4.12 VISUAL RESOURCES

Section 4.12 analyzes the potential impact of proposed action alternatives to existing landscapes, scenic viewpoints, viewer experience, and overall viewshed value. Impacts that can affect visual resources include:

- Altering the topography and horizon line
- Removing vegetation
- Removing or altering existing buildings and infrastructure (i.e., International Broadcasting Bureau)
- Building new facilities and infrastructure

4.12.1 Approach to Analysis

To determine visual impacts, existing conditions are compared to anticipated conditions after implementation of the proposed action by evaluating specific factors at key observation points identified in Chapter 3.12, *Visual Resources*. Impacts from the proposed action on the viewshed from the key observation points were determined through a visual impact analysis that considers degrees of (1) visual contrast and disruption, and (2) scenic quality from three different distance zones. The value of each individual key observation point is also taken into consideration based on a combination of these parameters.

Although there are no specific regulations that direct the protection of visual resources, various land management agencies, including the Bureau of Land Management, have developed guidance on how to assess impacts to visual resources. Since the environment on Tinian and Pagan is generally open and without much urban infrastructure, the Bureau of Land Management guidance has been utilized for this impact assessment. The Bureau of Land Management guidance provides a rating system to define degrees of visual contrast. This rating system, shown in Table 4.12-1, is applied to the key observation points to determine the degree of contrast that would potentially occur from the key observation points from the introduction of the proposed facilities and activities.

Table 4.12-1. Degree of Visual Contrast Defined

Visual Resource Contrast Defined	***Definition***
None	The element contrast is not visible or perceived.
Weak	The element contrast can be seen but does not attract attention.
Moderate	The element contrast begins to attract attention and begins to dominate the characteristic landscape.
Strong	The element contrast demands attention, will not be overlooked, and is dominant in the landscape.

Source: Bureau of Land Management 1986.

The Bureau of Land Management has also created a rating system to define degrees of impacts to scenic quality. This rating system, shown in Table 4.12-2, is also applied to the key observation points to determine the potential visual impacts from the introduction of the proposed facilities and activities.

Table 4.12-2. Degree of Visual Impact Defined

Degree of Visual Impact Defined	*Definition*
None	No discernable or measureable visual contrast.
Negligible	Impacts that would not diminish the scenic quality of the landscape.
Minor	Impacts that diminish the scenic quality of the landscape to a minimal degree and are potentially noticeable when viewed from moderately sensitive viewpoints.
Moderate	Impacts that would diminish the scenic quality of the landscape and would easily be noticeable from sensitive viewpoints.
Major	Impacts resulting from construction disturbances and the long-term presence of new facilities would substantially alter the scenic value of the landscape and would dominate views from sensitive viewpoints.

Source: Bureau of Land Management 1986.

In addition to the criteria outlined in Table 4.12-1 and Table 4.12-2, three different distance zones were considered as part of the visual impact analysis. Distance zones are defined as:

- Foreground – up to 0.25 mile (0.4 kilometer)
- Middle ground – between 0.25 mile (0.4 kilometer) and 3 miles (4.8 kilometers)
- Background – greater than 3 miles (4.8 kilometers)

With these rating categories and criteria applied to individual key observation points, a determination was made as to the level of aesthetic impact to the key observation points by a proposed action alternative. These same criteria were generally applied to scenic sites on Pagan as well, although no key observation points are identified.

For the purpose of this analysis, impact significance was determined based on a combination of the rating systems described above. Visual resource contrast and impact ratings of “none” would result in no impacts to visual resources. Contrast ratings of “weak” and/or “moderate,” combined with an impact rating of “minor” and/or “moderate” would result in less than significant impacts to visual resources. A contrast rating of “strong” combined with an impact rating of “major” would result in significant impacts to the visual resource.

4.12.2 Resource Management Measures

Resource management measures that are applicable to visual resources include the following best management practices:

- Clear only the areas directly associated with the proposed training facilities (disturbance contained within the smallest footprint possible)
- Use native flora to create natural-appearing “screen” around the proposed improvements at the Port of Tinian and proposed base camp

For further information on all resource management measures refer to Appendix D, *Best Management Practices*.

4.12.3 Tinian

4.12.3.1 Tinian Alternative 1

4.12.3.1.1 Construction Impacts

Figure 4.12-1 shows the key observation points, range complexes, and training facilities associated with Tinian Alternative 1. Construction would include base camp; munitions storage area; Tinian International Airport improvements; Port of Tinian improvements, including bulk fuel storage tank, and supply route; access road improvements, fence lines, and gates; and range and training areas.

Base camp construction activities would be visible from key observation point #10 (8th Avenue-North of the Airport) and is discussed under Section 4.12.3.1.2, *Operation Impacts*.

Munitions Storage Area construction would not be visible from any identified key observation point.

Tinian International Airport improvements would not be visible from any identified key observation point but would impact the views from within the Tinian International Airport and its runways by creating additional pavement and chain linked fences.

Port of Tinian improvements would not be visible from any identified key observation point. However, the proposed Port of Tinian facilities, the tracked vehicle transit lanes, and proposed supply route would be constructed within an existing open grass area with trees. Views from the public boat ramp and a few dispersed residents west of 8th Avenue would be altered to include the structures, parking areas, and lights for night operations. Minimizing the removal of the existing trees located along the northeast side of the property would decrease the impact to residents west of 8th Avenue. In addition, incorporating additional tree plantings along the perimeter of the constructed facilities would decrease the visual impact to views from the public boat ramp and surrounding area.

Access Road improvements would result in visual changes associated with the structural improvements to 8th Avenue (public use anticipated), construction of the new road to the Munitions Storage Area, unpaved roads within the Military Lease Area, and the tracked-vehicle training trail. Portions of the road improvements would be visible from identified key observation points and are discussed under Section 4.12.3.1.2, *Operation Impacts*.

Fence Lines and Gates would be employed for access control and security at Base Camp, Munitions Storage Area, High Hazard Impact Area(s), and training facilities, including Surface Radar sites, within the Military Lease Area.

Range Training Area (e.g., target objectives, Landing Zones, target placements, engagement areas) construction would result in varying degrees of visual disruption and visual contrast from key observation points. The construction process (e.g., vegetation clearing and grading) for the Tinian RTA is proposed to take place over a period of 8 to 10 years. Locations of active construction areas would vary throughout the construction period. Some activities (e.g., landing area for Amphibious Assault Vehicles on Unai Chulu) would be an area-focused activity and would most likely occur continually for a given amount of time. Other activities (e.g., range development) would be accomplished over a short period of time but occur sequentially over the 8 to 10 years construction period. During this same period, training would gradually increase to a final training tempo of 20 weeks per year.

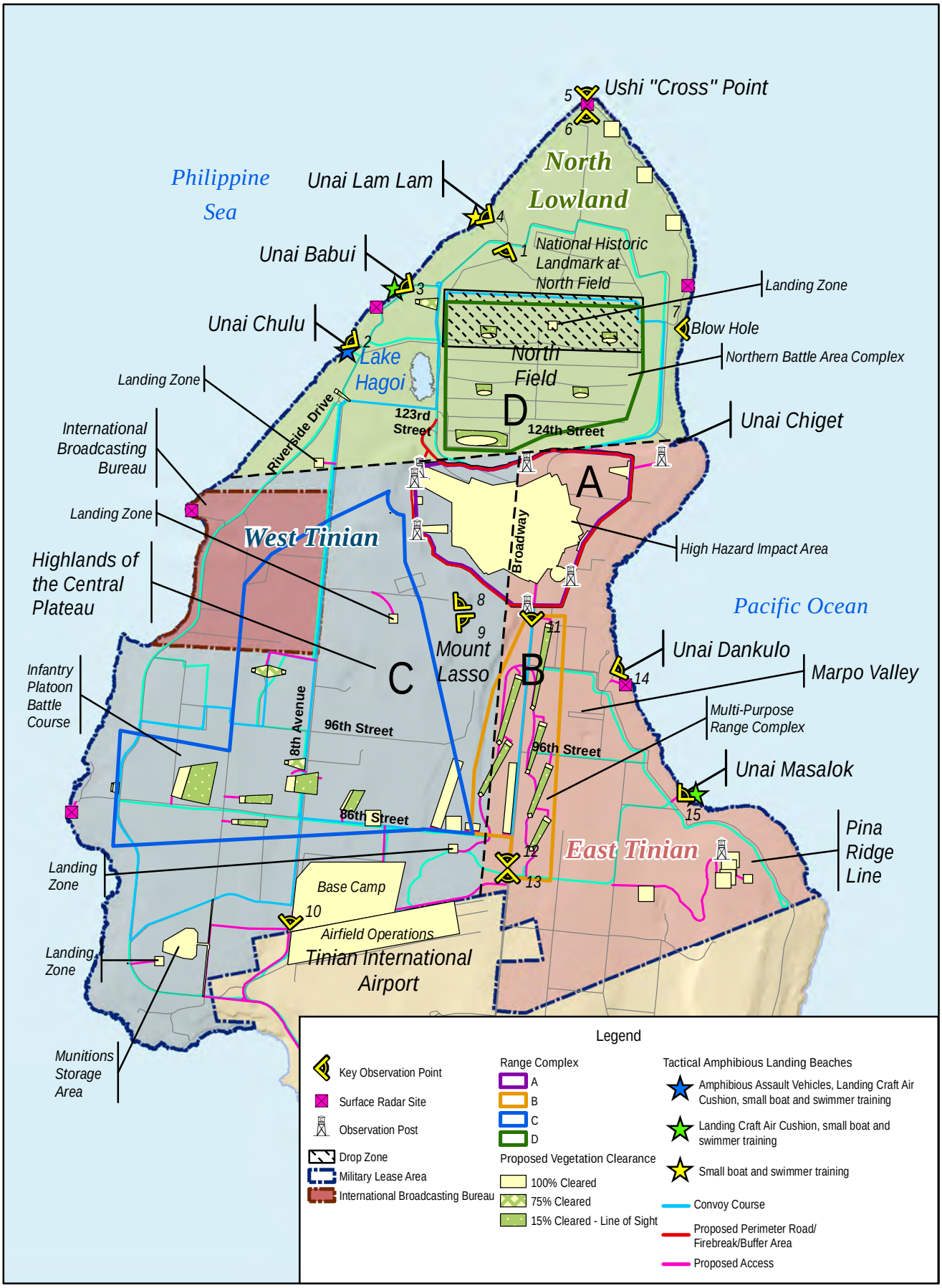

Figure 4.12-1
Tinian Alternative 1
Key Observation Points

Because of the overlap between the construction period and operation, permanent visual impacts from the proposed action are presented under Section 4.12.3.1.2, *Operation Impacts*.

4.12.3.1.2 Operation Impacts

Operation impacts associated with Tinian Alternative 1 would result from range complexes, training facilities, lighting, and landscape changes as visible from the key observation points. Lighting would be installed at the base camp and the Munitions Storage Area. Lighting at these locations would result in an increase in nighttime light but in areas located away from human receptors (i.e., residential areas south of the Military Lease Area and in the village of San Jose). There are no permanent lighting features proposed for the training facilities or the airport improvements; however, portable lighting would be employed at the airfield for night operations and limited portable lighting would be employed as part of night training (i.e., areas where personnel would congregate). Lighting at these locations would result in an increase in nighttime light but in areas located away from human receptors (i.e., residential areas south of the Military Lease Area and in the village of San Jose).

Figure 4.12-1 shows the key observation points, range complexes, and training facilities associated with Tinian Alternative 1. Key observation points are grouped together in the following impact discussion where they are geographically and visually related.

4.12.3.1.2.1 National Historic Landmark at North Field (#1)

This complex of facilities and buildings centered on the North Field apron area is located within Range Complex D. The key observation point is looking toward the south and illustrates the general character exhibited within the National Historic Landmark. The proposed Drop Zone/Landing Zone would be visible at this key observation point since vegetation would be cleared from this area. Due to the dense vegetative cover surrounding the apron, the other training facilities (i.e., objective areas) within Range Complex D would not be visible from this key observation point.

The proposed vegetation clearing on either side of the runway would result in a change in visual cues to its character and length, and, as a result, would highlight the historic use and associated character (nature) of the visual environment of North Field. Therefore, implementation of Tinian Alternative 1 would result in beneficial direct and indirect impacts to these visual resources.

- Visual Contrast: Moderate (beneficial)
- Overall Visual Impact Rating: Negligible

4.12.3.1.2.2 Unai Chulu (#2), Unai Babui (#3) and Unai Lam Lam (#4)

These three key observation points are located west and northwest of Range Complex D and have a west-northwest orientation, looking out over the ocean. These beaches would be used as tactical amphibious landing beaches. As stated in Section 4.2, *Geology and Soils,* beach topography would be restored using non-mechanized means such as hand-held tools after amphibious operations. Therefore, there would not be a visual impact to these beaches from amphibious operations. The amphibious landing ramp at Unai Chulu would be underwater, unable to be seen by beach visitors from the shore, and the tracked vehicle driver's course would be located inland of ocean-facing key observation points; therefore, the view towards the ocean and the horizon would not be impacted. However, minor changes to the topography of the shoreline due to the amphibious beach landing activities may occur and could

potentially result in minor visual impacts. No other training facilities would be visible from these key observation points. Therefore, implementation of Tinian Alternative 1 would result in less than significant direct or indirect impacts to these visual resources.

- Visual Contrast: Weak
- Overall Visual Impact Rating: Minor

4.12.3.1.2.3 Ushi "Cross" Point A and B (#5 and #6)

These key observation points are located north of Range Complex D on the northern tip of Tinian.

Ushi "Cross" Point A (#5)

Ushi "Cross" Point A (#5) has a northern orientation looking out over the ocean. There are three artillery firing points along the northeast side of the island and south-southeast of the key observation points. Additionally, there is a Surface Radar site adjacent and south of this key observation point. None of these artillery firing points or the Surface Radar site would be visible from this key observation point. Therefore, implementation of Tinian Alternative 1 would result in no direct or indirect impacts to these visual resources.

- Visual Contrast: None
- Overall Visual Impact Rating: None

Ushi "Cross" Point B (#6)

Ushi "Cross" Point B (#6) has a southern orientation looking towards North Field. The three artillery firing points would not be visible from this key observation point because of the thick vegetation adjacent to this area, their distance from the viewer, relatively flat terrain, and they are generally outside of the viewer's vantage point. However, the Surface Radar site would be in the foreground of this key observation point and would cause a significant visual contrast and change from what is currently visible looking south from Ushi "Cross" Point. Therefore, the Surface Radar site would have a significant direct impact to this visual resource.

- Visual Contrast: Major
- Overall Visual Impact Rating: Strong

4.12.3.1.2.4 Blow Hole (#7)

This key observation point is located east of Range Complex D and has a view looking east out over the ocean. The tracked vehicle drivers course and convoy course are located west of the key observation point and would not be located within the east-facing viewshed. A Surface Radar site would be constructed over one-quarter of a mile north of the Blow Hole and would be visible in the middle ground upon approach to the Blow Hole. However, it would not be located within the immediate viewshed of this key observation point. Therefore, implementation of Tinian Alternative 1 would result in less than significant impacts to this visual resource.

- Visual Contrast: Weak
- Overall Visual Impact Rating: Minor

4.12.3.1.2.5 Mount Lasso Lookout A and B (#8 and #9)

These key observation points are located between Range Complexes A and B. The viewshed from the Mount Lasso Lookout encompasses approximately one third of the island of Tinian, from the Pina ridge line in the south, the eastern portion of the island to Ushi "Cross" Point in the north, and beyond to the southern tip of Saipan to the horizon.

Mount Lasso Lookout A (#8)

Mount Lasso Lookout A (#8) has a northeast orientation looking towards Range Complex A. The existing viewshed from Mount Lasso Lookout A (#8) is primarily a view of dense vegetation

The following facilities would be visible from Mount Lasso Lookout A (#8)

- Range Complex A
  - High Hazard Impact Area, which would have vegetation maintained at a height of 6 inches (15 centimeters)
  - Perimeter road/firebreak buffer
  - Convoy Course around the eastern boundary of the range complex
  - Range Control Observation Posts
  - Mortar firing points
- Range Complex D
  - Landing Zone
  - Northern Battle Area Complex

With approximately two-thirds of Range Complex A visible from Mount Lasso Lookout A (#8), these alterations would create significant visual contrast and change from what is currently visible from the Mount Lasso Lookout A. Four Range Control Observation Posts may be visible in the middle ground from the Mount Lasso Lookout A (#8). At 30 feet (9 meters) in height, these structures would extend above vegetation. The nearest Range Control Observation Post would be approximately 0.5 mile (0.8 kilometer) from the key observation point, and the farthest Range Control Observation Post would be approximately 2 miles (3.2 kilometers) from the key observation point, placing them in the middle ground distance zone. This would minimize the visual impact due to the relative size of the Range Control Observation Points and distance from the viewer.

Portions of Range Complex D would also be visible in the background of the viewshed from Mount Lasso Lookout A (#8), north of Range Complex A. However, the proposed cleared areas associated with Range Complex D would be visible at a much smaller scale than the viewshed described for Range Complex A. Due to the viewer's focus from this key observation point being towards the larger proposed cleared area of Range Complex A, the cleared areas associated with Range Complex D would not likely be noticeable from this distance. Large scale vegetation clearance and maintenance of the High Hazard Impact Area in Range Complex A associated with Tinian Alternative 1 would result in significant direct and indirect impacts to this visual resource. No mitigation is proposed for this significant impact.

- Visual Contrast: (#8) Major
- Visual Impact Rating: (#8) Strong

Mount Lasso Lookout B (#9)

Mount Lasso Lookout B (#9) has a southeast orientation looking towards Range Complex B and Broadway Avenue. However, Range Complex B and Broadway Avenue, as it passes through Range Complex B, are not visible from the Mount Lasso Lookout B (#9) due to an escarpment plateau extending east from Mount Lasso. While some cleared areas on the east side of Broadway Avenue may be visible from the Mount Lasso Lookout B (#9), these areas would be both minimal and located approximately 2 miles (3.2 kilometers) from the Mount Lasso Lookout B (#9), in the middle ground distance zone, minimizing the visual impact.

One Range Control Observation Post may be visible from the Mount Lasso Lookout B (#9). At 30 feet (9 meters) in height, this structure would extend slightly above vegetation. However, this structure would be approximately 2.75 miles (3.2 to 4.4 kilometers) from the Mount Lasso Lookout B, placing it in the middle ground distance zone with dense vegetation in between, minimizing the visual impact due to its relative size and distance from the viewer. There would also be a Surface Radar site approximate 1.5 miles (2.4 kilometers) from the key observation point. As with the Range Control Observation Post, this structure would be in the middle ground distance zone with dense vegetation in between, thereby minimizing the visual impact due to its relative size and distance from the viewer. Therefore, the Range Control Observation Post and Surface Radar site for Tinian Alternative 1 would result in less than significant direct or indirect impacts to this visual resource.

- Visual Contrast: (#9) Moderate
- Visual Impact Rating: (#9) Moderate

4.12.3.1.2.6 8th Avenue-North of the Airport (#10)

The 8th Avenue-North of the Airport (#10) key observation point has a view to the north looking up 8th Avenue towards 86th Street, the base camp and Range Complex C. Although this key observation point is not associated with historic resources or a typical scenic vista, it is located within a public roadway that would serve as the primary route to the National Historic Landmark and other locations within the Military Lease Area. The base camp and proposed improvements at the northern portion of the Tinian International Airport are adjacent to, and would be visible from, 8th Avenue-North of the Airport (#10) key observation point. The proposed action would result in a change in condition to the surrounding area. The proposed development of permanent structures, including a gate, would be visible in the foreground to viewers along 8th Avenue from both the north and the south. Incorporating landscape features (trees, shrubs, berms) along the perimeter of the road and around the constructed facilities would decrease the visual impact to views from the road. The upper portion of the proposed 200-foot (61-meter) communication tower at the base camp would be visible within the middle ground. The lower portion of the tower would be blocked by vegetation and associated tower building. The base camp and airport expansion development would also be visible to air travelers at Tinian International Airport when landing and departing. While the visual contrast is strong, the value of this key observation points is limited because it does not provide a unique or particularly high quality visual experience. The view north is similar to various view corridors along Broadway Avenue and further north along 8th Avenue. Therefore, implementation of Tinian Alternative 1 would result in less than significant direct or indirect impacts to this visual resource.

- Visual Contrast: Strong

- Overall Visual Impact Rating: Moderate

4.12.3.1.2.7 Broadway North (#11)

This key observation point is located on the northern boundary of Range Complex B and has a view to the north looking into Range Complex A. The cleared areas proposed in Range Complex A would not be visible from this key observation point. However, a proposed gate across Broadway Avenue and a fence surrounding Range Complex A would be visible looking north from this key observation point. The view of these structures would result in a weak visual contrast, as the structures would not exceed the height of the existing vegetation. While the gate would cross Broadway Avenue, no highly unique visual experience exists at this location. Range Complex B facilities would not be visible from this key observation point. Therefore, implementation of Tinian Alternative 1 would result in less than significant direct or indirect impacts to this visual resource.

- Visual Contrast: Weak
- Overall Visual Impact Rating: Negligible

4.12.3.1.2.8 Broadway South A and B (#12 and #13)

These key observation points are located at the southern end of Range Complex B inside the Military Lease Area fence line.

Broadway South A (#12)

This key observation point has a view looking north into Range Complex B. The north view up Broadway Avenue, which would serve as a portion of the Convoy Course, would mirror the view of key observation point Broadway North (#11). Range Complex B would not be visible from this key observation point, except for potentially portions of the Tracked Vehicle Driver's Course proposed west and east of Broadway. Therefore, implementation of Tinian Alternative 1 would result in less than significant direct or indirect impacts to this visual resource.

- Visual Contrast: Weak
- Overall Visual Impact Rating: Negligible

Broadway South B (#13)

Key observation point Broadway South B (#13) has a view looking south from the Military Lease Area fence line toward an expansive view of the town of San Jose and the Pina and Kastiyu ridge lines. Due to its orientation away from the Military Lease Area, this key observation point would not be impacted by Range Complex B. Therefore, implementation of Tinian Alternative 1 would result in no direct or indirect impacts to this visual resource.

- Visual Contrast: None
- Overall Visual Impact Rating: None

4.12.3.1.2.9 Unai Dankulo (#14) and Unai Masalok (#15)

These key observation points both have east-northeast views looking out over the ocean. The beaches, natural terrain, and sand dunes, as well as the access trails to the beaches, may be visually impacted by the proposed action.

Unai Dankulo (#14)

Unai Dankulo is not proposed for military training. The Tracked Vehicle Driver's Course would be inland from the ocean-facing key observation points. There would be a Surface Radar site constructed adjacent and south of Unai Dankulo that would be visible from the beach, but is not within the viewshed of this key observation point, which faces toward the ocean and the horizon. The view towards the ocean and the horizon would not be impacted.

Therefore, implementation of Tinian Alternative 1 would result in less than significant direct or indirect impacts to these visual resources.

- Visual Contrast: Weak
- Overall Visual Impact Rating: Negligible

Unai Masalok (#15)

Unai Masalok would be used for combat swimmer training, small boat landings, and Landing Craft Air Cushion vessel landings. The Tracked Vehicle Driver's Course would be inland from the ocean-facing key observation point. The view towards the ocean and the horizon would not be impacted. No permanent structures would be built at Unai Masalok. No training facilities would be visible from this key observation point since the view orientation is over the ocean. Therefore, implementation of Tinian Alternative 1 would result in less than significant direct or indirect impacts to these visual resources.

- Visual Contrast: Weak
- Overall Visual Impact Rating: Negligible

4.12.3.1.3 Summary of Impacts

Table 4.12-3 provides a summary of the visual impacts associated with Tinian Alternative 1.

Table 4.12-3 Tinian Alternative 1 Summary of Visual Impacts

Key Observation Point	*Visual Contract Rating*	*Overall Visual Impact Rating*
National Historic Landmark at North Field (#1)	Moderate	Negligible
Unai Chulu (#2)	Weak	Minor
Unai Babui (#3)	Weak	Minor
Unai Lam Lam (#4)	Weak	Minor
Ushi "Cross" Point A (#5)	None	None
Ushi "Cross" Point B (#6)	Major	Strong
Blow Hole (#7)	Weak	Minor
Mount Lasso Lookout A (#8)	Major	Strong
Mount Lasso Lookout B (#9)	Moderate	Moderate
8th Avenue-North of the Airport (#10)	Strong	Moderate
Broadway North (#11)	Weak	Negligible
Broadway South A (#12)	Weak	Negligible
Broadway South B (#13)	None	None
Unai Dankulo (#14)	Weak	Negligible
Unai Masalok (#15)	Weak	Negligible

4.12.3.2 Tinian Alternative 2

4.12.3.2.1 Construction Impacts

Figure 4.12-2 shows the key observation points, range complexes, and training facilities associated with Tinian Alternative 2. Construction impacts to visual resources under Tinian Alternative 2 would be the same as those described for Tinian Alternative 1. See Section 4.12.3.1, *Tinian Alternative 1*, for a discussion of impacts. Because of the overlap between the construction period and operation, permanent visual impacts from the proposed action are presented under *Operation Impacts*.

4.12.3.2.2 Operation Impacts

The impacts to visual resources from the Tinian Alternative 2 operations would be similar to those described for Tinian Alternative 1. See Section 4.12.3.1, *Tinian Alternative 1*, for a discussion of impacts. Figure 4.12-2 shows the key observation points, range complexes, and training facilities associated with Tinian Alternative 2. Under Tinian Alternative 2, the International Broadcasting Bureau antenna facilities would be removed to allow for the construction of the southern Battle Area Complex. Some of the associated structures may remain for use in military operations as urban terrain assault courses. The removal of these antennae would generally result in a beneficial visual impact to view corridors on the west side of Tinian where the antennae are visible, and for air travelers landing and departing from Tinian International Airport. However, the International Broadcasting Bureau is not visible from any key observation points.

The proposed footprint of Range Complex C differs from Tinian Alternative 1 and includes objective areas on both sides of 8th Avenue. However, these objectives areas would not be visible from any identified key observation point. Therefore, implementation of Tinian Alternative 2 would result in significant direct and indirect impacts to visual resources from key observation points Ushi “Cross” Point B (#6) and Mount Lasso Lookout A (#8); less than significant direct or indirect impacts to all other visual resources from key observation points National Historic Landmark at North Field (#1), Unai Chulu (#2), Unai Babui (#3) and Unai Lam Lam (#4), Mount Lasso Lookout B (#9), 8th Avenue-North of the Airport (#10), Broadway North (#11), Broadway South A (#12), Unai Dankulo (#14), and Unai Masalok (#15); and no direct or indirect impacts from key observation points Ushi “Cross” Point A (#5), Blow Hole (#7), Broadway South B (#13).

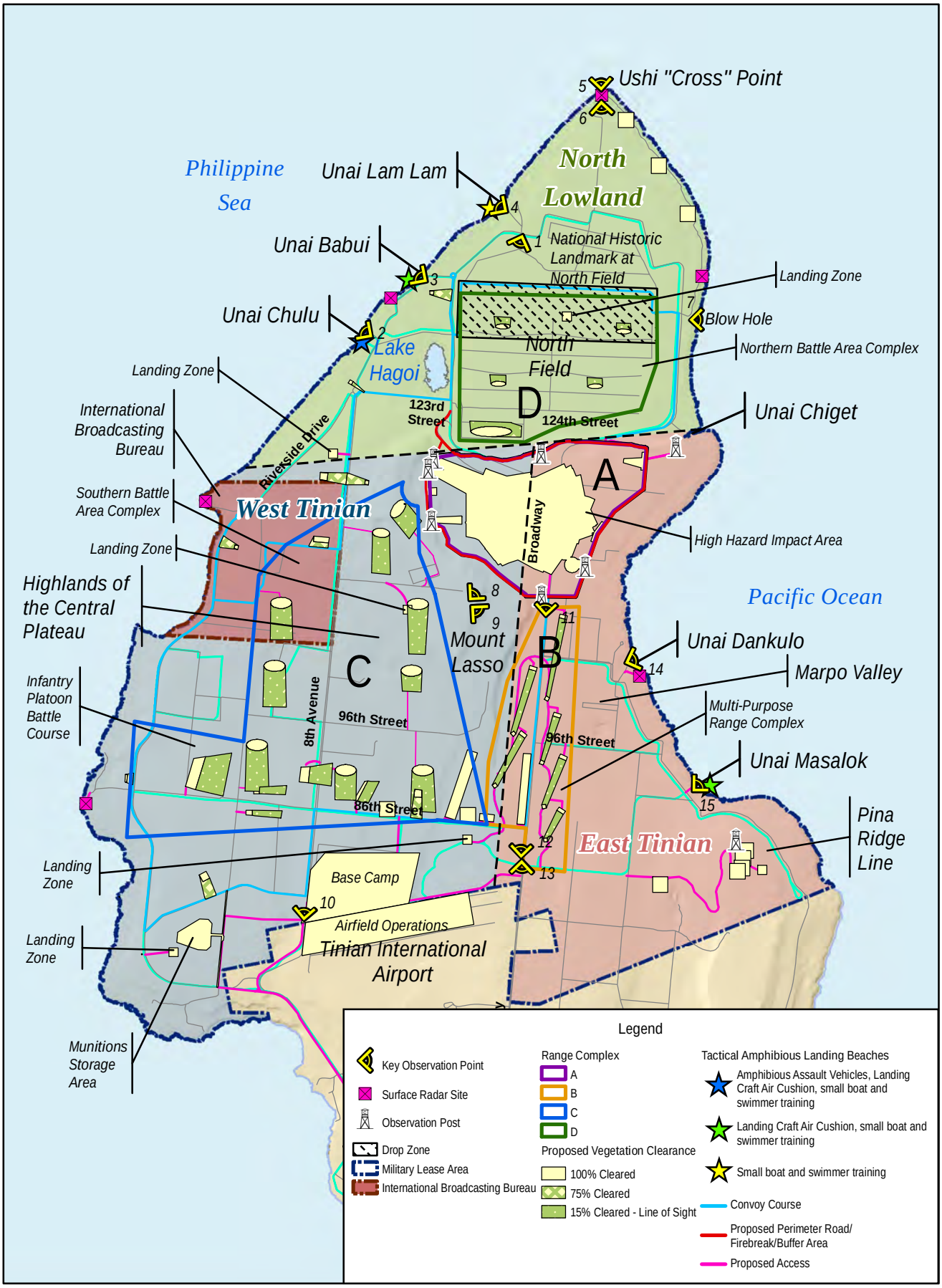

Figure 4.12-2
Tinian Alternative 2
Key Observation Points

4.12.3.2.3 Summary of Impacts

Table 4.12-4 provides a summary of the visual impacts associated with Tinian Alternative 2.

Table 4.12-4. Tinian Alternative 2 Summary of Visual Impacts

Key Observation Point	*Visual Contract Rating*	*Overall Visual Impact Rating*
National Historic Landmark at North Field (#1)	Moderate	Negligible
Unai Chulu (#2)	Weak	Minor
Unai Babui (#3)	Weak	Minor
Unai Lam Lam (#4)	Weak	Minor
Ushi "Cross" Point A (#5)	None	None
Ushi "Cross" Point B (#6)	Major	Strong
Blow Hole (#7)	Weak	Minor
Mount Lasso Lookout A (#8)	Major	Strong
Mount Lasso Lookout B (#9)	Moderate	Moderate
8th Avenue-North of the Airport (#10)	Strong	Moderate
Broadway North (#11)	Weak	Negligible
Broadway South A (#12)	Weak	Negligible
Broadway South B (#13)	None	None
Unai Dankulo (#14)	Weak	Negligible
Unai Masalok (#15)	Weak	Negligible

4.12.3.3 Tinian Alternative 3

4.12.3.3.1 Construction Impacts

Figure 4.12-3 shows the key observation points, range complexes, and training facilities associated with Tinian Alternative 3. Construction impacts to visual resources under Tinian Alternative 3 would be the same as those described for Tinian Alternative 1. See Section 4.12.3.1, *Tinian Alternative 1*, for a discussion of impacts. Because of the overlap between the construction period and operation, permanent visual impacts from the proposed action are presented under *Operation Impacts*.

4.12.3.3.2 Operation Impacts

The impacts to visual resources from the Tinian Alternative 3 operations would be similar to those described for Tinian Alternative 1. See Section 4.12.3.1, *Tinian Alternative 1*, for a discussion of impacts. Figure 4.12-3 shows the key observation points, range complexes, and training facilities associated with Tinian Alternative 3. Under Tinian Alternative 3, as in Tinian Alternative 2, the International Broadcasting Bureau antenna facilities would be removed to allow for the construction of the southern Battle Area Complex and Range Complex C would include objective areas on both sides of 8th Avenue. As in Tinian Alternative 2, these objectives areas would not be visible from any identified key observation point as in. Therefore, implementation of Tinian Alternative 3 would result in significant direct and indirect impacts to visual resources from key observation points Ushi "Cross" Point B (#6) and Mount Lasso Lookout A (#8); less than significant direct or indirect impacts to all other visual resources from key observation points National Historic Landmark at North Field (#1), Unai Chulu (#2), Unai Babui (#3) and Unai Lam Lam (#4), Mount Lasso Lookout B (#9), 8th Avenue-North of the Airport (#10), Broadway North (#11), Broadway South A (#12), Unai Dankulo (#14), and Unai Masalok (#15); and no direct or indirect impacts from key observation points Ushi "Cross" Point A (#5), Blow Hole (#7), Broadway South B (#13).

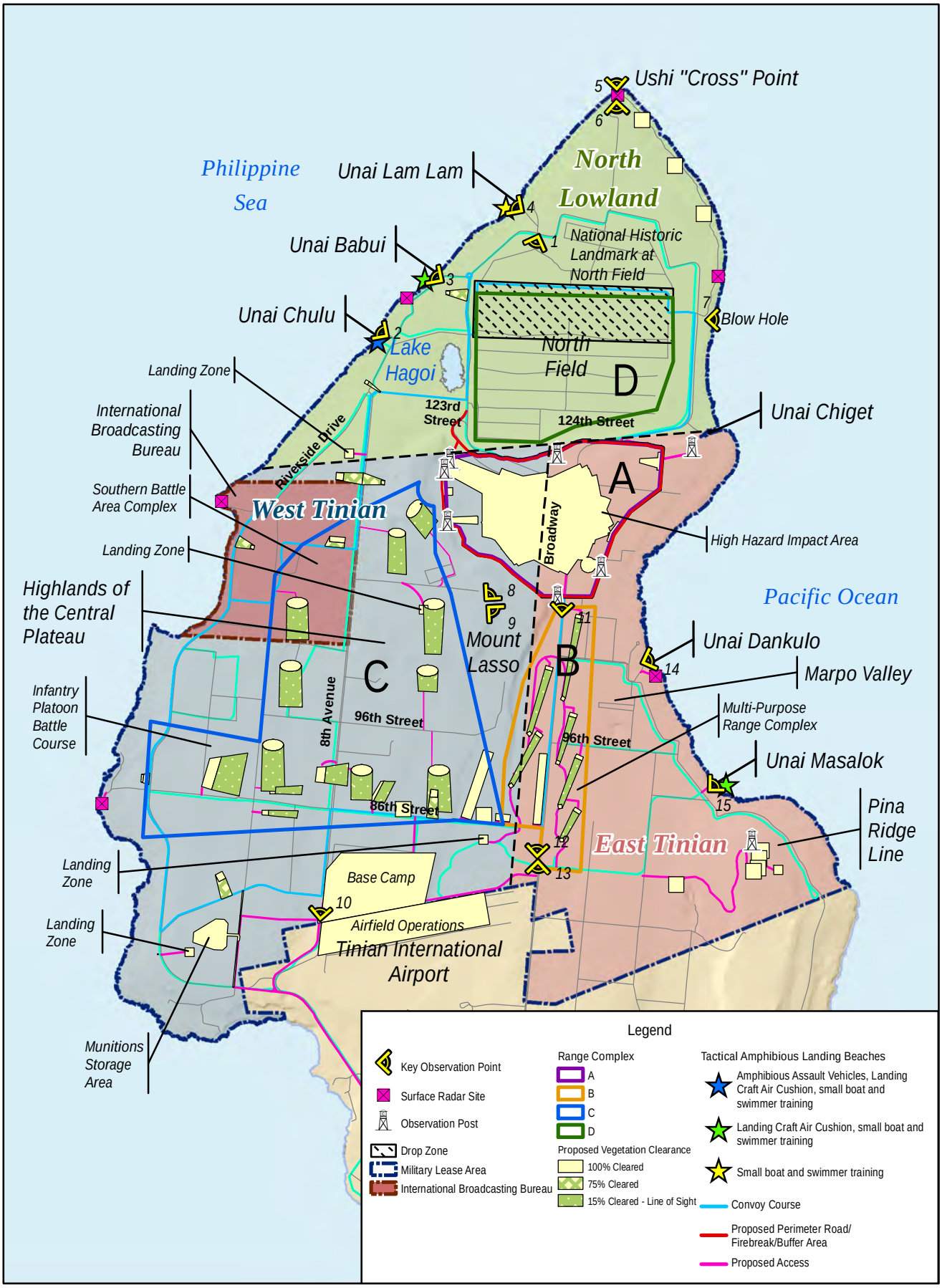

Figure 4.12-3
Tinian Alternative 3
Key Observation Points

4.12.3.3.3 Summary of Impacts

Table 4.12-5 provides a summary of visual impacts associated with Tinian Alternative 3.

Table 4.12-5 Tinian Alternative 3 Summary of Visual Impacts

Key Observation Point	*Visual Contract Rating*	*Overall Visual Impact Rating*
National Historic Landmark at North Field (#1)	Moderate	Negligible
Unai Chulu (#2)	Weak	Minor
Unai Babui (#3)	Weak	Minor
Unai Lam Lam (#4)	Weak	Minor
Ushi "Cross" Point A (#5)	None	None
Ushi "Cross" Point B (#6)	Major	Strong
Blow Hole (#7)	Weak	Minor
Mount Lasso Lookout A (#8)	Major	Strong
Mount Lasso Lookout B (#9)	Moderate	Moderate
8th Avenue-North of the Airport (#10)	Strong	Moderate
Broadway North (#11)	Weak	Negligible
Broadway South A (#12)	Weak	Negligible
Broadway South B (#13)	None	None
Unai Dankulo (#14)	Weak	Negligible
Unai Masalok (#15)	Weak	Negligible

4.12.3.2 Tinian No-Action Alternative

The continuation of periodic military non-live-fire training in the Military Lease Area on Tinian would not be expected to produce any significant changes to the visual environment. There has been, and it would be anticipated that there would be in the future, minor, if any, vegetation clearing and the dense overgrowth would continue to dominate viewsheds on the island. As documented in the Guam and CNMI Military Relocation EIS (DoN 2010b), the planned four live-fire training ranges would be established within the Military Lease Area that would require substantial vegetation clearing and alteration of vistas from several vantage points. As documented in that EIS, the creation of the four ranges would have significant but mitigable impacts (see Table 13.2-4, *Summary of Impacts*; DoN 2010a) on Tinian. There would be no visual resources impacts incurred by Mariana Islands Range Complex training (DoN 2010a). Therefore, the no-action alternative would introduce significant but mitigable impacts to visual resources given the introduction of the four proposed ranges as documented in the Guam and CNMI Military Relocation EIS (DoN 2010b). The mitigation measures documented in the Guam and CNMI Military Relocation EIS (DoN 2010b) would reduce adverse vistas from Mount Lasso and Broadway Avenue through use of design guidelines to minimize land clearing and grading as well as using native flora to create a natural screening effect. With these measures, overall, the no-action alternative would have less than significant impacts on visual resources on Tinian.

4.12.3.3 Summary of Impacts for Tinian Alternatives

Table 4.12-6 contains a comparison of the potential impacts to visual resources for the three Tinian alternatives and the no-action alternative.

Table 4.12-6. Summary of Impacts for Tinian Alternatives

Resource Area	*Tinian (Alternative 1)*		*Tinian (Alternative 2)*		*Tinian (Alternative 3)*		*No-Action Alternative*	
Visual Resources	**Construction**	**Operation**	**Construction**	**Operation**	**Construction**	**Operation**	**Construction**	**Operation**
National Historic Landmark at North Field (#1)	*Not applicable*	*BI/LSI*	*Not applicable*	*BI/LSI*	*Not applicable*	*BI/LSI*	*Not applicable*	*Not applicable*
Unai Chulu (#2), Unai Babui (#3) and Unai Lam Lam (#4)	*Not applicable*	*LSI*	*Not applicable*	*LSI*	*Not applicable*	*LSI*	*Not applicable*	*Not applicable*
Ushi "Cross" Point A and B (#5 and #6)	*Not applicable*	*NI (#5); SI (#6)*	*Not applicable*	*NI (#5); SI (#6)*	*Not applicable*	*NI (#5); SI (#6)*	*Not applicable*	*Not applicable*
Blow Hole (#7)	*Not applicable*	*LSI*	*Not applicable*	*LSI*	*Not applicable*	*LSI*	*Not applicable*	*Not applicable*
Mount Lasso Lookout A and B (#8 and #9)	*Not applicable*	*SI (#8); LSI (#9)*	*Not applicable*	*SI (#8); LSI (#9)*	*Not applicable*	*SI (#8); LSI (#9)*	*Not applicable*	*LSI*
8th Avenue-North of the Airport (#10)	*Not applicable*	*LSI*	*Not applicable*	*LSI*	*Not applicable*	*LSI*	*Not applicable*	*Not applicable*
Broadway North (#11)	*Not applicable*	*LSI*	*Not applicable*	*LSI*	*Not applicable*	*LSI*	*Not applicable*	*LSI*
Broadway South A and B (#12 and #13)	*Not applicable*	*LSI (#12); NI (#13)*	*Not applicable*	*LSI (#12); NI (#13)*	*Not applicable*	*LSI (#12); NI (#13)*	*Not applicable*	*LSI*
Unai Dankulo (#14) and Unai Masalok (#15)	*Not applicable*	*LSI (#14-15)*	*Not applicable*	*LSI (#14-15)*	*Not applicable*	*LSI (#14-15)*	*Not applicable*	*Not applicable*

Legend: *BI* = beneficial impact; *LSI* = less than significant impact; *NI* = no impact; *SI* = significant impact. Shading is used to highlight the significant impacts.

4.12.4 Pagan

4.12.4.1 Pagan Alternative 1

4.12.4.1.1 Construction Impacts

Unlike Tinian, training on Pagan would be expeditionary and would include minimal construction of permanent facilities. Figure 4.12-4 shows the visual resources, range complexes, and training facilities associated with Pagan Alternative 1.

Construction would be required on the north end of the island for military training trails around the perimeter of Mount Pagan, clearance of volcanic rock covering over half of the old airstrip, and installation of concrete pads for operations (e.g., Munitions Storage Area). The Munitions Storage Area would be secured by chain-link fencing with barbed wire. Only a small portion of the High Hazard Impact Area centered on Mount Pagan would be improved (e.g., vegetation clearing) for target placement since target placement is anticipated to be within barren lava fields (i.e., lacks vegetation) to the greatest extent possible. Vegetation clearing is also anticipated within the North Range Complex to construct the landing zones and establish a firebreak around the perimeter of the High Hazard Impact Area. Limited land area would be disturbed in the High Hazard Impact Area on the isthmus to incorporate targets and to create a fire break. No construction activities would occur in south Pagan. A fence would be constructed where physically possible and signs would be posted to delineate the boundary of the High Hazard Impact Areas.

The construction of the training facilities would mostly involve cutting vegetation and filling, clearing, and grading of terrain. Because of the overlap between the construction period and operation, visual impacts are presented under Section 4.12.4.1.2, *Operation Impacts*.

4.12.4.1.2 Operation Impacts

4.12.4.1.2.1 North Pagan

Permanent changes to the visual environment in the northern portion of Pagan from Pagan Alternative 1 operations would include changes in the landscape within the northern High Hazard Impact Area resulting from targets, fencing, and signage and maintenance of vegetation cleared for the base camp, munitions storage area, and airfield. The existing dark barren landscape of the lava fields would remain the same; however, craters caused by military training operations (i.e., impact craters from naval gunfire, aviation, artillery, mortar ordnance) would modify the topography of the barren lava fields over time.

4.12.4.1.2.2 Central Pagan

Permanent changes to the visual environment in the central portion of Pagan from Pagan Alternative 1 operations would include changes in the landscape within the High Hazard Impact Area located on the isthmus resulting from targets, fencing, and signage and maintenance of vegetation cleared for targets and the fire break established during construction. The existing vegetated landscape would now have barren areas created by (i.e., impact craters from aviation, artillery, mortar ordnance). These areas are anticipated to lack vegetation and appear dark until the vegetation is allowed to recover.

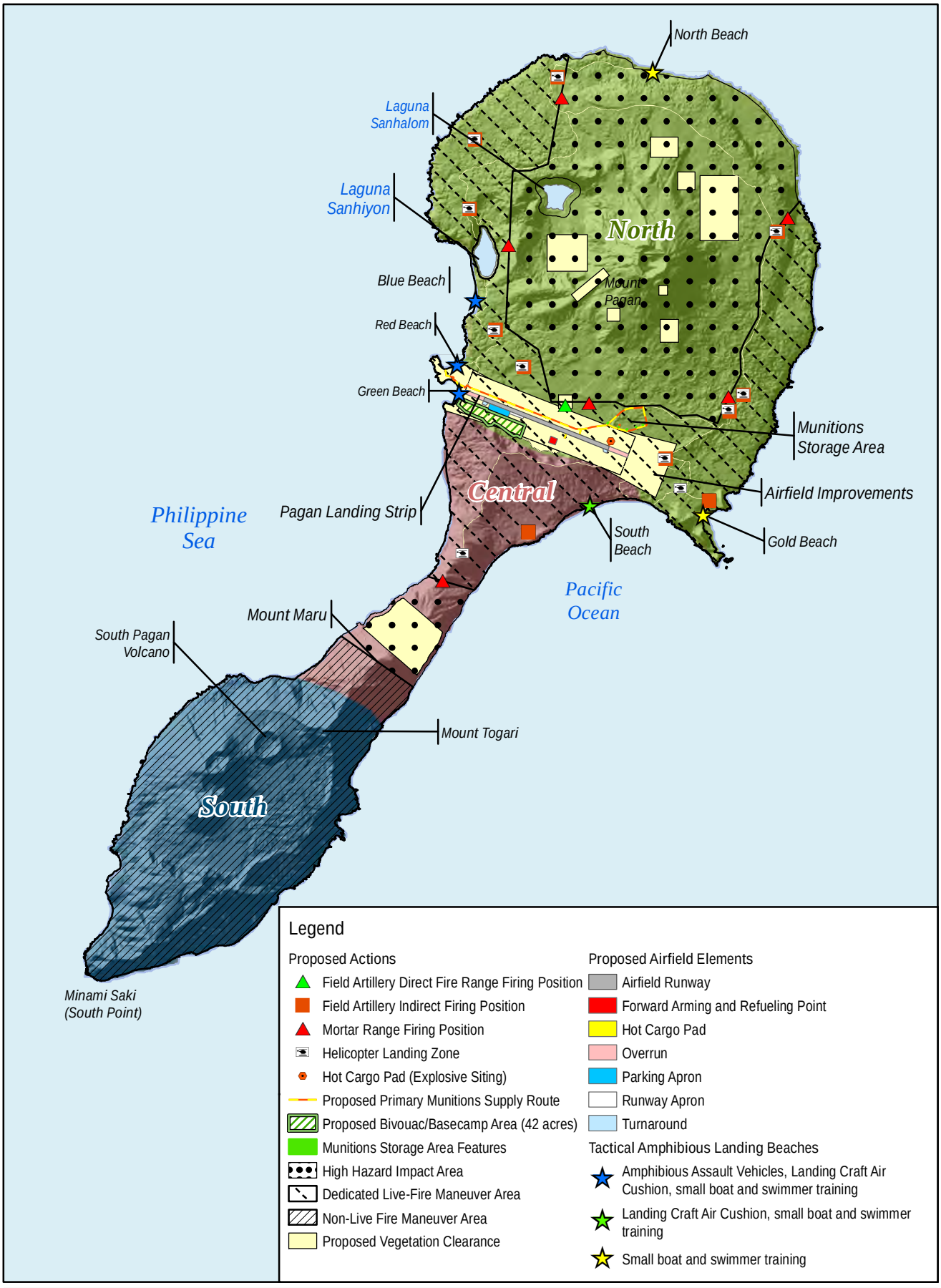

Figure 4.12-4
Pagan Alternative 1
Visual Resources

4.12.4.1.2.3 South Pagan

Pagan Alternative 1 would result in minimal impacts to visual resources in the southern portion of Pagan as training operations would be limited only to foot traffic. Ground maneuvering would result in the trampling and breaking of vegetation and the creation of temporary trails and mobility corridors; however, this would only occur up to 16 weeks per year and the vegetation on Pagan is fairly robust and it is expected that vegetation would regrow rather rapidly.

Due to the lack of visual receptors as described in Section 3.12, *Visual Resources*, Pagan Alternative 1 would result in less than significant direct or indirect impacts to visual resources.

4.12.4.2 Pagan Alternative 2

4.12.4.2.1 Construction Impacts

Construction impacts to visual resources under Pagan Alternative 2 would be similar to those described for Pagan Alternative 1. See Section 4.12.4.1, *Pagan Alternative 1*, for a discussion of impacts. Figure 4.12-5 shows the visual resources, range complexes, and training facilities associated with Pagan Alternative 2. Under Pagan Alternative 2 construction would be limited to a smaller High Hazard Impact Area centered on Mount Pagan (compared to Pagan Alternative 1) as the High Hazard Impact Area on the isthmus would not be constructed. A total of five firing positions associated with the Mortar Range (one less than under Pagan Alternative 1) and thirteen Landing Zones (two more than under Pagan Alternative 1) would be constructed under Pagan Alternative 2. Because of the overlap between the construction period and operation, visual impacts for the training facilities are presented under Section 4.12.4.2.2, *Operation Impacts*.

4.12.4.2.2 Operation Impacts

Permanent changes to the visual environment of northern and southern Pagan during Pagan Alternative 2 operations would be the similar to those described for Pagan Alternative 1. See Section 4.12.4.1, *Pagan Alternative 1*, for a discussion of impacts.

Pagan Alternative 2 would result in minimal impacts to the central portion of Pagan as training operations would be limited only to foot traffic because training associated with the High Hazard Impact Area on the isthmus would not occur. The South Range Complex maneuver area would be the same as found under Pagan Alternative 1. Ground maneuvering would result in the trampling and breaking of vegetation and the creation of temporary trails and mobility corridors; however, this would only occur up to 16 weeks per year and the vegetation on Pagan is fairly robust so it is expected that vegetation would regrow rather rapidly. Due to the lack of visual receptors as described in Section 3.12, *Visual Resources,* Pagan Alternative 2 would result in less than significant direct or indirect impacts to visual resources.

4.12.4.3 Pagan No-Action Alternative

The no-action alternative would have minor activities associated with periodic visits to Pagan for eco-tourism, scientific surveys and military training exercises related to search and rescue. Given these short term and minor activities, there would be no significant impacts to visual resources on Pagan.

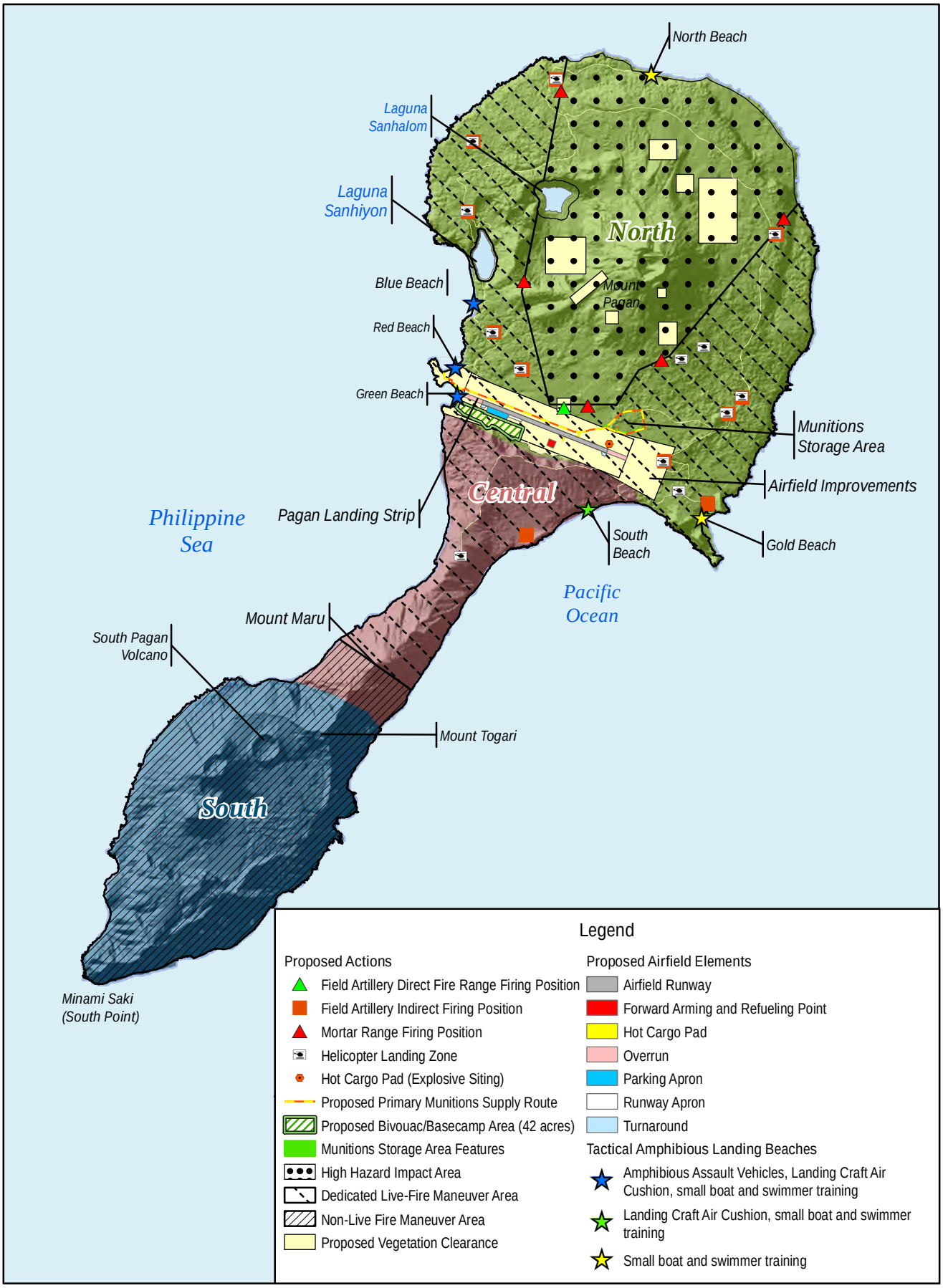

Figure 4.12-5
Pagan Alternative 2
Visual Resources

4.12.4.4 Summary of Impacts for Pagan Alternatives

Table 4.12-7 contains a comparison of the potential impacts to visual resources for the two Pagan alternatives and the no-action alternative.

Table 4.12-7. Summary of Impacts for Pagan Alternatives

Resource Area	*Pagan (Alternative 1)*		*Pagan (Alternative 2)*		*No-Action Alternative*	
Visual Resources	**Construction**	**Operation**	**Construction**	**Operation**	**Construction**	**Operation**
Visual Resources	*Not applicable*	*LSI*	*Not applicable*	*LSI*	*Not applicable*	*NI*

Legend: *LSI* = less than significant impact; *NI* = no impact.