Savings
Calculated Fuel Savings	\$5,200.00
Crew Time Savings (loading/unloading equipment & transportation to work site – 2 FTE 1 hour daily)	\$10,474 .00
Reprogrammed Interpretive Ranger from Mission San Juan operations to Demonstration Farm Operations	\$39,748.00
Existing Acequia Maintenance of the San Juan Acequia	\$59,166.00
Total Efficiency Savings	\$114,422.00

Operational costs would be associated with the maintenance of the new park elements, including the demonstration farming area, barn, storage shed and parking lot. The costs associated with the maintenance of these facilities would be somewhat offset through a planned consolidation of operations and the operational efficiency gain as discussed above. Cyclic maintenance costs for the San Juan Farm are estimated using standard rates in FMSS using CESS. The cyclic maintenance cycle for roof replacement is 20 years and costs for other maintenance has been adjusted to equal that cycle. **Table 8** presents the estimated cyclic maintenance costs of alternative 1.

Table 10 – Estimated 20 Year Cyclic Maintenance Costs

Operations	Cost Savings
Trails Maintenance	\$19,670
Barn and Shed Maintenance	\$42,786
Parking Lot Maintenance	\$74,398
Standard FMSS Add-ons	\$106,399
Total	\$243,253

The San Juan Farm would require a dedicated team of individuals to ensure the successful operation and expansion of the farm. This alternative includes submitting an OFS request for a base increase of \$200,000. This funding would allow the San Juan farm to be developed to its full potential enabling partnership enhancement and development; protecting farm assets and resources; and improving operational efficiencies by funding the following:

- Personnel costs for 2 FTE for daily farm operations (farm manager and reassigned interpretive ranger)
- Personnel costs for 1 FTE in maintenance for newly constructed facilities
- Personnel costs for 1 FTE in law enforcement for visitor safety and protection of new assets
- Utilities, phone, electric services
- Supplies and equipment necessary to operate the farm

A previously discussed, SAAN has a long history of creating partnerships and operating under collective agreements. Los Compadres has been a long standing partner of SAAN, teaming on many projects including the renovation and restoration of SAAN's Mission San José Grist Mill, the restoration of the San Juan Acequia, the rehabilitation of cultural landscape throughout the park, and numerous infrastructure development projects including roads and trails. During each of these projects, SAAN staff has worked closely with Los Compadres to collaboratively design, manage, and execute projects.

This relationship would continue for the San Juan Farm project. Los Compadres has agreed to set up and raise funds for an Operations and Maintenance endowment through corporate and private donations. This endowment would assist with paying for the short and long term costs for operations and maintenance of the San Juan Farm. Agreed upon conditions for this endowment are included in the newly signed Friends Group Agreement, the model of which has been approved by both regional and national DOI solicitors. Furthermore, a Partnership Construction Agreement/Comprehensive Fundraising Agreement outlines Los Compadres and NPS roles in supervising and carrying out this project in partnership.

It is anticipated that funding from the endowment would be more than sufficient to cover the cost of cyclic maintenance for infrastructure while providing enough funding to augment operations staff with seasonal employment assistance, repair/replace equipment, and providing assistance to partnership development and grants. As per agreements, distribution of endowment funds would be detailed in annual work plans developed by SAAN and Los Compadres and approved by Los Compadres. According to the agreement, the NPS would provide oversight of construction management through participation on the Los Compadres advisory board, and also assist in the design and layout of the San Juan Farm. The NPS would fund costs associated with maintaining and staffing the San Juan Farm. Los Compadres would execute construction management, interface with SARA on fiduciary responsibilities, and work collaboratively with NPS in the execution of these responsibilities to ensure project adheres to NPS goals and objectives.

1 In addition, a basic leasing program would be developed for the prepared agricultural fields. As
2 described Alternative 2 and 3, it is anticipated that this leasing program can be expanded over
3 time to contribute to the operation and management budget.

4 As described, there are increased budget requirements for the operation and management of
5 the improvements. As the current operating budget or staffing would be insufficient to meet
6 these needs, adverse, site-specific, short-and/or long-term, and moderate impacts to park
7 operations could result. The park has carefully considered the influence that the operation and
8 management to this alternative would have on the current park operations and management
9 structures. Planning efforts have focused on identifying these needs and developing strategies
10 to address these needs. Opportunities for support through the NPS system and local
11 partnerships have been identified as described in this section and efforts are currently underway
12 to secure the resources necessary to address these potential adverse impacts to parks
13 operations and management. As a result of these efforts, it is anticipated that potential adverse
14 impacts would be sufficiently mitigated to result in adverse, site-specific, short-and/or long-term,
15 and minor impacts on park operations and management.

16 *Cumulative Effects:* The past, present, and reasonably foreseeable future actions with the
17 potential to impact park operations and management are the same as described under the no-
18 action alternative and include the San José Cultural Landscape Restoration project, the SARIP,
19 the Mission Library the San Juan Acequia Trail, the catholic church improvements, Rancho de
20 las Cabras Visitor Services and the re-watering of the San Juan Acequia. It is anticipated that
21 these projects combined with the continual growth of the population of City of San Antonio
22 would result in increased public interest in the area and an associated increase demand to visit
23 Mission San Juan.

24 These actions could all have an overall adverse, local, short- and/or long-term minor impact on
25 park operations and management as previous SAAN operations and management structures
26 may not be sufficient to accommodate the anticipated increase in visitor traffic.

27 Alternative 1 would have an adverse, site-specific, short- and/or long-term, and minor impact on
28 park operations and management. When considered with other past, present, and reasonably
29 foreseeable future actions, it is anticipated that the alternative could contribute an incremental
30 adverse, site-specific, short-and/or long-term, minor cumulative effect.

31 *Conclusion:* There are increased budget requirements for the operation and management of
32 the improvements which would result in adverse, site-specific, short-and/or long-term, and
33 moderate impacts. Opportunities for support through the NPS system and local partnerships
34 have however been identified and efforts are currently underway to secure the resources
35 necessary to address potential adverse impacts to the parks operations and management. As a
36 result of these efforts it is anticipated that the potential adverse impacts would be sufficiently
37 mitigated to result in in adverse, site-specific, short-and/or long-term, and minor impacts on park
38 operations and management. When considered with other past, present, and reasonably
39 foreseeable future actions, it is anticipated that the alternative could contribute an incremental
40 adverse, site-specific, short-and/or long-term, minor cumulative effect.

41 **Impacts of Alternative 2 - Medium Action Alternative**

42 Alternative 2, has the same elements as discussed in alternative 1 with the exception of the
43 extension of the farming operations and the further development of the pedestrian and hike and
44 bike trail networks.

45 The further expansion of the demonstration farm and special use agricultural land would
46 continue to utilize areas of the park that have been previously unutilized. These areas may
47 require increased ranger presence and enforcement. Similarly, the further extension of the trail

1 network would promote further local connectivity, but would also further increase human traffic
2 in previously underutilized areas of the park which may require increased ranger presence and
3 enforcement. It is anticipated that these additional security needs would continue to be met by
4 the labor changes made under alternative 1, which include an additional law enforcement
5 officer.

6 This alternative also includes the further expansion of the special use agricultural area. The
7 farm manager introduced as part of alternative 1 would continue to develop a program to lease
8 the remaining agricultural fields to individuals and organizations, ensuring that the cultural
9 landscape is maintained through agricultural use. By leasing the remaining labores,
10 maintenance and operations of these fields would be the responsibility of the leasee and not
11 NPS operations. These savings can be reapplied to the operations and management of the
12 farm. In addition, local farmers could generate revenue from farmers markets selling from the
13 produce grown.

14 Overall, as the preferred alternative assumes that the alternatives would be implemented in
15 phases, it is assumed that the adjustments made to the park operations and management for
16 alternative 1 would be sufficient to accommodate the introduction of alternative 2, as described
17 above. In addition, by increasing the leasing operations, the remaining labores, maintenance
18 and operations of these fields would be the responsibility of the leasee and not NPS operations.
19 These savings would be reapplied to the operations and maintenance of the core farm and
20 visitor use area. Impacts on park operations and management would be adverse, site-specific,
21 short- and/or long-term, and minor.

22 *Cumulative Effects:* The past, present, and reasonably foreseeable future actions with the
23 potential to impact park operations and management are the same as described under the no-
24 action alternative and include the San José Cultural Landscape Restoration, the SARIP, the
25 Mission Library, the San Juan Acequia Trail, the catholic church improvements, Rancho de las
26 Cabras Visitor Services and the re-watering of the San Juan Acequia. It is anticipated that
27 these projects, combined with the continual growth of the population of City of San Antonio
28 would result in increased public interest in the area and an associated increase demand to visit
29 Mission San Juan. These actions could all have an overall adverse local short- and/or long-
30 term minor impact on park operations and management as previous SAAN operations and
31 management structures may not be sufficient to accommodate the anticipated increase in visitor
32 traffic.

33 Alternative 2 would have an adverse, site-specific, short- and/or long-term, and minor to
34 moderate impact on park operations and management. When considered with other past,
35 present, and reasonably foreseeable future actions, it is anticipated that the alternative could
36 contribute an incremental adverse, site-specific, short- and/or long-term, minor cumulative
37 effect.

38 *Conclusion:* Overall, under alternative 2, impacts on park operations and management would
39 be adverse, site-specific, short- and/or long-term, and minor as it is assumed that the
40 adjustments made to the park operations and management for alternative 1 would be sufficient
41 to accommodate the introduction of alternative 2. In addition, by increasing the leasing
42 operations, maintenance and operations of these fields would be the responsibility of the leasee
43 and not NPS operations. These savings would be reapplied to the operations and maintenance
44 of the core farm and visitor use area. When considered with other past, present, and
45 reasonably foreseeable future actions, it is anticipated that the alternative could contribute an
46 incremental adverse, site-specific, short and/or long-term, minor cumulative effect.

Impacts of Alternative 3 – Maximum Action (Preferred Alternative)

Under the preferred alternative, impacts would continue to be primarily associated with the operation and management of park elements introduced for and in support of the demonstration farm. These elements are the same as discussed in alternatives 1 and 2 with the exception of closure of Villamain Road to city traffic and the further extension of the farming operations to the south and east, across Villamain Road.

The further expansion of the farm activities would result in larger areas of the park that have not previously been open to the public being utilized. This could lead to additional need for ranger presence and law enforcement. As discussed in alternative 1 and 2, it is however anticipated that these additional enforcement needs would be met by the law enforcement officer introduced as part of alternative 1.

The greatly expended farming area would have the potential to result in additional costs for operation and management. It is anticipated that this additional agricultural land be largely leased, maintenance and operations of these fields would therefore be the responsibility of the leasee and not NPS operations. If additional costs are incurred for the operation and maintenance of these fields, it is anticipated that revenue from the farming operations would offset some of these costs. The expansion of the agricultural activities described in this preferred activity would progress as the park implemented management and funding sources allow. This approach would ensure that potential adverse impacts associated with preparing large tracts of land without sufficient leasing agreements or support services are avoided.

The proposed closing of Villamain Road to city traffic would reduce traffic in the park, potentially reducing the need for ranger enforcement.

Overall, under the preferred alternative, impacts on park operations and management would be adverse, site-specific, short- and/or long-term, and minor to moderate.

Cumulative Effects: The past, present, and reasonably foreseeable future actions with the potential to impact park operations and management are the same as described under the no-action alternative and include the San José Cultural Landscape Restoration project, the SARIP, the Mission Library the San Juan Acequia Trail, the catholic church improvements, Rancho de las Cabras Visitor Services and the re-watering of the San Juan Acequia. It is anticipated that these projects, combined with the continual growth of the population of City of San Antonio would result in increased public interest in the area and an associated increase demand to visit Mission San Juan.

These actions could all have an overall adverse, local, short- and/or long-term, minor impact on park operations and management and operations as previous SAAN operations and management structures may not be sufficient to accommodate the anticipated increase in visitor traffic.

Overall, under the preferred alternative, impacts on park management and operations would be adverse, site-specific, short- and/or long-term and minor to moderate. When considered with other past, present, and reasonably foreseeable future actions, it is anticipated that the alternative could contribute an incremental beneficial, site-specific, long-term, minor to moderate cumulative effect.

Conclusion: Overall, under the preferred alternative, impacts on park operations and management would be adverse, site-specific, short- and/or long-term, and minor to moderate. Impacts are primarily associated with the operation and management of the extended farming activities. This expansion would however only progress as the park implemented management and funding sources allow. This approach would ensure that potential adverse impacts

- 1 associated with preparing large tracts of land without sufficient leasing agreements or support
- 2 services are avoided. When considered with other past, present, and reasonably foreseeable
- 3 future actions, it is anticipated that the preferred alternative could contribute an incremental
- 4 adverse, site-specific, short- and/or long-term, minor to moderate cumulative effect.

Socioeconomics

Affected Environment

SAAN plays an important part in driving the city's hospitality and tourism industry. In 2009, 1,765,548 people visited the park, with 78,392 of those people visiting Mission San Juan. These visitors spend money in the local area resulting in socioeconomic benefits for the area.

The economic impact of these visitors was evaluated in a 2011 Economic Impact Study (Halaby et al. 2011). Using multipliers from IMPLAN the study assumed that the average non-local day trip visitors and non-local overnight visitors to SAAN spent an average of \$91.33 and \$263.32, respectively, translating to a weighted average of \$139 per party per day. The study found that the park alone, without the contributions of any partner organizations, and its visitors supported a total of 1,097 jobs in 2009, with a total economic impact of \$96.6 million. In addition, the activities of its supporting organizations, Los Compadres and Western National Parks Association, plus operations and maintenance provided by the City of San Antonio and SARA supported 19 additional jobs and \$2.2 million in expenditures. Therefore in 2009, park visitors, along with staffing, construction and maintenance activities, and other aspects of park operations, contributed nearly \$98.8 million to the local economy and sustained 1,116 jobs in the region (Halaby et al. 2011).

Impact Analysis

The discussion of impacts on socioeconomics focuses on the impacts to the local economy including revenue and job creation. Park staff knowledge and an Economic Impact Study conducted in 2011 were used in order to evaluate the impacts of each of the proposed alternatives. The intensity thresholds of an impact for socioeconomics are defined as follows:

Intensity Level Definitions

Negligible: No effects occur or the effects on social and economic conditions would be unnoticeable. The action would not yield any noticeable or measureable changes to quality of life, the population demographic, and local economy.

Minor: The effects on social and economic conditions would be detectable, but only slight and limited to a small portion of the surrounding community and local economy. The action would minimally influence the quality of life, the population demographic, and/or local economy.

Moderate: The effects on social and economic conditions would be readily apparent and would influence multiple segments of the community or local economy. The action would yield changes that are noteworthy or modest to the quality of life, the population demographic, and/or local economy.

Major: The effects on social and economic conditions would be very apparent, significant, and/or widespread throughout the community and local economy. The action would yield considerable changes to the quality of life, the population demographic, and/or local economy.

Impacts of No–Action Alternative

Under this alternative, no modifications would be made to park infrastructure. Despite this, the 2011 Economic Impact study forecast that based on historic trends, by the year 2016, the number of park visitors would increase to approximately 2,240,942 people even without the addition of any new programs or facilities at the park (Halaby et al. 2011). As park visitors

spend money in the local area, the no-build alternative could still indirectly result in a beneficial, local, long-term negligible impact on socioeconomics.

Cumulative Effects: The past, present, and reasonably foreseeable future actions with the potential to impact park socioeconomics include the San José Cultural Landscape Restoration project, the SARIP, the Rancho de Las Cabras Improvements, the Mission Library, and the San Juan Acequia Trail. According to the Economic Impact Study, these park development projects along with various new programs, venues, and programming enhancements would result in an increase in park operations expenditures and park visitor spending. The report estimates that the number of people could increase by as much as 395,043 people, with a total estimated 2.6 million visitors in 2016. In addition, it is estimated that money spent on visiting, operating and maintaining the park, including contributions by partner organizations, would more than double the parks economic impact, contributing an estimated \$214.5 million to the local economy, and supporting 2,335 local jobs (Halaby et al. 2011). These actions could all have an overall beneficial, regional, long-term and moderate impact on socioeconomics.

When considered with other past, present, and foreseeable future actions, the no-action alternative would contribute an indirect beneficial, local, long-term negligible impact to the beneficial, regional, long-term and moderate impact on socioeconomics.

Conclusion: Based on this anticipated increase in the number of people visiting the park, as park visitors spend money in the local area, the no-build alternative could result in indirect, beneficial, local, long-term negligible impact on socioeconomics. When considered with other past, present, and foreseeable future actions, the no-action alternative would contribute an indirect beneficial, local, long-term negligible impact to the beneficial, regional, long-term and moderate cumulative effect on socioeconomics.

Impacts of Alternative 1 – Minimum Action Alternative

Alternative 1 would involve the re-introduction of farming activities including a 2.5-acre demonstration farm, 5-acre prepared agricultural area, orchard, vineyard, corral, barn and storage structures.

According to the Economic Impact Study, the San Juan Farm was estimated to attract approximately 247,500 visitors annually (Halaby et al. 2011). This estimate was based on visitation at similar demonstration farms and consultation with SAAN staff. The estimate, along with projected operating expenditures, including wages and salaries associated with the project were used to estimate the economic impact of the San Juan Farm, as presented in **Table 11** and **12**.

Table 11 – San Juan Farm Employment Impacts

Operations	Direct Impact Jobs	Total Impact Jobs
Non-Local Visitor Spending	167	24
Operations and payroll *	17	23
Construction	34	59
Total	218	324

Halaby et al. 2011

Table 12 – San Juan Farm Spending Impacts

Operations	Direct Impact Spending	Total Impact Spending
Non-Local Visitor Spending	\$12,739,228	\$22,275,784
Operations and payroll *	\$863,000	\$1,768,759
Construction	\$5,096,844	\$8,587,984
Total	\$18,699,072	\$32,632,528

Halaby et al. 2011

Mission San Juan is located across two U.S. Census block groups (Block Group IDs 480291416001 and 480291518001) where 10.12 to 24.86 percent of the population lives below the poverty line and the per capita income is \$13,075 to \$15,899. Implementation of alternative 1 would therefore result in potential beneficial impacts to the local community and economies near Mission San Juan. These benefits would primarily result from the alternative increasing the number of people visiting the park who in turn, contribute to the local economy. Benefits would also result from employment opportunities for the construction workforce and increased revenues for local businesses and the NPS. Additional benefits may result from the creation and availability of viable farmland for leasing to local residents. This would allow these residents to supplement store bought produce with crops produced at San Juan and also generate potential revenue through the sale of the produce grown on the leased land. This alternative would therefore meet the project objective of promoting and enhancing community and local partnerships and contributing to the local economy.

Overall, based on the potential contribution to the local economy, alternative 1 would have a beneficial, regional, long-term, and moderate impact on socioeconomics.

Cumulative Effects: The past, present, and reasonably foreseeable future actions with the potential to impact park socioeconomics are the same as described under the no-build alternative and include the San José Cultural Landscape Restoration project, the SARIP, the Rancho de Las Cabras Improvements, the Mission Library, the San Juan Acequia Trail. These actions could all have an overall beneficial, regional, long-term and moderate impact on socioeconomics.

When considered with other past, present, and foreseeable future actions, alternative 1 would contribute a beneficial, local, long-term moderate impact to the beneficial, regional, long-term and moderate cumulative effect on socioeconomics.

Conclusion: Overall, alternative 1 would result in a beneficial, regional, long-term, and moderate impact on socioeconomics as the alternative would result in an increase in the number of people visiting the park who in turn, contribute to the local economy. When considered with other past, present, and foreseeable future actions, alternative 1 would contribute a beneficial, local, long-term moderate impact to the beneficial, regional, long-term and moderate cumulative effect on socioeconomics.

Impacts of Alternative 2 - Medium Action Alternative

Alternative 2 would include all of components of alternatives 1 with some notable additions. A visitor contact station would however be developed, along with an extended pedestrian trail network within the compound and surrounding the corral, vineyard and orchard. In addition a hike and bike trail would be created along Villamain Road. The agricultural activities would also be extended further onto the historic labores.

The further extension of the trail network would promote further local connectivity. The trails would support and encourage the predicted increase in the number of park visitors, resulting in a beneficial, site-specific, long-term, and negligible impact on socioeconomics.

The further expansion of the demonstration farm and the lease/special use agricultural area would benefit socioeconomics through the opportunities that the special use agricultural areas offer the local community. These opportunities include allowing the local population to produce crops for consumption and sale. Local employment opportunities may also result. By leasing the additional labores, maintenance and operations of these fields would be the responsibility of the leasee and not NPS operations, realizing a saving for the NPS.

Overall, impacts on socioeconomics as a result of alternative 2 would be beneficial, local, long-term, and moderate and primarily result from the economic potential offered by the extended lease/special use agricultural area. Despite these benefits, the overall socioeconomic impact of this alternative is anticipated to be similar to those associated with alternative 1 as quantified in **Table 11 and 12.**

Cumulative Effects: The past, present, and reasonably foreseeable future actions with the potential to impact park socioeconomics are the same as described under the no-build alternative include the San José Cultural Landscape Restoration project, the SARIP, Rancho de Las Cabras Improvements, the Mission Library, the San Juan Acequia Trail. These actions could all have an overall beneficial, regional, long-term and moderate impact on socioeconomics.

When considered with other past, present, and foreseeable future actions, alternative 2 would contribute a beneficial, local, long-term moderate impact to the beneficial, regional, long-term and moderate cumulative effect on socioeconomics.

Conclusion: Overall, impacts on socioeconomics would be beneficial, local, long-term, and moderate and result from the economic potential offered by the extended lease/special use agricultural areas. When considered with other past, present, and foreseeable future actions, alternative 2 would contribute a beneficial, local, long-term moderate impact to the beneficial, regional, long-term and moderate cumulative effect on socioeconomics.

Impacts of Alternative 3 – Maximum Action (Preferred Alternative)

The preferred alternative would include all of components of alternatives 1 and 2 with some notable additions. The preferred alternative would include the closure of Villamain Road to city traffic and the further extension of lease/special use agricultural areas to the south and east, across Villamain Road. The closure of Villamain Road is not anticipated to impact socioeconomics.

The further extension of the lease/special use agricultural areas would further increase the leasing and agricultural opportunities available to the local population. These leases would therefore create additional economic opportunities for the local community and also offset the costs associated with the operation and management of these areas.

Overall, impacts on socioeconomics as a result the preferred alternative be beneficial, local, long-term, and moderate and primarily result from the further economic opportunities offered by the extended lease/special use agricultural area. Despite these benefits, the overall socioeconomic impact of the preferred alternative is anticipated to be similar to those associated with alternative 1 and 2 as quantified in **Table 11 and 12.**

Cumulative Effects: The past, present, and reasonably foreseeable future actions with the potential to impact park socioeconomics are the same as described under the no-build alternative include the San José Cultural Landscape Restoration project, the SARIP, Rancho de

1 Las Cabras Improvements, the Mission Library, the San Juan Acequia Trail. These actions
2 could all have an overall beneficial, regional, long-term and moderate impact on
3 socioeconomics.

4 When considered with other past, present, and foreseeable future actions, the preferred
5 alternative would contribute a beneficial, local, long-term moderate impact to the beneficial,
6 regional, long-term and moderate cumulative effect on socioeconomics.

7 *Conclusion:* Overall, impacts on socioeconomics as a result the preferred alternative be
8 beneficial, local, long-term, and moderate and primarily result from the further economic
9 opportunities offered by the extended lease/special use agricultural area. When considered
10 with other past, present, and foreseeable future actions, the preferred alternative would
11 contribute a beneficial, local, long-term moderate impact to the beneficial, regional, long-term
12 and moderate cumulative effect on socioeconomics.

CONSULTATION AND COORDINATION

Internal Scoping

Internal scoping was conducted by the SAAN Interdisciplinary Compliance Team with consultation from the NPS Intermountain Region Planning & Environmental Quality Office. Interdisciplinary team members also met in March 2011 to discuss the purpose and need for the project, various alternatives, potential environmental impacts, and possible mitigation measures. The results of these meetings were reflected in a scoping and alternatives refinement report on file with SAAN.

Internal scoping was also conducted with key park partners including Los Compadres. Los Compadres has established an advisory board comprised of board members to collaboratively work with SAAN to develop the project. Members of the advisory board include an architect, a financial manager, and two prominent businessmen with development experience. SAAN staff has been and will continue to be substantially involved with the advisory board in project design, oversight, management and long range planning.

External Scoping

SAAN staff have actively participated in the SARIP River Oversight Committee formed during the planning phase of the SARIP. SAAN presented and discussed the project with the committee on a number of occasions.

A public scoping meeting was held on January 12, 2011 to allow for public comment and input on preliminary project alternatives. A mailing list of individuals and groups likely to be interested in the project was used to inform the public about the meeting. The mailing list has over 270 names and includes federal, state, local agencies and local landowners.

A total of 16 people attended the meeting, which included an open house and formal presentation in which the preliminary project alternatives were described followed by a question and answer session. Meeting participants were provided with comment sheets to complete and return to NPS. In addition, participants were told both in the presentation and on the project fact sheet how to comment online by using the NPS PEPC website. A scoping meeting package including the meeting presentation, alternative drawings and project fact sheet were also posted on PEPC. The public comment period commenced on January 11, 2011 and was open until January 27, 2011.

Scoping Meeting Comments

Two comments were received during the public comment period. Of the two comments, one of the comments received was not relevant to the scope of the proposed park improvements. The second comment received, which was posted via PEPC, was from an individual expressing support for Alternative 2 for the San Juan Farm. The commenter further recommended that project should be a high priority for SAAN. Overall, no major concerns were raised regarding any of the proposed alternatives.

Federal Agencies

U.S. Department of the Interior – Fish and Wildlife Service (USFWS) Section 7 Consultation will be initiated by SAAN staff

State Agencies

Texas Historical Commission

In accordance with Section 106 of the NHPA (36 CFR 800.3), coordination with the Texas Historical Commission (THC) was initiated by SAAN staff. As final plans are developed, Section 106 coordination would be completed to ensure compliance with the NHPA. It is anticipated that the THC would concur with a finding of “no adverse effect”.

Native American Consultation

In accordance with the NHPA, letters requesting tribal consultation were mailed to the following tribes:

Absentee Shawnee Tribe
Absentee Shawnee Tribe of Oklahoma
Alabama-Coushatta Tribes
American Indians in Texas
Apache Tribe of Oklahoma
Caddo Indian Tribe
Caddo Nation
Carrizo/Comecrudo Nation of Texas
Cherokee Nation
Citizen Potawatomi Nation
Comanche Penateka Tribe
Comanche Tribe
Delaware Tribe of Indians
Delaware Tribe of West Oklahoma
Eastern Band of Cherokee Indians
Eastern Band of Cherokee Indians, Qualla Boundary Reservation
Eastern Shawnee Tribe
Fort Sill Apache Tribe
Jicarilla Apache
Jicarilla Apache Nation
Kickapoo of Kansas Tribe
Kickapoo Traditional Tribe of Texas
Kickapoo Tribe of Oklahoma
Kiowa Tribe
Lipan Apache Band of Texas
Muscogee (Creek) Nation
Pawnee Tribe of Oklahoma

- 1 Poarch Band of Creek Indians
- 2 Seminole Nation of Oklahoma
- 3 Tap Pilam-Coahuiltecan Nation
- 4 The People of LaJunta (Jumano/Mescalero)
- 5 Tonkawa Tribe
- 6 United Keetoowah Band of Cherokee
- 7 White Mountain Apache Tribal Council
- 8 White Mountain Apache Tribe
- 9 Wichita and Affiliated Tribes (including Waco, Keechi, Tawa-koni)
- 10 Ysleta del Sur Pueblo

11 Of the letters mailed, a response was received from the Ysleta del Sur Pueblo and the
12 Alabama-Coushatta Tribe of Texas. The Yelets del Sur Pueblo tribe stating that they had no
13 comments regarding the proposed project as it is located outside of their NAGPRA area of
14 interest and/or relevance. The Alabama-Coushatta Tribe of Texas' response stated that no
15 impacts to religious, cultural, or historical assets of the Alabama-Coushatta Tribe of Texas have
16 been identified with Mission San Juan at this time. However, as impacts could not be completely
17 ascertained at this time, they maintain an interest in SAAN based upon involvement with 19th
18 century conflicts and the potential burials of ancestral Coushatta warriors. The tribe therefore
19 requested that in event of inadvertent discovery of Native American human remains and/or
20 archaeological artifacts during implementation of the proposed project, activity in proximity to
21 the location must cease and appropriate authorities, including their office, be notified for further
22 consultation.

23 **Environmental Assessment Review and List of Recipients**

24 The EA will be released for public review on January 17, 2012. To inform the public of the
25 availability of the EA, the NPS will publish and distribute a letter or press release to various
26 agencies, tribes, and members of the public on the SAAN mailing list, as well as place an ad in
27 the local newspaper. Copies of the EA will be available for review at SAAN Headquarters.
28 Copies of the document will also be available for review online at the NPS PEPC website
29 (http://parkplanning.nps.gov/san_juan_ea).

30 The EA is subject to a 30-day public comment period ending February 15, 2012. During this
31 time, the public is encouraged to submit written comments online at the NPS PEPC website at
32 http://parkplanning.nps.gov/san_juan_ea. If you are not able to submit comments electronically
33 through this website, then you may also mail comments to: SAAN, Attention: Susan Snow, 2202
34 Roosevelt Avenue, San Antonio, Texas 78210-4919. Following the close of the comment
35 period, all public comments will be reviewed and analyzed, prior to the release of a decision
36 document. The NPS will issue responses to substantive comments received during the public
37 comment period and will make appropriate changes to the EA, as needed.

38 **List of Preparers**

39 **National Park Participants**

40 Susan Snow, Project Manager, Park Archeologist, SAAN, Texas

1 Al Remley, Chief of Interpretation and Education, SAAN, Texas

2 James Oliver, Park Landscape Architect, SAAN, Texas

3 Greg Mitchell, Park Biologist, SAAN, Texas

4 **Consultant Participants**

5 Matthew Thompson, Project Manager, URS Group, Inc., Austin, Texas

6 Nancy Gates, Public Involvement, URS Group, Inc., Austin, Texas

7 Pamela McWharter, NEPA Specialist, URS Group, Inc., Denver, Colorado

8 Rachel Badger, NEPA Specialist, URS Group, Inc., Denver, Colorado

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