

CHAPTER 13.

VISUAL RESOURCES

13.1 AFFECTED ENVIRONMENT

13.1.1 Definition of Resource

This section describes the applicable existing visual conditions and resources on Tinian. While the focus is on the visual resources on those lands being considered under the proposed action, it also includes areas within the general region of influence. Figure 9.1-1 shows recreational resources on Tinian where all of the various areas and scenic points of interest are located. The visual aspects of these recreational resources are described in this section.

Visual resources include scenic areas, vistas or thoroughfares and locations that provide natural-appearing or aesthetically-pleasing places or views. This includes natural views such as shorelines, seascapes, cliffs and man-made views such as unique buildings, landscaping, parks, and other types of cultural features. Typically, visual resource descriptions focus on those that are recognized as highly valued. For instance, they may be specific places, vistas, and scenic overlooks identified by a visitor's association. However, visual resources are also recognized as views and vistas that people are accustomed to seeing and often take for granted as a general part of the landscape.

Visual resources are an important part of the quality and sensory experience of an area. Users often encounter an area first and foremost through a visual interaction or their 'view' of a place. Views are generally composed of, and often described in terms of foreground, middle-ground and background depending on the site. For analysis purposes, visual resources are composed of the following:

- Dominant landscape features (e.g., a tall water tower in a landscape otherwise composed of low vegetation and one or two story buildings)
- Diversity (e.g., rows of crops adjacent to an urban area with the mountains as a backdrop);
- Elements of line, color, form, and texture
- Distinctive visual edges (e.g., a housing tract adjacent to a forested area)

13.1.2 Tinian

The island of Tinian is located south of Saipan and approximately north of Guam. The total land area of Tinian is 39.2 square miles (56 square kilometers). Approximately two-thirds of the island is leased to the United States (U.S.) Department of Defense (DoD), with the majority of commercial and residential land located in the southern part of the island, mostly in the village of San Jose. San Jose is a low-rise, sparsely populated rural housing community with a very small village center.

Much of the native limestone forest was removed in the 1920s for sugar cane cultivation in the Japanese Colonial Era. Many of the sugar cane fields were removed and/or destroyed during World War II (WWII) leaving the fields now covered with mostly non-native vegetation.

Like Guam and other islands in the Marianas chain, Tinian is full of history from the WWII era. Because of its relatively flat topography (particularly in the north), it was used by the Japanese and then the Americans as an airfield during WWII. Thus, visual resources are closely-related to the cultural landscape and man-made structures from this time period. Figure 13.1-1 and Figure 13.1-2 show aerial views of northern Tinian photographed during WWII.



Figure 13.1-1. Aerial View of Northern Tinian Photographed During WWII
Photo Taken from the Northern end of Tinian looking South

Source: <http://www.tinian.org>



Figure 13.1-2. WWII Era Aerial View of North Field and Surrounding Facilities

Source: <http://www.philcrowther.com/6thBG/6bgtinian.html>.

13.1.2.1 North

North Tinian, the area defined by the Exclusive Military Use Area, is primarily composed of previously developed and disturbed lands, with old runways extended from east to west (Figure 13.1-3). Today, northern Tinian is mostly dominated by overgrown vegetation carpeting the once open airfield. As shown in Figure 13.1-4, current views from within the northern area are generally short range of the overgrown vegetation, degraded runways and taxiways, old bunkers and other structures. Both the north and northeast coastlines are covered with low, windblown vegetation and generally afford open and expansive views (Figure 13.1-5).



Figure 13.1-3. A Current Aerial View of Northern Tinian; Most of the Airfield has been Overgrown by Vegetation Photo Taken from East of Tinian Looking West Across North Field

Source: National Park Service, U.S. Department of Interior. <http://www.nps.gov>



Figure 13.1-4. View of Degraded Airfield and Overgrown Vegetation
Source: EDAW 2009.



Figure 13.1-5. View from Northeastern Tinian Looking North Toward Saipan in the Distance
Source: EDAW 2009.

North Field

North Field is a National Historic Landmark and is listed on the National Register of Historic Places (Figure 13.1-6). The Atomic Bomb Pits in the North Field, where the bombs used on Nagasaki and Hiroshima were loaded, became an important feature after WWII (Figure 13.1-7 and Figure 13.1-8). In addition, as shown in Figure 13.1-9, the Japanese Air Command Post at Ushi Airfield has been preserved and provides a cultural landscape feature with high visual quality. The North Field was a significant military platform designed and constructed with four runways, numerous taxiways and two service aprons. The area surrounding North Field was fully built out with supporting infrastructure and facilities. Though the field and surrounding facilities are now overgrown and abandoned, its historic significance remains and associated aesthetic value continues to draw visitors.



Figure 13.1-6. View of National Historic Landmark Marker and WWII Bunker at North Field

Source: EDAW 2009.



Figure 13.1-7. An Aerial View of the National Historic Landmark and Bomb Pit Enclosure (Lower Left Side of Photo)

Source: EDAW 2009.



Figure 13.1-8. National Historic Landmark Marker and Bomb Pit Enclosure

Source: EDAW 2009.



Figure 13.1-9. Ushi Airfield Japanese Air Command Post

Source: EDAW 2009.

Tinian Blowhole

The Tinian Blowhole is located on the northeastern side of Tinian and is a well visited scenic viewpoint. The primary aesthetic value of this area is of seawater pushed through a basalt cave along the shoreline that forces seawater high into the air. As shown in Figure 13.1-10, this coastal feature forms the foreground, the rugged coastline green/blue water composes the middle-ground, and Saipan in the distance makes up the background to a highly valued scenic vista.



Figure 13.1-10. Tinian Blowhole with Saipan in the Distance

Source: <http://tinian.homestead.com/untitled2.html>.

Chulu Beach (Unai Chulu-Invasion Beach White)

Chulu Beach is about 1.5 miles (mi) (2.4 kilometers [km]) away from the Atomic Bomb Pits on the northwestern shoreline. This is the leeward (western) side of the island and is therefore less windswept with thicker and taller vegetation. Chulu Beach consists of white sand and volcanic rocks offering an overlook to the Philippine Sea, also known as “Star Beach” named after the shape of the sand in this area. Views of Chulu Beach are shown in Figure 13.1-11 and Figure 13.1-12.



Figure 13.1-11. Chulu Beach

Source: Google Earth.



Figure 13.1-12. View of Japanese Bunker at Chulu Beach

Source: Google Earth.

International Broadcasting Bureau

The International Broadcasting Bureau (IBB) (also known as the Voice of America) operates a large antennae array located on the northwest side of the island (Figure 13.1-13). The antenna field consists of 14 to 17 guyed antennas up to 400 ft tall with strung curtains between 8 to 12 antennas. The IBB is clearly visible from the air and island high points (particularly Mount Lasso).



Figure 13.1-13. An Aerial View of the Voice of America, North Field, and Saipan in the Distance

Source: <http://tourtinian.homestead.com/wwii.html>.

Shinto Shrine

The Shinto Shrine is another one of Tinian's primary visitor destinations (Figure 13.1-14). It is located on one of the highest points of Tinian and is recognized as the only Shinto Shrine in the Commonwealth of the Northern Mariana Islands. It is also situated on the path to the top of Carolinas Plateau that provides a vantage point where visitors can look down to the village and ocean below.



Figure 13.1-14. View of the path leading up to the Shinto Shrine
Source: Google Earth.

13.1.2.2 Central

Central Tinian is leased land currently controlled by the DoD. The area is a layered limestone plateau mostly blanketed by thick vegetation. Central Tinian is currently largely unused, with several historic building structures that were abandoned after WWII. Areas of fenced agricultural lands primarily used for cattle grazing are located in the Central Area, primarily to the west of Broadway (Figure 13.1-15). Street trees along old roadways provide an impression of this area being previously developed before/during WWII.



Figure 13.1-15. A View of Broadway in Central Tinian with Agricultural Lands (Cattle) to the Right and the Carolinas Plateau in the Background
Source: EDAW 2009.

Japanese Radio Communications Center

The Radio Communications Center is located on Broadway in Central Tinian (Figure 13.1-16). It is a concrete fortification that was used as a communication station of the Japanese Army and was later used as a prisoner of war brig and slaughterhouse by the U.S. military during WWII. The building is now abandoned and another one of Tinian's highly visited historic structures.



Figure 13.1-16. The WWII Era Japanese Radio Communications Center

Source: Google Earth.

13.1.2.3 South

South Tinian is a mixed area of suburban and rural development. Tinian Airport lies at the northern edge of this area with the village of San Jose and Tinian Harbor to the south. San Jose is the only village on Tinian and is composed of sparsely located, low-rise buildings. Because of this, the majority of the village and its surroundings have relatively unobstructed views in all directions. South Tinian also contains a low valley and the island's second highest mountain ridge.

San Jose Village

San Jose Village is located on the southwest side of Tinian facing the Philippine Sea (Figure 13.1-17). It is a mixed-use village located in the Median Valley (Marpo Valley). The main road, Broadway, connects inland areas to Taga Beach. Grassland, palms, and medium size canopy trees comprise the major vegetation along the street providing an informal streetscape. This informal streetscape provides a clear view toward the ocean. Furthermore, the low-rise building structures in San Jose Village provide visitors an opportunity to appreciate the surrounding areas from the cliff line to the skyline.



**Figure 13.1-17. A View of San Jose Village from 8th Avenue
Tinian Dynasty Hotel can be Seen on the Left Side of the Photo with the Tinian Channel Beyond**

Source: Google Earth.

House of Taga

The House of Taga is a *latte* stone site featuring remnants of the foundations of the traditional Chamorro style of shelter (Figure 13.1-18). The remains of the House of Taga are located within the trees and shrubs adjacent to the most populated area of San Jose Village. The House of Taga surroundings are undeveloped and are primarily low vegetation (mainly grasses). The site provides visitors a scenic view toward the ocean and Kammer Beach.



Figure 13.1-18. The Remnants of the House of Taga

Source: Google Earth.

Suicide Cliff

Suicide Cliff is located on the southeastern side of Tinian affording a view of the Pacific Ocean. The vertical cliff extrudes along the shoreline providing a fortification-like natural wall. This was the location where hundreds of Japanese soldiers and family members jumped to their deaths rather than be captured by U.S. soldiers. It is another one of Tinian's highly visited scenic viewpoints (Figure 13.1-19).



Figure 13.1-19. A View of the Southern Shoreline at Suicide Cliff

Source: Google Earth.

Taga Beach and Kammer Beach

Both Kammer Beach and Taga Beach are located on the southwestern side of Tinian facing the Philippine Sea (Figure 13.1-20 and Figure 13.1-21). Taga Beach is about 1 mile away from Kammer Beach to the south. Both white-sand beaches are surrounded by native vegetation. Aguijan Island, to the south, can be seen from both Taga Beach and Kammer Beach.



Figure 13.1-20. Kammer Beach
Source: Google Earth.



Figure 13.1-21. Taga Beach
Source: Google Earth.

13.2 ENVIRONMENTAL CONSEQUENCES

13.2.1 Approach to Analysis

13.2.1.1 Methodology

Information on visual resources was gathered through on-site visits, background research, and participation in stakeholder and public meetings. The analysis of potential impacts to visual resources is based on the long term (operational) effects – i.e., after construction has occurred and all ranges and associated roads are in place. Construction-related activities related to the development of the ranges would be short-term in duration and minimal in their impacts (i.e., earth-moving equipment clearing vegetation from the range areas).

13.2.1.2 Determination of Significance

For the purpose of the Environmental Impact Statement/Overseas Environmental Impact Statement, the proposed action would cause a significant impact to visual resources if they:

- Would substantially alter the views or scenic quality associated with particularly significant and/or publicly recognized vistas, viewsheds, overlooks, or features
- Would substantially change the light, glare, or shadows within a given area
- Would substantially affect sensitive receptors – i.e., viewers with particular sensitivity (or intolerance) to a changed view (e.g., a hillside neighborhood with views of a relatively undisturbed, naturally-appearing landscape)

Significant impacts that cannot be mitigated to less than significant levels are considered unavoidable. A discussion is presented for each significance criterion listed that would be triggered by the alternatives.

13.2.1.3 Visual Characteristics of the Proposed Ranges

The proposed firing ranges would generally be seen as cleared, grassed areas with varying features.

The Rifle Known Distance (KD) Range would be seen as a large clear grassed area of approximately 1,050 yards (yd) (960 meters [m]) by 100 yd (91 m), or 22 acres (ac) (9 hectares [ha]), with a 15-foot (ft) (4.6 m) tall earthen berm at one end.

The Automated Combat Pistol/Multipurpose Firearms Qualification Course would be seen as a cleared, grassed area of approximately 55 yd (50 m) by 50 yd (46 m) wide, or 0.6 ac (0.2 ha). A 10 ft (5 m) tall earthen berm would be located approximately 20 ft (6 m) behind a single row of targets.

The Platoon Battle Course would be seen as a cleared, grassed area of approximately 1,312 yd (1,200 m) long and 656-yards (600 m) wide, encompassing approximately 178 ac (72 ha). The Platoon Battle Course would be dotted with shallow target pits and 5 ft (2 m) tall earthen berms located 3 ft (1 m) behind each target.

The Automatic Field Firing Range would be seen as a cleared-grassed area of approximately 219 yds (200 m) wide by 547 yards (500 m) long, or approximately 25 ac (10 ha). The Field Firing Range would be dotted with shallow target pits and 5-ft (2-m) tall earthen berms located 3 ft (0.9 m) behind each target.

13.2.1.4 Issues Identified during Public Scoping Process

Comments received during the scoping process from the public, including regulatory stakeholders, do not specifically mention concerns about increased visual resources due to the proposed action for Tinian. Consequently, no related public scoping issues were identified.

13.2.2 Alternative 1 (Preferred Alternative)

13.2.2.1 Tinian

Under Alternative 1, no facilities or structures would be constructed in the north area of Tinian. However, views of the various ranges from Mount Lasso, Tinian's highest point and a publicly recognized overlook providing panoramic views of much of the island, would likely be negatively impacted by the altered landscape caused by the addition of the ranges. In particular, this would likely be most significantly affected by the Platoon Battle Course 5.56 (177-52) range due to its size and position relative to the Mount Lasso viewpoint. Since the majority of north Tinian had been historically clear space due to Tinian's military history, the tolerance for these cleared ranges may be higher than in other locations. With the implementation of mitigation measures listed in Section 13.2.2.3, the impacts of Alternative 1 on visual resources in north Tinian would be at a level less than significant.

Under Alternative 1, the ranges would be constructed in the central area of Tinian. Construction related disturbances would be evident from 8th Avenue, Broadway and from Mount Lasso. These activities would introduce some new elements into the landscape. But construction activities would be temporary and would have less than significant long-term impacts. Of most prominence to public viewing would be the Automatic Field Firing Range along the east side of Broadway, and the Platoon Battle Course range along the east side of 8th Avenue. The cleared ranges and perimeter roads/firebreaks would be a substantial change from the current, more naturally appearing landscape. Nevertheless, similar to the North area, because of Tinian's military history and other associated cleared areas on the island, the tolerance for these cleared ranges may be higher than in other locations. Additionally, none of the proposed ranges in Alternative 1 would be visible from viewpoints in the central area of Tinian. Training at the ranges would involve transport of personnel in vehicles to the ranges from bivouac areas or from West Field. Some fugitive dust would likely be visible at the Platoon Battle Course since that involves vehicle maneuvering. However, fugitive dust would not be substantial as the majority of activities involve military personnel on the range without vehicles. Also, fugitive dust would be temporary and would cease following completion of the exercise. With implementation of mitigation measures listed in Section 13.2.2.3, the impacts of Alternative 1 to visual resources in central Tinian would be at a level less than significant.

Under Alternative 1, no facilities or structures would be constructed in the south area of Tinian, and no public viewpoints would be expected to be impacted. Therefore, no impacts to visual resources would be anticipated.

13.2.2.2 Summary of Alternative 1 Impacts

Table 13.2-1 summarizes Alternative 1 impacts.

Table 13.2-1. Summary of Alternative 1 Impacts

<i>Area</i>	<i>Project Activities</i>	<i>Project Specific Impacts</i>
Tinian	Construction	Impacts during construction would be at a level less than significant
	Operation	Impacts on visual resources in north Tinian would be at a level less than significant

13.2.2.3 Alternative 1 Potential Mitigation Measures

- Avoid impact by clearing only the areas directly associated with the proposed firing ranges.
- Minimize impact by using native flora to create a natural-appearing “screen” around the cleared range areas, outside of the firebreaks/perimeter roads.

13.2.3 Alternative 2

13.2.3.1 Tinian

Similar to Alternative 1, under Alternative 2 no facilities or structures would be constructed in the north area of Tinian. However, views of the various ranges and associated facilities from Mount Lasso would likely be negatively impacted by the altered landscape caused by the addition of these facilities. Due to Tinian’s military history and other associated cleared areas on the island, the tolerance for these cleared ranges may be higher than in other locations. With implementation of mitigation measures listed in Section 13.2.2.3, the impacts of Alternative 2 on visual resources in north Tinian would be at a level less than significant.

Similar to Alternative 1, under Alternative 2 the ranges would be constructed in the Central area of Tinian. Construction related disturbances would be evident from 8th Avenue, Broadway and from Mount Lasso. These activities would introduce some new elements into the landscape. But construction activities would be temporary and would have less than significant long-term impacts. Of most prominence to public viewing would be the Platoon Battle Course along the east side of Broadway, and to a lesser degree, the range Automatic Field Firing Range along the east side of 8th Avenue. The large earthen berms, cleared ranges and perimeter roads/firebreaks would be a substantial change from the current, more naturally-appearing landscape. However, similar to the north area, because of Tinian’s military history and other associated cleared areas on the island, the tolerance for these cleared ranges may be higher than in other locations. Therefore, the impacts of Alternative 2 to visual resources in north Tinian would be at a level less than significant with mitigation. Under Alternative 2, no facilities or structures would be constructed in the south area of Tinian, and no public viewpoints would be expected to be impacted. Also, the proposed ranges are far enough north that they would not be seen from viewpoints in the south. Therefore, no impacts to southern visual resources would be anticipated.

13.2.3.2 Summary of Alternative 2 Impacts

Table 13.2-2 summarizes Alternative 2 impacts.

Table 13.2-2. Summary of Alternative 2 Impacts

<i>Area</i>	<i>Project Activities</i>	<i>Project Specific Impacts</i>
Tinian	Construction	Impacts during construction would be at a level less than significant
	Operation	Impacts on visual resources in north Tinian would be at a level less than significant with mitigation

13.2.3.3 Alternative 2 Potential Mitigation Measures

Mitigation for Alternative 2 would be the same as described for Alternative 1.

13.2.4 Alternative 3

13.2.4.1 Tinian

Alternative 3 is nearly identical to Alternative 2. No facilities or structures would be constructed in the north area of Tinian. Construction related disturbances in central Tinian would be evident from 8th Avenue, Broadway and from Mt. Lasso. These activities would introduce some new elements into the landscape. But construction activities would be temporary and would have less than significant long-term impacts. Views of the various ranges from Mount Lasso would likely be negatively impacted by the altered landscape caused by the addition of these facilities. Due to Tinian's military history and other associated cleared areas on the island, the tolerance for these cleared ranges may be higher than in other locations. With implementation of mitigation measures listed in Section 13.2.2.3, the impacts of Alternative 3 on visual resources in north Tinian would be at a level less than significant.

Alternative 3 as proposed for the central area, is nearly identical to Alternative 2. The ranges would be constructed in the central area of Tinian. Of most prominence to public viewing would be the Platoon Battle Course along the east side of Broadway, and to a lesser degree, the range Automatic Field Firing Range along the east side of 8th Avenue. The large earthen berms, cleared ranges and perimeter roads/firebreaks would be a substantial change from the current, more naturally-appearing landscape. However, similar to the north area, because of Tinian's military history and other associated cleared areas on the island, the tolerance for these cleared ranges may be higher than in other locations. With implementation of mitigation measures listed in Section 13.2.2.3, the impacts of Alternative 3 to visual resources in north Tinian would be at a level less than significant. Under Alternative 3, no facilities or structures would be constructed in the south area of Tinian and no public viewpoints would be expected to be impacted, therefore, no impacts to visual resources would be anticipated.

13.2.4.2 Summary of Alternative 3 Impacts

Table 13.2-3 summarizes Alternative 3 impacts.

Table 13.2-3. Summary of Alternative 3 Impacts

<i>Area</i>	<i>Project Activities</i>	<i>Project Specific Impacts</i>
Tinian	Construction	Impacts during construction would be at a level less than significant
	Operation	Impacts on visual resources in north Tinian would be at a level less than significant

13.2.4.3 Alternative 3 Potential Mitigation Measures

Mitigation for Alternative 3 would be the same as described for Alternative 1.

13.2.5 No-Action Alternative

Under the no-action alternative, no construction or operations associated with the ranges on Tinian would occur. Therefore, the no-action alternative would have no impacts to visual resources.

13.2.6 Summary of Impacts

Development of the ranges on Tinian would result in large cleared areas and a change to the central area of Tinian. This would primarily affect views from Mount Lasso, the tallest point on the island, as well as views along Broadway and 8th Avenue. These changes to the visual environment, while somewhat substantial in scale and potentially significant in nature, would be expected to be brought to a level of less than significant with mitigation measures in place. Table 13.2-4 summarizes the potential impacts of each action alternative and the no-action alternative.

Table 13.2-4. Summary of Impacts

<i>Potentially Impacted Resource</i>	<i>Alternative 1</i>	<i>Alternative 2</i>	<i>Alternative 3</i>	<i>No-Action Alternative</i>
Views from Mount Lasso	SI-M	SI-M	SI-M	NI
Views along Broadway	SI-M	SI-M	SI-M	NI
Views along 8 th Avenue	SI-M	SI-M	SI-M	NI

Legend: SI-M = Significant impact mitigable to less than significant, NI = No impact.

13.2.7 Summary of Mitigation Measures

Table 13.2-5 summarizes mitigation measures.

Table 13.2-5. Summary of Mitigation Measures

<i>Alternative 1</i>	<i>Alternative 2</i>	<i>Alternative 3</i>
Construction		
<ul style="list-style-type: none"> Avoid impact by clearing only the areas directly associated with the proposed firing ranges. 	<ul style="list-style-type: none"> Avoid impact by clearing only the areas directly associated with the proposed firing ranges. 	<ul style="list-style-type: none"> Avoid impact by clearing only the areas directly associated with the proposed firing ranges.
Operation		
<ul style="list-style-type: none"> Minimize impact by using native flora to create a natural-appearing “screen” around the cleared range areas, outside of the firebreaks/perimeter roads. 	<ul style="list-style-type: none"> Minimize impact by using native flora to create a natural-appearing “screen” around the cleared range areas, outside of the firebreaks/perimeter roads. 	<ul style="list-style-type: none"> Minimize impact by using native flora to create a natural-appearing “screen” around the cleared range areas, outside of the firebreaks/perimeter roads.

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