

Final Environmental Assessment

Access Gates Security Upgrades U.S. Army Garrison at West Point West Point, Orange County, New York



United States Army Garrison at West Point West Point, New York

April 2005

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EXECUTIVE SUMMARY

This Environmental Assessment (EA) has been prepared to address the effects of upgrading access gate security at the United States Army Garrison at West Point (West Point), New York. The EA has been prepared in accordance with the requirements of the National Environmental Policy Act (NEPA), the Council on Environmental Quality (CEQ) regulations for implementing the procedural provisions of NEPA, 40 CFR Parts 1500-1508, and AR-200-2 Environmental Analysis of Army Actions.

PURPOSE AND NEED OF THE PROPOSED ACTION

The need for the proposed access gate security upgrades at West Point results from Department of Defense (DoD) directives that all military installations provide for enhanced safety and security of residents and critical military facilities. These directives include the United Facilities Criteria (UFC), DoD Minimum Antiterrorism Standards for Buildings, UFC 4-010-01, dated 8 October, 2003, and its incorporated references found in Section 1-2 of this directive.

The purpose of the proposed action is for West Point, through its Directorate of Housing and Public Works, to perform security upgrades to the Washington Gate, Stony Lonesome Gate, and Thayer Gate at West Point, New York. These upgrades will serve to make the temporary security measures at the installation permanent, maintaining a secure post and the historic nature of the entrance gates, where appropriate.

PROPOSED ACTION

As a result of enhanced security requirements at West Point, a range of temporary security measures have been implemented at the three West Point access gates, which include Washington Gate, Stony Lonesome Gate, and Thayer Gate. The majority of these security measures are temporary and include such features as traffic barriers, lighting, security posts, vehicle inspection stations, etc. These enhanced security measures are forecast to continue at West Point for the foreseeable future. Accordingly, West Point has decided to install permanent security measures at the three West Point access gates. The proposed action would implement permanent security measures at Washington Gate, Stony Lonesome Gate, and Thayer Gate. Needed improvements identified at each gate are discussed under the alternatives below.

ALTERNATIVES

To implement the proposed action, the following eight alternatives were considered:

1. Washington Gate Proposed Action Alternative – This alternative would include the addition of new traffic lanes that would greatly widen the existing configuration. A bypass would be created to link Reynolds Road and the Washington Gate Access Road. Other roadway improvements would include traffic control measures such as traffic arms, new signage, and deployable vehicle barrier systems. In addition to the roadway improvements, a new sentry house would be constructed, permanent lighting and canopies to protect security personnel on duty from inclement weather would be added, and more Closed Circuit Television (CCTV) cameras would be added at the gate. The existing gatehouse and restroom, both of which are

- considered to be historic structures, would be retained. There would be no net gain or loss of parking under this alternative.
2. Washington Gate Guardhouse Relocation Alternative – This alternative would upgrade the gate by creating a new guard station. Other features would include traffic control measures such as traffic arms, new signage, and deployable vehicle barrier systems. In addition to the roadway improvements, a new sentry house would be constructed, permanent lighting and canopies to protect security personnel on duty from inclement weather would be added, and more CCTV cameras would be added at the gate. The Washington Gatehouse would be re-located; the Washington Gate Public Restroom would remain in the same location. There would be no net gain or loss of parking under this alternative.
 3. Stony Lonesome Gate Proposed Action Alternative – This alternative would include the construction of a new multi-lane vehicular access area with access control points. A new Search Office (approximately 900 square feet (84 square meters)) and Gatehouse (approximately 900 square feet (84 square meters)) would also be included. The architectural appearance of the exterior would be faced with appropriate material to reflect the character of the surrounding facilities. In addition to the roadway improvements and new guard facilities, permanent lighting and canopies to protect security personnel on duty from inclement weather would be added, and more CCTV cameras would be added at the gate. This alternative would include the environmental protection of the Class A stream at the gate. There would be no net gain or loss of parking under this alternative.
 4. Stony Lonesome Gate Design Alternative – This alternative would require the realignment of the roadway and expansion of the gate area to the east and a 20,000 square-foot (1,858 square meters) visitor control facility. Other features would include traffic control measures such as traffic arms, new signage, and deployable vehicle barrier systems. In addition to the roadway improvements, a new sentry house would be constructed, permanent lighting and canopies to protect security personnel on duty from inclement weather would be added, and more CCTV cameras would be added at the gate. There would be no net gain or loss of parking under this alternative.
 5. Stony Lonesome Gate Expanded Design Alternative – This alternative would require the realignment of the roadway and expansion of the gate area to the east and west, and a 20,000 square-foot (1,858 square meters) visitor control facility. Other features would include traffic control measures such as traffic arms, new signage, and deployable vehicle barrier systems. In addition to the roadway improvements, a new sentry house would be constructed, permanent lighting and canopies to protect security personnel on duty from inclement weather would be added, and more CCTV cameras would be added at the gate. There would be no net gain or loss of parking under this alternative.
 6. Thayer Gate Proposed Action – Thayer Road Alternative – This alternative would realign Thayer Road and make it the main entrance road from this gate. There would be no net gain or loss of parking under this alternative. Other features would include traffic control measures such as traffic arms, new signage, and deployable vehicle barrier systems. In addition to the roadway improvements, a new sentry house would be constructed, permanent lighting and canopies to protect security personnel on duty from inclement weather would be added, and more CCTV cameras would be added at the gate. The existing gatehouse and restroom, both of which are currently being evaluated for National Register of Historic Places (NRHP) eligibility, would be retained, and external views of Thayer Gate from Highland Falls and South Post would not be altered.
 7. Thayer Gate – Swift Road Alternative – This alternative would realign Swift Road and make it the main entrance road from this gate. There would be no net gain or loss of parking under

- this alternative. Other features would include traffic control measures such as traffic arms, new signage, and deployable vehicle barrier systems. In addition to the roadway improvements, a new sentry house would be constructed, permanent lighting and canopies to protect security personnel on duty from inclement weather would be added, and more CCTV cameras would be added at the gate. The existing gatehouse and restroom, both of which are currently being evaluated for NRHP eligibility, would be retained, and external views of Thayer Gate from Highland Falls and South Post would not be altered.
8. Thayer Gate – Roundabout Alternative – This alternative would manage incoming traffic through the construction of a roundabout, using a portion of Buffalo Soldiers Field. There would be no net gain or loss of parking under this alternative. Other features would include traffic control measures such as traffic arms, new signage, and deployable vehicle barrier systems. In addition to the roadway improvements, a new sentry house would be constructed, permanent lighting and canopies to protect security personnel on duty from inclement weather would be added, and more CCTV cameras would be added at the gate. The existing gatehouse and restroom, both of which are currently being evaluated for NRHP eligibility, would be retained, and external views of Thayer Gate from Highland Falls and South Post would not be altered.

NO ACTION ALTERNATIVE

Under the No Action Alternative, Washington Gate, Stony Lonesome Gate, and Thayer Gate would continue to operate with temporary security measures. The benefit from installing permanent security measures would not be achieved and the temporary security measures would continue to impact the aesthetic nature of West Point National Historic Landmark District (NHL).

ENVIRONMENTAL AND SOCIOECONOMIC CONSEQUENCES

The proposed action would initiate access gate security upgrades at the three entrance gates to West Point. Table ES-1 presents the eight alternatives evaluated under the proposed action and the No Action Alternative and their potential impacts to the natural and human environments. In summary, the implementation of the access gate security upgrades under the proposed action would be expected to enhance security and improve safety on the post. No significant impacts would be expected to the natural and human environment. Minor to moderate impacts would be expected, to include an increase in impervious surfaces, soil disturbance, increased stormwater runoff, traffic congestion during closures, and increased noise during construction.

Implementation of the Stony Lonesome Gate Design Alternative or Stony Lonesome Gate Expanded Design Alternative, not proposed, would include the culverting of Stony Lonesome Brook, which would result in potentially major impacts to streamflow characteristics and downstream habitats impacted by the altered streamflow.

Best management practices discussed in the document would be employed to minimize these and other potential impacts. The cumulative effects to West Point or the surrounding communities of the proposed action would also not be expected to be significant.

CONCLUSION

The proposed action would not have any significant adverse effects on any environmental resources or socioeconomic conditions at West Point or to areas surrounding the post.

The Washington Gate Proposed Action Alternative, Stony Lonesome Gate Proposed Action Alternative, and Thayer Gate Proposed Action – Thayer Road are the recommended alternatives because they provide the level of security improvements required with the least environmental impacts.

TABLE ES-1: SUMMARY OF IMPACTS

Resource	Washington Gate Proposed Action	Washington Gate Guardhouse Relocation	Stony Lonesome Gate Proposed Action	Stony Lonesome Gate Design	Stony Lonesome Gate Expanded Design	Thayer Gate Proposed Action – Thayer Road	Thayer Gate – Swift Road	Thayer Gate – Roundabout	No Action
Water Resources	Creates 0.73 acres (0.3 hectares) of impervious surfaces. SPDES permit not required. Minor impacts from runoff. The closest stream to Washington Gate is approximately 150 feet (46 meters) away. Negligible impacts to floodplains, groundwater, and wetlands.	Creates 0.44 acres (0.18 hectares) of impervious surfaces. SPDES permit not required. Minor impacts from runoff. The closest stream to Washington Gate is approximately 150 feet (46 meters) away. Negligible impacts to floodplains, groundwater, and wetlands.	Creates 1.50 acres (0.61 hectares) of impervious surfaces. SPDES permit required. Stony Lonesome Brook not culverted. Minor impacts from runoff. Negligible impacts to floodplains, groundwater, and wetlands.	Creates 2.07 acres (0.84 hectares) of impervious surfaces. SPDES permit required. Culverting Class A(T) stream requires Protection of Waters Permit. Major impacts from culverting. Negligible impacts to floodplains, groundwater, and wetlands.	Creates 2.24 acres (0.91 hectares) of impervious surfaces. SPDES permit required. Culverting Class A(T) stream requires Protection of Waters Permit. Major impacts from culverting. Negligible impacts to floodplains, groundwater, and wetlands.	Creates 1.94 acres (0.78 hectares) of impervious surfaces. SPDES permit required. Minor impacts from runoff. The closest stream to Thayer Gate is approximately 1,200 feet (366 meters) away. Negligible impacts to floodplains, groundwater, and wetlands.	Creates 2.06 acres (0.83 hectares) of impervious surfaces. SPDES permit required. Minor impacts from runoff. The closest stream to Thayer Gate is approximately 1,200 feet (366 meters) away. Negligible impacts to floodplains, groundwater, and wetlands.	Creates 0.88 acres (0.36 hectares) of impervious surfaces. SPDES permit not required. Minor impacts from runoff. The closest stream to Thayer Gate is approximately 1,200 feet (366 meters) away. Negligible impacts to floodplains, groundwater, and wetlands.	No impacts.
Geology, Topography, and Soils	Minor short-term impacts to microtopography. Increase in impervious surfaces and stormwater runoff and erosion. BMPs would be implemented and impacts would be minor.	Minor short-term impacts to microtopography. Increase in impervious surfaces and stormwater runoff and erosion. BMPs would be implemented and impacts would be minor.	Moderate short-term impacts to microtopography. Increase in impervious surfaces and stormwater runoff and erosion. BMPs would be implemented and impacts would be minor.	Moderate short-term impacts to microtopography. Increase in impervious surfaces and stormwater runoff and erosion. BMPs would be implemented and impacts would be minor. Erosion and Sediment Control Plan required.	Moderate short-term impacts to microtopography. Increase in impervious surfaces and stormwater runoff and erosion. BMPs would be implemented and impacts would be minor. Erosion and Sediment Control Plan required.	Minor short-term impacts to microtopography. Increase in impervious surfaces and stormwater runoff and erosion. BMPs would be implemented and impacts would be minor. Erosion and Sediment Control Plan required.	Minor short-term impacts to microtopography. Increase in impervious surfaces and stormwater runoff and erosion. BMPs would be implemented and impacts would be minor. Erosion and Sediment Control Plan required.	Minor short-term impacts to microtopography. Increase in impervious surfaces and stormwater runoff and erosion. BMPs would be implemented and impacts would be minor.	No impacts.
Air Quality	Emissions would be below the <i>De minimis</i> values. Minor impacts. Potential moderate impacts for combined emissions.	Emissions would be below the <i>De minimis</i> values. Minor impacts. Potential moderate impacts for combined emissions.	Emissions would be below the <i>De minimis</i> values. Minor impacts. Potential moderate impacts for combined emissions.	Emissions would be below the <i>De minimis</i> values. Minor impacts. Potential moderate impacts for combined emissions.	Emissions would be below the <i>De minimis</i> values. Minor impacts. Potential moderate impacts for combined emissions.	Emissions would be below the <i>De minimis</i> values. Minor impacts. Potential moderate impacts for combined emissions.	Emissions would be below the <i>De minimis</i> values. Minor impacts. Potential moderate impacts for combined emissions.	Emissions would be below the <i>De minimis</i> values. Minor impacts. Potential moderate impacts for combined emissions.	No impacts.

Resource	Washington Gate Proposed Action	Washington Gate Guardhouse Relocation	Stony Lonesome Gate Proposed Action	Stony Lonesome Gate Design	Stony Lonesome Gate Expanded Design	Thayer Gate Proposed Action – Thayer Road	Thayer Gate – Swift Road	Thayer Gate – Roundabout	No Action
Biological Resources	Approximately 0.14 acres (0.06 hectares) of forested vegetation to be cleared. Mortality of less mobile fauna expected. Minor impacts.	Existing forested area to be disturbed. Mortality of less mobile fauna expected. Minor impacts.	Existing vegetation to be disturbed. Mortality of less mobile fauna expected. Minor impacts. Stony Lonesome Brook would not be culverted.	Existing vegetation to be disturbed. Mortality of less mobile fauna expected. Minor impacts. Potential moderate impacts to downstream biological communities from new culvert.	Existing vegetation to be disturbed. Mortality of less mobile fauna expected. Minor impacts. Potential moderate impacts to downstream communities from new culvert.	Removal of existing landscape vegetation, including trees. Mortality of less mobile fauna expected. Minor impacts.	Removal of existing landscape vegetation, including trees. Mortality of less mobile fauna expected. Minor impacts.	Removal of existing landscape vegetation, including trees. Mortality of less mobile fauna expected. Minor impacts.	No impacts.
Threatened and Endangered Species	No effects.	No effects.	No effects.	No effects.	No effects.	No effects.	No effects.	No effects.	No impacts.
Cultural Resources	Upgrades are being accomplished in a manner that is consistent with existing architecture. Phase I and II Cultural Resources Surveys are being performed where necessary. Coordination with SHPO is ongoing. A determination of no effect under any alternative is not possible at this early stage of design.								Temporary security measures not consistent with historic architecture.
Visual Resources	Lighting would be sensitive to the historic character of the area and could enhance the historic scene as viewed from proximate areas. Minor impacts.	Lighting would be sensitive to the historic character of the area and could enhance the historic scene as viewed from proximate areas. Minor impacts.	Topography shields gate from viewshed. Negligible impacts.	Topography shields gate from viewshed. Negligible impacts.	Topography shields gate from viewshed. Negligible impacts.	Lighting would be sensitive to the historic character of the area and could enhance the historic scene as viewed from proximate areas. Minor impacts.	Lighting would be sensitive to the historic character of the area and could enhance the historic scene as viewed from proximate areas. Minor impacts.	Lighting would be sensitive to the historic character of the area and could enhance the historic scene as viewed from proximate areas. Minor impacts.	Temporary trailer mounted flood lights would create moderate impacts.
Human Health and Safety	Potential for unexploded ordnance (UXO) exists, but due to previous disturbance in the area, is not expected. Negligible impacts from asbestos containing materials (ACM) and lead based-paint (LBP). Beneficial impacts related to force protection from upgrades.	Potential for UXO exists, but due to previous disturbance in the area, is not expected. Negligible impacts from ACM, and LBP. Beneficial impacts related to force protection from upgrades.	Negligible impacts from UXO, ACM, and LBP. Beneficial impacts related to force protection from upgrades.	Negligible impacts from UXO, ACM, and LBP. Beneficial impacts related to force protection from upgrades.	Negligible impacts from UXO, ACM, and LBP. Beneficial impacts related to force protection from upgrades.	Negligible impacts from UXO, ACM, and LBP. Beneficial impacts related to force protection from upgrades.	Negligible impacts from UXO, ACM, and LBP. Beneficial impacts related to force protection from upgrades.	Negligible impacts from UXO, ACM, and LBP. Beneficial impacts related to force protection from upgrades.	West Point would not realize permanent improvements at access gates; impacts would occur.

Resource	Washington Gate Proposed Action	Washington Gate Guardhouse Relocation	Stony Lonesome Gate Proposed Action	Stony Lonesome Gate Design	Stony Lonesome Gate Expanded Design	Thayer Gate Proposed Action – Thayer Road	Thayer Gate – Swift Road	Thayer Gate – Roundabout	No Action
Noise	Under all alternatives, short-term minor impacts occur during construction. Additional short-term minor impacts from blasting activities would occur for alternatives at Stony Lonesome Gate. A 6-dB reduction in the noise level occurs with a doubling of distance from the source, which would result in noise levels at the nearest sensitive receptor that are below regulatory standards. No new operational noise would be created. Impacts from noise would be minor.								No impacts.
Transportation	Gate closures during construction could cause minor to moderate impacts. During construction, one-lane of traffic would be maintained from 6:00 am to 6:00 pm, with complete gate closure from 6:00 pm to 6:00 am. If this is not possible, Lee Gate would be reopened to accommodate the redirected traffic during construction. Under this alternative, Washington Gate is would likely operate over capacity with a total delay of 3 seconds per vehicle. Operational impacts to traffic would be moderate.	Gate closures during construction could cause minor to moderate impacts. The Guardhouse house location would likely operate over capacity with a total delay of 10 seconds per vehicle. Operational impacts to traffic would be moderate.	Gate closures during construction could cause minor to moderate impacts. The capacity to accommodate vehicles would not be met. The first gatehouse would likely operate over capacity with a total delay of 4 seconds per vehicle, while the second would likely experience a total delay of 49 seconds per vehicle. Operational impacts would be moderate.	Gate closures during construction could cause minor to moderate impacts. The DoD lane is expected to operate below capacity while the non-DoD lane is expected to operate above capacity with a total delay of 4 seconds per vehicle. Operational impacts to traffic would be moderate.	Gate closures during construction could cause minor to moderate impacts. The first checkpoint at this location is expected to operate over capacity with a total delay of 8 seconds per vehicle. The processing of non-DoD vehicles is expected to operate over capacity with a total delay of 47 seconds per vehicle. Operational impacts to traffic would be moderate.	Gate closures during construction could cause minor to moderate impacts. The DoD lane is expected to operate below capacity. The non-DoD lane would likely operate over capacity with a total delay of 10 seconds per vehicle. Operational impacts to traffic would be moderate.	Gate closures during construction could cause minor to moderate impacts. The DoD lane would operate below capacity. The non-DoD lane is expected to operate over capacity. Operational impacts to traffic would be moderate.	Gate closures during construction could cause minor to moderate impacts. The capacity to accommodate vehicles would be improved as a result of this alternative and the gate would operate below capacity. Operational impacts would be negligible.	The capacity to accommodate vehicles would remain the same as the existing condition.
Land Use	Under all alternatives, upgrades would be compatible with existing land uses. Minor impacts.								No impacts.
Coastal Zone	In a letter dated October 14, 2004, the New York Department of State concurred with West Point’s findings that the proposed access gate security upgrades are consistent, to the maximum extent practicable, with the enforceable policies of the New York State CMP.								No impacts.
Socioeconomics, Environmental Justice and the Protection of Children	Under all alternatives, no significant impacts are expected to socioeconomic factors. There would not be disproportionately high and adverse human health or environmental effects to minority or low-income populations.								No impacts.

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1.0 DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES

1.1 Background

The U.S. Military Academy at West Point (West Point) was established in 1802 and is the nation's oldest service academy. It is located on the oldest continuously occupied United States military post, now referred to as the U.S. Army Garrison at West Point. The mission of West Point is, "To educate, train, and inspire the Corps of Cadets so that each graduate is a commissioned leader of character committed to the values of Duty, Honor, Country; professional growth throughout a career as an officer in the United States Army; and a lifetime of selfless service to the nation" (USMA, 2003a). West Point is located on a 16,000 acre (6,475 hectare) reservation on the Hudson River, approximately 50 miles (80 kilometers) north of New York City. Figure 1-1 provides the regional location for West Point. The Main Post, where the majority of the academic, residential, and support facilities are located, is home to approximately 4,200 cadets, with 1,200 new cadets entering the Academy each year. In addition, West Point is also home to over 4,000 military personnel and family members, who live at West Point or in the immediate area, and a civilian workforce of approximately 2,817 personnel (A. Bjornsen, USMA, pers. comm. 19 October 2004). Figure 1-2 shows the U.S. Army Garrison at West Point.

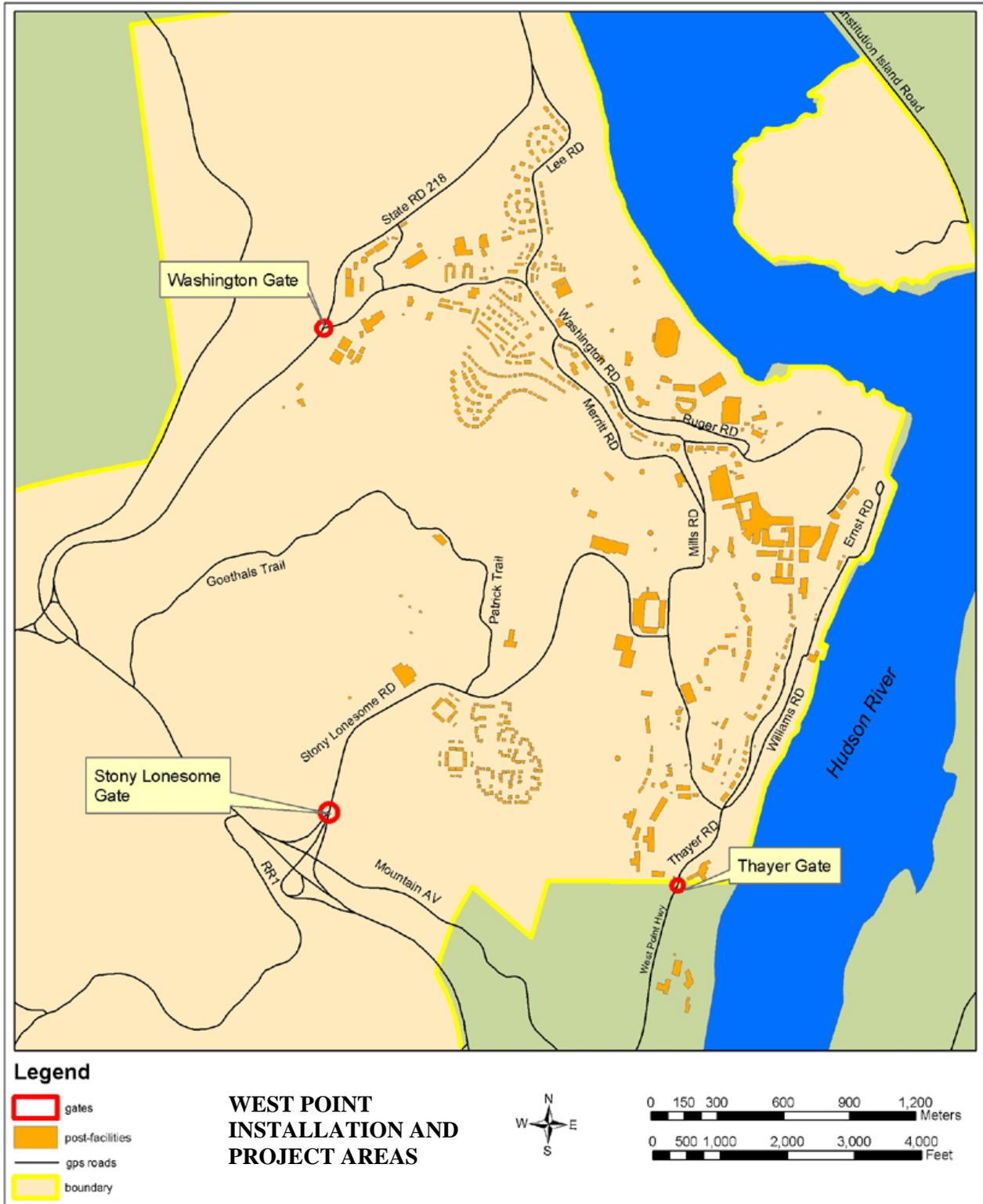
West Point primarily serves to educate the Corps of Cadets, and as such, functions similar to a college campus. However, unlike most college campuses, West Point must also incorporate elements of a military base and a historic site of national interest. In addition to West Point personnel and cadets, West Point is open to the public for guided tours and special events such as concerts in the amphitheater and football games. West Point is the third most visited tourism site in the State of New York, with only Niagara Falls and the Empire State Building receiving more visitors. Incorporating these two functions poses challenges for security at West Point.

Prior to September 11, 2001, West Point was an open facility. Due to the events of September 11, West Point became a closed facility and temporary security measures were implemented to achieve a secure campus. Prior to this time, West Point was accessible by four gates: Lee Gate, Washington Gate, Stony Lonesome Gate, and Thayer Gate. As part of the enhanced security measures, Lee Gate was permanently closed and temporary security measures were implemented at Washington Gate, Stony Lonesome Gate, and Thayer Gate. These measures include the addition of traffic barriers, lighting, security posts, and vehicle inspection stations. These enhanced security measures are forecast to continue at West Point for the foreseeable future. To accommodate this, West Point has decided to install permanent security measures at Washington Gate, Stony Lonesome Gate, and Thayer Gate. Lee Gate and Wilson Gate are permanently closed, are anticipated to remain closed in the foreseeable future, and thus are not a component of the access gate upgrades project.

FIGURE 1-1: UNITED STATES ARMY GARRISON AT WEST POINT REGIONAL LOCATION



FIGURE 1-2: UNITED STATES ARMY GARRISON AT WEST POINT



This Environmental Assessment (EA) analyzes the potential impacts related to the proposed access gate security upgrades at the U.S. Army Garrison at West Point in Orange County, New York. The EA has been prepared pursuant to Section 102(2)(c) of the National Environmental Policy Act of 1969 (NEPA), (42 USC 4331 *et seq.*), the regulations of the Council on Environmental Quality (CEQ) that implement NEPA procedures (40 CFR 1500-1508), and AR 200-2, Environmental Analysis of Army Actions. The information presented within this document will serve as the basis for deciding whether alternative ways of implementing the proposed action would result in a significant impact to the environment, requiring the preparation of an Environmental Impact Statement, or that no significant impacts would occur, and therefore a Finding of No Significant Impact (FNSI) would be appropriate.

1.2 Need and Purpose

The need for the proposed access gate security upgrades at West Point results from Department of Defense (DoD) directives that all military installations provide for enhanced safety and security of residents and critical military facilities. These directives include United Facilities Criteria (UFC), DoD Minimum Antiterrorism Standards for Buildings, UFC 4-010-01, dated 8 October, 2003, and its incorporated references found in Section 1-2 of this directive.

The purpose of the proposed action is for West Point, through its directorate of Housing and Public Works, to perform security upgrades to the Washington Gate, Stony Lonesome Gate, and Thayer Gate at West Point, New York. These upgrades will serve to make the temporary security measures at the installation permanent, maintaining a secure post and the historic nature of the entrance gates, where appropriate.

1.3 Proposed Action

As a result of enhanced security requirements at West Point, a range of temporary security measures have been implemented at the three West Point access gates, which include Washington Gate, Stony Lonesome Gate, and Thayer Gate. The majority of these security measures are temporary, and include such features as traffic barriers, lighting, security posts, vehicle inspection stations, etc. These enhanced security measures are forecast to continue at West Point for the foreseeable future. Accordingly, West Point has decided to install permanent security measures at the three West Point access gates. The proposed action would implement permanent security measures at Washington Gate, Stony Lonesome Gate, and Thayer Gate. Needed improvements identified at each gate include:

- Washington Gate – Improvements at Washington Gate would include the addition of new traffic lanes that would greatly widen the existing configuration. Other roadway improvements would include traffic control measures such as traffic arms, new signage, and deployable vehicle barrier systems. In addition to the roadway improvements, a new sentry house would be constructed, permanent lighting and canopies to protect security personnel on duty from inclement weather would be added, and more Closed Circuit Television (CCTV) cameras would be added at the gate. The existing gatehouse and restroom, both of which are considered to be historic structures, would be retained.
- Stony Lonesome Gate – The potential for the greatest amount of construction and improvements would occur at Stony Lonesome Gate, depending on the alternative implemented. Improvements at Stony Lonesome Gate would include a new multi-lane vehicular access area with access control points that could widen the existing configuration, depending on the alternative selected, as well as alter the entire appearance of the gate. Other

roadway improvements would include traffic control measures such as traffic arms, new signage, and deployable vehicle barrier systems. Associated construction that would occur includes two new guard booths, dedicated lanes for non-DoD and truck traffic, guard parking, and a new guard house that would be approximately 450 square feet (42 square meters). The architectural appearance of the exterior would be faced with appropriate material to reflect the character of the surrounding facilities. In addition to these improvements, permanent lighting and canopies to protect security personnel on duty from inclement weather would be added and more CCTV cameras would be added at the gate. This alternative would include the environmental protection of the Class A stream at the gate.

- **Thayer Gate** – Access gate security improvements at the Thayer Gate would include the reconfiguration and addition of traffic lanes along Thayer Road entering West Point. The new traffic pattern would also include limited access to the Thayer Hotel, the addition of permanent traffic control measures along Thayer Road, and traffic control measures such as traffic arms, new signage, and deployable vehicle barrier systems. These improvements would require the removal of landscape vegetation, including trees, and the sidewalk for a limited distance along Thayer Road. In addition to these improvements, permanent lighting and canopies to protect security personnel on duty from inclement weather and more CCTV cameras would be added at the gate. The existing Thayer Gatehouse and associated buildings, which are considered contributing structures to the West Point National Historic Landmark District (NHL), would be retained, and external views of Thayer Gate from Highland Falls and South Post would not be altered.

The alternatives evaluated consider various methods of achieving the above stated improvements under the proposed action.

1.4 Alternatives

Under the proposed action, security access upgrades would be completed at West Point. The location of the access gates is shown in Figure 1-2. The proposed action alternative for each gate and the design alternative(s) consider different ways to accomplish the proposed security improvements for these areas. Design concepts under each alternative are preliminary and represent the greatest amount of disturbance that would occur on the site. For the impact analysis under all alternatives, it was assumed that each lane of roadway would be 12 feet (3.6 meters) wide, with 6 feet (1.8 meters) of paved shoulders on each side. For parking spaces associated with the guardhouses, it was assumed that each parking space would be 18 feet (5.5 meters) by 9 feet (2.7 meters), requiring approximately 162 square feet (15 square meters) per parking space. It was assumed that there would be no net loss or gain of general public parking under any alternative.

1.4.1 Washington Gate Proposed Action Alternative

Washington Gate, which was constructed in 1942, is currently composed of two stone gateposts, a guard booth, and restroom. All of these structures are contributing to the West Point NHL. Traffic currently entering through this gate includes solely DoD vehicles, requiring vehicles to have government identification. This condition is expected to continue under this alternative.

Construction under this alternative would mostly occur in the existing roadway footprint, but would require some widening of the roadway, as well as construction of a bypass between Reynolds Road and the Washington Gate entrance road. There would be no net gain or loss of parking under this alternative.

Under this alternative, the entrance would be reconfigured to provide two entrance lanes that are separated from the two exit lanes by a median containing the existing guard booth and landscaping. A new guard booth would be constructed where Reynolds Road divides from the entrance road. Traffic entering the post would separate onto Reynolds Road, and then turn left onto a newly constructed bypass that would link Reynolds Road and the Washington Gate entrance road. This bypass would provide two lanes for vehicles being checked into the post, as well as a vehicle inspection area. The bypass is located in a historic roadway.

New security features at Washington Gate would include fixed and retractable bollards, use of large rocks in place of bollards, and speed control tables. This design would also include parking for guards and police in the median separating the incoming and outgoing traffic. Other features of this proposed design include the addition of a sidewalk to allow pedestrian access from the Highway 218 bus stop, a possible bus stop on Reynolds Road to eliminate staff having to cross Highway 218, a vehicle overrun area located on the entrance road, traffic control measures such as new signage and deployable vehicle barrier systems, permanent lighting, canopies to protect security personnel on duty from inclement weather, and CCTV cameras. Both the historic guard house and restroom building would remain intact under this alternative. A conceptual diagram of the Washington Gate Proposed Action Alternative is provided in Figure 1-3.

1.4.2 Washington Gate Guardhouse Relocation Alternative

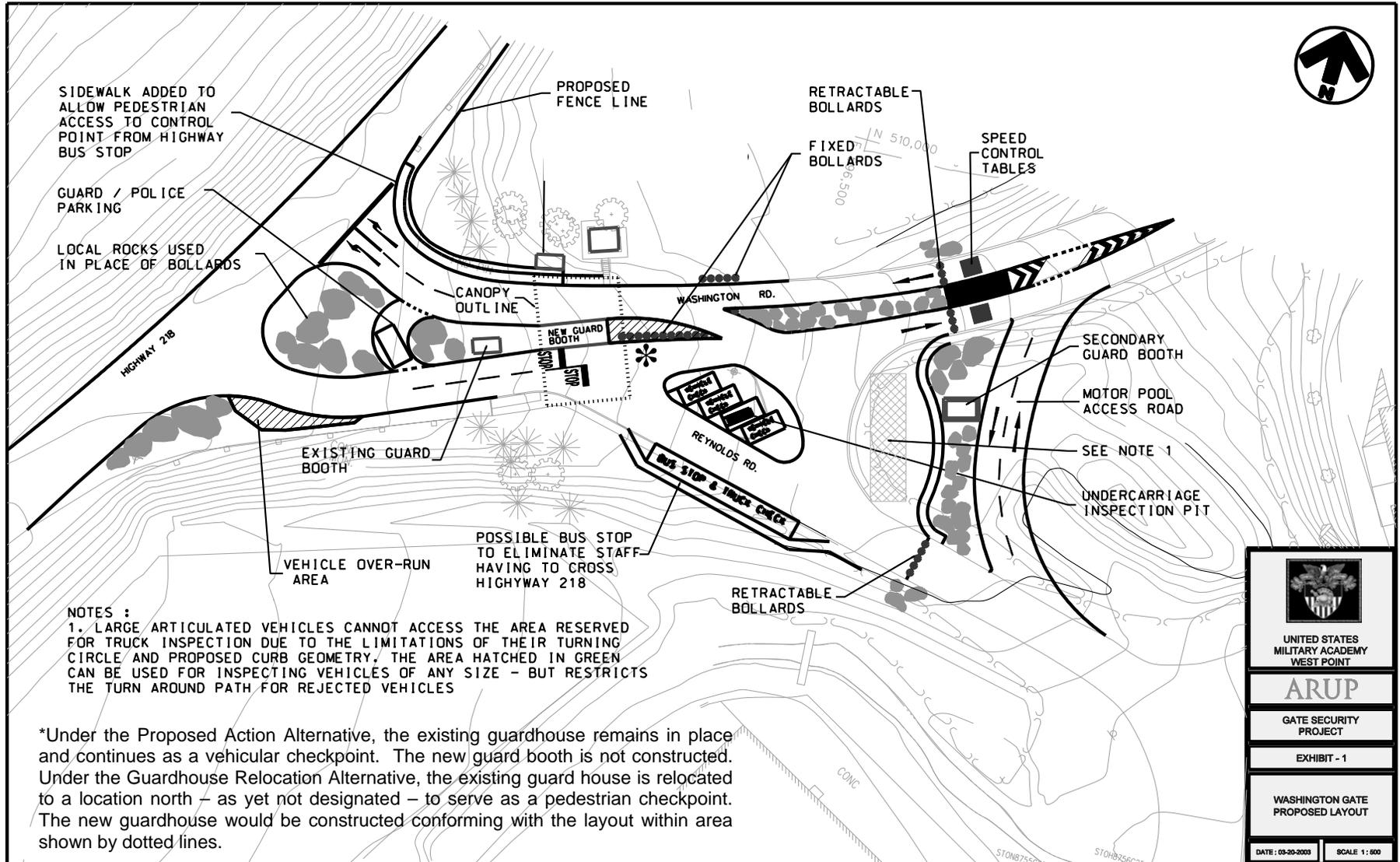
Washington Gate is currently composed of two stone gateposts, a guard booth, and restroom. All of these structures are contributing to the West Point NHL. Traffic currently entering through this gate consists solely of DoD vehicles, requiring vehicles to have government identification. This condition is expected to continue under this alternative. Under this alternative, the existing guard booth and gate posts would be relocated to accommodate the new guard booth. The exact location of the old guard booth would be determined when an adaptive re-use for this building had been decided. The new guard booth, which would be located further into the West Point boundary than the present structure, would allow for longer queuing of vehicles between the public highway and the guard booth structure. The new guard booth would be approximately 15 feet (4.6 meter) wide with a four-foot (1.2 meters), six-inch (0.21 meter) walkway on either side of the booth, for total width of 24 feet (7.3 meters). The guard booth would also include a canopy to protect security personnel in inclement weather. This canopy would allow for a 15-foot (4.6 meters) clearance at the guard booth. Vehicles entering the facility would enter through a single 12-foot (3.7 meters) wide lane and would exit through a similar 12-foot (3.7 meters) lane on the opposite side of the guard booth structure. There would be no net gain or loss of parking under this alternative.

This alternative would include similar features as the Washington Gate Proposed Action Alternative such as traffic control measures and security features, including permanent and retractable bollards, new signage, deployable vehicle barrier systems, permanent lighting, canopies to protect security personnel on duty from inclement weather, and CCTV cameras. A conceptual diagram of the Washington Gate Guardhouse Relocation Alternative is provided in Figure 1-3 and Figure 1-4.

1.4.3 Stony Lonesome Gate Proposed Action Alternative

The Stony Lonesome Gate was constructed in the 1950s and is not considered a historic structure. Currently, all truck traffic entering West Point is supposed to enter through Stony Lonesome Gate, but occasionally trucks enter through other gates. Under this alternative, all truck traffic entering West Point must enter through Stony Lonesome Gate.

FIGURE 1-3: WASHINGTON GATE PROPOSED ACTION ALTERNATIVE AND GUARDHOUSE RELOCATION ALTERNATIVE



This alternative would require the realignment of the roadway and expansion of the gate area to the east, but would not encroach upon Stony Lonesome Brook. Stony Lonesome Road would be expanded to a four-lane roadway, with the western most lane (12 feet wide (3.7 meters)) dedicated to traffic exiting the base. Of the remaining three lanes, one would be dedicated to DoD registered vehicles and drivers with government identification (12 feet wide (3.7 meters)), one would be for non-DoD car traffic (11 feet wide (3.4 meters)) and one would be dedicated to truck traffic (14 feet wide (4.3 meters)). A new, approximately 900 square-foot (84 square meters) gatehouse would be constructed at the entrance to check-in vehicular traffic coming onto the installation. Once checked in, those vehicles that are not granted access or for other reasons decide not to enter the base would exit through a turnaround immediately after the gatehouses that would connect to the exiting traffic lane.

For those vehicles entering the base, DoD permitted vehicles with government identification would continue onto base through a dedicated traffic lane on Stony Lonesome Road to enter West Point. Non-DoD traffic requiring registration prior to entering would also continue with a dedicated traffic lane, which would split into two lanes, one for truck inspection and the other for cars. An approximately 900 square-foot (84 square meters) search house would be located between the non-DoD car and truck traffic lanes. No culverting of Stony Lonesome Brook would be required under this alternative and environmental protection of the stream would occur. A small amount of culverting would be required for storm drainage that would divert water under the road and into Stony Lonesome Brook. This alternative would provide four parking spaces for West Point personnel at the gate house location and three parking spaces north of the Search House for incoming visitors who require additional inspection and/or service at the Search House area. The total proposed design would encompass an area of approximately 66,000 square feet (6,132 square meters (1.5 acres)).

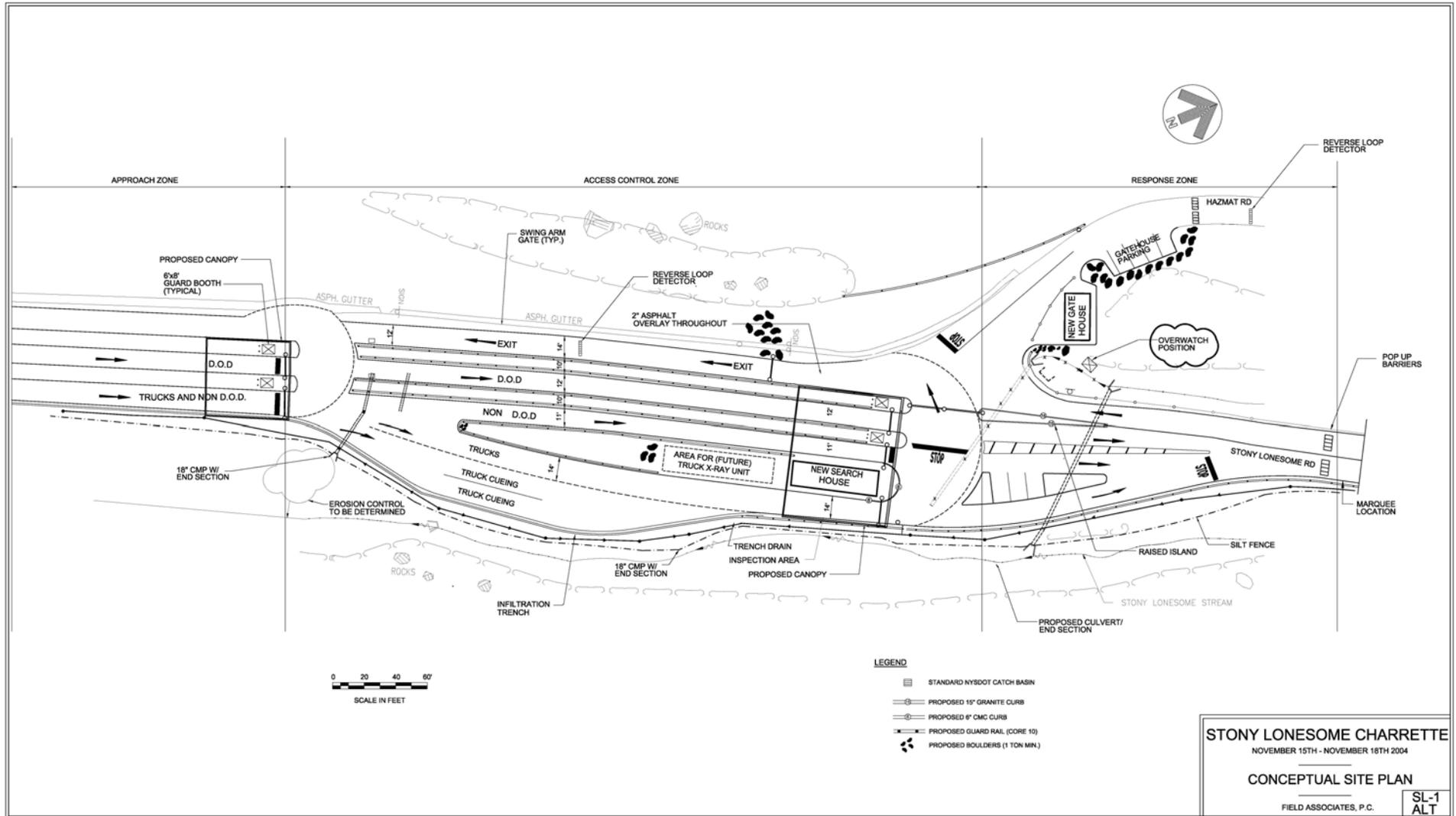
Security features under this alternative include permanent bollards, swing arm gates, pop up barriers, raised islands, and concrete barrier planters. Other features of this proposed design include traffic control measures such as new signage, deployable vehicle barrier systems, permanent lighting, canopies to protect security personnel on duty from inclement weather, and CCTV cameras. There would be no net gain or loss of parking under this alternative. A conceptual diagram of the Stony Lonesome Gate Proposed Action Alternative is provided in Figure 1-5.

1.4.4 Stony Lonesome Gate Design Alternative

As noted earlier, the Stony Lonesome Gate is not considered a historic structure and all truck traffic entering West Point is currently supposed to enter through Stony Lonesome Gate, but occasionally trucks enter through other gates. Under this alternative, all truck traffic entering West Point must enter through Stony Lonesome Gate.

This alternative would require the realignment of the roadway and expansion of the gate area to the east. The entrance to Stony Lonesome Road would be expanded to a two-lane roadway, with each lane being 12 feet (3.7 meters) wide. The traffic entering post would be separated from traffic leaving the post by a barrier of retractable bollards and large rocks. A new guard booth would be constructed on Stony Lonesome Road where vehicles would initially stop before entering West Point. At this check point, two potential paths for vehicles entering the post would be available. DoD vehicles with government issued identification, which are allowed on post without inspection, would continue straight on Stony Lonesome Road to enter West Point. Those vehicles requiring registration prior to entering would turn right into a vehicle inspection area. The vehicle inspection area would consist of a second guard booth, two lanes for cars, one lane for trucks, and the installation of a truck X-ray device. Guard parking would also be located in this area.

FIGURE 1-5: STONY LONESOME GATE PROPOSED ACTION ALTERNATIVE



The establishment of the new inspection area would require placing a new culvert in an existing stream and the relocation of the Post Exchange access road to the north. Security features under this alternative include retractable and permanent bollards, a W-beam guide rail along the eastern side of Stony Lonesome Road, new signage, and large rocks as barriers. Other features of this proposed design include traffic control measures such as new signage, deployable vehicle barrier systems, permanent lighting, canopies to protect security personnel on duty from inclement weather, and CCTV cameras. There would be no net gain or loss of parking under this alternative. A conceptual diagram of the Stony Lonesome Gate Design Alternative is provided in Figure 1-6.

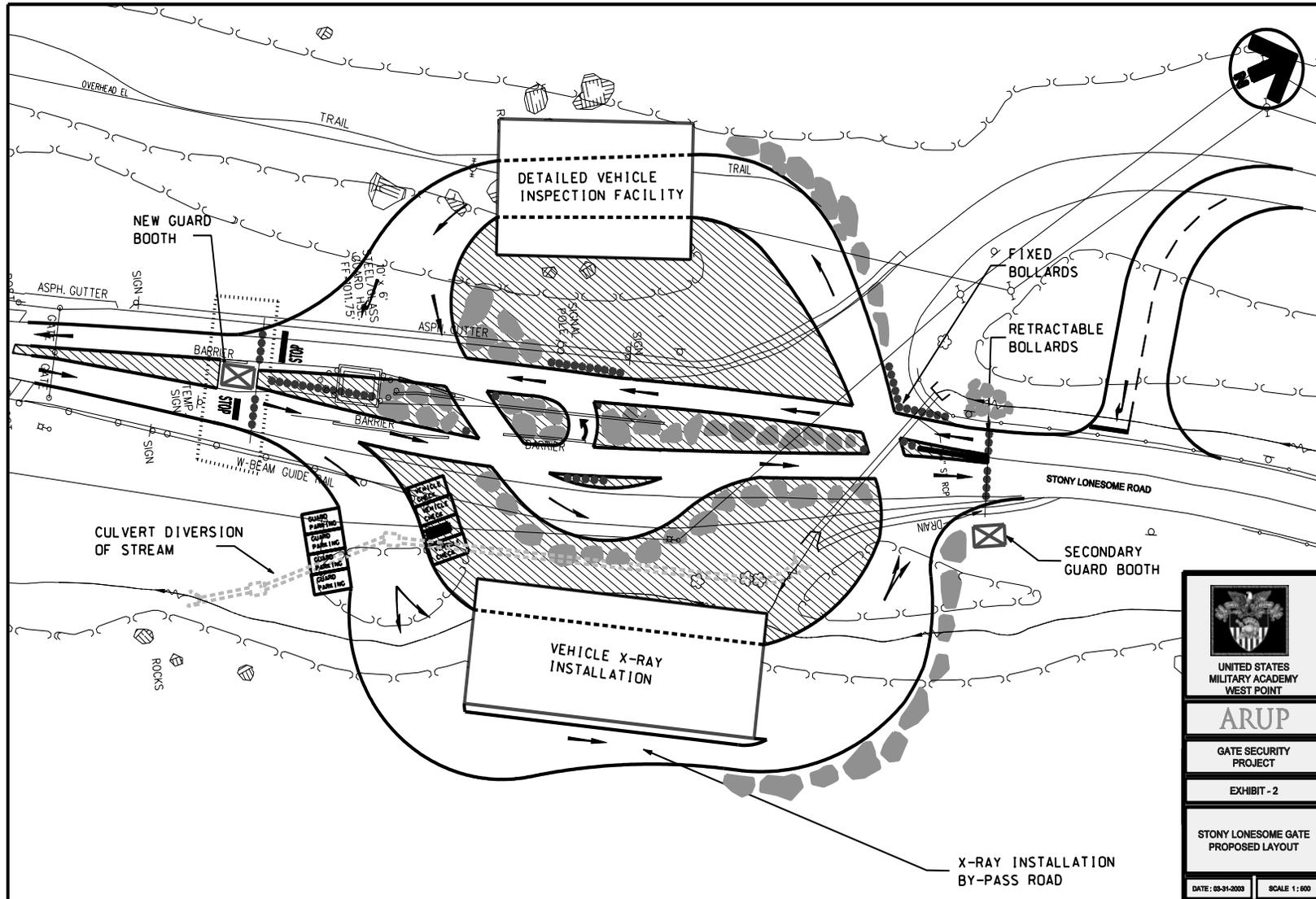
1.4.5 Stony Lonesome Gate Expanded Design Alternative

As noted for the other Stony Lonesome Gate alternatives, the gate is not considered a historic structure, and all truck traffic entering West Point is supposed to enter through Stony Lonesome Gate, but occasionally trucks enter through other gates. Also under this alternative, all truck traffic entering West Point must enter through Stony Lonesome Gate.

As under the Stony Lonesome Gate Design Alternative, this alternative would require the realignment of the roadway and expansion of the gate area to the east; however, this would be achieved through an alternate alignment and the development of additional West Point land to the west of the existing entrance roadway. Stony Lonesome Road entering the post would remain a one-lane road, with a new guard booth where vehicles would initially stop before entering West Point. At this check point, two potential paths for vehicles entering the post would be available. DoD vehicles with government identification allowed on post without inspection would continue straight on Stony Lonesome Road to enter West Point. Those vehicles that need to register before entering would turn right into the vehicle X-ray area, which would be approximately two lanes wide. Parking for West Point guards would also be provided in this area.

The establishment of the X-ray area would require a new culvert in an existing stream and the relocation of the Post Exchange access road to the north. The X-ray area would take up less right-of-way than the inspection area under the Stony Lonesome Design Alternative, but would only be used for X-ray inspection and not detailed vehicle inspection. Vehicles leaving the X-ray inspection area would either make a right onto Stony Lonesome Road, or be directed to the east side of Stony Lonesome Road into a detailed vehicle inspection facility, which would be two lanes wide. Once a vehicle had been inspected, it would make a left back onto Stony Lonesome Road to enter West Point. A secondary guard booth would be constructed to the north of the primary guard booth, just before vehicles enter the post. Security features under this alternative include retractable and permanent bollards, a W-beam guide rail along the eastern side of Stony Lonesome Road, new signage, and large rocks as barriers. Other aspects of this proposed design include traffic control measures such as new signage, deployable vehicle barrier systems, permanent lighting, canopies to protect security personnel on duty from inclement weather, and CCTV cameras. This alternative would require greater excavation than the Stony Lonesome Design Alternative. There would be no net gain or loss of parking under this alternative. A conceptual diagram of the Stony Lonesome Gate Expanded Design Alternative is provided in Figure 1-7.

FIGURE 1-7: STONY LONESOME GATE EXPANDED DESIGN ALTERNATIVE



1.4.6 Thayer Gate Proposed Action – Thayer Road Alternative

The Thayer Gate and surrounding features, such as Buffalo Soldiers Field, are considered contributing elements to the West Point NHL. The security access upgrades at Thayer Gate would involve the retention of the existing guard house, which is considered a historic structure. The roadway entering the facility would be widened and reconfigured. The existing entrance road would be realigned to consist of a divided roadway. East of the dividing median would be two lanes, one ingress and one egress. There would be no net gain or loss of parking under this alternative. To the west of the median, a three-lane roadway would be added consisting of two northbound lanes for traffic entering West Point and one southbound lane for those exiting. The two lanes of traffic entering West Point would be divided by a small median, and a new guard booth would be located on this median. One lane of traffic would serve visitors who do not require the formal check-in process, such as DoD vehicles with government identification. The other lane would include parking spaces for vehicle checks and would be the entrance for all visitors who need to check in. These two lanes of traffic would merge together after the check point where visitors would enter West Point. The addition of these lanes would require the use of a small portion of Buffalo Soldiers Field. To account for using a portion of the field, two of the five existing ball fields would be relocated to the west of their existing location with the associated relocation of the ball field fence. These improvements would require the removal of landscape vegetation, including trees, and sidewalk along Thayer Road.

Security features under this alternative include retractable and permanent bollards, new signage, and concrete barriers. Other features of this proposed design include traffic control measures such as new signage, deployable vehicle barrier systems, permanent lighting, canopies to protect security personnel on duty from inclement weather, and CCTV cameras. The existing Thayer Gatehouse and associated buildings, which are considered contributing structures to the West Point NHL, would be retained, and external views of Thayer Gate from Highland Falls and South Post would not be altered. A conceptual diagram of the Thayer Gate Proposed Action – Thayer Road Alternative is provided in Figure 1-8.

1.4.7 Thayer Gate – Swift Road Alternative

As previously noted, the Thayer Gate and surrounding features, such as Buffalo Soldiers Field, are considered contributing elements to the West Point NHL. The security access upgrades at Thayer Gate would involve the retention of the existing guard house, which is considered a historic structure. Under this alternative, all traffic entering West Point at Thayer Gate would not use the current entrance road, but would turn off to the left onto Swift Road. Swift Road would be widened and realigned to serve as the new Thayer Gate entrance road. Swift Road would be reconstructed to include a three-lane roadway, consisting of two northbound lanes for traffic entering West Point and one southbound lane for those exiting. The two lanes of traffic entering West Point would become divided, with a small median and a new guard booth located on the median. One lane of traffic would serve visitors who do not need to go through the formal check-in process, such as DoD vehicles with government identification. The other lane would include parking spaces for vehicle checks and would be the entrance for visitors needing to check in. Vehicles in the inspection area would merge back into the main traffic stream before entering the facility. The addition of these lanes would require the use of a small portion of Buffalo Soldiers Field, as well as the removal of approximately 40 parking spaces that are located to the west of Buffalo Soldiers Field; however, there would be no net gain or loss of parking under this alternative. To account for using a portion of the field, two of the five existing ball fields would need to be relocated to the east of their existing location with the associated relocation of the ball field fence, and approximately 40 parking spaces would be added to the existing entrance roadway, to the north of the Thayer Hotel. These improvements would require the removal of landscape vegetation, including trees, and sidewalk along Thayer Road.

Security features under this alternative include retractable and permanent bollards, new signage, and concrete barriers. Other aspects of this proposed design include traffic control measures such as new signage, deployable vehicle barrier systems, permanent lighting, canopies to protect security personnel on duty from inclement weather, and CCTV cameras. The existing Thayer Gatehouse and associated buildings, which are considered contributing structures to the West Point NHL, would be retained and external views of Thayer Gate from Highland Falls and South Post would not be altered. A conceptual diagram of the Thayer Gate – Swift Road Alternative is provided in Figure 1-9.

1.4.8 Thayer Gate – Roundabout Alternative

The Thayer Gate and surrounding features, such as Buffalo Soldiers Field, are considered contributing elements to the West Point NHL. The security access upgrades at Thayer Gate would involve the retention of the existing guard house, which is considered a historic structure. Under this alternative, the existing entrance road would be realigned to accommodate traffic entering and exiting the facility. Part of the realignment would include the construction of a traffic roundabout in the southern portion of Buffalo Soldiers Field. Two lanes of traffic would enter the installation and stop at the location of a new guard booth. Those vehicles requiring inspection would pull off to a three-lane area to the west of the roadway. Once inspection is complete, the vehicle would proceed to the roundabout, where they would enter the installation or continue on the circle to exit the installation. The new alignment would also include one lane of traffic, located off of the roundabout, exiting the facility. A secondary guard booth would be located to the north of the roundabout. This alternative would require the removal of some parking spaces currently located across the entrance road from the Thayer Hotel; however, there would be no net gain or loss of parking spaces. These improvements would require the removal of landscape vegetation, including trees, and sidewalk along Thayer Road.

Security features under this alternative include retractable and permanent bollards, new signage, and large rocks as barriers. Other aspects of this proposed design include traffic control measures such as new signage, deployable vehicle barrier systems, permanent lighting, canopies to protect security personnel on duty from inclement weather, and CCTV cameras. The existing Thayer Gatehouse and associated buildings, which are considered contributing structures to the West Point NHL, would be retained and external views of Thayer Gate from Highland Falls and South Post would not be altered. A conceptual diagram of the Thayer Gate – Roundabout Alternative is provided in Figure 1-10.

1.5 No Action Alternative

Under the No Action Alternative, Washington Gate, Stony Lonesome Gate, and Thayer Gate would continue to operate with temporary security measures. The benefit from installing permanent security measures would not be achieved and the temporary security measures would continue to impact the aesthetic nature of the West Point NHL.

1.6 Alternatives Considered But Not Carried Forward

In addition to the proposed access gate security upgrades and the design alternatives, the alternative of constructing a new gate at an alternative location on-post was considered. This alternative was not carried forward due to the lack of developable land on-post, the potential impacts to cultural resources, and the high economic cost of such an action.

FIGURE 1-8: THAYER GATE PROPOSED ACTION - THAYER ROAD ALTERNATIVE

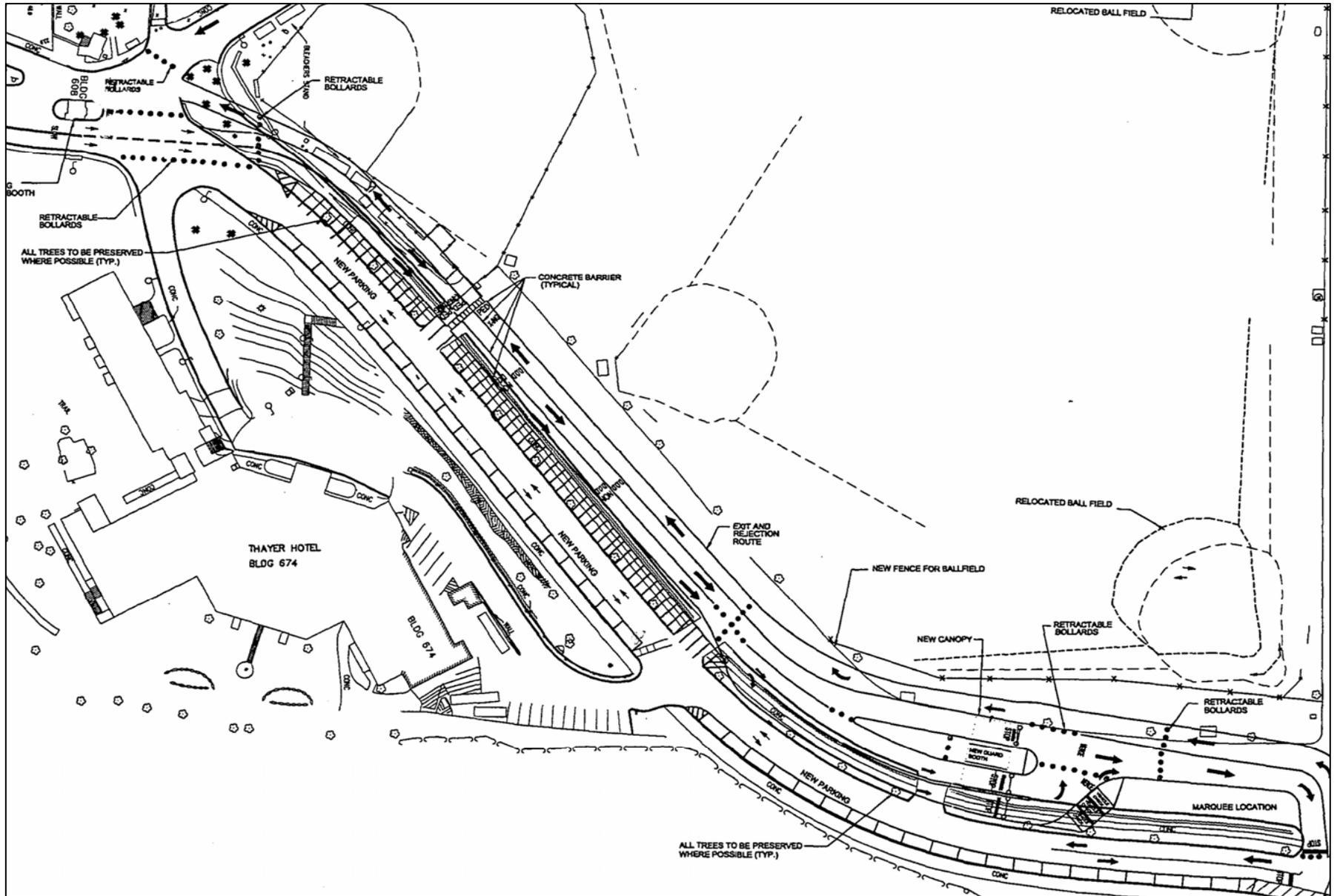


FIGURE 1-9: THAYER GATE – SWIFT ROAD ALTERNATIVE

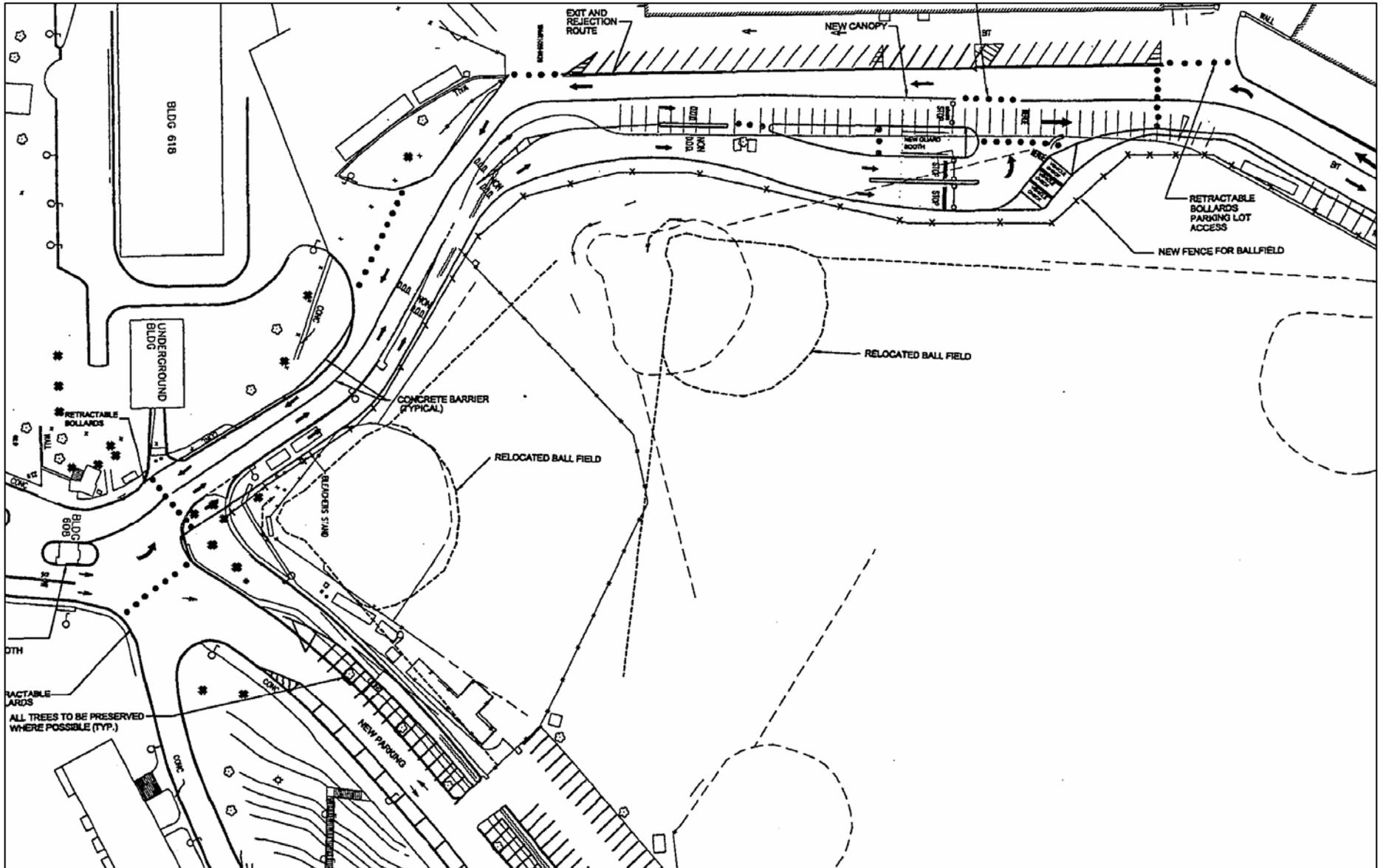
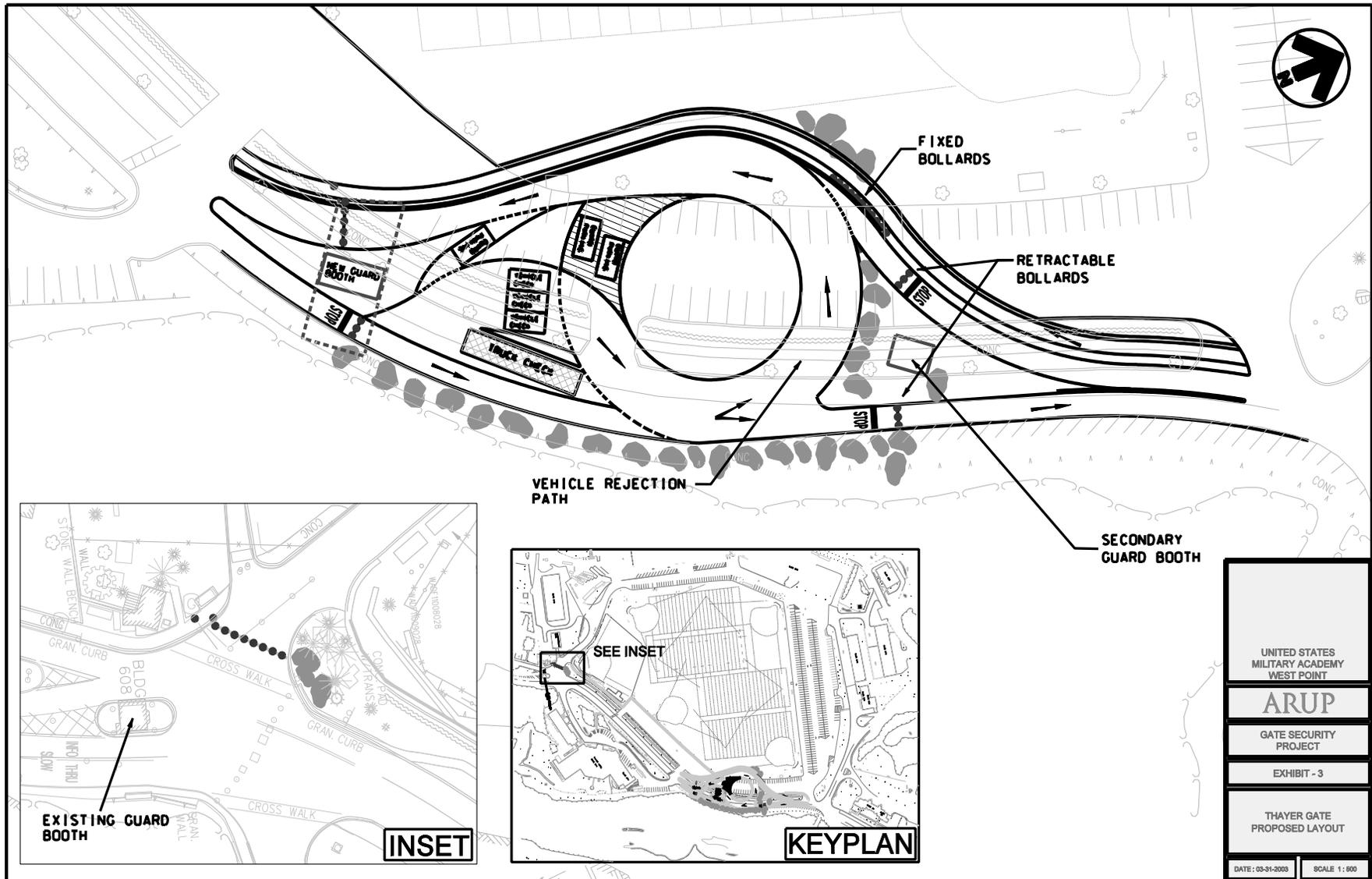


FIGURE 1-10: THAYER GATE - ROUNDABOUT ALTERNATIVE



2.0 AFFECTED ENVIRONMENT AND ENVIRONMENTAL IMPACTS

This chapter describes the existing condition of environmental resources potentially affected by the proposed access gate security upgrades. The boundaries of the potentially affected environment vary according to the nature of the potential impact on the study area and the aspect of the environment under consideration. Certain potential impacts (*e.g.*, impacts on topography or drainage patterns) are site-specific and are likely to be contained entirely within the project boundaries. Other impacts (*e.g.*, potential economic impacts or impacts to traffic patterns) may affect areas outside of the identified project area.

This chapter also evaluates the potential environmental consequences of the action and No-Action alternatives. Implementation of any of the action alternatives would involve security upgrades to the access gates at the U.S. Army Garrison at West Point, in Orange County, New York.

Potential impacts of the action alternatives are discussed in this chapter in terms of short- and long-term impacts. Short-term impacts are those of a limited duration, such as the impacts that would occur during the construction of the improvements. Long-term impacts are those of greater duration, including those that would endure for the life of the proposed project and beyond, including impacts associated with the operation of the access gates. These terms are further qualified by being negligible, minor, moderate, or major. Impact thresholds for each resource are established in the environmental consequences section for that resource. For impacts judged to be less than significant, a range is given to facilitate comparisons among the alternatives, using the terms of negligible, minor, and moderate. Impacts that are “major” for a resource are considered to be a significant impact.

Information in this chapter is derived from both primary and secondary sources, as noted. Primary sources of information involved site visits and analysis by project personnel, which are referenced as such. Secondary information includes documents such as the *Master Plan Report Plan for the Year 2007 United States Military Academy, West Point, New York* (USMA, 1999), the *Final Supplement to the Final Environmental Impact Assessment for the Expansion and Development of the Stony Lonesome Community Center* (USMA, 1997), the *Integrated Natural Resources Management Plan: 1998 through 2002* (USMA, 1998), the *Historic Landscape Management Plan for the U.S. Military Academy at West Point, New York* (USMA, 2002), and the *Integrated Cultural Resources Management Plan* (USMA, 2001). In keeping with the CEQ NEPA regulations directive to avoid unnecessary paperwork, delay, and bulk in environmental documents, this EA uses the information from these environmental documents wherever appropriate and relevant (see 40 CFR 1500.4(j) and 1502.21). Other secondary sources of information are referenced as appropriate.

2.1 Water Resources

Due to its proximity to various water bodies, the proposed upgrades occurring at West Point could potentially affect the water resources of the region. Water resources potentially impacted by the alternatives include surface water, wetlands, floodplains, groundwater, and stormwater management features. Each topic is discussed below.

2.1.1 Affected Environment

2.1.1.1 Surface Water

The major surface water feature at West Point is the Hudson River, which creates the eastern border of the post. Numerous small tributaries on West Point drain into the Hudson River. The Hudson River originates at Lake Tear of the Clouds in the Adirondack Mountains and flows 314 miles (505 kilometers) to its mouth in the Upper New York Bay. Over 13,514 square miles (35,001 square kilometers) of watershed drain into the Hudson River. The portion of the river that flows between West Point and Constitution Island is an oligohaline estuarine reach. The water quality in this portion of the river is characterized by rapidly changing salinities from 1 to 5 parts per thousand (ppt) and moderate enrichment of nitrogen and phosphorous. The Hudson River meets the New York State Department of Environmental Conservation (NYS DEC) toxic and hazardous materials water quality standards and no contaminants attributable to West Point have been detected in the river. The Hudson River is important habitat for many fish species and is used by both resident brackish water species and as a migratory pathway for anadromous or catadromous species (USMA, 1998).

In addition to the Hudson River, numerous lakes, ponds, and streams are located throughout West Point. Many of the lakes and ponds were formed from artificial dams that have raised water levels within former wetland areas. Figure 2-1 shows water resources at West Point. Surface water features at each of the access gates are listed below:

- **Washington Gate:** Sinclair Pond Brook, a tributary to Crows Nest Brook, is located approximately 150 feet (46 meters) from Washington Gate. Crows Nest Brook is located approximately 850 feet (259 meters) from Washington Gate. Both of these streams are designated as Class C Surface Waters of New York State. Class C waters are capable of supporting fisheries and other non-contact recreation activities.
- **Stony Lonesome Gate:** Stony Lonesome Brook is the main water feature around Stony Lonesome Gate. Stony Lonesome Brook originates at an unnamed wetland area and runs about 1.2 miles (1.85 kilometers) to join Highland Brook in the area south of Stony Lonesome Gate. This brook drains an area of approximately 315 acres (127 hectares) and is classified as a perennial Class A(T) stream. The “A” means that it is a suitable source for drinking water supply when appropriate treatment is provided. The (T) means that the water quality is suitable for trout survival, but this stream lacks other habitat characteristics that would support trout spawning. This stream is a heavily developed watercourse. Approximately 15 percent, or 915 feet (279 meters) of the 6,070-foot (1,850 meters) long stream is currently culverted. Stony Lonesome Brook joins Highland Brook, a Class A(T) stream, downstream from the Highland Falls water intake at Highland Brook. Activities resulting in increased erosion of the channel and outlet of Stony Lonesome Brook may impact the water treatment plant parking lot, where the Stony Lonesome outlet to Highland Brook flows under the parking area.
- **Thayer Gate:** Kinsley Farm Brook is located approximately 1,200 feet (366 meters) from Thayer Gate, across Buffalo Soldiers Field. This stream is classified as Class B. Class B waters are those that are best used for swimming and other contact recreation, but not for drinking water. An increase in stormwater from activities at Thayer Gate may be directed towards Kinsley Farm Brook, but this is not likely.

FIGURE 2-1: WEST POINT WATER RESOURCES



The surface water features around the three access gates, with the exception of Sinclair Pond Brook, are subject to the Protection of Waters Regulatory Program under the NYS DEC. This program is designed to prevent undesirable activities on water bodies by establishing and enforcing regulations that: are compatible with the preservation, protection and enhancement of the present and potential values of the water resources; protect the public health and welfare; and are consistent with the reasonable economic and social development of the state. A Protection of Waters Permit is required for disturbing the bed or banks of a stream with a classification and standard of C(T) or higher. The "C" classification indicates waters that are capable of supporting fisheries and other non-contact recreation activities, and the "(T)" indicates water bodies that may support a trout population. A project is considered minor if there is disturbance of less than 50 linear feet (15 meters) along any 1,000 feet (304 meters) of watercourse. Projects that exceed this threshold are considered major.

2.1.1.2 Wetlands

Executive Order (EO) 11990 requires federal agencies to minimize the loss or degradation of wetlands. The Army has also established a policy of no net loss of wetlands. The policy requires that impacts to wetlands be avoided if possible and if unavoidable, that impacts be minimized. If wetlands are impacted then mitigation may be required.

Determination of the presence of wetlands is based on procedures prescribed in the U.S. Army Corps of Engineers (USACE) *Wetlands Delineation Manual* (Environmental Laboratory, 1987). Wetlands, as defined in the federal manual, are: those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted to life in saturated soil conditions. Three criteria are used to determine the occurrence of jurisdictional wetlands including: 1) hydric soils, 2) wetland hydrology, and 3) hydrophytic vegetation.

Wetland resources at West Point include approximately 1,010 acres (409 hectares) of wetlands associated with streams, ponds, depressions, and seeps. In 1993, a wetland survey was conducted in accordance with the 1987 *Corps of Engineers Wetland Delineation Manual*, which mapped and characterized 146 distinct wetlands on West Point. Nine of these wetlands were characterized based on the 1987 *Corps of Engineers Wetland Delineation Manual*, and the remaining wetland boundaries were approximated in the field by observing indicators of hydrology, vegetation, and soils. The majority of these wetlands are small with an area of less than 5 acres (2 hectares), with only a few exceeding 15 acres (6 hectares) (USMA, 1998). There are no wetland resources in the area of Washington Gate or Thayer Gate (USMA, 1998). At Stony Lonesome Gate, there are wetland areas present in the area between the Post Exchange access road and Stony Lonesome Road. Wetland resources at West Point are shown in Figure 2-1.

2.1.1.3 Floodplains

Floodplains are described as areas likely to be inundated by a particular flood. For example, a flood that has a one-percent chance of occurring in any one year is the 100-year flood. The 100-year floodplain includes some land areas that are flooded by small and often dry watercourses. The review of Federal Emergency Management Agency (FEMA), National Flood Insurance Program (NFIP) map shows Washington Gate, Stony Lonesome Gate, and Thayer Gate are located in Zone X. This designation is for areas outside both the 100-year and 500-year floodplains (FEMA, 1987).

2.1.1.4 Groundwater

Groundwater at West Point occurs in both an unconsolidated aquifer consisting of alluvial deposits and a consolidated bedrock aquifer. The water in this aquifer occurs primarily in the sands and gravels of the stratified drift deposits, which are thin and generally have fairly small well yields averaging 40 gallons per minute (gpm) (151 liters per minute (lpm)). Local precipitation is the primary source of recharge to the aquifer. Some groundwater flow occurs from the alluvial aquifer to the underlying bedrock aquifer. In low lying areas, upward seepage of groundwater from the bedrock aquifer to the overlying alluvial aquifer may occur. Another source of groundwater underlying West Point is in the upper weathered, jointed, and fractured section of the bedrock that underlies the post. Recharge to the bedrock aquifer occurs in upland areas by precipitation, and discharge occurs in lowland areas through springs and upward seepage. The limited extent of the joint and fracture systems in the bedrock aquifer result in extremely slow permeability and water movement creating well yields that are generally sufficient for small demands such as domestic use. Potable water at West Point is supplied mainly from surface sources; however, approximately 17 small-diameter, shallow wells that most likely draw water from the stratified alluvial sand and gravel deposits aquifer and the upper weathered bedrock aquifer are located on post. These wells have depths ranging from 25 to 40 feet (7.6 to 12 meters) and yield of 3.5 to 6.0 gpm (13 to 23 lpm) (USMA, 1998).

2.1.1.5 Stormwater Management for Surface Water Features

The Environmental Protection Agency delegated stormwater responsibility for the National Pollutant Discharge Elimination System (NPDES) Permit to New York in October 1992. New York State issued its State Pollutant Discharge Elimination System (SPDES), General Permit GP-93-06 in August 1993. This was issued pursuant to Article 17, Titles 7, 8, and Article 70 of Environmental Conservation Law. This permit was reissued in January 2003 to incorporate NPDES Phase II requirements. The permit requires, at a minimum, that an erosion and sediment control plan be prepared for any construction activity that disturbs one or more acres (0.4 hectares) of land. If the project is also located in a Total Maximum Daily Load (TMDL) watershed, is discharging into an impaired 303(d) listed water, is greater than five acres (2 hectares) of land disturbance, or is planned construction other than single family residences or not on agricultural property, development of a full Storm Water Pollution Prevention Program (SWPPP) would be required. The SWPPP shall be prepared in accordance with sound engineering practices and identify potential sources of pollution that may reasonably be expected to affect the quality of stormwater discharges. The SWPPP should also describe and ensure the implementation of practices that will be used to reduce the pollutants in stormwater discharges and to assure compliance with the terms and conditions of the permit. All SWPPP's should include erosion and sediment controls. Water quantity and water quality controls (post-construction stormwater control practices) should be included if:

- The construction site or post construction runoff would discharge a pollutant of concern to either an impaired water identified of DEC's 303(d) list or a TMDL watershed for which pollutants in stormwater have been identified as a source of impairment.
- Construction site runoff from construction activities would disturb five or more acres (2 hectares).
- Construction site runoff from construction activity would disturb between one and five acres (0.4 and 2 hectares), of land during the course of the project, exclusive of the construction of single family residences and construction activities at agricultural properties.

There is not currently a base-wide SWPPP for West Point.

Conveyance systems for stormwater on the main post of West Point include open ditches, grassed channels, paved open channels, and pipe. Stormwater drainages at West Point are shown in Figure 2-2. The outfalls for the stormwater system discharge into the Hudson River (USMA, 1999). Stormwater drainage at each of the gates is as follows:

- **Washington Gate:** Open stormwater drainage exists both to the north and south of the Washington Gate. Stormwater from the Washington Gate would enter Crows Nest Brook, either directly or via Sinclair Pond Brook. From here, the stormwater would flow east from Highway 218 on either side of Washington Road, and follow the alignment of the road until the drainages merge around the location of the West Point School. Additional volume from drainage directed to Crows Nest Brook would be minimal compared to the drainage being discharged into the brook to the west of the School. Drainage directed into Sinclair Pond Brook would not influence school drainage because the confluence of Sinclair Pond Brook with Crows Nest Brook is east of the school. Once they merge, the flow continues east under the Target Hill Athletic Field via a twin box culvert and into the Hudson River.
- **Stony Lonesome Gate:** Stony Lonesome Brook, which is parallel to Stony Lonesome Road, receives stormwater runoff associated with Stony Lonesome Gate. Runoff originates in the area of the commissary, with flows southwest out toward Stony Lonesome Gate. Stormwater from Stony Lonesome Gate flows into Stony Lonesome Brook, then flows to Highland Brook, and eventually into the Hudson River.
- **Thayer Gate:** Stormwater from Thayer Gate drains into a drainage system that begins as an intermittent stream originating in the area of the Stony Lonesome I housing units. This drainage flows southeast and includes the drainage from the parking lots uphill from Michie Stadium. Stormwater in this stream then flows next to and under Fenton Road, under Buffalo Soldiers Field, and drains into Kinsley Farm Brook in the vicinity of Mills Road. Kinsley Farm Brook may receive stormwater runoff from Thayer Gate, but this would not be likely. This system has been known to flood and the condition of the pipes is unknown.

2.1.2 Water Resources Environmental Consequences

To assess the magnitude of water quality impacts to waters to water resources in the area of the access gates, the following impact thresholds were used:

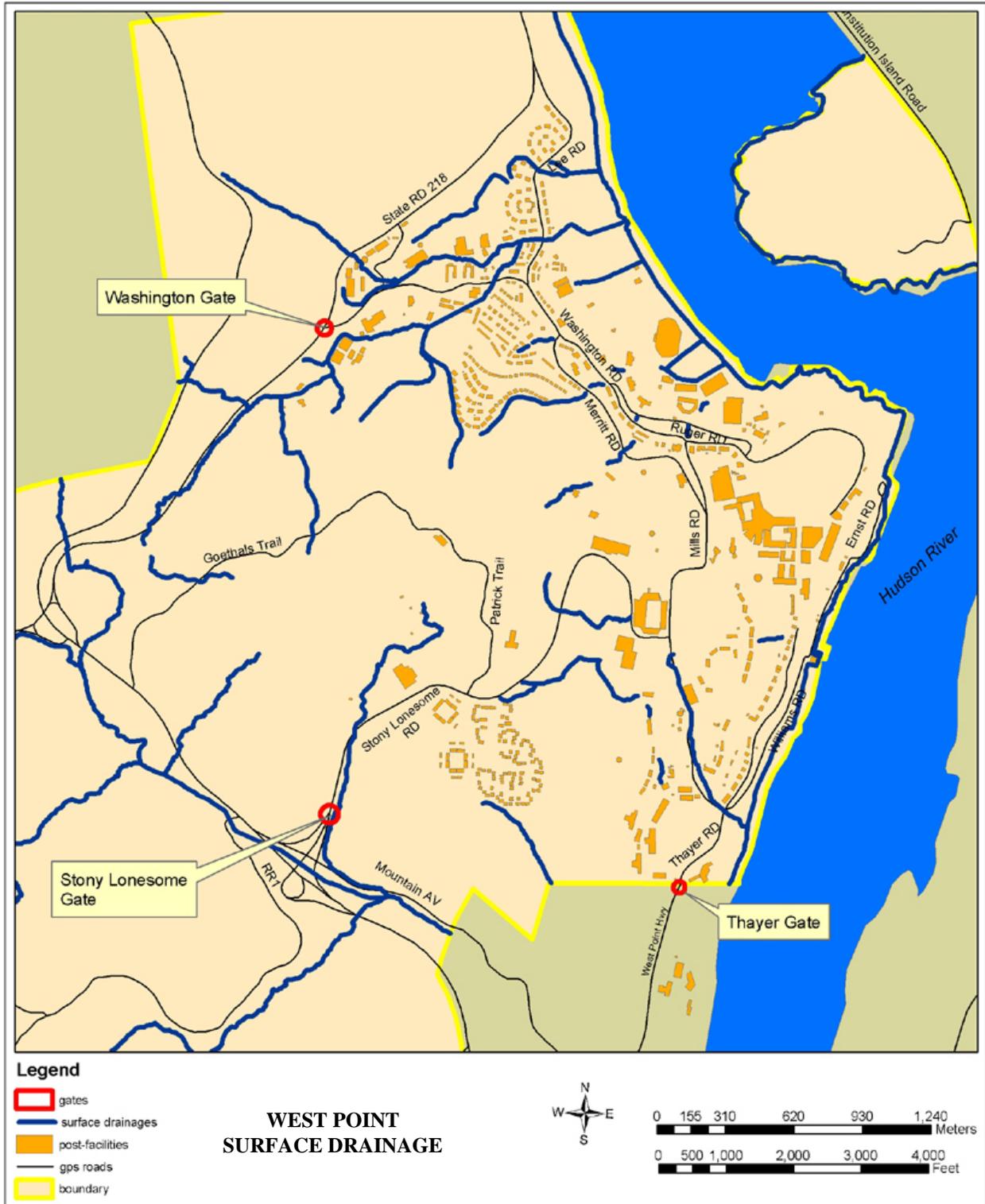
Negligible - Impacts are chemical, physical, or biological effects that would not be detectable, would be well below water quality standards or criteria, and would be within historical or desired water quality conditions.

Minor - Impacts (chemical, physical, or biological effects) would be detectable, but would be well below water quality standards or criteria and within historical or desired water quality conditions.

Moderate - Impacts (chemical, physical, or biological effects) would be detectable, but would be at or below water quality standards or criteria; however, historical baseline or desired water quality conditions would be altered on a short-term basis.

Major - Impacts (chemical, physical, or biological effects) would be detectable and would be frequently altered from the historical baseline or desired water quality conditions; and/or chemical, physical, or biological water quality standards or criteria would be locally, slightly and singularly, exceeded on a short-term and temporary basis.

FIGURE 2-2: WEST POINT SURFACE DRAINAGE



Washington Gate Proposed Action Alternative

Implementation of the Washington Gate Proposed Action Alternative would result in the construction of approximately 31,800 square feet (2,954 square meters) or 0.73 acres (0.30 hectares) of impervious surfaces from roadway, parking, and building construction. This construction would result in an approximate net increase in impervious surfaces of 17,800 square feet (1,654 square meters) or 0.41 acres (0.17 hectares). This increase in impervious surface would create an increase in stormwater runoff that has the potential to impact surface water features. Stormwater management best management practices (BMPs) could be implemented to reduce these impacts. BMPs would be in compliance with NYS DEC guidelines and regulations.

BMPs for runoff control during construction, as recommended by the Environmental Protection Agency, could include the minimization of clearing by preserving natural vegetation, creating permanent diversions, or stabilizing drainage ways with check dams, filter berms, grass-lined channels, and riprap. Erosion and sediment control during construction could be accomplished with BMPs such as stabilizing exposed soils (chemical stabilization, mulching, permanent seeding, sodding, soil roughening), installing perimeter controls (temporary diversion dikes, silt fences, wild fences and sand fences), installing sediment trapping devices (sediment basins and rock dams, sediment filters and sediment chambers, sediment traps), and inlet protection (storm drain inlet protection) (EPA, 2003a). Post construction, either structural or non-structural BMPs could be implemented to reduce runoff. Structural BMPs could include ponds (dry extended detention ponds, wet ponds), infiltration practices (infiltration basins, infiltration trench, porous pavement), filtration practices (bioretention, sand and organic filters), vegetative practices (stormwater wetlands, grassed swales, grassed filter strips), or runoff pretreatment practices (catch basins/catch basin insert, in-line storage, manufactured products for stormwater inlets). Non-structural BMPs that could be implemented, as recommended by the Environmental Protection Agency, include on-lot treatment and better site design such as buffer zones, open space design, urban forestry, conservation easements, infrastructure planning, narrower residential streets, and eliminating curbs and gutters (EPA, 2003b).

The preliminary project design does not include more than one acre (0.40 hectares) of disturbance and would not require a NYS DEC Construction Activity SPDES Permit. As the gate design is further developed, any plan that would include over one acre (0.40 hectares) of disturbance would require a NYS DEC Construction Activity SPDES Permit. The stream at the Washington Gate is designated as Class C, and therefore does not require permitting. Construction activities in the area of Washington Gate would have minor impacts on Sinclair Pond Brook, as well as the potential for impacts to Crows Nest Brook as development approaches Garrard Road, because Garrard Road runoff flows into Crows Nest Brook. Ground disturbance from construction of the roadway improvements, construction traffic to the site, and materials storage areas during the construction stage, could cause erosion, creating short-term impacts to surface water. Normal sediment and erosion control measures during construction would make impacts to surface water from runoff minor. There would be negligible impacts to floodplains, groundwater, and wetlands.

Washington Guardhouse Relocation Alternative

Implementation of the Washington Gate Guardhouse Relocation Alternative would result in the construction of approximately 19,100 square feet (1,774 square meters) or 0.44 acres (0.18 hectares) of impervious surfaces from roadway, parking, and building construction. This construction would result in an approximate net increase in impervious surfaces of 5,100 square feet (474 square meters) or 0.12 acres (0.05 hectares). This increase in impervious surface would create an increase in stormwater runoff that has the potential to impact surface water features. Stormwater management BMPs could be implemented to reduce these impacts. BMPs would be in compliance with NYS DEC

guidelines and regulations. The preliminary project design does not include more than one acre (0.40 hectares) of disturbance and would not require a NYS DEC Construction Activity SPDES Permit. The stream at the Washington Gate is designated as Class C, and therefore does not require permitting. However, construction activities in the area of Washington Gate would have minor impacts on Sinclair Pond Brook, as well as the potential for impacts to Crows Nest Brook as development approaches Garrard Road, because Garrard Road runoff flows into Crows Nest Brook, as previously noted. As the gate design is further developed, any plan that would include over one acre (0.40 hectares) of disturbance would require a NYS DEC Construction Activity SPDES Permit. Ground disturbance from construction of the roadway improvements, construction traffic to the site, and materials storage areas during the construction stage could cause erosion, creating short-term impacts to surface water. Normal sediment and erosion control measures during construction would make impacts to surface water from runoff minor. There would be negligible impacts to floodplains, groundwater, and wetlands.

Stony Lonesome Gate Proposed Action Alternative

Implementation of the Stony Lonesome Gate Proposed Action Alternative would result in the construction of approximately 66,000 square feet (6,132 square meters) or 1.5 acres (0.61 hectares) of impervious surfaces from roadway, parking, and building construction. This construction would result in a net increase in impervious surfaces of approximately 33,000 square feet (3,066 square meters) or 0.76 acres (0.31 hectares). This increase in impervious surfaces would create an increase in stormwater runoff that has the potential to impact surface water features. Stormwater management BMPs could be implemented to reduce these impacts. BMPs would be in compliance with NYS DEC guidelines and regulations. The stormwater drainage system in place would be supplemented by the inclusion of drainage gates and stormwater piping directing stormwater runoff into the drainage systems and into a proposed stormwater management facility. Stormwater integration measures would include the insertion of a V-notch flow restriction weir into the existing culvert servicing Stony Lonesome Brook to integrate flow to pre-development quantities and infiltration trenches to intercept pollutants before reaching the Brook and the stormwater management facility. The preliminary project design for this gate exceeds one acre (0.40 hectares) of disturbance and would require a NYS DEC Construction Activity SPDES Permit. Ground disturbance from construction of the roadway improvements, construction traffic to the site, and materials storage areas during the construction stage, could cause erosion, creating short-term impacts to surface water. Normal sediment and erosion control measures during construction would make impacts to surface water from runoff minor.

This alternative would not involve the culverting of Stony Lonesome Brook and would include the environmental protection of Stony Lonesome Brook during and after construction. A Protection of Waters, or additional like permits, would not be required under this alternative. Because Stony Lonesome Brook would not be culverted, impacts to surface water would be minor. There would be negligible impacts to floodplains, wetlands, and groundwater.

Stony Lonesome Gate Design Alternative

Implementation of the Stony Lonesome Gate Design Alternative would result in the construction of approximately 90,000 square feet (8,361 square meters) or 2.07 acres (0.84 hectares) of impervious surfaces from roadway, parking, and building construction. This construction would result in an approximate net increase in impervious surfaces of 57,000 square feet (5,295 square meters) or 1.31 acres (0.53 hectares). This increase in impervious surfaces would create an increase in stormwater runoff that has the potential to impact surface water features. Stormwater management BMPs, as described under the Washington Gate Proposed Action Alternative, could be implemented to reduce

these impacts. The preliminary project design for this gate exceeds one acre (0.40 hectares) of disturbance and would require a NYS DEC Construction Activity SPDES Permit. Ground disturbance from construction of the roadway improvements, construction traffic to the site, and materials storage areas during the construction stage could cause erosion, creating short-term impacts to surface water. Normal sediment and erosion control measures during construction would make impacts to surface water from runoff minor.

This alternative would also include the culverting of Stony Lonesome Brook for at least 197 feet (60 meters), which has a classification and standard of A(T), potentially resulting in major surface water impacts. Fifteen percent of the length of Stony Lonesome Brook already consists of culvert; the additional culverting would result in approximately 18 percent of the total stream length being culverted. Impacts would result from both the culverting of the stream and the realignment of the stream to accommodate the gate design. A Protection of Waters Permit would be required because this alternative would cause disturbance to the bed or banks of a stream with a classification and standard of C(T) or higher. Additional permits such as Municipal Separate Storm Sewers System (MS4), NPDES, and Clean Water Act Section 404 permits may also be required under this alternative.

This alternative would include the diversion of Stony Lonesome Brook from its approach to the west side of Stony Lonesome Road and through the construction area. Potential impacts related to stream diversion would include introduction of sediment during construction. These impacts could be reduced by the use of BMPs that ensure that sediments are not introduced during the diversion of stream flow including coffer dams, hay bales, silt fences, and other practices as appropriate to ensure that sediment is not transported off-site or downstream. The diversion of the stream would also impact stream flow, both upstream and downstream, due to the modification of the natural stream bank and channel characteristics.

Culverting of the stream could, unless mitigated, also result in increased stream velocities that could impact biological communities downstream by resulting in the modification and loss of habitat in those areas to be culverted. Habitat loss would impact benthic macroinvertebrates, fish, and other aquatic and terrestrial wildlife that utilize Stony Lonesome Brook for habitat. An increase in velocity could also exacerbate the flooding and stream erosion problems within Highland Falls along Highland Brook. Mitigation to address habitat loss and increased stream velocities could include a culvert design that maintains pre-construction flow velocities. Impacts at the culvert outfall could also occur due to scour and the associated downstream channel erosion. This channel erosion could lead to deposition of sediments downstream. Implementation of proper management measures such as a scour pool, other structures that would reduce the potential for scour below the outfall, or rip rap would reduce these impacts. Because of the disturbance to Stony Lonesome Brook, potentially major impacts to surface water under the Stony Lonesome Design Alternative could result. There would be negligible impacts to floodplains, wetlands, and groundwater.

Stony Lonesome Gate Expanded Design Alternative

Implementation of the Stony Lonesome Gate Expanded Design Alternative would result in the construction of approximately 97,600 square feet (9,067 square meters) or 2.24 acres (0.91 hectares) of impervious surfaces from roadway, parking, and building construction. This construction would result in an approximate net increase in impervious surfaces of 64,600 square feet (6,002 square meters) or 1.48 acres (0.60 hectares). This increase in impervious surfaces would create an increase in stormwater runoff that has the potential to impact surface water features. Stormwater management BMPs, as described under the Washington Gate Proposed Action Alternative, could be implemented to reduce these impacts. The preliminary project design for this gate exceeds one acre (0.40 hectares)

of disturbance and would require a NYS DEC Construction Activity SPDES Permit. Ground disturbance from construction of the roadway improvements, construction traffic to the site, and materials storage areas during the construction stage could cause erosion, creating short-term impacts to surface water. Normal sediment and erosion control measures during construction would make impacts to surface water from runoff minor.

This alternative would also include the culverting of Stony Lonesome Brook for at least 197 feet (60 meters), which has a classification and standard of A(T). As noted for the Stony Lonesome Gate Design Alternative, this would result in culverting of approximately 18 percent of the total stream length. Impacts would result from both the culverting of the stream and the realignment of the stream to accommodate the gate design. A Protection of Waters Permit would be required because this alternative would cause disturbance to the bed or banks of a stream with a classification and standard of C(T) or higher. Additional permits such as MS4, NPDES, and Clean Water Act Section 404 permits may also be required under this alternative.

This alternative would include the diversion of Stony Lonesome Brook from its approach to the west side of Stony Lonesome Road and through the construction area. Potential impacts related to stream diversion would include introduction of sediment during construction. These impacts could be reduced by the use of BMPs that ensure that sediments are not introduced during the diversion of stream flow including coffer dams, hay bales, silt fences, and other practices as appropriate to ensure that sediment is not transported off-site or downstream. The diversion of the stream would also impact stream flow, both upstream and downstream, due to the modification of the natural stream bank and channel characteristics.

Culverting of the stream could, unless mitigated, also result in increased stream velocities that could impact biological communities downstream by resulting in the modification and loss of habitat in those areas to be culverted. Habitat loss would impact benthic macroinvertebrates, fish, and other aquatic and terrestrial wildlife that utilize Stony Lonesome Brook for habitat. An increase in velocity could also exacerbate the flooding and stream erosion problems within Highland Falls along Highland Brook. Mitigation to address habitat loss and increased stream velocities could include a culvert design that maintains pre-construction flow velocities. Impacts at the culvert outfall could also occur due to scour and the associated downstream channel erosion. This channel erosion could lead to deposition of sediments downstream. Implementation of proper management measures such as a scour pool, other structures that would reduce the potential for scour below the outfall, or rip rap would reduce these impacts. Because of the disturbance to Stony Lonesome Brook, potentially major impacts to surface water under the Stony Lonesome Design Alternative could result. There would be negligible impacts to floodplains, groundwater, and wetlands.

Thayer Gate Proposed Action – Thayer Road Alternative

Implementation of the Thayer Gate Proposed Action – Thayer Road Alternative would result in the construction of approximately 75,890 square feet (7,050 square meters) or 1.74 acres (0.71 hectares) of impervious surfaces from roadway, parking, and building construction. This construction would result in an approximate net increase in impervious surfaces of 27,890 square feet (2,591 square meters) or 0.64 acres (0.26 hectares). This increase in impervious surfaces would create an increase in stormwater runoff that has the potential to impact surface water features. Stormwater from the Thayer Gate may be directed towards Kinsley Farm Brook, although this is not likely. Stormwater management BMPs, as described under the Washington Gate Proposed Action Alternative, could be implemented to reduce these impacts. The preliminary project design for this gate exceeds one acre (0.40 hectares) of disturbance and would require a NYS DEC Construction Activity SPDES Permit. Ground disturbance from construction of the roadway improvements, construction traffic to the site,

and materials storage areas during the construction stage, could cause erosion, creating short-term impacts to surface water. Normal sediment and erosion control measures during construction would make impacts to surface water from runoff minor. There would be negligible impacts to floodplains, groundwater, and wetlands.

Thayer Gate – Swift Road Alternative

Implementation of the Thayer Gate – Swift Road Alternative would result in the construction of approximately 80,130 square feet (7,444 square meters) or 1.84 acres (0.74 hectares) of impervious surfaces from roadway, parking, and building construction. This construction would result in an approximate net increase in impervious surfaces of 28,630 square feet (2,660 square meters) or 0.66 acres (0.27 hectares). This increase in impervious surfaces would create an increase in stormwater runoff that has the potential to impact surface water features. Stormwater from the Thayer Gate area may be directed towards Kinsley Farm Brook, although this is not likely. Stormwater management BMPs, as described under the Washington Gate Proposed Action Alternative, could be implemented to reduce these impacts. The preliminary project design for this gate exceeds one acre (0.40 hectares) of disturbance and would require a NYS DEC Construction Activity SPDES Permit. Ground disturbance from construction of the roadway improvements, construction traffic to the site, and materials storage areas during the construction stage, could cause erosion, creating short-term impacts to surface water. Normal sediment and erosion control measures during construction would make impacts to surface water from runoff minor. There would be negligible impacts to floodplains, groundwater, and wetlands.

Thayer Gate – Roundabout Alternative

Implementation of the Thayer Gate – Roundabout Alternative would result in the construction of approximately 38,350 square feet (3,563 square meters) or 0.88 acres (0.36 hectares) of impervious surfaces from roadway, parking, and building construction. This construction would result in an approximate net increase in impervious surfaces of 5,250 square feet (488 square meters) or 0.12 acres (0.05 hectares). This increase in impervious surfaces would create an increase in stormwater runoff that has the potential to impact surface water features. Stormwater from the Thayer Gate area may be directed towards Kinsley Farm Brook, although this is not likely. Stormwater management BMPs, as described under the Washington Gate Proposed Action Alternative, could be implemented to reduce these impacts. The preliminary project design does not include more than one acre (0.40 hectares) of disturbance and would not require a NYS DEC Construction Activity SPDES Permit. As the gate design is further developed, any plan that would include over one acre (0.40 hectares) of disturbance would require a NYS DEC Construction Activity SPDES Permit. Ground disturbance from construction of the roadway improvements, construction traffic to the site, and materials storage areas during the construction stage, could cause erosion, creating short-term impacts to surface water. Normal sediment and erosion control measures during construction would make impacts to surface water from runoff minor. There would be negligible impacts to floodplains, groundwater, and wetlands.

No Action Alternative

No additional impacts to surface water, wetlands, floodplains, groundwater, or stormwater features would be expected to occur from implementation of the No Action Alternative.

2.2 Geology, Topography, and Soils

2.2.1 Affected Environment

This subsection describes the geological and topographical resources existing in the proposed project area.

2.2.1.1 Geology

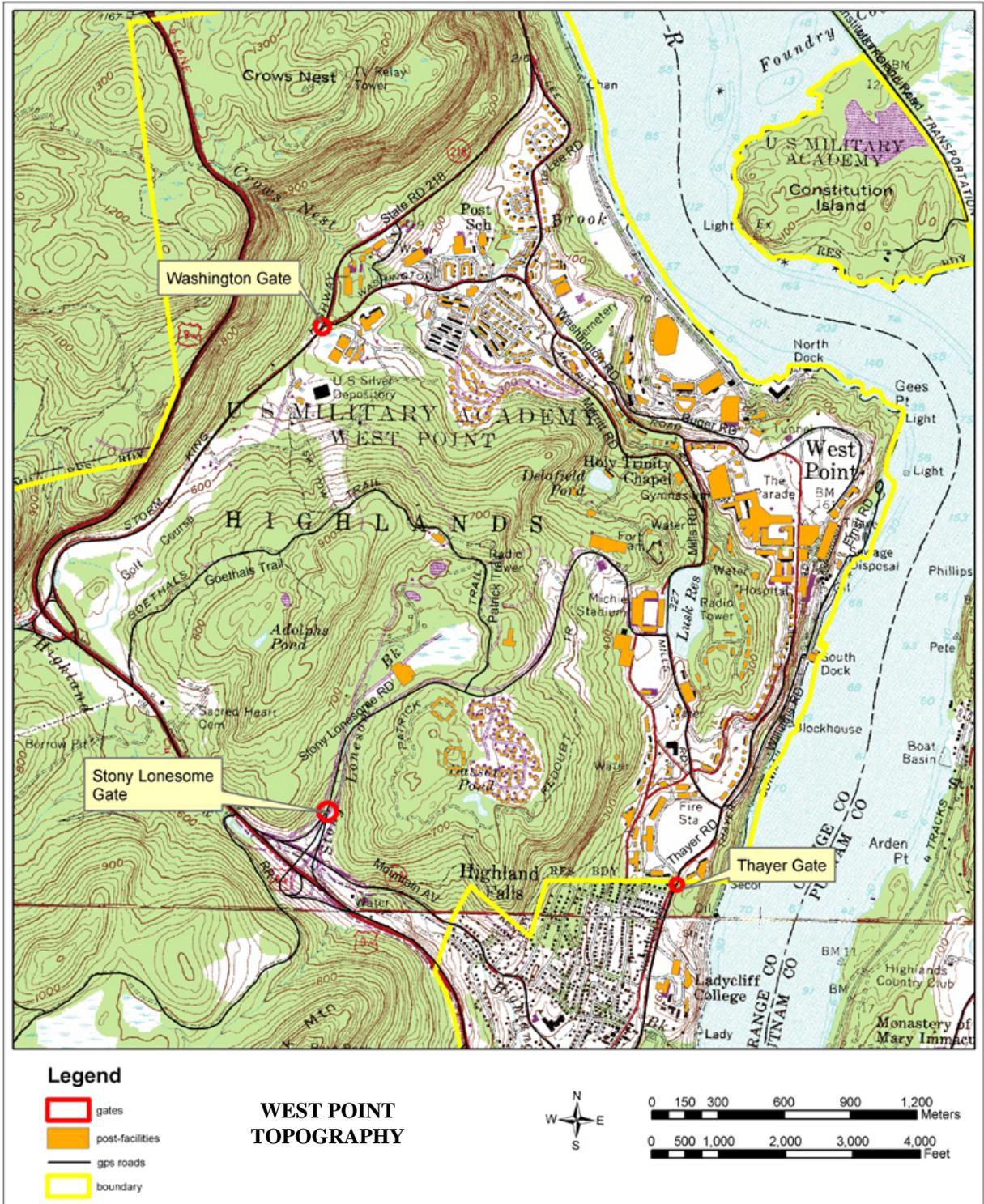
West Point is located in the Hudson Highlands, which is a low, rugged mountain range that begins in Reading, Pennsylvania, and runs northeasterly through New Jersey and New York to Connecticut and Massachusetts. These hill formations form a zone of folded and faulted metamorphic and igneous rocks that are subjected to extensive weathering and erosion (USMA, 1998). This area generally has shallow soils over bedrock and consists primarily of glacial deposits. Bedrock exposures are common and the bedrock geology consists of granite, gneisses, and schist. In the Stony Lonesome area, Gneiss/pegmatite has been identified as the bedrock type. This rock is very hard and difficult to excavate (USMA, 1997). The western edge of the installation, where Stony Lonesome Gate and Washington Gate are located, is underlain partially by limestone and undifferentiated conglomerates. The geology at West Point has been influenced by thrust faulting, folding, dike injection, jointing, uplift, and erosion that has historically occurred. West Point is located on the crest of an antiform that plunges to the northeast and is an “open fold” because the limbs of the antiform dip away from each other (USMA, 1998).

2.2.1.2 Topography

Topography at West Point has been shaped by the geologic history of glacial forces and differential weathering of ancient rock, which resulted in the formation of the Hudson Highlands. The general topography of the post is described as having moderately steep hills and numerous escarpments with slopes ranging from 10 to 60 percent. In between the hills are small plains, basins, and narrow valleys with slopes less than 3 percent (USMA, 1998). The topography at West Point is shown in Figure 2-3. The topography in the proposed project areas is as follows:

- **Washington Gate:** The topography of Washington Gate, which is located at approximately 420 feet (128 meters) above mean sea level (amsl), is relatively level. To the north (Crows Nest Mountain) the elevation rises to 1,403 feet (428 meters) amsl over a distance of approximately 3,000 feet (900 meters).
- **Stony Lonesome Gate:** Stony Lonesome Gate, located at approximately 600 feet (183 meters) amsl, is located in an area of steep topography. To the east and west of Stony Lonesome Road, the topography rises 328 feet (100 meters) vertically over a 246-foot (75 meters) horizontal distance.
- **Thayer Gate:** The topography in the vicinity of Thayer Gate, located at 148 feet (45 meters) amsl, is relatively flat, but to the east, drops off sharply to the Hudson River.

FIGURE 2-3: WEST POINT TOPOGRAPHY



2.2.1.3 Soils

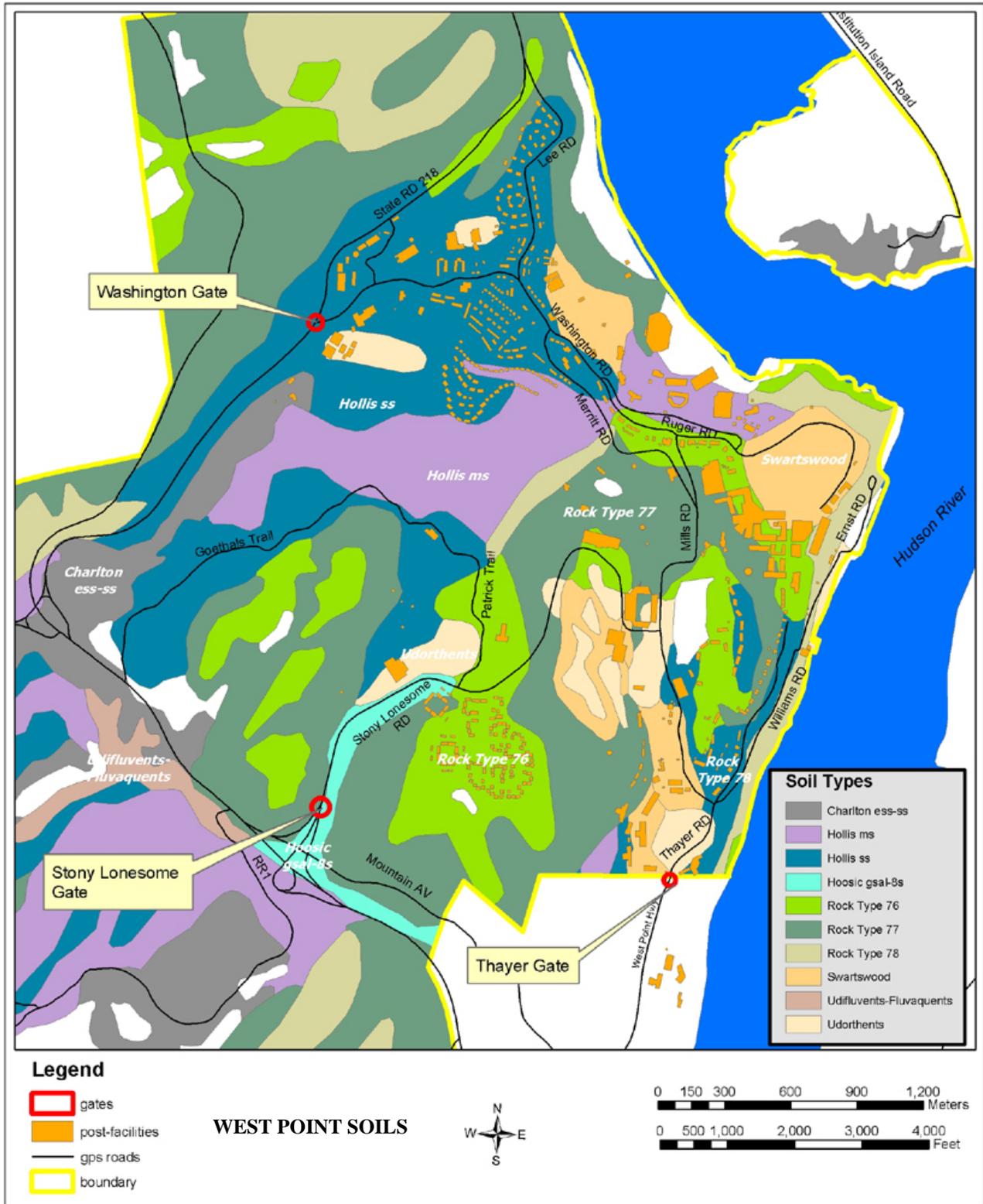
Soils at West Point can be characterized as shallow, stony, and boulder-strewn. The soils are less than 6 feet (1.8 meters) deep, and were formed from glacial till and alluvium derived from glacially transported sediment. Soils in the hilltops and hillsides are well drained and contain only shallow soils with frequent outcrops, while those in low-lying areas, such as depressions on hill summits and parts of the small floodplains in the valleys, are deeper and poorer draining soils. The dominant soil at West Point is the Hollis-Rock Outcrop Association. This association is characterized as steeply sloping, excessively-drained and well-drained, medium-textured soils overlying crystalline bedrock, on mountainous uplands. Other soil types on the post include sandy loams, gravelly loams, gravelly sandy loams, silt loams, gravelly silt loams, stony, and extremely stony (USMA, 1998).

In the Soil Survey of Orange County, the Hollis-Rock Outcrop map unit is described as, “mostly forested, good habitat for wildlife and unsuited to farming or community development. The soils are shallow and are well-drained to excessively-drained. The rate of water movement is moderate or moderately rapid” (USDA SCS, 1981). The Orange County Soil Survey shows 43 mapping units on West Point. Soils at West Point are shown in Figure 2-4. In the proposed project areas, much of the proposed work will occur on previously cut and filled areas, and not on native soils. Soils in the area of each gate are discussed below:

Washington Gate

- Undorthents, smoothed (UH) – The UH mapping unit is formed in manmade cut and fill areas, which are generally near industrial sites, urban developments, or other construction sites. This unit is excessively-drained to moderately well-drained, with considerable variation in the depth to the seasonal high water table and permeability that is dependent on topography, degree of compaction, soil texture, and other related factors. The texture, stone content, soil pH, and depth to bedrock varies considerably from one area to another, but in general, bedrock is at depths greater than 5 feet (1.5 meters). This unit is generally poorly suited for farming or recreation. Onsite investigation is needed to determine feasibility for any purpose.
- Hollis soils, sloping (HLC) – This mapping unit is classified as shallow, well-drained to somewhat excessively-drained, and sloping and gently sloping. These soils were formed in glacial till deposits derived from crystalline rock that is dominantly schist, gneiss, and granite. This unit is found on hillcrests, hilltops, valley sides, and ridges of the mountainous uplands. Most areas with this unit are either idle or forests, with a few pastured or used for hay. This unit usually does not have a perched water table above the bedrock and moderate to moderately rapid permeability. Available water capacity is very low or low, runoff is medium to rapid, and bedrock is at a depth of 10 to 20 inches (25 to 51 cm). This unit is limited for most crops and is poorly suited to most urban and recreation uses because of the shallowness over bedrock and associated dryness. Deep excavation is very difficult as a result of the hardness of the underlying rock. This unit has severe limitations for the development of dwellings with or without basements, local roads and streets, shallow excavations, small commercial buildings, and lawns and landscaping.

FIGURE 2-4: WEST POINT SOILS



Stony Lonesome Gate

- Hoosic gravelly sandy loam, 8 to 15 percent (HoC) – This unit is classified as deep, somewhat excessively-drained, and sloping, and is formed in glacial outwash deposits that have a high content of sand and gravel. These soils are usually found on low rounded hills, on ridges, along the fronts of terraces in valleys, and on lowland plains. Permeability of this unit is moderately rapid in the surface layer, moderately rapid or rapid in the subsoil, and very rapid in the substratum. The depth to the water table is usually more than 6 feet (1.8 meters). Most areas with this unit are either farmed or idle, with a few used for urban and recreation purposes. This unit has moderate limitations for the development of dwellings with or without basements and local roads and streets. There are severe limitations for the development of shallow excavations, small commercial buildings, and lawns and landscaping.
- Rock outcrop-Hollis complex, moderately steep (ROD) – This unit is comprised of exposed bedrock and the shallow, somewhat excessively-drained to well-drained Hollis soils. The ROD unit can be found on hillcrests, hilltops, and ridges of the mountainous uplands. There is no free water perched above the bedrock in this unit, except where the rock is poorly jointed. This unit has moderate or moderately rapid permeability, low or very low water capacity, rapid to very rapid runoff, and a bedrock depth of 10 to 20 inches (25 to 51cm). Most areas of this unit are forested with sparse plant cover in areas of exposed bedrock. This complex of rock and soil is not suited to crop production, timber production, or urban uses. This unit has severe limitations for the development of dwellings with or without basements, local roads and streets, shallow excavations, small commercial buildings, and lawns and landscaping.
- Rock outcrop-Hollis complex, sloping (ROC) – This unit is comprised of exposed bedrock and the shallow, somewhat excessively drained to well drained Hollis soils. The ROC unit can be found on hillcrests, hilltops, and ridges of the mountainous uplands. There is no free water perched above the bedrock in this unit, except where the rock is poorly jointed. This unit has moderate or moderately rapid permeability, low or very low water capacity, medium to rapid runoff, and a bedrock depth of 10 to 20 inches (25 to 51 cm). This complex of rock and soil is not suited to crop production, timber production, or urban uses. This unit has severe limitations for the development of dwellings with or without basements, local roads and streets, shallow excavations, small commercial buildings, and lawns and landscaping.

Thayer Gate

Soil mapping units found around the Thayer Gate include the Undorthents, smoothed unit and the Hollis soils, sloping unit. The properties of these units are described above under the discussion of soils around the Washington Gate. Other soil mapping units in the vicinity of the Thayer Gate include:

- Swartswood gravelly loam, 3 to 8 percent (SwB) – This unit is classified as a deep, well-drained and moderately well-drained, gently sloping soil that was formed in glacial till deposits derived from gray and brown conglomerate and sandstone. The water table for this unit is commonly perched above the fragipan for brief periods in the spring, with depth to the pan 25 to 35 inches (64 to 89 cm). Permeability is moderate above the pan and is slow or moderately slow in the pan and substratum. Available water capacity is low to moderate, with slow to medium runoff. Many areas of this mapping unit are forested and some are farmed, idle, or used for urban development. This unit has moderate limitations for the development of dwellings with or without basements, local roads and streets, shallow excavations, small commercial buildings, and lawns and landscaping.

- Rock outcrop-Hollis complex, very steep (ROF) – This unit is comprised of exposed bedrock and the shallow, somewhat excessively-drained to well-drained Hollis soils. The ROF unit can be found on hillsides and valley sides of mountainous uplands. There is no free water perched above the bedrock in this unit, except where the rock is poorly jointed. This unit has moderate or moderately rapid permeability, low or very low water capacity, rapid to very rapid runoff, and a bedrock depth of 10 to 20 inches (25 to 51 cm). This complex of rock and soil is not suited to crop production, timber production, or urban uses. This unit has severe limitations for the development of dwellings with or without basements, local roads and streets, shallow excavations, small commercial buildings, and lawns and landscaping.

As discussed under Section 2.1 (Water Resources), those projects exceeding an acre (0.40 hectares) require an Erosion and Sediment Control Plan.

2.2.2 Geology, Topography, and Soils Environmental Consequences

To assess the magnitude of impacts to geology, topography, and soils in the area of the access gates, the following impact thresholds were used:

Negligible - Impacts are chemical, physical, or biological effects that would not be detectable and impacts from erosion to surrounding water resources would be well below water quality standards or criteria, and would be within historical or desired water quality conditions.

Minor - Impacts (chemical, physical, or biological effects) would be detectable but impacts from erosion to surrounding water resources would be well below water quality standards or criteria and within historical or desired water quality conditions.

Moderate - Impacts (chemical, physical, or biological effects) would be detectable but impacts from erosion to surrounding water resources would be at or below water quality standards or criteria; however, historical baseline or desired water quality conditions would be altered on a short-term basis.

Major - Impacts (chemical, physical, or biological effects) would be detectable and would be frequently altered from the historical baseline. Impacts from erosion on water resources would alter water quality frequently from the historical baseline or desired water quality conditions; and/or chemical, physical, or biological water quality standards or criteria would be locally, slightly and singularly, exceeded on a short-term and temporary basis.

Washington Gate Proposed Action Alternative

Implementation of the Washington Gate Proposed Action Alternative would result in the land disturbance of approximately 31,800 square feet (2,954 square meters) or 0.73 acres (0.30 hectares) from roadway, parking, and building construction. Minor short-term impacts to microtopography and existing soil conditions would be expected to occur during clearing, excavation, and grading for any of the proposed upgrades. Upgrades that would require the widening or realignment of paved roads would increase the amount of impervious surfaces occurring in the area, which in effect would increase the amount of stormwater runoff. Soils in the vicinity of Washington Gate have moderate to moderately rapid permeability, which would assist in the absorption of runoff from roadways. Increased runoff could cause erosion and sedimentation problems in areas adjacent to the roads. To minimize the amount and velocity of runoff, appropriate erosion, sedimentation, and stormwater BMPs would be implemented where appropriate. The BMPs would be consistent with the New York State Stormwater Design Manual.

BMPs for runoff control during construction, as recommended by the Environmental Protection Agency, could include the minimization of clearing by preserving natural vegetation and creating permanent diversions, or stabilizing drainage ways with check dams, filter berms, grass-lined channels, and riprap. Erosion and sediment control during construction could be accomplished with BMPs such as stabilizing exposed soils (chemical stabilization, mulching, permanent seeding, sodding, soil roughening), installing perimeter controls (temporary diversion dikes, silt fences, wild fences and sand fences), installing sediment trapping devices (sediment basins and rock dams, sediment filters and sediment chambers, sediment traps), and inlet protection (storm drain inlet protection) (EPA, 2003a). Post construction, either structural or non-structural BMPs could be implemented to reduce runoff. Structural BMPs could include ponds (dry extended detention ponds, wet ponds), infiltration practices (infiltration basins, infiltration trench, porous pavement), filtration practices (bioretention, sand and organic filters), vegetative practices (storm water wetlands, grassed swales, grassed filter strips), or runoff pretreatment practices (catch basins/catch basin insert, in-line storage, manufactured products for stormwater inlets). Non-structural BMPs that could be implemented, as recommended by the Environmental Protection Agency, include on-lot treatment and better site design such as buffer zones, open space design, urban forestry, conservation easements, infrastructure planning, narrower residential streets, and eliminating curbs and gutters (EPA, 2003b).

The preliminary project design does not include more than one acre (0.40 hectares) of disturbance and would not require a NYS DEC Erosion and Sediment Control Plan. As the gate design is further developed, any plan that would include over one acre (0.40 hectares) of disturbance would require a NYS DEC Erosion and Sediment Control Plan. In addition, appropriate soil engineering studies would be conducted at each location to assure proper road design. Some soils occurring in the project area have road development limitations based on their drainage and subgrade composition.

Washington Gate Guardhouse Relocation Alternative

Implementation of the Washington Gate Guardhouse Relocation Alternative would result in the land disturbance of approximately 19,100 square feet (1,774 square meters) or 0.44 acres (0.18 hectares) from roadway, parking, and building construction. Minor short-term impacts to microtopography and existing soil conditions would be expected to occur during clearing, excavation, and grading for any of the proposed upgrades. Upgrades that would require the widening or realignment of paved roads would increase the amount of impervious surfaces occurring in the area, which in effect would increase the amount of stormwater runoff. Soils in the vicinity of Washington Gate have moderate to moderately rapid permeability, which would assist in the absorption of runoff from roadways. Increased runoff could cause erosion and sedimentation problems in areas adjacent to the roads. To minimize the amount and velocity of runoff, appropriate erosion, sedimentation, and stormwater BMPs would be implemented where appropriate. The BMPs, as described under the Washington Gate Proposed Action Alternative, would be consistent with the New York State Stormwater Design Manual. The preliminary project design does not include more than one acre (0.40 hectares) of disturbance and would not require a NYS DEC Erosion and Sediment Control Plan. As the gate design is further developed, any plan that would include over one acre (0.40 hectares) of disturbance would require a NYS DEC Erosion and Sediment Control Plan. In addition, appropriate soil engineering studies would be conducted at each location to assure proper road design. Some soils occurring in the project area have road development limitations based on their drainage and subgrade composition.

Stony Lonesome Gate Proposed Action Alternative

Implementation of the Stony Lonesome Proposed Action Alternative would result in the land disturbance of approximately 66,000 square feet (6,132 square meters) or 1.5 acres (0.61 hectares)

from roadway, parking, and building construction. Minor short-term impacts to microtopography and existing soil conditions would be expected to occur during clearing, excavation, and grading for any of the proposed upgrades. Upgrades that would require the widening or realignment of paved roads would increase the amount of impervious surfaces occurring in the area, which in effect would increase the amount of stormwater runoff. Soils in the vicinity of Stony Lonesome Gate have moderate to moderately rapid permeability, which would assist in the absorption of runoff from roadways. Increased runoff could cause erosion and sedimentation problems in areas adjacent to the roads. To minimize the amount and velocity of runoff, appropriate erosion, sedimentation, and stormwater BMPs would be implemented where appropriate. The BMPs, as described under the Washington Gate Proposed Action Alternative, would be consistent with the New York State Stormwater Design Manual. Furthermore, the gate design include supplementing the current stormwater drainage system by including of drainage gates and stormwater piping that would direct stormwater runoff into the drainage systems and into a proposed stormwater management facility. Stormwater integration measures would include the insertion of a V-notch flow restriction weir into the existing culvert servicing Stony Lonesome Brook to integrate flow to pre-development quantities and infiltration trenches to intercept pollutants before reaching the Brook and the stormwater management facility.

The preliminary project design includes more than one acre (0.40 hectares) of disturbance and would require a NYS DEC Erosion and Sediment Control Plan. In addition, appropriate soil engineering studies would be conducted at each location to assure proper road design. Some soils occurring in the project area have road development limitations based on their drainage and subgrade composition. Minor impacts would occur to geology and soils.

Stony Lonesome Gate Design Alternative

Implementation of the Stony Lonesome Design Alternative would result in the land disturbance of approximately 90,000 square feet (8,361 square meters) or 2.07 acres (0.84 hectares) from roadway, parking, and building construction. This alternative would require a large amount of cut and fill activities to implement the upgrades in the existing topography. Moderate short-term impacts to microtopography and existing soil conditions would be expected to occur during clearing, excavation, and grading for any of the proposed upgrades. Upgrades that would require the widening or realignment of paved roads would increase the amount of impervious surfaces occurring in the area, which in effect would increase the amount of stormwater runoff. Soils in the vicinity of Stony Lonesome Gate have moderate to moderately rapid permeability, which would assist in the absorption of runoff from roadways. Increased runoff could cause erosion and sedimentation problems in areas adjacent to the roads. To minimize the amount and velocity of runoff, appropriate erosion, sedimentation, and stormwater BMPs would be implemented where appropriate. The BMPs, as described under the Washington Gate Proposed Action Alternative, would be consistent with the New York State Stormwater Design Manual. The preliminary project design includes more than one acre (0.40 hectares) of disturbance and would require a NYS DEC Erosion and Sediment Control Plan. In addition, appropriate soil engineering studies would be conducted at each location to assure proper road design. Some soils occurring in the project area have road development limitations based on their drainage and subgrade composition.

This alternative would also include the culverting of Stony Lonesome Brook, which has a classification and standard of A(T). Because this alternative would cause disturbance to the bed or banks of a stream with a classification and standard of C(T) or higher, a Protection of Waters Permit would be required to manage any increase in erosion from this process.

Stony Lonesome Gate Expanded Design Alternative

Implementation of the Stony Lonesome Gate Expanded Design Alternative would result in the land disturbance of approximately 97,600 square feet (9,067 square meters) or 2.24 acres (0.91 hectares) from roadway, parking, and building construction. This alternative would require a large amount of cut and fill activities to implement the upgrades in the existing topography, greater than what would be required under the Stony Lonesome Gate Design Alternative. Moderate short-term impacts to microtopography and existing soil conditions would be expected to occur during clearing, excavation, and grading for any of the proposed upgrades. Upgrades that would require the widening or realignment of paved roads would increase the amount of impervious surfaces occurring in the area, which in effect would increase the amount of stormwater runoff. Soils in the vicinity of Stony Lonesome Gate have moderate to moderately rapid permeability, which would assist in the absorption of runoff from roadways. Increased runoff could cause erosion and sedimentation problems in areas adjacent to the roads. To minimize the amount and velocity of runoff, appropriate erosion, sedimentation, and stormwater BMPs would be implemented where appropriate. The BMPs, as described under the Washington Gate Proposed Action Alternative, would be consistent with the New York State Stormwater Design Manual. The preliminary project design includes more than one acre (0.40 hectares) of disturbance and would require a NYS DEC Erosion and Sediment Control Plan. In addition, appropriate soil engineering studies would be conducted at each location to assure proper road design. Some soils occurring in the project area have road development limitations based on their drainage and subgrade composition.

This alternative would also include the culverting of Stony Lonesome Brook, which has a classification and standard of A(T). Because this alternative would cause disturbance to the bed or banks of a stream with a classification and standard of C(T) or higher, a Protection of Waters Permit would be required to manage any increase in erosion from this process.

Thayer Gate Proposed Action – Thayer Road Alternative

Implementation of the Thayer Gate Proposed Action – Thayer Road Alternative would result in the land disturbance of approximately 75,890 square feet (7,050 square meters) or 1.74 acres (0.71 hectares) from roadway, parking, and building construction. Minor short-term impacts to microtopography and existing soil conditions would be expected to occur during clearing, excavation, and grading for any of the proposed upgrades. Upgrades that would require the widening or realignment of paved roads would increase the amount of impervious surfaces occurring in the area, which in effect would increase the amount of stormwater runoff. The majority of soils in the vicinity of Thayer Gate have moderate to moderately rapid permeability, which would assist in the absorption of runoff from roadways. Soil units with low permeability, which results in poor drainage, might not absorb all of the runoff from the impervious surfaces. Increased runoff could cause erosion and sedimentation problems in areas adjacent to the roads. To minimize the amount and velocity of runoff, appropriate erosion, sedimentation, and stormwater BMPs would be implemented where appropriate. The BMPs, as described under the Washington Gate Proposed Action Alternative, would be consistent with the New York State Stormwater Design Manual. The preliminary project design does not include more than one acre (0.40 hectares) of disturbance and would not require a NYS DEC Erosion and Sediment Control Plan. As the gate design is further developed, any plan that would include over one acre (0.40 hectares) of disturbance would require a NYS DEC Erosion and Sediment Control Plan. In addition, appropriate soil engineering studies would be conducted at each location to assure proper road design. Some soils occurring in the project area have road development limitations based on their drainage and subgrade composition.

Thayer Gate – Swift Road Alternative

Implementation of the Thayer Gate – Swift Road Alternative would result in the land disturbance of approximately 80,130 square feet (7,444 square meters) or 1.84 acres (0.74 hectares) from roadway, parking, and building construction. Minor short-term impacts to microtopography and existing soil conditions would be expected to occur during clearing, excavation, and grading for any of the proposed upgrades. Upgrades that would require the widening or realignment of paved roads would increase the amount of impervious surfaces occurring in the area, which in effect would increase the amount of stormwater runoff. The majority of soils in the vicinity of Thayer Gate have moderate to moderately rapid permeability, which would assist in the absorption of runoff from roadways. Soil units with low permeability, which results in poor drainage, might not absorb all of the runoff from the impervious surfaces. Increased runoff could cause erosion and sedimentation problems in areas adjacent to the roads. To minimize the amount and velocity of runoff, appropriate erosion, sedimentation, and stormwater BMPs would be implemented where appropriate. The BMPs, as described under the Washington Gate Proposed Action Alternative, would be consistent with the New York State Stormwater Design Manual. The preliminary project design includes more than one acre (0.40 hectares) of disturbance and would require a NYS DEC Erosion and Sediment Control Plan. In addition, appropriate soil engineering studies would be conducted at each location to assure proper road design. Some soils occurring in the project area have road development limitations based on their drainage and subgrade composition.

Thayer Gate – Roundabout Alternative

Implementation of the Thayer Gate – Roundabout Alternative would result in the land disturbance of approximately 38,350 square feet (3,563 square meters) or 0.88 acres (0.36 hectares) from roadway, parking, and building construction. Minor short-term impacts to microtopography and existing soil conditions would be expected to occur during clearing, excavation, and grading for any of the proposed upgrades. Upgrades that would require the widening or realignment of paved roads would increase the amount of impervious surfaces occurring in the area, which in effect would increase the amount of stormwater runoff. The majority of soils in the vicinity of Thayer Gate have moderate to moderately rapid permeability, which would assist in the absorption of runoff from roadways. Soil units with low permeability, which results in poor drainage, might not absorb all of the runoff from the impervious surfaces. Increased runoff could cause erosion and sedimentation problems in areas adjacent to the roads. To minimize the amount and velocity of runoff, appropriate erosion, sedimentation, and stormwater BMPs would be implemented where appropriate. The BMPs, as described under the Washington Gate Proposed Action Alternative, would be consistent with the New York State Stormwater Design Manual. The preliminary project design does not include more than one acre (0.40 hectares) of disturbance and would not require a NYS DEC Erosion and Sediment Control Plan. As the gate design is further developed, any plan that would include over one acre (0.40 hectares) of disturbance would require a NYS DEC Erosion and Sediment Control Plan. In addition, appropriate soil engineering studies would be conducted at each location to assure proper road design. Some soils occurring in the project area have road development limitations based on their drainage and subgrade composition.

No Action Alternative

Because no ground disturbing activity would occur, the No Action Alternative would not impact the current geologic, topographic, or soil conditions at West Point and/or the surrounding area.

2.3 Air Quality

The EPA defines ambient air in 40 CFR Part 50 as “that portion of the atmosphere, external to buildings, to which the general public has access.” In compliance with the 1970 Clean Air Act (CAA) and the 1977 and 1990 Clean Air Act Amendments (CAAA), the EPA has promulgated ambient air quality standards and regulations. The National Ambient Air Quality Standards (NAAQS) were enacted for the protection of the public health and welfare, allowing for an adequate margin of safety. To date, the EPA has issued NAAQS for six criteria pollutants: carbon monoxide (CO), sulfur dioxide (SO₂), particles with a diameter less than or equal to a nominal 10 micrometers (PM₁₀), ozone (O₃), nitrogen dioxide (NO₂), and lead (Pb). Areas that do not meet NAAQS are called non-attainment areas.

2.3.1 Air Quality Affected Environment

The EPA has classified the New York – North New Jersey – Long Island area, including the area of the proposed project (Orange County, New York), as in severe non-attainment for the criteria pollutant ozone. The NAAQS for ozone is presented in Table 2-1.

To regulate the emission levels resulting from a project, federal actions located in non-attainment areas are required to demonstrate compliance with the general conformity guidelines established in 40 CFR Part 93 *Determining Conformity of Federal Actions to State or Federal Implementation Plans* (the Rule). The proposed access gate security upgrades are located within an area designated by the EPA as a severe ozone non-attainment area; therefore, a General Conformity Rule applicability analysis is warranted.

TABLE 2-1: AMBIENT AIR QUALITY STANDARDS FOR OZONE

Pollutant	Federal Standard	New York Standard
Ozone (O ₃) ¹		
1-Hour Average	0.12 ppm	0.12 ppm
8-Hour Average	0.08 ppm	0.08 ppm

¹ Federal primary and secondary standards for this pollutant are identical.

Source: EPA, 2002; NYS DEC nd.

Section 93.153 of the Rule sets the applicability requirements for projects subject to the Rule through the establishment of *de minimis* levels for annual criteria pollutant emissions. These *de minimis* levels are set according to criteria pollutant non-attainment area designations. Projects below the *de minimis* levels are not subject to the Rule. Those at or above the levels are required to perform a conformity analysis as established in the Rule. The *de minimis* levels apply to direct and indirect sources of emissions that can occur during the construction and operational phases of the action.

To determine the applicability of the Rule to this action, emissions were estimated for the ozone precursor pollutants – oxides of nitrogen (NO_x) and volatile organic compounds (VOC). Annual emissions for these compounds were estimated for each of the project actions (construction and operation) to determine if they would be below or above the *de minimis* levels established in the Rule. The *de minimis* for severe ozone areas is 25 tons per year (TPY) (22,680 kilograms per year (kgpy)) for each ozone precursor pollutant. Sources of NO_x and VOC associated with the proposed project include emissions from construction equipment, construction crew commuting vehicles, painting of interior building surfaces and parking spaces (VOC only). There would be no operational emissions as a result of the proposed action.

In addition to evaluation of air emissions against *de minimis* levels, emissions are also evaluated for regional significance. A federal action that does not exceed the threshold emission rates of criteria pollutants may still be subject to a general conformity determination if the direct and indirect emissions from the action exceed ten percent of the total emissions inventory for a particular criteria pollutant in a non-attainment or maintenance area. If the emissions exceed this ten percent threshold, the federal action is considered to be a “regionally significant” activity, and thus, the general conformity rules apply.

2.3.1.1 Ambient Air Quality

Ambient air quality is monitored in Orange County by a network of stations meeting EPA’s design criteria for State and Local Air Monitoring Stations (SLAMS) and National Air Monitoring Stations (NAMS). There is one monitoring station for ozone located in Orange County that has been in operation since 1995. This monitor is located at 1175 Route 17k, in Montgomery, New York. On average, this monitor exceeded the standard for ozone one time in 1999, 2001, 2002, and 2003. This station did not exceed the standard for ozone in 2000.

Table 2-2 shows the existing one-hour ozone monitoring data within Orange County, New York.

TABLE 2-2: EXISTING ONE-HOUR OZONE MONITORING DATA WITHIN ORANGE COUNTY, NEW YORK

Monitoring Station	Year				
	1999	2000	2001	2002	2003
#360715001-1 – 1275 Route 17k, Montgomery, New York	0.143/0.119	0.100/0.096	0.111/0.108	0.134/0.099	0.109/0.107

Values are in parts per million (ppm); 1st/2nd highest data

NAAQS: One-hour average = 0.12 ppm (a value >0.125 ppm is an exceedance)

Source: U.S. EPA, AIRS Data, November, 2003

2.3.1.2 Meteorology/Climate

Temperature is a parameter used in calculations of emissions for air quality applicability. Climate at West Point can be characterized as a humid, continental climate with a mean high temperature of 86°F (30 °C) in July and a mean low temperature of 27°F (-2.8 °C) in January. Summers are warm with periods of high humidity and winters are cold, with extended periods of snow cover and are influenced by the cold Hudson Bay air masses that are brought into the area. The climate at West Point is also influenced by an air mass that flows from the North Atlantic Ocean bringing cool, cloudy, and damp weather to the region (USMA, 1998).

2.3.2 Air Quality Environmental Consequences

A project construction and operations-related General Conformity Applicability Analysis was performed for the proposed construction and operation activities under each alternative. The General Conformity applicability analysis estimated the level of potential air emissions (VOC and NO_x) for the action alternatives. It is assumed that the No Action Alternative would not impact air quality beyond existing conditions; therefore, it was not included in the analysis. Appendix A contains a detailed description of the assumptions and methodology used to estimate potential emissions for the construction and operation phases of the proposed security gate access upgrades at West Point. Impact levels to determine impacts to air quality, based on the result of the applicability analysis, are as follows:

Negligible — There would be no net increase in emissions from current levels.

Minor — Emissions would be greater than 0 tons/year and below 10 tons/year (9,072 kgpy).

Moderate — Emissions would be greater than 10 tons/year (9,072 kgpy) and less than conformity *de minimus* levels (25 tons/year (22,680 kgpy)).

Major — Emissions would be equal to or greater than conformity *de minimus* levels (25 tons/year (22,680 kgpy)).

Action Alternatives

Table 2-3 summarizes the total emissions associated with the construction and operation phases for the proposed access gate security upgrades under each alternative. Under each alternative, construction-related emissions would be temporary and only occur during the 6-month construction period at each gate. It was assumed that the guardhouses would operate on the existing steam system and that water heaters would be electric, resulting in no additional emissions from operations.

TABLE 2-3: TOTAL PROJECT EMISSIONS

Construction Activity	Total Annual Construction Emissions –TPY (kgpy)		Total Annual Operation Emissions –TPY (kgpy)		<i>De minimis</i> values –TPY (kgpy)	
	NO _x	VOC	NO _x	VOC	NO _x	VOC
Washington Gate Proposed Action Alternative	3.705 (3,361)	0.488 (443)	0.198 (180)	0.018 (18)	25 (22,680)	25 (22,680)
Washington Gate Guardhouse Relocation Alternative	3.101 (2,813)	0.441 (400)	0.198 (180)	0.018 (18)		
Stony Lonesome Gate Proposed Action Alternative	5.938 (5,387)	0.635 (576)	0.198 (180)	0.018 (18)		
Stony Lonesome Gate Design Alternative	5.938 (5,387)	0.645 (585)	0.198 (180)	0.018 (18)		
Stony Lonesome Gate Expanded Design Alternative	5.938 (5,387)	0.638 (579)	0.198 (180)	0.018 (18)		
Thayer Gate Proposed Action – Thayer Road Alternative	5.938 (5,387)	0.648 (588)	0.198 (180)	0.018 (18)		
Thayer Gate – Swift Road Alternative	5.938 (5,387)	0.648 (588)	0.198 (180)	0.018 (18)		
Thayer Gate – Roundabout Alternative	4.970 (4,345)	0.570 (517)	0.198 (180)	0.018 (18)		
Potential Combined Emissions	15.580 (14,134)	1.412 (1,281)	0.198 (180)	0.018 (18)		

Table 2-3 shows that the emissions associated with implementing the proposed access gate security upgrades, when compared to the *de minimis* values for this ozone non-attainment area of 25 tpy (22,680 kgpy) for both NO_x and VOC, fall below the *de minimis* values under all alternatives. Additionally, a more conservative analysis was considered that assumed that all three access gate upgrade projects would be completed within the same year and begin operation. This analysis used the alternative with the highest emissions estimate at each gate to calculate combined emissions. It was found that, if all gate upgrade projects were completed in one year, emission estimates from construction would be 15.580 tpy (14,134 kgpy) for NO_x and 1.412 tpy (1,281 kgpy) for VOC. During operation, combined emissions would include the operation of the three emergency generators

simultaneously and result in 0.198 tpy (180 kgpy) of NO_x and 0.018 tpy (18 kgpy) for VOC. Under this conservative assumption, emission levels, when compared to the *de minimis* values for this ozone non-attainment area of 25 tpy (22,680 kgpy) for both NO_x and VOC, fall below the *de minimis* values. All alternatives analyzed are not subject to the General Conformity Rule requirements. Impacts to air quality under all seven alternatives would be minor and under a conservative estimate of combined emissions would be moderate during construction and not represent a significant impact.

Air emissions were also evaluated to determine regional significance. The *New York Metropolitan Area State Implementation Plan* sets forth 2005 daily emission targets for non-road construction vehicles of 18.36 tons per day (16,656 kilograms per day) of VOC and 100.26 tons per day (90,954 kilograms per day) of NO_x for the New York Metropolitan ozone non-attainment area where West Point is located (Escarpeta, pers. comm., 20 November 2003). The increase in annual emissions from the construction activities would not make up ten percent or more of the available regional emission target for VOC or NO_x and would not be regionally significant. Air quality impacts are therefore considered minor under all alternatives.

No Action Alternative

Implementation of the No Action Alternative would not change current conditions and is not expected to impact the current air quality conditions in the region.

2.4 Biological Resources

This section describes the biological resources located on the project site at West Point. Vegetation types and wildlife habitats were characterized on the basis of both records and field observations. A reconnaissance of the project area was conducted in October 2003 to verify the results of previous biological reports and gather additional information on vegetative communities, wildlife habitats, and habitat use adjacent to the project area. West Point is home to migratory species that may not have been detected during the site reconnaissance. Additionally, seasonal vegetation known to occur on West Point, such as some herbaceous plants that are spring bloomers, were not observed during this time period.

2.4.1 Affected Environment

2.4.1.1 Vegetation

West Point is classified by 28 terrestrial community types under the categories open upland, barrens and woodlands, forested uplands, and cultural. The description of the communities located in the vicinity of each gate is discussed below.

Washington Gate

The primary vegetation around the Washington Gate within the proposed project area is mowed lawn with trees. Tree communities found in this area, however, include Appalachian Oak/Hickory and Oak/Tulip. The Oak/Tulip populations occur along Route 293, across from Washington Gate.

Stony Lonesome Gate

The dominant vegetation around the Stony Lonesome Gate is mowed lawns with trees. Appalachian Oak/Hickory species also occur outside of the narrow roadside corridor.

Thayer Gate

At Thayer Gate, mowed lawn with trees is the dominant vegetative community. The area evaluated for Thayer Gate – Roundabout Alternative is also bordered by the Rich Rocky Woodland community.

2.4.1.2 Wildlife

The USMA is home to a variety of wildlife including 41 species of mammals, 249 species of birds, 19 species of reptiles, 18 species of amphibians, and several species of fish and invertebrates.

A wide range of mammals have been observed and/or documented on West Point including large and medium-sized species such as the coyote, black bear, white-tailed deer, opossum, raccoon, river otter, mink, striped skunk, red fox, gray fox, bobcat, and beaver. Small mammals include the masked shrew, smoky shrew, pigmy shrew, short-tailed shrew, star-nose mole, hairy-tailed mole, little brown myotis, Keen's myotis, Indiana bat, eastern pipistrelle, big brown bat, long-tailed weasel, woodchuck, eastern chipmunk, gray squirrel, red squirrel, southern flying squirrel, northern flying squirrel, deer mouse, white-footed mouse, red-backed vole, meadow vole, pine vole, muskrat, Norway rat, house mouse, meadow jumping mouse, woodland jumping mouse, and eastern cottontail. In addition, the fisher population has been growing and it is likely that the population would eventually establish in the Hudson Highlands ecozone (USMA, 1998).

Of the 249 bird species observed on or near West Point, 110 species have been identified as breeding on the installation. Another 10 non-breeders are considered winter residents. Avian families present on the installation are illustrated in Table 2-4.

TABLE 2-4: AVIAN FAMILIES REPRESENTED AT WEST POINT

Avian Family	Members
Gaviidae	loons
Podicipedidae	grebes
Phalacrocoraciidae	cormorants
Ardeidae	herons
Threskiornithidae	ibises, spoonbills
Anatidae	swans, geese, ducks
Cathartidae	American vultures
Accipitridae	kites, hawks, eagles
Falconidae	falcons, caracara
Phasianidae	grouse, ptarmigans
Rallidae	rails, gallinules, coots
Charadriidae	plovers
Scolopacidae	sandpipers
Laridae	skuas, jaegers, gulls, terns
Columbidae	pigeons, doves
Cuculidae	cuckoos, anis
Tytonidae	barn owls

Avian Family	Members
Strigidae	typical owls
Caprimulgidae	nightjars
Apodidae	swifts
Trochillidae	hummingbirds
Alcedinidae	kingfishers
Picidae	woodpeckers
Tyrannidae	tyrant flycatchers
Alaudidae	larks
Hirundinidae	swallows
Corvidae	jays, crows, magpies
Paridae	titmice, chickadees
Sittidae	nuthatches
Certhiidae	creepers
Troglodytidae	wrens
Musicapidae	thrushes
Mimidae	mimic thrushes
Bombycillidae	waxwings
Laniidae	shrikes
Sturnidae	starlings
Vireonidae	vireos
Emberizidae	warblers, sparrows
Fringillidae	finches
Passeridae	weavers

Source: USMA, 1998

Reptiles found on the installation include various species of turtles, snakes, and lizards such as the snapping turtle, stinkpot turtle, spotted turtle, wood turtle, eastern painted turtle, eastern box turtle, five-lined skink, northern water snake, northern brown snake, red-bellied snake, eastern garter snake, eastern ribbon snake, eastern hognose snake, ringneck snake, racer, black rat snake, milk snake, northern copperhead, and timber rattlesnake. Amphibians identified at West Point include salamanders, frogs, and toads such as the spotted salamander, marbled salamander, red-spotted newt, redback salamander, northern slimy salamander, four-toed salamander, red salamander, two-lined salamander, American toad, fowler's toad, spring peeper, northern gray tree frog, green frog, wood frog, southern leopard frog, pickerel frog, bullfrog, and eastern spadefoot toad (USMA, 1998).

In the area around Stony Lonesome Gate, wildlife species typical to forest habitat occur including white-tailed deer, coyote, gray fox, gray squirrel, numerous species of small mammals, wild turkey, ruffed grouse, great horned owl, broad-winged hawk, and numerous passerine bird species such as finches, sparrows, and jays. Amphibians and reptiles typical of the forested habitats include the wood frog, gray tree frog, American toad, and various snake species (USMA, 1997). Fish species present in

Stony Lonesome Brook include eastern blacknose dace and creek chub. Three freshwater mollusk species are also present in Stony Lonesome Brook.

2.4.1.3 *Special Natural Areas*

Twelve sites have been identified on West Point that are to be specially managed because of their ecological or geological significance, unique geological structure, and/or aesthetic and educational value to the post. There are no special natural areas located in the vicinity of the Stony Lonesome Gate or Thayer Gate. The Cascade Ridge special natural area is located adjacent to the Washington Gate, on the western side of Route 9W and Route 293 junction. The site is dominated by a steep mountain slope, with the lower slope consisting of maple mesic and oak-tulip ecological communities, along with numerous large oak, maple, and tulip. Communities on the upper slope include red cedar and hickories, with a small chestnut oak community at the mountain summit. Barn owls, which are a New York species of special concern, have been observed nesting here.

2.4.1.4 *Rare, Threatened, and Endangered Species*

The Endangered Species Act (ESA) (16 USC 1531 et seq.) mandates that all federal agencies consider the potential affects of their actions on species listed as threatened or endangered. Section 7 of the Endangered Species Act requires federal agencies that fund, authorize, or carry out an action to ensure that their action is not likely to jeopardize the continued existence of any threatened or endangered species (including plant species) or result in the destruction or adverse modification of designated critical habitats. If West Point determines that an action may affect a federally listed species, consultation with the USFWS is required to ensure minimization of potential adverse impacts to the species or its designated critical habitat (USMA, 1998).

In 1990 and 1993, a vegetation survey was conducted for West Point by the New York State Biological Survey and Brooklyn Botanical Garden. An additional survey for threatened and endangered flora and fauna was conducted in 1991 and 1992 by the New York State Biological Survey. The results of this survey indicated that no federal species listed as threatened or endangered were found to be permanent residents of or to breed on West Point. The bald eagle, a federally threatened species, was found to be a frequent winter visitor. It was also found that suitable habitat exists for the Indiana bat (federally endangered) and the then threatened peregrine falcon (the peregrine falcon is no longer federally listed). Species listed by the state at that time which were observed, but not considered to be residents, included the golden eagle, red-shouldered hawks, and osprey. These species are no longer state listed. One state-listed species that is considered a permanent resident of West Point, the timber rattlesnake, was found (USMA, 1998). Since this initial survey, some species have been downgraded from the endangered species list, while some have become rarer and are now listed. Table 2-5 provides the list of federal and state listed endangered and threatened species found on West Point.

In addition to the special concern species listed in Table 2-5, surveys for rare species have been conducted at West Point including surveys of rare Odonata (dragonflies and damselflies), butterflies, and plants. Although not protected formally under federal or state law, the Army affords special consideration and protection to rare species as a matter of responsible land stewardship. The Odonata survey, which began in 1994, was conducted over four years. Preliminary results, presented after the second field season, detailed the presence of 101 species from 53 survey sites. Fourteen of the species documented were considered rare or otherwise noteworthy. The butterfly survey conducted at West Point was initiated in 1995 and lasted into 1997. This survey identified eight species designated as rare in New York State, six species designated as regionally rare in southeastern New York State, and two species designated as rare at West Point (USMA, 2003b).

TABLE 2-5: FEDERAL AND STATE LISTED ENDANGERED AND THREATENED ANIMAL SPECIES FOUND ON WEST POINT

Scientific Name	Common Name	Federal and State Status	West Point Status
Mammals			
<i>Myotis leibii</i>	small-footed bat	Federal species of concern (C), State species of special concern (SC)	Resident
<i>Myotis sodalis</i>	Indiana bat	Federal endangered (FE), State endangered (SE)	Possible resident, Visitor, Migrant
<i>Neotoma magister</i>	Allegheny Wood Rat	SE, Extinct/Extirpated (X)	Locally extinct (?), Historic Resident
Birds			
<i>Accipiter cooperii</i>	Cooper's Hawk	SC	Resident
<i>Accipiter gentilis</i>	northern goshawk	C, SC	Possible resident, Visitor, Migrant
<i>Accipiter straiatus</i>	sharp-shinned hawk	SC	Resident
<i>Aquila chryseos</i>	golden eagle	SE	Visitor, Migrant, Historic Resident (?)
<i>Botaurus lentiginosus</i>	American bittern	SC	Resident
<i>Buteo lineatus</i>	red-shouldered hawk	SC	Resident (?), Visitor, Migrant
<i>Caprimulgus vociferous</i>	whip-poor-will	SC	Resident
<i>Chordeiles minor</i>	common nighthawk	SC	Possible resident
<i>Dendroica cerulean</i>	cerulean warbler	SC	Resident (?), Visitor, Migrant
<i>Falco peregrinus anatum</i>	peregrine falcon	SE	Visitor, Migrant, Historical resident
<i>Gavia immer</i>	common loon	SC	Visitor, Migrant
<i>Haliaeetus leucocephalus</i>	bald eagle	Federal Threatened (FT), State Threatened (ST)	Visitor, Migrant, Historical resident
<i>Icteria virens</i>	yellow-breasted chat	SC	Visitor, Migrant, Possible resident
<i>Ixobrychus exilis</i>	least bittern	ST	Resident
<i>Melanerpes erythrocephalus</i>	red-headed woodpecker	SC	Visitor, Migrant
<i>Pandion haliaeetus</i>	Osprey	SC	Visitor, Migrant, Resident (?)
<i>Podilymbus podiceps</i>	pied-billed grebe	ST	Possible resident, Visitor, Migrant
<i>Pooecetes gramineus</i>	vesper sparrow	SC	Visitor, Possible resident
<i>Vermivora chrysoptera</i>	golden-winged warbler	SC	Resident
Reptiles			
<i>Carphophis amoenus</i>	eastern wormsnake	SC	Resident
<i>Clemmys guttata</i>	spotted turtle	SC	Resident
<i>Clemmys insculpta</i>	wood turtle	SC	Resident
<i>Crotalus horridus</i>	timber rattlesnake	ST	Resident
<i>Heterodon platyrinos</i>	eastern hognose	SC	Resident
<i>Terrapene caroliniana</i>	eastern box turtle	SC	Resident
Amphibians			

Scientific Name	Common Name	Federal and State Status	West Point Status
<i>Ambystoma jeffersonianum</i>	Jefferson salamander	SC	Resident
<i>Ambystoma laterale</i>	blue-spotted salamander	SC	Resident (?)
<i>Ambystoma opacum</i>	marbled salamander	SC	Resident
<i>Scaphiopus holbrookii</i>	Eastern spadefoot toad	SC	Resident (?)
Fish			
<i>Acipenser brevirostrum</i>	shortnose sturgeon	FE, SE	Resident
<i>Acipenser oxyrinchus</i>	Atlantic sturgeon	C	Resident
Insects			
<i>Enallagma laterale</i>	Lateral bluet	C	Resident
Notes: (?) = Status Unknown			
Source: USMA, 2003b			

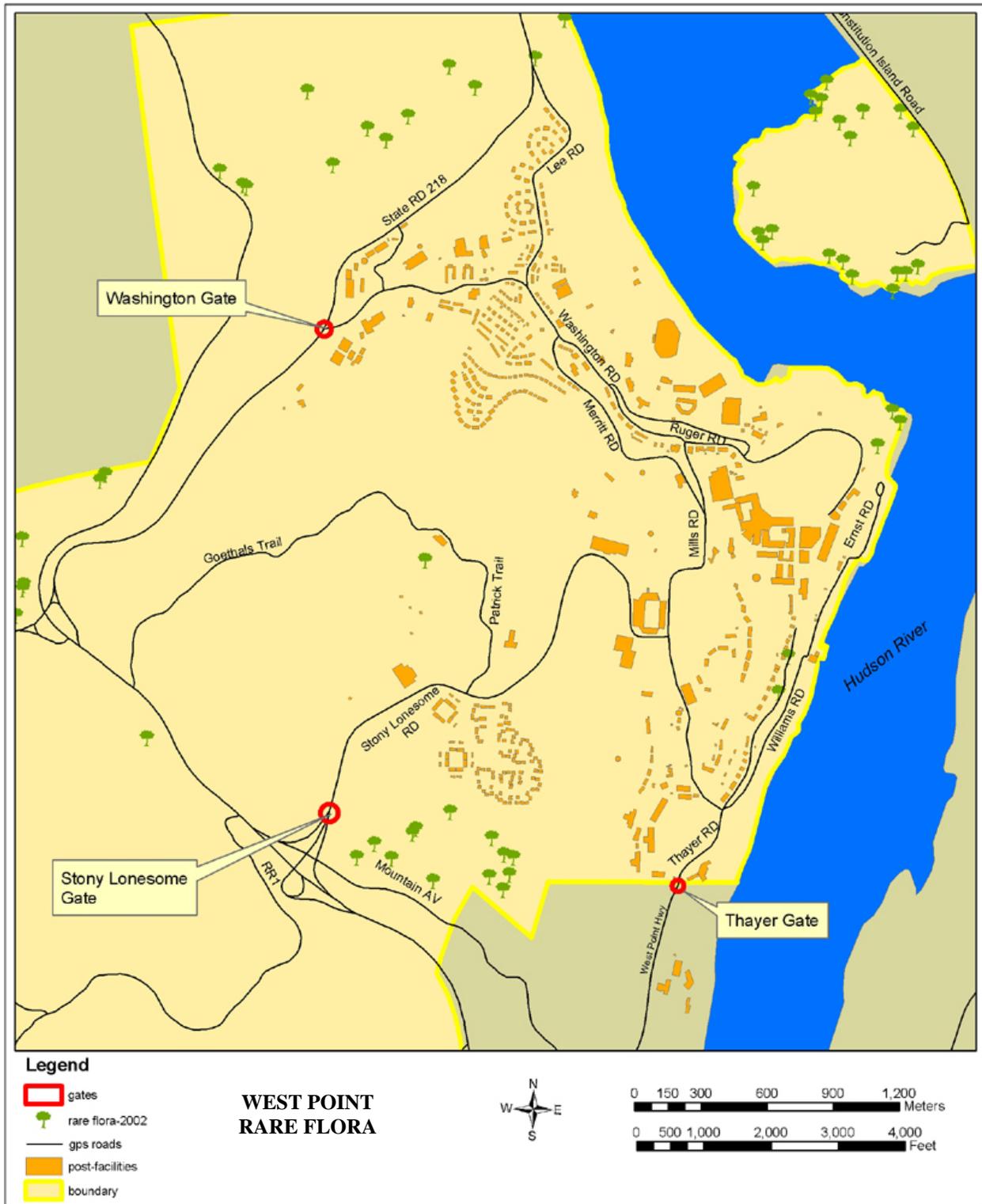
Rare plant surveys were conducted at West Point in 1994/1995, with a follow-up survey during the 2000 growing season. These surveys resulted in 75 plant species on the West Point rare plant list, 62 of which have been state-rare, or New York National Heritage Program (NYNHP) listed, and 18 that have been species rare in the Hudson Highlands region or rare for West Point lands. The 62 state-listed species consist of 13 species on the NYNHP watch list, 7 dropped from all NYNHP lists, and 22 on the NYNHP active list. There are also six possibly extirpated species that West Point maintains information on in the case they reappear (USMA, 2003b). Rare plant species at West Point are shown in Figure 2-5.

The U.S. Fish and Wildlife Service (USFWS), the NYNHP, and the NYS Department of Environmental Conservation (DEC) Endangered Species Unit were contacted for information regarding special status species with the potential to occur on or in the near vicinity of West Point. The USFWS responded that, except for occasional transient individuals, no federally listed or proposed endangered or threatened species are known to exist in the project area. They further stated that no habitat in the project area is currently designated or proposed "critical habitat," and no further ESA Coordination or consultation with USFWS is required. The NYNHP provided a report of rare or state-listed animals and plants, significant natural communities, and other significant habitats that may occur in the vicinity of the site. At Washington Gate, the state listed timber rattlesnake is documented to occur within 1.5 miles (2.4 kilometers) of the project site. The report also identified sensitive areas in the vicinity of Washington Gate and Stony Lonesome Gate. The NYS DEC Endangered Species Unit replied that, for work in the immediate vicinity of the three access gates, the office did not have any concerns regarding endangered or threatened species. At the Washington Gate, per the request of the NYS DEC Endangered Species Unit, the construction crew would coordinate with the West Point Natural Resources Division to determine the process for notification and proper removal of the timber rattlesnake if found at the project site (Jole, pers. comm, 17 February 2004). Copies of this correspondence are provided in Appendix B.

2.4.2 Vegetation and Wildlife Environmental Consequences

The following thresholds were used to determine the magnitude of effects on wildlife and wildlife habitat and vegetation, with separate criteria being used to evaluate impacts to threatened and endangered species:

FIGURE 2-5: RARE PLANT SPECIES AT WEST POINT



Negligible — There would be no observable or measurable impacts to native species, their habitats, or the natural processes sustaining them. Impacts would be short in duration and within natural fluctuations.

Minor — Impacts would be detectable, but would not be expected to be outside the natural range of variability and would not have any long-term effects on native species, their habitats, or the natural processes sustaining them. Occasional responses to disturbance by some individuals could be expected, but without interference to feeding, reproduction, or other factors affecting population levels. Key ecosystem processes might have short-term disruptions that would be within natural variation. Sufficient habitat would remain functional to maintain viability of all species. Impacts would be outside critical reproduction periods for sensitive native species.

Moderate — Breeding animals of concern are present; animals are present during particularly vulnerable life-stages, such as migration or juvenile stages; mortality or interference with activities necessary for survival can be expected on an occasional basis, but is not expected to threaten the continued existence of the species at West Point. Impacts on native species, their habitats, or the natural processes sustaining them would be detectable, and they could be outside the natural range of variability for short periods of time. Population numbers, population structure, genetic variability, and other demographic factors for species might have short-term changes, but would be expected to rebound to pre-impact numbers and to remain stable and viable in the long term. Frequent responses to disturbance by some individuals could be expected, with some negative impacts to feeding, reproduction, or other factors affecting short-term population levels. Key ecosystem processes might have short-term disruptions that would be outside natural variation (but would soon return to natural conditions). Sufficient habitat would remain functional to maintain viability of all native species. Some impacts might occur during critical periods of reproduction or in key habitat for sensitive native species.

Major — Impacts on native species, their habitats, or the natural processes sustaining them would be detectable, and they would be expected to be outside the natural range of variability for long periods of time or be permanent. Population numbers, population structure, genetic variability, and other demographic factors for species might have large, short-term declines, with long-term population numbers significantly depressed. Frequent responses to disturbance by some individuals would be expected, with negative impacts to feeding, reproduction, or other factors resulting in a long-term decrease in population levels. Breeding colonies of native species might relocate to other areas of West Point. Key ecosystem processes might be disrupted in the long term or permanently. Loss of habitat might affect the viability of at least some native species.

Impacts to threatened and endangered species were classified using the following terminology, as defined under the ESA:

No effect – When a proposed action would not affect a listed species or designated critical habitat.

May affect / not likely to adversely affect – Effects on special status species are discountable (i.e., extremely unlikely to occur and not able to be meaningfully measured, detected, or evaluated) or completely beneficial.

May affect / likely to adversely affect – When an adverse effect to a listed species may occur as a direct or indirect result of proposed actions and the effect is either not discountable or completely beneficial.

Likely to jeopardize proposed species/adversely modify proposed critical habitat – The appropriate conclusion when West Point or the USFWS identify situations in which actions could jeopardize the continued existence of a proposed species or adversely modify critical habitat to a species within and/or outside West Point boundaries.

Washington Gate Proposed Action Alternative

In general, short- and long-term effects to vegetation and wildlife would be expected under this alternative. Removal of a portion of the forested area, approximately 6,300 square feet (585 square meters), adjacent to Washington Gate would be required for construction of the bypass. Removal of additional forested area may be required for the upgrade of this gate. Forestry BMPs and practices to control erosion and sedimentation during clearing and construction activities would be implemented to minimize potential impacts to the forested habitat and water quality. Construction activities under the Washington Gate Proposed Action Alternative would avoid endangered species. Construction activities would likely result in mortality of some less mobile fauna such as reptiles, amphibians, and small mammals. Mobility of wildlife species in the area of the proposed improvement would be affected as a result of habitat fragmentation during construction activities. In particular, smaller less mobile species would be restricted in movement.

The Bald Eagle is a winter resident at West Point, requiring construction activities to be in compliance with West Point's Bald Eagle Management Plan. Through correspondence, the USFWS noted that, except for occasional transient individuals, no federally listed or proposed endangered or threatened species are known to exist in the project area. They further stated that no habitat in the project area is currently designated or proposed "critical habitat," and no further ESA Coordination or consultation with USFWS is required. The NYNHP provided a report of rare or state-listed animals and plants, significant natural communities, and other significant habitats that may occur in the vicinity of the site. At Washington Gate, the state listed timber rattlesnake is documented to occur within 1.5 miles (2.4 kilometers) of the project site. Although the timber rattlesnake occurs in the vicinity of this area, West Point has established a protocol for its proper removal from the project site if encountered during construction. NYNHP also recommended consultation with the NYS DEC Endangered Species Unit. The NYS DEC Endangered Species Unit replied that, for work in the immediate vicinity of the three access gates, the office did not have any concerns regarding endangered or threatened species and that coordination between the construction crew and the West Point Division of Natural Resources to determine the process for notification and proper removal of the timber rattlesnake if found at the project site would be appropriate (Jole, pers. comm., 17 February 2004). Because construction activities would occur in an already disturbed area, impacts to vegetation and wildlife would be minor and there would be no effect to threatened and endangered species.

Washington Gate Guardhouse Relocation Alternative

Impacts to biological resources under the Washington Gate Guardhouse Relocation Alternative would be similar to those under Washington Gate Proposed Action Alternative. Because the bypass would not be constructed under this alternative, impacts to the forested area would be less than under the Washington Gate Proposed Action Alternative. Impacts to vegetation and wildlife under the Washington Gate Guardhouse Relocation Alternative would be minor and there would be no effect to threatened and endangered species.

Stony Lonesome Gate Proposed Action Alternative

In general, minor short- and long-term effects to vegetation and wildlife would be expected under this alternative. Forestry BMPs and practices to control erosion and sedimentation during clearing and construction activities would be implemented to minimize potential impacts to the adjacent stream habitat. The proposed access gate security upgrades at the Stony Lonesome Gate would involve ground disturbance, including the removal of existing vegetation. Construction activities would likely result in mortality of some less mobile fauna such as reptiles, amphibians, and small mammals. In particular, smaller less mobile species would be restricted in movement. The Bald Eagle is a winter resident at West Point, requiring construction activities to be in compliance with West Point's Bald Eagle Management Plan. This alternative would not involve the culverting of Stony Lonesome Brook, and therefore would not impact downstream communities.

Through correspondence, the USFWS noted that, except for occasional transient individuals, no federally listed or proposed endangered or threatened species are known to exist in the project area. They further stated that no habitat in the project area is currently designated or proposed "critical habitat," and no further ESA Coordination or consultation with USFWS is required. The NYNHP provided a report of rare or state-listed animals and plants, significant natural communities, and other significant habitats that may occur in the vicinity of the site. Although sensitive habitats were identified in the vicinity of the Stony Lonesome Gate, no sensitive communities were identified within the project area. NYNHP also recommended consultation with the NYS DEC Endangered Species Unit. The NYS DEC Endangered Species Unit replied that, for work in the immediate vicinity of the three access gates, the office did not have any concerns regarding endangered or threatened species. Impacts to vegetation and wildlife under the Stony Lonesome Gate Proposed Action Alternative would be minor and there would be no effect to threatened and endangered species.

Stony Lonesome Gate Design Alternative

Impacts to biological resources under this alternative would be similar to those under the Stony Lonesome Gate Proposed Action Alternative. Because more ground would be disturbed, impacts to vegetation would be greater than under the Stony Lonesome Gate Proposed Action Alternative. Furthermore, this alternative would require culverting of Stony Lonesome Brook. Culverting of Stony Lonesome Brook could, unless mitigated, increase downstream velocities with potentially moderate impacts to biological communities by resulting in the modification and loss of habitat in those areas to be culverted. Habitat loss would impact benthic macroinvertebrates, fish, and other aquatic and terrestrial wildlife that utilize Stony Lonesome Brook for habitat. Impacts to vegetation and wildlife under the Stony Lonesome Gate Design Alternative would be minor to moderate and there would be no effect to threatened and endangered species.

Stony Lonesome Gate Expanded Design Alternative

Impacts to biological resources under this alternative would be similar to those under the Stony Lonesome Gate Proposed Action Alternative. Because more ground would be disturbed under this alternative where compared to the other two alternatives at Stony Lonesome Gate, impacts to vegetation would be greater than under the Stony Lonesome Gate Proposed Action Alternative or Stony Lonesome Gate Design Alternative. Impacts to vegetation and wildlife under the Stony Lonesome Gate Expanded Design Alternative would be minor to moderate and there would be no effect to threatened and endangered species.

Thayer Gate Proposed Action – Thayer Road Alternative

In general, short- and long-term effects to vegetation and wildlife would be expected under this alternative. Forestry BMPs and practices to control erosion and sedimentation during clearing and construction activities would be implemented to minimize potential impacts to adjacent habitats. The proposed access gate security upgrades at the Thayer Gate would involve the removal of existing landscape vegetation, including some trees. Construction activities under the Thayer Gate Proposed Action – Thayer Road would avoid endangered species. Construction activities would likely result in mortality of some less mobile fauna such as reptiles, amphibians, and small mammals. In particular, smaller less mobile species would be restricted in movement.

The Bald Eagle is a winter resident at West Point, requiring construction activities to be in compliance with the West Point's Bald Eagle Management Plan. Through correspondence, the USFWS noted that, except for occasional transient individuals, no federally listed or proposed endangered or threatened species are known to exist in the project area. They further stated that no habitat in the project area is currently designated or proposed "critical habitat," and no further ESA Coordination or consultation with USFWS is required. The NYNHP provided a report of rare or state-listed animals and plants, significant natural communities, and other significant habitats that may occur in the vicinity of the site. No sensitive habitats were identified in the vicinity of Thayer Gate. NYNHP recommended consultation with the NYS DEC Endangered Species Unit. The NYS DEC Endangered Species Unit replied that, for work in the immediate vicinity of the three access gates, the office did not have any concerns regarding endangered or threatened species. Because construction activities would occur in an already disturbed area, impacts to vegetation and wildlife would be minor and there would be no effect to threatened and endangered species.

Thayer Gate – Swift Road Alternative

Impacts to biological resources under this alternative would be similar to those under the Thayer Gate Proposed Action – Thayer Road Alternative. Because more ground would be disturbed, impacts would be slightly greater than under the Thayer Gate Proposed Action – Thayer Road Alternative. Impacts to vegetation and wildlife under the Thayer Gate – Swift Road Alternative would be minor and there would be no effect to threatened and endangered species.

Thayer Gate – Roundabout Alternative

Impacts to biological resources under this alternative would be similar to those under the Thayer Gate Proposed Action – Thayer Road. Because less ground would be disturbed, impacts would be less than under the Thayer Gate Proposed Action – Thayer Road Alternative. Impacts to vegetation and wildlife under the Thayer Gate – Roundabout Alternative would be minor and there would be no effect to threatened and endangered species.

No Action Alternative

No impacts to vegetation, wildlife, special natural areas, or threatened or endangered species at West Point are expected with implementation of the No Action Alternative.

2.5 Cultural Resources

Section 106 of the National Historic Preservation Act of 1966, as amended, and as implemented in 36 CFR 800, requires federal agencies to: (1) consider the effects of federally funded, regulated, or licensed undertakings on cultural resources listed on or eligible for inclusion in the National Register of Historic Places (NRHP); (2) consult with the State Historic Preservation Office (SHPO) and other

interested parties; and (3) afford the Advisory Council on Historic Preservation (ACHP) the opportunity to comment. For the purposes of this EA, cultural resources are defined as either recorded or potential historic archaeological sites, prehistoric sites, and standing architectural structures or historic districts.

2.5.1 Cultural Resources Affected Environment

2.5.1.1 History

There are numerous reasons for the national historic significance of West Point. West Point was the site of a key fortress in the Revolutionary War and the site is the oldest continuously occupied Army post in the nation. The Military Academy, founded in 1802, is the oldest professional military service academy in the nation and among the oldest in the world; its graduates include two of the nation's presidents (Dwight D. Eisenhower and Ulysses S. Grant); and dozens of generals that have led America's armies in its wars (USMA, 1999).

2.5.1.2 Known and Potential Cultural Resources

West Point was listed as a National Historic Landmark in 1960. Approximately 2,500 acres (1,011 hectares), encompassing about 550 buildings of West Point, have been designated as a National Historic Landmark District (NHL). All three gates are located within the boundaries of the West Point NHL (USMA, 1998).

Washington Gate and the associated Washington Gate Sentry Station (Building 711) were constructed in 1942. The Washington Gate Sentry Station is considered to be individually eligible for the NRHP and is a contributing structure to the West Point NHL. The Public Restroom structure (Building 729), located at Washington Gate, was constructed in 1943 and is considered to be individually eligible for the NRHP and is a contributing structure to the West Point NHL. The appearance of Washington Gate has not been altered since its construction in 1942. The gate is considered to be eligible for the NRHP and is a contributing structure to the West Point NHL. In addition to the historic structures, the gate is located in the historic Washington Road corridor. In the early years of the 20th century, the Olmstead Brothers were hired as part of the Academy expansion to help site buildings and lay out new roads. During this time, they also created a plan that laid out a series of drives and thinning trees to open vistas throughout West Point, of which Washington Road was a part (USAERDC, 2002). The Washington Road corridor is considered a contributing element to the West Point NHL District by the New York SHPO.

Stony Lonesome Gate was constructed in the late 1950s and early 1960s, and the only structure at this gate, the Sentry Station (Building 1205), was constructed in 1995. The Sentry Station is not a historic structure. Stony Lonesome Gate is not considered to be a historic property.

Thayer Gate was established as the West Point South Gate in 1936 as a Works Progress Administration (WPA) project. This gate was renovated in 1989 as a contribution from the West Point Class of 1943. In 1951, the Sentry Station from the Wilson Gate, which was originally constructed in 1945, was moved to Thayer Gate. This building was also altered in 1989 as part of the gate upgrade project. The Thayer Gate Sentry Station (Building 608) requires National Register review to evaluate its historic property status. The Thayer Public Restroom structure (Building 610) was constructed in 1938 and also requires National Register review to evaluate its historic property status. The Thayer Gate structure requires National Register review to evaluate its historic property status.

Also, located in the vicinity of Thayer Gate, is Buffalo Soldiers Field. When this area was established in 1908, it consisted of the cavalry and artillery drill area, surrounded by six buildings, and was known as the “cavalry” or “south” drill field. This area became known as “Buffalo Soldiers Field” in 1973 when the area was named in honor of the African-American 9th and 10th Cavalry Regiments that trained cadets at the field. Although Buffalo Soldiers Field has gone through alterations, additions, and changes in use, most of the surrounding buildings are original to the historic Cavalry and Artillery period and continue to appear as a cohesive architectural unit. The open space of the historic drill field is considered by West Point and New York SHPO as being an important historic and visual element of the south of the West Point Main Post and the West Point NHL District. This area is designated as a Category II Zone, on a scale of I to IV, with Zone I having the greatest relationship to the historic teaching mission at West Point. The Buffalo Soldiers Field area appears largely the same as when built and is an excellent example of an early 20th century cavalry facility. (USMA, 1998; NPS, 1984).

2.5.2 Cultural Resources Environmental Consequences

Potential impacts to cultural resources have been evaluated based on the extent of known cultural resources in the area. Per section 106 of the National Historic Preservation Act, only those cultural resources that are eligible or are listed on the NRHP are considered federally protected resources and are the subject of this impact analysis. An impact, or effect, to a cultural property occurs if an action would alter in any way the characteristics that qualify the property for inclusion or potential listing on the national register. If the action would diminish the integrity of any of these characteristics, it is considered to be an adverse effect.

In order to evaluate the alternatives, the following criteria have been established to define the level of impact to cultural resources:

Negligible – There would be no direct or indirect impacts to any property potentially eligible for or listed on the NRHP.

Minor – Direct or indirect impacts to a property potentially eligible for or listed on the NRHP are anticipated; however, these effects would be minor in number, extent, and/or duration. Minor impacts, for example, could include temporary disturbances (such as indirect noise from construction activities) that would not alter the character for which the property has been listed, and the site would be returned to its original state following the action.

Moderate – Direct or indirect impacts to a property potentially eligible for or listed on the NRHP are anticipated, and these effects would be greater in number, extent, and/or duration than minor impacts. Moderate impacts, for example, could include disturbances (such as the long-term physical alteration of a site that would require mitigation through data recovery techniques) that could alter the character for which the property has been listed, and the site might not resume its original state following the action.

Major – Direct or indirect impacts to a property potentially eligible for or listed on the NRHP are anticipated, and these effects would be more substantial in number, extent, and/or duration than moderate impacts. Major impacts could result in the alteration of the character for which the property has been listed, thus potentially disqualifying the property from being listed on the national register. Examples of major impacts include isolation of a property from or alteration of the character of a property’s setting, including removal from its historic location; the introduction of visual, audible, or atmospheric elements that are out of character

with the property or that alter its setting; and neglect of a property resulting in its deterioration or destruction (36 CFR 800.5).

If it is determined there is potential for impacts to cultural resources listed on or eligible for listing on the NRHP, West Point would determine the level of effect to the property and any appropriate mitigation measures that need to be taken. The SHPO would then review and comment on this determination. An official determination of effect would be issued by West Point that documents the level of impact to the resource, including any potential for impairment to cultural resources, and the course of action that West Point would be required to perform to mitigate these effects.

Washington Gate Proposed Action Alternative

In compliance with Section 106 of the National Historic Preservation Act of 1966, as amended, West Point has coordinated directly with the New York State Office of Parks, Recreation, and Historic preservation as part of the NEPA process for the proposed access gate security upgrades. A copy of this correspondence is provided in Appendix B. In this correspondence, West Point stated that a Phase I Cultural Resources Survey would be required at the Washington Gate and that historic documentation of the Washington Gate would be necessary prior to any construction activities. Also noted was that new sentry boxes should be designed to be architecturally compatible with historic sentry boxes at West Point, all new construction should be architecturally compatible with extant architecture, and that the lighting at each gate would have to be carefully designed. In a response to this correspondence, the New York SHPO agreed with issues brought forth by West Point and also agreed that the additional survey and research work is an appropriate response to these issues. The SHPO would review the Phase I Cultural Resources Survey and schematic plans for the Washington Gate once available.

West Point is in the process of performing additional cultural resources surveys in support of this project, following the initial consultation with the New York SHPO. A Phase I Cultural Resources Survey was performed for new ground disturbance at Washington Gate in October 2003 and a draft report completed in February 2004. The Phase I survey of Washington Gate included background research and careful examination of all ground surfaces and shovel testing within the proposed construction area. As part of this process, two acres (0.81 hectares) were surveyed. The Phase I Cultural Resources Survey indicated that the proposed bypass under the Washington Gate Proposed Action Alternative is located in a historic road bed that includes the historic road, a remnant stone boundary wall, a borrow pit, and a modern refuse scatter. Adverse effects to the historic road bed at Washington Road vicinity would be precluded by re-design of the roads and facilities so that the historic roadbed is avoided. If avoidance is not possible due to design constraints, then archaeological and historic documentation would be required (Cubbison, pers. comm., 17 December 2003). Additional mitigation would include historic documentation of the 1942 Washington Gate and ancillary structures (stone pillars, guard house, public restrooms) performed to Historic American Building Survey (HABS) standards prior to any alterations or disturbances at the Washington Gate. A specific mitigation would be prepared once the Phase I Cultural Resources Survey has been completed and the gate design finalized.

Furthermore, historic documentation for the Thayer Gate to HABS standards has been prepared. Field work and archival research were conducted in October 2003, and the draft report completed in March 2004 will be submitted to the National Park Service.

Due to the required mitigation for the historic road bed, moderate impacts to cultural resources would be expected under the Washington Gate Proposed Action Alternative. Further consultation with the

New York SHPO would occur, as a determination of effect is not possible at this early stage of design.

Washington Gate Guardhouse Relocation Alternative

Impacts to cultural resources under this alternative would be similar to those under the Washington Gate Proposed Action Alternative. However, the Washington Gate Guardhouse Relocation Alternative does not include the proposed bypass in the historic road bed and would not require the mitigation discussed under the Washington Gate Proposed Action Alternative. Minor impacts to cultural resources would be expected under the Washington Gate Guardhouse Relocation Alternative.

Stony Lonesome Gate Proposed Action Alternative

In compliance with Section 106 of the National Historic Preservation Act of 1966, as amended, West Point has coordinated directly with the New York State Office of Parks, Recreation, and Historic Preservation as part of the NEPA process for the proposed access gate security upgrades. A copy of this correspondence is provided in Appendix B. In this correspondence, West Point stated that a Phase I Cultural Resources Survey would be required at the Stony Lonesome Gate, new sentry boxes should be designed to be architecturally compatible with historic sentry boxes West Point, all new construction should be architecturally compatible with existing architecture, placement of truck inspection and visitors access building are appropriate, and that the lighting at each gate would have to be carefully designed. In a response to this correspondence, the New York SHPO agreed with issues brought forth by West Point and also agreed that the additional survey and research work is an appropriate response to these issues. The SHPO would review the Phase I Cultural Resources Survey and schematic plans for the Stony Lonesome Gate once available.

Following initial consultation with the New York SHPO, a Phase I Cultural Resources Survey was performed for new ground disturbance at Stony Lonesome Gate in October 2003 and the draft report completed in February 2004. The Phase I survey of Stony Lonesome Gate included background research and careful examination of all ground surfaces, and shovel testing within the proposed construction area. As part of this process, 5.5 acres (2.22 hectares) were surveyed. No historic properties were found within the project area at Stony Lonesome Gate during this survey. No effects to any historic properties are anticipated to result from the Stony Lonesome Gate Proposed Action Alternative. Negligible impacts to cultural resources would be expected under the Stony Lonesome Gate Proposed Action Alternative.

Stony Lonesome Gate Design Alternative

Impacts to cultural resources under the Stony Lonesome Gate Design Alternative would be the same as those under the Stony Lonesome Gate Proposed Action Alternative. No effects to any historic properties are anticipated to result from the Stony Lonesome Gate Design Alternative.

Stony Lonesome Gate Expanded Design Alternative

Impacts to cultural resources under the Stony Lonesome Gate Expanded Design Alternative would be the same as those under the Stony Lonesome Gate Proposed Action Alternative. No effects to any historic properties are anticipated to result from the Stony Lonesome Gate Expanded Design Alternative.

Thayer Gate Proposed Action – Thayer Road Alternative

In compliance with Section 106 of the National Historic Preservation Act of 1966, as amended, West Point has coordinated directly with the New York State Office of Parks, Recreation, and Historic preservation as part of the NEPA process for the proposed access gate security upgrades. A copy of this correspondence is provided in Appendix B. In this correspondence, West Point stated that a determination of National Register of Historic Places eligibility would be required for the structures at Thayer Gate, and the gate itself. Also noted was that new sentry boxes should be designed to be architecturally compatible with historic sentry boxes at West Point, all new construction should be architecturally compatible with extant architecture, lighting at each gate would have to be carefully designed, and impacts to Buffalo Soldiers Field would have to be carefully evaluated as the gate design process progresses. As the design process for the upgrades progresses, it may be determined that historic documentation of Thayer Gate is required. In a response to this correspondence, the New York SHPO agreed with issues brought forth by West Point and also agreed that the additional survey and research work is an appropriate response to these issues. Once available, the SHPO would review the schematic plans for the Thayer Gate for impacts to cultural resources, including the adjacent Buffalo Soldiers Field.

Following initial consultation with the New York SHPO, a National Register eligibility determination for Thayer Gate was conducted and the draft report completed in March 2004, which was determined that the Thayer Gate, as a complex, is eligible for inclusion in the NRHP as a contributing element to the West Point NHL District. Additional consultation with the New York SHPO regarding treatment of historic properties (as determined) would be performed by West Point following completion of this determination. Further consultation with the New York SHPO would occur, as a determination of effect is not possible at this early stage of design. Depending on the extent of disturbance to Buffalo Soldiers Field, minor to moderate impacts are expected to cultural resources under the Thayer Gate Proposed Action – Thayer Road Alternative. On December 2, 2004, West Point sent the SHPO the report “*Historical and Architectural Investigation of Access Gates, U.S. Military Academy, West Point, New York.*” This report stated that Thayer Gate should be considered to be a contributing element to the West Point NHL, and should be considered to be individually eligible for the NRHP.

Thayer Gate – Swift Road Alternative

Impacts to cultural resources under the Thayer Gate – Swift Road Alternative would be the same as those under the Thayer Gate Proposed Action – Thayer Road Alternative.

Thayer Gate – Roundabout Alternative

Impacts to cultural resources under the Thayer Gate – Roundabout Alternative would be similar to those under the Thayer Gate Proposed Action – Thayer Road Alternative. This alternative would require the use of a greater portion of Buffalo Soldiers Field, approximately 11,000 square feet (1,022 square meters) total, which could result in greater impacts to cultural resources than the Thayer Gate Proposed Action – Thayer Road Alternative.

No Action Alternative

The No Action Alternative would not be expected to create any impacts to West Point’s cultural and historic resources.

2.6 Visual Resources

Washington Gate, Stony Lonesome Gate, and Thayer Gate serve as the visual gateway to West Point. Because of their high visibility, the impact to visual resources at each gate was evaluated, including the view of the gates from locations off-post, as well as the impact of new lighting.

2.6.1 Visual Resources Affected Environment

The visual resources affected environment for each gate is dependant on both the topography and surrounding land uses in the area. All three access gates are located in the Hudson River coastal region. The visual resources affected environment for each gate is described below:

Washington Gate

The Washington Gate provides access to West Point from Highway 218. Highway 218 is designated as a State Scenic Highway, and is on the NRHP. Adjacent land uses at the Washington Gate include the Public Restroom (Building 729), which is considered to be individually eligible for the NRHP and is a contributing structure to the West Point NHL, and the motorpool complex. Lighting is required at the gate for the purpose of vehicle inspection. Perimeter lighting is not required at this gate. Lighting at the Washington Gate is currently achieved though temporary, trailer-mounted flood lights. Figure 2-6 and Figure 2-7 show the visual resources in the immediate area of Washington Gate.

FIGURE 2-6: WASHINGTON GATE ENTRANCE



FIGURE 2-7: WASHINGTON GATE PUBLIC RESTROOMS**Stony Lonesome Gate**

Stony Lonesome Gate provides access to Route 9W, also a State Scenic Highway, and is located in an area of wooded hillsides. Immediately adjacent land use in this area consists of forested areas. The commissary and new Post Exchange complex are located in the general area, to the east of the gate. Lighting is required at the gate for the purpose of vehicle inspection. Perimeter lighting is not required at this gate. Lighting at the Stony Lonesome Gate is currently achieved through temporary, trailer-mounted flood lights. Figure 2-8 shows the visual resources in the immediate area of Stony Lonesome Gate.

FIGURE 2-8: STONY LONESOME GATE

Thayer Gate

The Thayer Gate serves as the main entrance for visitors to West Point and is highly visible from areas on-post such as Buffalo Soldiers Field and the Thayer Hotel, as well as from off-post in areas such as Highland Falls and across the Hudson River. The community of Garrison is located directly across the river from Thayer Gate, and any visual alterations to the Thayer Gate are prominent when viewed from the Garrison community. The Thayer Gate is adjacent to the Hudson River and is highly visible from this area. Lighting is required at the gate for the purpose of vehicle inspection. Perimeter lighting, however, is not required at this gate. Lighting at the Thayer Gate is currently achieved through temporary, trailer-mounted flood lights, which are highly visible across the Hudson River (see Figure 2-9). Figure 2-10 and Figure 2-11 show the visual resources in the immediate area of Thayer Gate.

FIGURE 2-9: THAYER GATE - EXISTING CANOPY AND LIGHTING



FIGURE 2-10: THAYER GATE ENTRANCE



FIGURE 2-11: BUFFALO SOLDIERS FIELD

2.6.2 Visual Resources Environmental Consequences

In order to evaluate the alternatives, the following criteria have been established to define the level of impacts to visual resources:

Negligible – There would be no direct or indirect impacts to the Hudson River Viewshed from gate upgrades or lighting.

Minor – Direct or indirect impacts to the Hudson River Viewshed are anticipated; however, these effects would be minor in number, extent, and/or duration. Minor impacts, for example, could include temporary visual disturbances that would not alter the character of the viewshed, and the viewshed would be returned to its original state following the action.

Moderate – Direct or indirect impacts to the Hudson River Viewshed are anticipated, and these effects would be greater in number, extent, and/or duration than minor impacts. Moderate impacts, for example, could include disturbances (such as the long-term alteration of the viewshed that would require mitigation) that could alter the character of the viewshed, and the viewshed might not resume its original state following the action.

Major – Direct or indirect impacts to the Hudson River Viewshed are anticipated, and these effects would be more substantial in number, extent, and/or duration than moderate impacts. Major impacts could result in the alteration of the character of the viewshed.

Evaluation of alternatives considered preliminary lighting design requirements measured in foot-candles. A foot-candle is a measurement of light at an illuminated object. For an access control point that is open on a regular basis, the requirement for minimum illumination for approach and response zones (at barrier location) would be four foot-candles. Minimum illumination for the access control zone is five foot-candles average and ten foot-candles or twice the immediate surrounding areas. For those access control points that are only open for special events, portable light sets based on local

needs would be used and would be sufficient for the guards to perform security functions. Lighting requirements for pedestrian areas would be a minimum illumination of two foot-candles.

Washington Gate Proposed Action Alternative

Lighting at this gate would be directional, focused, and use non-glare materials. Since the existing two stone gateposts, guard booth, and restroom all contribute to the West Point NHL, lighting would be sensitive to the historic character of the area. The Washington Gate is screened from view of the Hudson River by vegetation and thus lighting would not impact the Hudson River viewshed. Highway 218 is designated as a State Scenic Highway, which further supports the sensitive treatment of lighting in this area. Views from Highway 218 to the gate entrance could be enhanced with the use of directional, focused, non-glare lighting to reinforce historic views. Lighting would only be required during the evening hours or on dark, cloudy days and would only have temporary impacts on the viewshed. Proper lighting installed at historic structures could enhance the historic scene as viewed from proximate areas as well as provide for required surveillance during the evening hours. If service to new electrical connections is needed, it would continue to be underground to minimize visual impacts, where possible. To mitigate any potential impacts, all new lighting at the Washington Gate would be “West Point Standard” lighting fixtures to maintain the historic appearance of this gate. To enhance the visual and aesthetic appearance of this gate, modern or inappropriate light fixtures in the vicinity of the gate would be removed and replaced with “West Point Standard” lighting fixtures. Removal of modern or inappropriate fixtures from historic buildings would also include any necessary repairs to historic structures. Impacts to visual resources under the Washington Gate Proposed Action Alternative would be minor.

Washington Gate Guardhouse Relocation Alternative

Impacts under this alternative would be similar to those under the Washington Gate Proposed Action Alternative. The new location for the guardhouse further into post would slightly reduce visual impacts from Highway 218. Impacts under the Washington Gate Guardhouse Relocation Alternative would be minor.

Stony Lonesome Gate Proposed Action Alternative

Lighting at this gate would be directional, focused, and use non-glare materials. Due to the topography in this area, Stony Lonesome Gate is shielded from the Hudson River viewshed by the crest of a hill. Because gate upgrades and lighting would not be visible from this viewshed, impacts under the Stony Lonesome Gate Proposed Action Alternative would be negligible.

Stony Lonesome Gate Design Alternative

Lighting at this gate would be directional, focused, and use non-glare materials. Due to the topography in this area, Stony Lonesome Gate is shielded from the Hudson River viewshed by the crest of a hill. Because gate upgrades and lighting would not be visible from this viewshed, impacts under the Stony Lonesome Gate Design Alternative would be negligible.

Stony Lonesome Gate Expanded Design Alternative

Lighting at this gate would be directional, focused, and use non-glare materials. Due to the topography in this area, Stony Lonesome Gate is shielded from the Hudson River viewshed by the crest of a hill. Because gate upgrades and lighting would not be visible from this viewshed, impacts under the Stony Lonesome Gate Expanded Design Alternative would be negligible.

Thayer Gate Proposed Action – Thayer Road Alternative

Due to the highly visible distant views of West Point from the highway and the opposite shore of the Hudson River; and the near views from the Thayer Hotel, Buffalo Soldiers Field, and the town of Highland Falls, this gate has the greatest potential for adverse visual impacts. This gate is also the main visitor entrance to West Point, and Thayer Gate and surrounding features, such as Buffalo Soldiers Field, all contribute to the West Point NHL. Since this area is a part of the West Point NHL, lighting would be sensitive to the historic character of the area. Lighting at this gate would be directional, focused, and use non-glare materials. Views of natural areas that frame the gate area are also important landscape elements to the area's visual character and would not be adversely altered when widening the road or constructing new parking spaces. Proper lighting installed at historic structures could enhance the historic scene as viewed from distant and proximate areas as well as provide for required surveillance during the evening hours. If service to new electrical connections is needed, it would be placed underground to minimize visual impacts, where appropriate. To mitigate any potential impacts, all new lighting at the Washington Gate would be "West Point Standard" lighting fixtures to maintain the historic appearance of this gate. To enhance the visual and aesthetic appearance of this gate, modern or inappropriate light fixtures in the vicinity of the gate would be removed and replaced with "West Point Standard" lighting fixtures. Removal of modern or inappropriate fixtures from historic buildings would also include any necessary repairs to historic structures. Impacts to visual resources under the Thayer Gate Proposed Action – Thayer Road Alternative would be minor.

Thayer Gate – Swift Road Alternative

Lighting at this gate would be directional, focused, and use non-glare materials. Impacts to visual resources under this alternative would be the same as impacts stated in the Thayer Road Alternative; impacts would be minor.

Thayer Gate – Roundabout Alternative

Lighting at this gate would be directional, focused, and use non-glare materials. Impacts to visual resources under this alternative would be the same as impacts stated in the Thayer Road Alternative; impacts would be minor.

No Action Alternative

Under the No Action Alternative, the temporary, trailer-mounted flood lights would continue to operate at all three gates, impacting the Hudson River viewshed. The flood light equipment would continue to be visually incompatible with the historic character of all three gates and not complimentary visually to the historic scene. The glare from the floodlights distracts from the visual quality of the area as seen from distant view positions at the Washington and Thayer Gates. Impacts under the No Action Alternative would be moderate.

2.7 Human Health and Safety

This section describes the human health and safety issues within the affected environment associated with workers as well as the general public. Possible human health and safety concerns at West Point include lead-based paint (LBP) and asbestos containing materials (ACM), the presence of unexploded ordnance (UXO), and anti-terrorism/force protection (AT/FP) issues.

2.7.1 Asbestos and Lead Paint

The access gates at West Point were established between 50 and 67 years ago. The oldest gate, Thayer Gate, was constructed in 1936 as a WPA project. The Washington Gate was constructed in 1942 and the public restrooms were constructed in 1943. The last gate to be constructed was the Stony Lonesome Gate, which was constructed in the late 1950s and early 1960s. Because of the age of these gates and associated structures, there is an increased chance that they contain LBP and ACM that could be a source of contamination during the proposed upgrades.

2.7.2 Unexploded Ordnance

Historically, ordnance firing into Crows Nest Mountain occurred in the vicinity of the Washington Gate, and there is a chance that UXO is present in the vicinity of this gate. Due to the large amount of ground disturbance that occurred during the construction of Washington Gate, however, it is believed that the chances of encountering UXO at this site are unlikely. There is no record of past activities that would make UXO a concern at Thayer Gate or Stony Lonesome Gate (Cubbison, pers. comm., 3 November 2003).

2.7.3 Force Protection

The access gate security upgrades would be guided by the October 2003 United Facilities Criteria (UFC) DoD Minimum Antiterrorism Standards for Buildings that seek to find effective ways to minimize the likelihood of mass casualties from terrorist attacks against DoD personnel. By incorporating these standards into the planning process, the DoD can be proactive in preventing and reacting to terrorist incidents, as well as other emergencies. UFC construction standards attempt to improve safety through adequate standoff distances, preventing building collapse, minimizing hazardous flying debris, providing effective building layout, limiting airborne contamination, providing mass notification, and facilitating future installation upgrades. UFC requirements apply to new construction including all MILCON projects starting with the Fiscal Year 2004 program and all projects funded by sources other than MILCON for the Fiscal Year 2004 program. Existing structures must also apply UFC standards when a major investment is made, the building use is converted, window or door glazing replacement projects, building additions are constructed, or buildings are leased.

Buildings that are exempt from UFC requirements include: stand alone franchised food operations; stand alone shoppettes, mini marts, and similarly sized commissaries; family housing with 12 units or fewer per building; medical transitional structures and spaces; gas stations and car care centers; and recruiting stations located in leased spaces. MILCON projects starting after FY2004 must comply with these standards, which are based on both site planning and structural design. Site planning regulations center around minimum standoff distances from surrounding structures and roadways. Under these regulations, the proposed access gate upgrades would be in the vicinity of buildings considered primary gathering buildings, which are defined as inhabited buildings, or portions thereof, where 50 or more DoD personnel routinely gather, and family housing with 13 or more family units per building. Roadway realignment conducted under the access gate security upgrade would follow the standoff distances for facilities with a secure perimeter as follows:

- The perimeter must be at least 148 feet (45 meters) away from a primary gathering structure.
- Parking and roadways should be 82 feet (25 meters) away from primary gathering structures.
- Inhabited structures (buildings or portions of buildings routinely occupied by five or more DoD personnel with a population density of greater than one person per 430 feet (40 meters)) must be at least 33 feet (10 meters) from primary gathering structures.

- Trash containers must be at least 82 feet (25 meters) from primary gathering structures.
- Adjacent primary gathering structures must be at least 33 feet (10 meters) apart.
- Unobstructed space of at least 33 feet (10 meters) must surround a primary gathering structure.

In addition to site planning requirements, UFC guidelines also include construction requirements. While compliance with standoff distances should minimize the impacts of potential attacks, some additional structural issues must be incorporated into building designs to ensure that buildings do not experience progressive collapse.

2.7.4 Human Health and Safety Environmental Consequences

The following criteria were used to evaluate impacts to human health and safety:

Negligible — The impact to West Point personnel and visitor safety would not be measurable or perceptible.

Minor — The impact to West Point personnel or visitor safety would be measurable or perceptible, but it would be limited to a relatively small number of people at localized areas. Impacts to human health and safety might be realized through a minor increase in the potential for exposure to hazardous materials, unexploded ordnance, or force protection issues where these issues already exist.

Moderate — The impact to West Point personnel or visitor safety would be sufficient to cause a change in exposure to hazardous materials, unexploded ordnance, or force protection issues or to create the potential for exposure to hazardous materials, unexploded ordnance, or force protection issues in areas that currently do not exhibit these issues.

Major — The impact to West Point personnel or visitor safety would be substantial. Exposure to hazardous materials, unexploded ordnance, or force protection issues in areas with usually exposure to these issues are expected to substantially increase in the short- and long-term.

Washington Gate Proposed Action Alternative

Due to the age of the Washington Gate, impacts from LBP and ACM could occur, but would be addressed and minimized through proper preparation. Prior to construction activities, suspected surfaces would be evaluated for LBP and ACM in accordance with Occupational Health and Safety (29CFR1926.1101 and 29CFR.1926.62) and National Emissions Standards for Hazardous Air Pollutants (40CFR, Part 61). All materials to be disposed of that contain LBP or ACM would be taken off-post by a qualified contractor. Sampling or testing for LBP is a prudent measure to ensure worker safety during demolition activities. Furthermore, due to past ordnance firing into Crows Nest Mountain, potential impacts due to UXO exist. However, during the construction of Washington Gate, a large amount of ground disturbance occurred and there was no impact from UXO. Since the majority of improvements would occur in this previously disturbed area, impacts from UXO are not expected. The widening and realignment of the roadway would take into consideration AT/FP guidelines. Where applicable, the minimum setback distances would be achieved and design guidelines followed. Overall, beneficial effects for AT/FP would be expected and negative impacts to human health and safety under the Washington Gate Proposed Action Alternative would be negligible.

Washington Gate Guardhouse Relocation Alternative

Impacts to LBP, ACM, and UXO under this alternative would be the same as under the Washington Gate Proposed Action Alternative. The widening and realignment of the roadway would take into consideration AT/FP guidelines. Where applicable, the minimum setback distances would be achieved and design guidelines followed. Overall, beneficial effects for AT/FP would be expected and negative impacts to human health and safety under the Washington Gate Guardhouse Relocation Alternative would be negligible.

Stony Lonesome Gate Proposed Action Alternative

Because it was constructed at a later date than the other access gates, when LBP and ACM were used less frequently, there are no LBP or ACM concerns at Stony Lonesome Gate. No activities resulting in UXO are known to occur in this area; therefore, there would be no impacts from UXO. The widening and realignment of the roadway would take into consideration AT/FP guidelines. Where applicable, the minimum setback distances would be achieved and design guidelines followed. Overall, beneficial effects for AT/FP would be expected and negative impacts to human health and safety under the Stony Lonesome Gate Proposed Action Alternative would be negligible.

Stony Lonesome Gate Design Alternative

Impacts to LBP, ACM, and UXO under this alternative would be the same as under the Stony Lonesome Gate Proposed Action Alternative. The widening and realignment of the roadway would take into consideration AT/FP guidelines. Where applicable, the minimum setback distances would be achieved and design guidelines followed. Overall, beneficial effects for AT/FP would be expected and negative impacts to human health and safety under the Stony Lonesome Gate Design Alternative would be negligible.

Stony Lonesome Gate Expanded Design Alternative

Impacts to LBP, ACM, and UXO under this alternative would be the same as under the Stony Lonesome Gate Proposed Action Alternative. The widening and realignment of the roadway would take into consideration AT/FP guidelines. Where applicable, the minimum setback distances would be achieved and design guidelines followed. Overall, beneficial effects for AT/FP would be expected and negative impacts to human health and safety under the Stony Lonesome Gate Expanded Design Alternative would be negligible.

Thayer Gate Proposed Action – Thayer Road Alternative

Due to the age of the Thayer Gate, impacts from LBP and ACM could occur but would be addressed and minimized through proper preparation. Prior to construction activities, suspected surfaces would be evaluated for LBP and ACM in accordance with Occupational Health and Safety (29CFR1926.1101 and 29CFR.1926.62) and National Emissions Standards for Hazardous Air Pollutants (40CFR, Part 61). All materials to be disposed of that contain LBP and ACM would be taken off-post by a qualified contractor. Sampling or testing for lead-based paint is a prudent measure to ensure worker safety during demolition activities. No activities resulting in UXO are known to occur in this area; therefore, there would be no impacts from UXO. The widening and realignment of the roadway would take into consideration AT/FP guidelines. Where applicable, the minimum setback distances would be achieved and design guidelines followed. Overall, beneficial effects for AT/FP would be expected and negative impacts to human health and safety under the Thayer Gate Proposed Action – Thayer Road Alternative would be negligible.

Thayer Gate – Swift Road Alternative

Impacts to LBP, ACM, and UXO under this alternative would be the same as under the Thayer Gate Proposed Action – Thayer Road Alternative. The widening and realignment of the roadway would take into consideration AT/FP guidelines. Where applicable, the minimum setback distances would be achieved and design guidelines followed. Overall, beneficial effects for AT/FP would be expected and negative impacts to human health and safety under the Thayer Gate – Swift Road Alternative would be negligible.

Thayer Gate – Roundabout Alternative

Impacts to LBP, ACM, and UXO under this alternative would be the same as under the Thayer Gate Proposed Action – Thayer Road. The widening and realignment of the roadway would take into consideration AT/FP guidelines. Where applicable, the minimum setback distances would be achieved and design guidelines followed. Overall, beneficial effects for AT/FP would be expected and negative impacts to human health and safety under the Thayer Gate - Roundabout Alternative would be negligible.

No Action Alternative

There would be no impacts from LBP, ACM, or UXO under the No Action Alternative. Under this alternative, the temporary gate security measures would continue and the permanent upgrades would not occur, thus the security benefits related to the upgrades would not occur.

2.8 Noise

Noise is any unwanted sound that can interfere with hearing, concentration, or sleep. The major sources of noise include transportation vehicles, heavy equipment, machinery, and appliances. The Noise Control Act of 1972, 42 USC 4901 et seq. was enacted to establish noise control standards and to regulate noise emissions from commercial products such as transportation and construction equipment. The Noise Control Act exempts noise from military weapons or equipment designated for combat use.

The standard measurement unit of noise is the decibel (dB), which represents the acoustical energy present and is an indication of the loudness or intensity of the noise. Noise levels are measured in A-weighted decibels (dBA), a logarithmic scale which approaches the sensitivity of the human ear across the frequency spectrum. Therefore, the dBA accounts for the varying sensitivity of the human ear by measuring sounds the way a human ear would perceive it. The dBA measurement is used to indicate damage to hearing based on noise levels, and is the basis for federal noise standards. A 3-dB increase is equivalent to doubling the sound pressure level, but is barely perceptible to the human ear. A 5-dB change in sound is very noticeable and a 10-dB change in sound almost doubles the loudness. Without any barriers, a doubling in distance from the source results in a 6-dB decrease in the noise level. Table 2-6 illustrates common noise levels.

Because noise may be more objectionable at certain times, a measure known as Day-Night Average Sound Level (L_{dn} or L_{10}) has been developed. The L_{dn} or L_{10} is a 24-hour average sound level recommendation that includes a penalty, of 10 dB, to sound levels during the night (10 pm to 7 am). This measurement is often used to determine acceptable noise levels and is endorsed by agencies such as the EPA, the Federal Highway Administration (FHWA), the Federal Aviation Administration (FAA), the U.S. Department of Housing and Urban Development (HUD), the Occupational Safety and Health Administration (OSHA), and DoD.

TABLE 2-6: COMMON NOISE LEVELS

Source	Decibel Level	Exposure Concern
Soft Whisper	30	Normal safe levels
Quiet Office	40	Normal safe levels
Average Home	50	Normal safe levels
Conversational Speech	65	Normal safe levels
Highway Traffic	75	May affect hearing in some individuals depending. on sensitivity, exposure length, etc.
Noisy Restaurant	80	May affect hearing in some individuals depending. on sensitivity, exposure length, etc.
Average Factory	80-90	May affect hearing in some individuals depending. on sensitivity, exposure length, etc.
Pneumatic Drill	100	May affect hearing in some individuals depending. on sensitivity, exposure length, etc.
Automobile Horn	120	May affect hearing in some individuals depending. on sensitivity, exposure length, etc.
Jet Plane	140	Noises at or over 140 dB may cause pain
Gunshot Blast	140	Noises at or over 140 dB may cause pain

Source: EPA Pamphlet, "Noise and Your Hearing," 1986.

The FHWA has established noise abatement criteria for roadways. An exterior L_{eq} of 67 dBA is the standard typically used to evaluate noise levels, measured 50 feet (15 meters) from the centerline of travel. The L_{eq} represents the equivalent sound pressure level or the steady sound level that, over a specified period of time, would produce the same energy equivalence as the fluctuating sound level actually occurring. The EPA determined that a 24-hour L_{eq} limit of 70 dBA (both indoors and outdoors) would protect against hearing damage in commercial and industrial areas. Workplace noise standards set by OSHA are measured in two ways. A standard of 90 dBA for an 8-hour duration is the limit for constant noise and a maximum sound level for impulse noise is 140 dBA. Impulse noise is any sort of short blast, such as a gunshot. The DoD Hearing Conservation Program requires a written plan for the for the implementation of a comprehensive Hearing Conservation Program when continuous and intermittent noise levels have an 8-hour time-weighted average (TWA) noise level of 85 dBA, or above. A significant impact is considered to occur if noise levels exceed EPA, OSHA, or DoD noise standards.

2.8.1 Noise Affected Environment

Two major sources of loud noise at the UMSA are helicopter missions and firing exercises, both of which are not located in the vicinity of the access gates. While there are no aviation facilities at West Point, helicopters land on the property to transport military personnel. At the Lake Frederick Drop Zone, located in an area remote from the main post, helicopter noise levels of 67.7 dB have been recorded. Sound exposure contours developed for artillery training have shown that sound exposure contours from training lie almost entirely within the boundaries of West Point (USMA, 1998). Aviation and training related noises do not occur in the vicinity of the access gates. In the area of the proposed upgrades, the primary source of noise is traffic entering the installation.

The nearest sensitive receptor to each gate is as follows:

- Washington Gate: The nearest noise receptors to Washington Gate are the maintenance buildings located off Reynolds Road. The closest building is approximately 330 feet (101 meters) from Washington Gate.
- Stony Lonesome Gate: The nearest noise receptor to Stony Lonesome Gate is the residential housing units located to the east of the gate. The nearest housing unit is approximately 1,800 feet (549 meters) from Stony Lonesome Gate.
- Thayer Gate: The nearest noise receptor to the Thayer Gate is the Thayer Hotel, which is approximately 148 feet (45 meters) from the gate.

2.8.2 Noise Environmental Consequences

The following criteria have been developed to assess the noise impacts for each of the alternatives:

Negligible — Natural sounds would prevail; noise generated by access gate upgrade construction or operation would be infrequent or absent, mostly immeasurable.

Minor — Noise levels would exceed natural sounds, as described under negligible impacts, but would not exceed EPA, OSHA, or DoD noise standards.

Moderate — Noise levels would exceed EPA, OSHA, or DoD noise standards on a short-term and temporary basis, and these exceedances would not occur on a permanent basis or for prolonged periods of time.

Major — Noise levels would exceed EPA, OSHA, or DoD noise standards on a permanent basis or for a prolonged period of time.

Washington Gate Proposed Action Alternative

Under this alternative, for the duration of construction for the access gate security upgrades, short-term minor noise impacts associated with normal construction activities would be expected to occur. The nearest sensitive noise receptor is approximately 330 feet (101 meters) from the gate. Since a doubling in distance from the source, Washington Gate, results in a 6-dB decrease in the noise level, it is assumed that noise levels at the nearest sensitive receptor would be below DoD, EPA, or OSHA noise standards. Under this alternative, no new employment or uses would be created from the proposed improvements. Because there would be no increase in the intensity of vehicular traffic or land uses, there would be minor impacts due to noise after construction from daily operations under the Washington Gate Proposed Action Alternative.

Washington Gate Guardhouse Relocation Alternative

Impacts to noise under this alternative would be the same as those under the Washington Gate Proposed Action Alternative.

Stony Lonesome Gate Proposed Action Alternative

Impacts to noise under this alternative would be similar to those under the Washington Gate Proposed Action Alternative. The nearest sensitive noise receptor is approximately 1,800 feet (549 meters) from the gate. Since a doubling in distance from the source, Stony Lonesome Gate, results in a 6-dB

decrease in the noise level, it is assumed that noise levels at the nearest sensitive receptor would be below DoD, EPA, or OSHA noise standards. However, additional construction noise would occur from blasting for cut and fill activities. This activity would result in short-term minor noise impacts that would occur only for the duration of construction.

Stony Lonesome Gate Design Alternative

Impacts to noise under this alternative would be the same as those under the Stony Lonesome Gate Proposed Action Alternative.

Stony Lonesome Gate Expanded Design Alternative

Impacts to noise under this alternative would be the same as those under the Stony Lonesome Gate Proposed Action Alternative.

Thayer Gate Proposed Action – Thayer Road Alternative

Impacts to noise under this Alternative would be similar to those under the Washington Gate Proposed Action Alternative. The nearest sensitive noise receptor is approximately 148 feet (45 meters) from the gate. Since a doubling in distance from the source, Thayer Gate, results in a 6-dB decrease in the noise level, it is assumed that noise levels at the nearest sensitive receptor would be below DoD, EPA, or OSHA noise standards

Thayer Gate – Swift Road Alternative

Impacts to noise under this alternative would be the same as those under the Thayer Gate Proposed Action – Thayer Road Alternative.

Thayer Gate – Roundabout Alternative

Impacts to noise under this alternative would be the same as those under the Thayer Gate Proposed Action – Thayer Road Alternative.

No Action Alternative

The No Action Alternative would not create additional impacts to current noise levels at West Point or the surrounding area.

2.9 Transportation

2.9.1 Transportation Affected Environment

2.9.1.1 Roadway Network and Access

Prior to September 11, 2001, West Point was a facility open to the public. Due to the terrorist attacks of September 11, 2001, West Point became a closed facility and temporary security measures were implemented. Prior to this time, West Point was accessible by four gates: Lee Gate (seasonally), Washington Gate, Stony Lonesome Gate, and Thayer Gate. As part of the security measures, Lee Gate was permanently closed and temporary security measures were implemented at Washington Gate, Stony Lonesome Gate, and Thayer Gate. These measures include the addition of traffic barriers, lighting, security posts, and vehicle inspection stations. In order to continue with the security measures in the future, West Point has proposed to install permanent security measures at the three aforementioned gates.

The Washington Gate is located at the northwest portion of West Point. This gate currently is the most heavily used by traffic entering West Point and is only open to DoD registered vehicles and drivers with government identification. Washington Gate is immediately adjacent to Highway 218 and provides access to Washington Road and Reynolds Road. The Stony Lonesome Gate is located in the southwest portion of West Point. It is adjacent to Route 9W and provides access to Stony Lonesome Road. Most of the trucks entering West Point use this gate. The Thayer Gate is located in the southeast portion of West Point. It is located at West Point Highway and provides access to Swift Road and Thayer Road.

2.9.1.2 Methodology

Based on traffic data provided by USMA, the weekday AM peak hour for Washington Gate, Stony Lonesome Gate, and Thayer Gate is from 7:00 AM to 8:00 AM. Only the weekday AM peak hour was analyzed since this represents the highest period for traffic entering West Point through the aforementioned gates. It was assumed that each gate would remain in operation during the period of construction, with temporary security measures implemented to maintain the gate processing capacity.

In order to estimate the existing processing capacity of Washington Gate, Stony Lonesome Gate, and Thayer Gate, processing time information was provided by USMA. These processing times were used to determine the theoretical capacity of each access gate. The processing time estimated for DoD vehicles passing through the gate was 15 seconds per vehicle. The average time estimated between vehicles leaving and entering the checkpoint at the gate was 2.5 seconds for all vehicles. The average time needed to process a DoD vehicle at the checkpoint was estimated to be 17.5 seconds based upon the aggregate of these time intervals. The processing/inspection time for visitors (non-DoD vehicles) was estimated at 60 seconds plus 2.5 seconds (62.5 seconds total) for cars, an average of 10 minutes (including the 2.5 seconds) for trucks, and an average of 8 minutes (including the 2.5 seconds) for buses entering and leaving the checkpoint. As a result, the theoretical capacity at the gate checkpoint for DoD vehicles is 206 vehicles per lane per hour and the theoretical capacity for visitors (non-DoD vehicles) is either 58 cars per lane per hour, 6 trucks per lane per hour, or 8 buses per lane per hour.

2.9.1.3 Existing Conditions

Washington Gate

Washington Gate was constructed in 1942 and is comprised of two stone gateposts, a guard booth, and a separate restroom. The existing structures are considered to be of local historic interest. Washington Gate is regularly used by pedestrians, bicycles, and West Point shuttle buses. This gate was previously open to both DoD and non-DoD traffic. However, traffic currently entering through this gate is restricted to vehicles with authorized DoD access permits and drivers with government identification. Only one lane is provided for the traffic entering through this gate. The highest percentage of vehicles (45 percent) entering the West Point installation during weekday AM peak hour use Washington Gate.

Traffic volumes at Washington Gate were determined based on 24-hour automatic traffic recorders that were placed at the gate for two weeks during October 2003. The estimated capacity of Washington Gate for DoD vehicles is approximately 206 vehicles per hour. During the weekday AM peak hour, 499 vehicles per hour traveled through the Washington Gate. The traffic volume exceeds the capacity of the checkpoint with a total delay of 86 minutes (an average delay of 10 seconds/vehicle). Due to capacity constraints, queues would likely develop at the checkpoint, resulting in frequent traffic back ups onto Highway 218 in both directions during the weekday AM

peak period. This back up also impacts thru traffic on the two-lane road, as vehicles turning into the gate prevent thru vehicles on Highway 218 from passing.

Stony Lonesome Gate

The Stony Lonesome Gate was constructed in the late 1950s and early 1960s. The only structure at Stony Lonesome Gate is the sentry station, which is not considered to be a historic property. Currently, all truck traffic is directed to enter the installation through this gate. However, trucks occasionally enter through Washington Gate or Thayer Gate. Traffic entering through this gate includes West Point shuttle buses and DoD vehicles with government identification. Currently two lanes are provided for the traffic entering through Stony Lonesome Gate. The left lane is used for DoD vehicles with government identification and the right lane is used to process non-DoD vehicles (visitors). Stony Lonesome Gate does not have any pedestrian traffic and bicycle traffic is limited.

Traffic volumes at Stony Lonesome Gate were determined based on 24-hour automatic traffic recorders that were placed at the gate for two weeks during October 2003. The Stony Lonesome Gate is currently used by 34 percent of total vehicles entering West Point during the weekday AM peak hour. The estimated capacity for the DoD lane is 206 vehicles per hour. The non-DoD lane has a capacity of 58 cars per hour. The average traffic demand at this gate during the weekday AM peak hour is 270 vehicles per hour (265 cars and 5 trucks assumed) for the non-DoD lane and 105 vehicles per hour for the DoD lane. As a result, the checkpoint at Stony Lonesome Gate is currently operating over capacity with a total delay of 4 hours and 26 minutes (average delay of 57 seconds/vehicle). Because of variations in processing rates and arrival times, queues are likely to develop at the checkpoint because of the non-DoD lane during the AM peak period. Furthermore, traffic queues intermittently develop at this gate during special events and athletic events. The DoD lane operates below capacity and does not experience extensive queues during the weekday AM peak hour.

Thayer Gate

The Thayer Gate and the surrounding structures are considered West Point historic property. Thayer Gate is regularly used by pedestrians, recreational bicyclist and the West Point bicycling team, and West Point shuttle buses. This gate has a considerable volume of pedestrians traveling between West Point and the community of Highland Falls. A limited number of trucks and buses enter through this gate. Two lanes are provided at this gate to process the entering vehicles. One lane is used for DoD vehicles with government identification, while the other lane is used for non-DoD vehicles (visitors). Traffic volumes at Thayer Gate were determined based on 24-hour automatic traffic recorders that were placed at the gate for two weeks during October 2003. The estimated capacity for DoD traffic is 206 vehicles per hour. The non-DoD lane has an estimated capacity of 58 cars per hour. Currently an average demand of 126 non-DoD vehicles per hour (one truck, one bus, and 124 cars) and 100 DoD vehicles per hour (21 percent) approach this gate from 7:00 AM to 8:00 AM. Since the non-DoD lane operates over capacity with a total delay of 87 minutes (average delay of 41 seconds/vehicle), queues are likely to develop at the checkpoint during the AM peak period. The DoD lane operates below capacity and does not experience extensive queues during the weekday AM peak hour.

2.9.2 Transportation Environmental Consequences

The traffic operation projected at the three gates for the build condition (implementation of improvements at the three access gates) for each alternative was compared with the traffic operations for the existing condition. The following criteria have been developed to assess the transportation impacts for each of the alternatives:

Negligible — Current traffic patterns and trends prevail. There is no change to the traffic operations as a result of the action.

Minor — Short-term alteration of traffic patterns and trends would result from the action. Queuing may occur, but the gate would not reach capacity.

Moderate — Short or long-term changes to the traffic patterns and trends would result from the action. The gate may reach capacity but this change would be temporary or managed through improvements and average delay per vehicle would not be greater than two minutes.

Major — Traffic patterns would be permanently altered from the action. The gate would reach capacity and extensive queues would develop, average delay per vehicle would be over two minutes.

2.9.2.1 *Build Condition*

Under all of the alternatives, the potential for impacts to the regional transportation network during construction exists. Impacts to regional traffic could be managed by maintaining access through each gate throughout the construction. However, the reconstruction of the Washington, Stony Lonesome, and Thayer Gates may necessitate the complete closure of at least one of these gates at a time during the construction period. In the event of a gate closure, traffic would be rerouted to the two remaining open gates. The diverting of traffic from any of the three access gates has the potential to create short-term impacts to the regional transportation network during the construction period.

However, West Point would aim to maintain access through the gates during construction. If this is not possible, several measures could be employed to manage the disruptions caused by a gate closure. For example, the Lee Gate would be opened to accommodate the diversions from Washington Gate if it became necessary to close this gate during construction. At Thayer Gate, if Thayer Road is closed, traffic would be re-routed onto Swift Road. Additional personnel could be added at Stony Lonesome Gate to increase the rate at which vehicles are inspected so traffic flow through the gate is improved and diverted traffic from Thayer Gate could be accommodated. This measure could also be implemented at Thayer Gate if Stony Lonesome Gate were temporarily closed during construction.

Minor to moderate impacts to transportation could occur at each gate during construction, depending on measures employed to manage disruptions such as sequencing of the gate closures as well as exploring the potential for gates to remain open during construction. Operational impacts at each gate are discussed below.

Washington Gate Proposed Action Alternative

The construction under this alternative would require some widening of the existing roadway, in addition to the construction of a separate processing area located between Reynolds Road and Washington Road. This alternative includes the reconfiguration of the access to provide for two entrance lanes and two exit lanes separated by a median. The existing guard booth would be located within the median. A new guard booth would be constructed at the new processing area between Reynolds Road and the entrance road. Entering DoD vehicles would continue straight on Washington Road past the existing guard booth or onto Reynolds Road. Visitors (non-DoD vehicles) would enter the facility through Thayer Gate.

The security features included under this alternative would include fixed and retractable bollards, use of large rocks in place of bollards, CCTV cameras, and speed control tables (traffic calming). This alternative includes a provision to construct a bus stop on Reynolds Road to preclude staff from

crossing Highway 218. The bus stop that is currently located on Highway 218 requires pedestrians to cross this sometimes busy highway, creating a dangerous situation for pedestrians. This alternative would reduce this danger by creating a designated bus stop area with a safe unloading area, and a designated cross walk into Washington Gate. The design of Washington Gate must provide for both pedestrian and bicycle access, which would include incorporation of safety measures such as avoiding dangerous bicycle-vehicle merges, and precluding the use of dangerous water drainage gates that are a hazard to narrow bicycle tires.

Under this alternative two lanes would be provided for vehicles entering West Point. Both lanes would accommodate DoD vehicles with government identification. The processing capacity estimated for the DoD lanes is 412 vehicles per hour. The Washington Gate currently has an average demand volume of 499 vehicles per hour during the weekday AM peak hour. The DoD lanes are projected to operate over capacity with a total delay of 26 minutes (average delay of 3 seconds/vehicle). As a result, it can be concluded that this gate is projected to operate over its capacity under this alternative for DoD vehicles. The impact to traffic operations associated with this alternative would be considered moderate.

During construction, West Point would maintain access through this gate, if possible. The preferred approach would include maintaining at least one lane of traffic into the installation during the morning rush period (approximately 6:00 AM to 12:00 PM) and one lane of traffic out of the installation during the afternoon period (approximately 12:00 PM to 6:00 PM). From 6:00 PM to 6:00 AM, Washington Gate could be closed entirely to allow for nighttime construction. If traffic flow at Washington Gate cannot be maintained, Lee Gate would be reopened to handle the redirected traffic.

Washington Gate Guardhouse Relocation Alternative

This alternative includes the relocation of the existing guard booth and gate posts to accommodate the new guard booth. The new guard booth would be located further into the West Point boundary than the existing structure to allow for longer queuing of vehicles between the public highway and the guard booth structure. This alternative would include similar traffic control and security features as the Washington Gate Proposed Action Alternative.

This alternative would provide separate 12-foot lanes for entering and exiting traffic on each side of the guard booth structure. Entry into this gate would be limited to DoD vehicles with government identification. Under this alternative, the processing capacity estimated for the Washington Gate would be 206 vehicles per hour. The existing average traffic demand during the weekday AM peak hour (499 vehicles per hour) is higher than the processing capacity estimated for this alternative (206 vehicles per hour). Therefore, this gate is projected to operate over capacity for DoD vehicles with a total delay of one hour and 25 minutes (average delay of 10 seconds/vehicle). The impact to traffic operations associated with this alternative would be considered moderate.

During construction, West Point would maintain access through this gate, if possible. The preferred approach would include maintaining at least one lane of traffic into the installation during the morning rush period (approximately 6:00 AM to 12:00 PM) and one lane of traffic out of the installation during the afternoon period (approximately 12:00 PM to 6:00 PM). From 6:00 PM to 6:00 AM, Washington Gate could be closed entirely to allow for nighttime construction. If traffic flow at Washington Gate cannot be maintained, Lee Gate would be reopened to accommodate the redirected traffic.

Stony Lonesome Gate Proposed Action Alternative

Under this alternative, most truck traffic would enter West Point through the Stony Lonesome Gate. A new gatehouse would be constructed on Stony Lonesome Road where vehicles would be screened prior to entering West Point. A second gatehouse would be constructed where more detailed processing would be conducted for all DoD and non-DoD vehicles. This alternative includes traffic control measures such as new signage, deployable vehicle barrier systems, and permanent lighting. In addition, security features such as retractable and permanent bollards, pop-up barriers, swing arm barriers, new signage, CCTV cameras, and large rocks as barriers would also be included.

The first gatehouse would consist of one lane for DoD vehicles with government identification and one lane for non-DoD cars and trucks. It is assumed that DoD and non-DoD vehicles would have the same screening time (17.5 seconds) with an estimated capacity of 206 vehicles per hour for each lane. The average vehicle demand to be processed during the weekday AM peak hour is 270 vehicles per hour (265 cars and 5 trucks assumed) for the non-DoD lane and 105 vehicles per hour for the DoD lane. The DoD lane is projected to operate below capacity while the non-DoD lane is expected to operate above capacity with a total delay of 19 minutes (average delay of 4 seconds/vehicle).

At the second gatehouse, non-DoD vehicles would require registration/inspection prior to entering the facility and would be directed either to a lane dedicated for non-DoD cars or to a lane dedicated for non-DoD trucks for detailed processing. A third lane would be dedicated for DoD vehicles that would be subject to a second screening. The estimated capacity of each lane is 58 cars per hour for the non-DoD car lane, 6 trucks per hour for the non-DoD truck lane, and 206 vehicles per hour for the DoD lane. The non-DoD car lane is expected to experience an average delay of 49 seconds/vehicle (a total delay of 3 hours and 36 minutes) and the truck lane is expected to operate just below capacity. The DoD lane is also expected to operate below capacity. Upon leaving this last gatehouse, DoD vehicles with government issued identification would be permitted to continue straight on Stony Lonesome Road after they are processed to enter West Point.

During construction, West Point would maintain access through this gate to minimize any potential impacts to traffic. The impact to traffic operations associated with this alternative would be considered moderate.

Stony Lonesome Gate Design Alternative

Under this alternative, most truck traffic would also enter West Point through the Stony Lonesome Gate. A new guard booth would be constructed on Stony Lonesome Road at the first checkpoint where vehicles would be screened prior to entering West Point. A second guard house would be constructed where more detailed processing would be conducted for all non-DoD vehicles. After being processed at this checkpoint, DoD vehicles with government issued identification would continue straight on Stony Lonesome Road to enter West Point. Non-DoD vehicles would require registration/inspection prior to entering the facility and would be directed either to two dedicated lanes for non-DoD cars or to one dedicated lane with an X-ray device for detailed processing of non-DoD trucks. This alternative includes traffic control measures such as new signage, deployable vehicle barrier systems, and permanent lighting. In addition, security features such as retractable and permanent bollards, a W-beam guide rail along the eastern side of Stony Lonesome Road, new signage, CCTV cameras, and large rocks as barriers would also be included.

The first checkpoint would consist of one lane for DoD vehicles with government identification and one lane for non-DoD cars and trucks. It is assumed that DoD and non-DoD vehicles would have the same screening time (17.5 seconds) with an estimated capacity of 206 vehicles per hour for each lane.

The average vehicle demand to be processed during the weekday AM peak hour is 270 vehicles per hour (265 cars and 5 trucks assumed) for the non-DoD lane and 105 vehicles per hour for the DoD lane. The DoD lane is projected to operate below capacity while the non-DoD lane is expected to operate above capacity with a total delay of 19 minutes (average delay of 4 seconds/vehicle).

For the detailed processing at the second checkpoint, the estimated capacity of the two non-DoD car lanes is 116 cars per hour and 6 trucks per hour for the non-DoD truck lane. Non-DoD cars are expected to operate over capacity and experience a total delay of 2 hours and 36 minutes (an average delay of 35 seconds/vehicle) and the non-DoD truck lane is expected to operate just below its processing capacity. During construction, West Point would maintain access through this gate to minimize any potential impacts to traffic. The impact to traffic operations associated with this alternative would be considered moderate.

Stony Lonesome Gate Expanded Design Alternative

Under this alternative Stony Lonesome Road would remain as a one-lane road in each direction. A new guard booth would be constructed to screen vehicles before they enter West Point. All vehicles (DoD and non-DoD) would be screened within the same lane. After the vehicles are screened, at this first checkpoint, two paths would be available. DoD vehicles with government issued identification would continue straight and non-DoD vehicles would turn right into the vehicle X-ray area that would be two lanes wide. Vehicles leaving the X-ray inspection area would either make a right onto Stony Lonesome Road or be directed to the east side of Stony Lonesome Road to the detailed inspection facility (two lanes). A second guard booth would be constructed to serve as a secondary checkpoint just before vehicles enter the facility.

This alternative would include similar traffic control and security features as the previous alternative. This alternative offers only one lane for vehicle processing. The existing average vehicle demand at this gate during the weekday AM peak hour is 375 vehicles per hour (265 non-DoD cars, 5 non-DoD trucks, and 105 DoD vehicles). It is assumed that DoD and non-DoD vehicles would have the same screening time (17.5 seconds) with an estimated capacity of 206 vehicles per hour for the single lane. The first checkpoint at this location is expected to operate over capacity with a total delay of 49 minutes (average delay of 8 seconds/vehicle).

The detailed processing of non-DoD vehicles at the X-ray inspection area (two lanes) is expected to operate over capacity with a total delay of 3 hours and 26 minutes (average delay of 47 seconds/vehicle). During construction, West Point would maintain access through this gate to minimize any potential impacts to traffic. The impact to traffic operations associated with this alternative would be considered moderate.

Thayer Gate Proposed Action – Thayer Road Alternative

The existing entrance road would be realigned to become a divided roadway. To the east of the median, separate ingress and egress lanes would be provided that would connect the Thayer Hotel with West Point. To the west of the median, a three lane roadway would be provided with two northbound lanes to accommodate traffic entering West Point and one southbound lane to accommodate traffic exiting West Point. At the checkpoint area, the northbound lanes would be separated by a small median that would include the new guard booth. One northbound lane would serve the DoD vehicles with government issued identification that would not be required to be formally checked in while the other northbound lane would be used to formally process non-DoD vehicles (visitors) into West Point.

It is assumed that the DoD vehicles would have a screening time of 17.5 seconds at the first checkpoint. It is estimated that this lane would have a capacity of 206 cars per hour. The average DoD vehicle demand during the weekday AM peak hour is 100 vehicles per hour and is anticipated to operate below capacity. For the detailed non-DoD vehicle processing, the estimated capacity of the guard booth is 58 cars per hour. The average non-DoD vehicle demand during the weekday AM peak hour is 126 vehicles per hour (125 cars and one truck assumed). The non-DoD lane is expected to operate over capacity with an average delay of 10 seconds/vehicle (a total delay of 20 minutes). The impact to traffic operations associated with this alternative would be considered moderate.

The impact to traffic operations associated with this alternative would be considered moderate. The design of Thayer Gate must also provide for both pedestrian and bicycle access, which would include incorporation of safety measures such as avoiding dangerous bicycle-vehicle merges, and precluding the use of dangerous water drainage gates that are a hazard to narrow bicycle tires. This alternative would include similar traffic control and security features as the previous alternatives.

During construction, West Point would maintain access through this gate, if possible. If the right-of-way does not allow for access to be maintained during construction, traffic at Thayer Gate would be redirected onto Swift Road, which can be accessed in the vicinity of the Thayer Gate entrance.

Thayer Gate – Swift Road Alternative

Under this alternative, all traffic entering West Point at Thayer Gate would turn left onto a widened and realigned Swift Road. Swift Road would consist of three total travel lanes. Two northbound lanes (one exclusive DoD lane for vehicles with government issued identification and one exclusive non-DoD lane) would be provided for traffic entering West Point and one southbound lane would be provided for vehicles exiting West Point. At the checkpoint area, the northbound lanes would be separated by a small median that would include the new guard booth.

The processing capacity and the traffic operations would be similar to the previous alternative. This alternative would include similar traffic control and security features as the previous alternative. During construction, West Point would maintain access through this gate, if possible. If the right-of-way does not allow for access to be maintained during construction, traffic at Thayer Gate would be redirected onto Swift Road or Thayer Road, depending on which route is accessible during different points of construction. The impact to traffic operations associated with this alternative would be considered moderate.

Thayer Gate – Roundabout Alternative

Under this alternative, the existing entrance road would be realigned to accommodate traffic entering and exiting West Point. Part of the realignment includes the construction of a roundabout. Two northbound lanes would be provided for traffic entering West Point and one southbound lane would be provided for vehicles exiting West Point. A new guard booth would be constructed at the new processing area just south of the roundabout where DoD and non-DoD vehicles would be screened. Entering DoD vehicles with government issued identification would continue straight into West Point past the existing guard booth. Non-DoD traffic would be directed into an area reserved for detailed vehicle processing that could accommodate three vehicles at a time. Once the inspection of a non-DoD vehicle has been completed, the vehicle would proceed to the roundabout where it would enter the installation about halfway through the roundabout. A secondary guard booth would be located to the north of the roundabout. Vehicles continuing through the roundabout would be directed toward the exit of West Point.

DoD and non-DoD vehicles would queue together within two lanes on the approach to the first guard booth where the vehicle screening would be conducted. It is assumed that the DoD and non-DoD vehicles would have the same screening time at the first guard booth (17.5 seconds). As a result, the estimated capacity of this first guard booth would be 412 vehicles per hour. The average vehicle demand to be processed during the weekday AM peak hour is 226 vehicles per hour (125 non-DoD cars, one non-DoD truck, and 100 DoD vehicles). These lanes at the first checkpoint are projected to operate below capacity during this period.

After the initial screening, non-DoD vehicles would be directed to the new processing area. The capacity of this area would be 174 cars per hour. Based upon the projected demand, this processing area for the non-DoD vehicles would also operate below its capacity under this alternative.

This alternative would include similar traffic control and security features as the previous alternatives. During construction, West Point would maintain access through this gate, if possible. If the right-of-way does not allow for access to be maintained during construction, traffic at Thayer Gate would be redirected onto Swift Road, which can be accessed in the vicinity of the Thayer Gate entrance. The impact to traffic operations associated with this alternative would be considered negligible.

2.9.2.2 *No Build*

No Action Alternative

During normal conditions, the processing at Washington Gate, Stony Lonesome Gate, and Thayer Gate would continue to operate with extensive queues. The areas designated for security checks and inspections, however, would not be adequate during periods of heightened security. The security measures implemented since 2001 have been provided within available areas and are not designed for long-term vehicle processing. The impact to traffic operations associated with this alternative would be considered moderate.

2.10 Land Use

This section describes the current land use on and around the project sites.

2.10.1 Land Use Affected Environment

Land uses at West Point can be divided into four general categories: Cadet, including academic, intramural athletic, billeting, and parading; Cadet Support, including intercollegiate athletic fields and other support facilities; Post Support, including housing, commercial, and service support; and Recreational, Industrial, and Field Training, including building and storage area support for industrial operations, field training areas, recreation areas, logistical operations, and open space. Land uses around each of the gates are as follows:

- **Washington Gate:** The area on-post surrounding the Washington Gate is a facility used for supply, storage, and maintenance.
- **Stony Lonesome Gate:** Summer field training areas are located to the west and south of Stony Lonesome Road. To the northeast of the gate is a residential area and a mixed use area consisting of commercial and community services (USMA, 1999). The residential and mixed use areas are separated by Stony Lonesome Road. Recreational land uses such as deer hunting are also prevalent around Stony Lonesome Gate.

- **Thayer Gate:** The main land uses in the area of the Thayer Gate include the Thayer Hotel and Buffalo Soldiers Field. Buffalo Soldiers Field is used for athletics and recreation and serves as a visible cultural resource at West Point. Other uses in the area include the military police, troop housing, senior residential housing, administration and housing, and visitor facilities (USMA, 1999). The town of Highland Falls is immediately south of the Thayer Gate.

2.10.2 Land Use Environmental Consequences

Impacts to land uses were determined by the following criteria:

Negligible — The impact to land use would not be measurable or perceptible, proposed actions would be consistent with the surrounding land uses.

Minor — The impact to land use would be measurable or perceptible, but would be limited to a relatively small change in land use that is still consistent with the surrounding land uses.

Moderate — The impact to land use would be sufficient to cause a significant change surrounding land uses. Actions may not be consistent with surrounding land uses, but these actions would be temporary.

Major — The impact to land use would be substantial. Surrounding land uses are expected to substantially change in the short- and long-term. The action would not be consistent with the surrounding land use.

Washington Gate Proposed Action Alternative

The access gate security upgrades at Washington Gate would occur in the area of the existing roadway and entrance gate, and would be consistent with the current land uses, resulting in only minor impacts to land use under this alternative. Improvements at Washington Gate would require the loss of approximately 6,300 square feet (585 square meters) of the adjacent forested land use in order to accommodate the new bypass. Large areas of wooded habitat in the areas surrounding the proposed road alignment would remain intact, lessening the effects of land use fragmentation in the area of the proposed improvements, and resulting in only minor impacts to surrounding land use.

Other land uses in the area of the Washington Gate include Highway 218, which is considered a State Scenic Road. State scenic roads are state transportation corridors of particular statewide interest that represent a region's scenic, recreational, cultural, natural, historic, or archeological significance (NY DOT, nd). All applicable regulations should be followed to ensure that impacts to the scenic roadway do not occur.

Adjacent land uses and past operations must also be taken into account. Unexploded Ordnance has the potential to occur in the project area (See Section 2.7.2, Unexploded Ordnance). Construction activities would be coordinated with any training activities in the area.

The New York State Coastal Management Program (CMP) requires all federal agencies proposing activity in the coastal zone to provide the State of New York with the information needed to determine whether federal actions conducted in, or adjacent to, the State of New York impact the resources of state's coastal zone, and whether impacts to the state's coastal resources are consistent with the enforceable policies contained in the New York State CMP. West Point provided a Federal Consistency Determination to the New York Department of State for actions that could potentially affect the activities and resources of the coastal zone of New York. In a letter dated October 14, 2004, the New York Department of State concurred with West Point's findings that the proposed

access gate security upgrades are consistent, to the maximum extent practicable, with the enforceable policies of the New York State CMP (See Appendix B: Agency Coordination). Impacts to land use under the Washington Gate Proposed Action Alternative would be minor.

Washington Gate Guardhouse Relocation Alternative

Impacts under this alternative would be similar to those under the Washington Gate Proposed Action Alternative. Under this alternative, the 6,300 square-foot (585 square meters) bypass would not be constructed, resulting in less disturbance to the surrounding forested areas. Due to the lesser amount of construction disturbance expected under this alternative, impacts would be slightly less than those under the Washington Gate Proposed Action Alternative.

Stony Lonesome Gate Proposed Action Alternative

The access gate security upgrades at Stony Lonesome Gate would occur in the area of the existing roadway and entrance gate, and would be consistent with the current land uses, resulting in only minor impacts to land use under this alternative. Improvements at Stony Lonesome Gate would require ground disturbance and rock removal to accommodate approximately 66,000 square feet (6,132 square meters) of impervious surface.

Other land uses in the area of the Stony Lonesome Gate include Route 9W, which is considered a State Scenic Road. All applicable regulations would be followed to ensure that impacts to the scenic roadway do not occur. Operational activities affecting land use that should be taken into account around Stony Lonesome Gate is recreation, including deer hunting. The proposed gate improvements would not be expected to adversely affect hunting.

The New York State CMP requires all federal agencies proposing activity in the coastal zone to provide the State of New York with the information needed to determine whether federal actions conducted in or adjacent to the State of New York impact the resources of state's coastal zone, and whether impacts to the state's coastal resources are consistent with the enforceable policies contained in the New York State CMP. West Point provided a Federal Consistency Determination to the New York Department of State for actions that could potentially affect the activities and resources of the coastal zone of New York. In a letter dated October 14, 2004, the New York Department of State concurred with the West Point's findings that the proposed access gate security upgrades are consistent, to the maximum extent practicable, with the enforceable policies of the New York State CMP (See Appendix B: Agency Coordination). Impacts to land use under the Stony Lonesome Gate Proposed Action Alternative would be minor.

Stony Lonesome Gate Design Alternative

Impacts under this alternative would be similar to those under the Stony Gate Proposed Action Alternative. Under this alternative, ground disturbance and rock removal to accommodate approximately 90,000 square feet (8,361 square meters) of impervious surface would occur, resulting in a greater amount of disturbance to the surrounding areas. Due to the greater amount of construction disturbance expected under the Stony Lonesome Design Alternative, impacts would be slightly greater than those under the Stony Lonesome Proposed Action Alternative.

Stony Lonesome Gate Expanded Design Alternative

Impacts under this alternative would be similar to those under the Stony Gate Proposed Action Alternative. Under this alternative, ground disturbance and rock removal to accommodate approximately 97,600 square feet (9,067 square meters) of impervious surface would occur, resulting

in a greater amount of disturbance to the surrounding areas. Due to the greater amount of construction disturbance expected under the Stony Lonesome Expanded Design Alternative, impacts would be slightly greater than both those under the Stony Lonesome Proposed Action Alternative and the Stony Lonesome Design Alternative.

Thayer Gate Proposed Action – Thayer Road Alternative

The access gate security upgrades at Thayer Gate would occur in the area of the existing roadway and entrance gate, and would be consistent with the current land uses, resulting in only minor impacts to land use under this alternative. Improvements at Thayer Gate would require the removal of landscape vegetation, including trees, as well as the sidewalk along Thayer Road. Construction activities would include the use of a pedestrian detour around the sidewalk closures. This alternative would involve the construction of approximately 85,410 square feet (7,935 square meters) of roadways, parking, and buildings.

Other land uses in the vicinity of Thayer Gate include the Thayer Hotel and Buffalo Soldiers Field. During the access gate upgrade, an alternate access route to the Thayer Hotel would be provided, if necessary. The upgrades under this alternative would require the use of a portion of Buffalo Soldiers Field. During construction, minor impacts would occur as the recreational fields are being reconfigured. Any impacts to Buffalo Soldiers Field during this time would be temporary, lasting only the duration of the six-month construction period. The number of ball fields at Buffalo Soldiers Field would remain the same, resulting in no operational impacts to this land use.

The New York State CMP requires all federal agencies proposing activity in the coastal zone to provide the State of New York with the information needed to determine whether federal actions conducted in or adjacent to the State of New York impact the resources of state's coastal zone, and whether impacts to the state's coastal resources are consistent with the enforceable policies contained in the New York State CMP. West Point provided a Federal Consistency Determination to the New York Department of State for actions that could potentially affect the activities and resources of the coastal zone of New York. In a letter dated October 14, 2004, the New York Department of State concurred with the West Point's findings that the proposed access gate security upgrades are consistent, to the maximum extent practicable, with the enforceable policies of the New York State CMP (See Appendix B: Agency Coordination). Impacts to land use under the Thayer Gate Proposed Action – Thayer Road Alternative would be minor.

Thayer Gate – Swift Road Alternative

Impacts under this alternative would be similar to those under the Thayer Gate Proposed Action – Thayer Road Alternative. Under this alternative, construction activities would include approximately 89,650 square feet (8,329 square meters) of roadway, parking, and building development, resulting in more disturbance to the surrounding areas. Due to the greater amount of construction disturbance expected under the Thayer Gate – Swift Road Alternative, impacts would be slightly greater than those under the Thayer Gate Proposed Action – Thayer Road Alternative.

Thayer Gate – Roundabout Alternative

Impacts under this alternative would be similar to those under the Thayer Gate Proposed Action – Thayer Road Alternative. Under this alternative, construction activities would include approximately 38,350 square feet (3,563 square meters) of roadway, parking, and building development, resulting in less disturbance to the surrounding areas. However, this alternative would require using a greater area of Buffalo Soldiers Field than either the Thayer Road or Swift Road alternatives for the Thayer Gate. The use of Buffalo Soldiers Field under this alternative would create impacts during both

construction and operation. Roughly 11,000 square feet (1,022 square meters) of Buffalo Soldiers Field would be disturbed to construct the roundabout. Due to the impact on Buffalo Soldiers Field, the Thayer Gate – Roundabout Alternative would have greater impacts to land use than either the Thayer Gate Proposed Action – Thayer Road or Swift Road alternatives because existing recreational land uses would be converted to a new land use.

No Action Alternative

Under the No Action Alternative, the permanent security improvements would not be implemented and the temporary security measures would remain in place. No impacts to land use are expected under the No Action Alternative.

2.11 Coastal Zone

2.11.1 Coastal Zone Affected Environment

The Coastal Zone Management Act of 1972 (11 USC 1451 et seq), as amended through the Coastal Zone Protection Act of 1996, requires the West Point to review its actions for impacts on coastal resources and for consistency with the New York State CMP. The CMP is guided by 44 development policies covering development, fish and wildlife, flooding and erosion hazards, general policy, public access, recreation, historic and scenic resources, agricultural lands, energy and ice management, and water and air resources. The UMSA main post, which includes all three access gates, is located within the Hudson River Coastal Management Zone. The designated Coastal Zone extends from the Hudson River, as far west as Route 9W. The Thayer Gate is adjacent to the Hudson River and is the access gate that is closest to the river. The Stony Lonesome Gate is located approximately 6,500 feet (1,981 meters) west of the Hudson River and the Washington Gate approximately 9,000 feet (2,743 meters) west of the river.

2.11.2 Coastal Zone Environmental Consequences

Impacts were considered to occur to the coastal zone if it was determined by the New York State Department of State that the proposed actions are not consistent with the New York State CMP.

Action Alternatives

West Point provided a Federal Consistency Determination in accordance with the Coastal Zone Management Act to the New York Department of State in conjunction with the NEPA process, and Section 106 consultation with the New York SHPO, for each of the design alternatives considered at each gate. Any mitigation specified by the Coastal Zone Management process will be incorporated into the Finding of No Significant Impacts (FNSI). West Point submitted a Federal Consistency Determination for this project after the Draft EA was made available for public and agency comments (Appendix C). In a letter dated October 14, 2004, the New York Department of State concurred with West Point's findings that the proposed access gate security upgrades are consistent, to the maximum extent practicable, with the enforceable policies of the New York State CMP (See Appendix B: Agency Coordination).

No Action Alternative

There would be no impacts to the coastal zone under the No Action Alternative.

2.12 Environmental Justice and Protection of Children

This section describes issues related to environmental justice and protection of children as related to Executive Order (EO) 12898 and EO 13045.

2.12.1 Environmental Justice and Protection of Children Affected Environment

2.12.1.1 Environmental Justice

On 11 February 1994, President Clinton issued EO 12898 Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations. EO 12898 directs agencies to address environmental and human health conditions in minority and low-income communities so as to avoid the disproportionate placement of any adverse effects from federal policies and actions on these populations. The general purposes of this EO are as follows:

- To focus the attention of federal agencies on human health and environmental conditions in minority communities and low-income communities with the goal of achieving environmental justice.
- To foster nondiscrimination in federal programs that substantially affect human health or the environment.
- To give minority communities and low-income communities greater opportunities for public participation in, and access to, public information on matters relating to human health and the environment.

As defined by the “Environmental Justice Guidance Under NEPA” (CEQ, 1997), “minority populations” includes persons who identify themselves as Asian or Pacific Islander, Native American or Alaskan Native, black (not of Hispanic origin), or Hispanic. Race refers to Census respondents’ self-identification of racial background. Hispanic origin refers to ethnicity and language, not race, and may include persons whose heritage is Puerto Rican, Cuban, Mexican, and Central or South American.

A minority population exists where the percentage of minorities in an affected area either exceed 50 percent or is meaningfully greater than in the general population. Low-income populations are identified using the Census Bureau’s statistical poverty threshold, which is based on income and family size. The Census Bureau defines a “poverty area” as a census tract with 20 percent or more of its residents below the poverty threshold and an “extreme poverty area” as one with 40 percent or more below the poverty level.

Census Tract 136 is the location of the UMSA, West Point. Bordering Census Tracts include: 131, 138, and 139. Approximately 18 percent of the residents in Census Tract 136, the location of West Point, are classified as minorities according the CEQ’s Environmental Justice guidance. Tracts 131, 138, and 139 are comprised of 6 percent, 7 percent, and 6 percent minority residents, respectively. When considering income levels with respect to Environmental Justice, two percent of the residents in Tract 136 are below the poverty level. Tracts 131, 138, and 139 are comprised of 5 percent, 3 percent, and 4 percent of the population living below the poverty level, respectively.

2.12.1.2 Protection of Children

EO 13045, Protection of Children from Environmental Health and Safety Risk, requires federal agencies, to the extent permitted by law and mission, to identify and assess environmental health and

safety risks that might disproportionately affect children. This EO, dated 21 April 1997, further requires federal agencies to ensure that their policies, programs, activities, and standards address these disproportionate risks. EO 13045 defines environmental health and safety risks as “risks to health or to safety that are attributable to products or substances that the child is likely to come in contact with or ingest (such as the air we breathe, the food we eat, the water we drink and use for recreation, the soil we live on and the products we use or are exposed to).” There are 2,533 family members of West Point personnel living on-post, which include children under the age of 18 (USMA, 2003b). According to the 2000 U.S. Census, there are 1,562 people living in Tract 136, the location of West Point, that are under the age of 18, comprising approximately 22 percent of the tract’s population (U.S. Census, 2000).

2.12.2 Environmental Justice and Protection of Children Environmental Consequences

Impacts to environmental justice and the projection of children were determined using the following criteria:

Negligible — The impact to environmental justice and the protection of children would not be measurable or perceptible.

Minor — The impact to socioeconomics would be measurable or perceptible, but would be limited to a relatively small change in socioeconomic factors. Standards set forth by the CEQ Environmental Justice Guidance would not be exceeded and the Protection of Children EO would not be violated.

Moderate — The action would occur in an area that exceeds the standards set forth by the CEQ Environmental Justice Guidance or would impact the protection of children, but the impacts would be short-term in nature.

Major — The action would occur in an area that exceeds the standards set forth by the CEQ Environmental Justice Guidance or would impact the protection of children, and the action would occur on a permanent or otherwise long-term basis.

Action Alternatives

The implementation of any action alternative would not significantly impact the socioeconomic factors or create disproportionately high and adverse human health or environmental effects to minority or low-income populations at West Point or in the surrounding area. Both the percent of minority population and population below the poverty level are below the standards set forth in the CEQ Environmental Justice Guidance. Furthermore, the action alternatives would not be expected to significantly impact environmental health and safety in a way that might disproportionately affect children at West Point or in the surrounding area. The restricted access at West Point would ensure that children living off post would not be able to access construction areas or any other activities that might pose a health and safety risk. Although there are residents under the age of 18 living on-post at West Point, all applicable local jurisdictional safety requirements during construction would be implemented to ensure the protection of the public, including children. Impacts to environmental justice and the protection of children under the action alternatives would be negligible.

No Action Alternative

The No Action Alternative would not be expected to create significant impacts or changes to the socioeconomic characteristics, including environmental justice and the protection of children, at or surrounding West Point.

2.13 Cumulative Impacts

A cumulative impact is defined as “the impact on the environment which results from the incremental impact of the action when added to other past, present, or reasonably foreseeable future action regardless of what agency (federal or non-federal) or person undertakes such other actions” (40 CFR 1508.7). This section goes on to note “such impacts can result from individually minor but collectively significant actions taking place over a period of time.” Cumulative impacts associated with implementation of the access gate security upgrades would include any impacts from other “actions” that would be incremental to the impacts implementing the security upgrades. Such impacts would include additional traffic, air emissions, noise, vegetation removal, and soil disturbance for construction and operation of the proposed project.

The following projects are Reasonably Foreseeable Future Activities (RFFAs) expected to occur in the area of the access gate security upgrades:

- **New Library and Learning Center (Thomas Jefferson Hall at Jefferson Place and Cullum Road)** – Modernization activities at West Point include construction of a new Cadet Library/Learning Center, potential demolition of structures that no longer contribute to the West Point mission, and construction of new facilities to support the West Point mission and modernize the Cadet Zone. These actions are needed to fulfill current and future needs for library and learning space to maintain university accreditation and academic excellence, and to update existing cadet facilities that are over thirty years old. West Point is proposing to construct a new library on the Plain, and modify Bartlett (Science) Hall and the existing library. As part of a general improvement of the Cadet Zone area, West Point is also considering renovation or demolition of obsolete structures within the Cadet Zone, including barracks renovations, upgrades, and the continuation of on-going maintenance projects.
- **West Point School Classroom Additions** – This proposed project would include the implementation of the West Point School Complex (WPSC) Upgrade, which includes six separate elements. These elements include construction of a 7,500 square-foot classroom addition to the West Point Elementary School (Building 705A), construction of a 152-space parking lot, construction of a new bus drive/staging area, construction of two sidewalk cuts and improvement of one sidewalk cut on the east side of Barry Road, and removal of two temporary modular classrooms once the classroom addition is constructed and operational.
- **Office of the Director of Intercollegiate Athletics Worth Housing** – This project is currently underway. To date, approximately 656 feet (200 meters) east of Washington Gate, an old incinerator and a Non-Commissioned Officer Club were demolished. Once demolished, this land was temporarily used as the location of a heliport. Currently, this land is cleared and six homes for the Office of the Director of Intercollegiate Athletics are being built. Two of these houses have been completed, with four more planned.
- **Perimeter Security Fence** – West Point proposes to install security upgrades consisting of additional perimeter security fencing at West Point, which will connect directly into the access gates. As a result of enhanced security requirements at West Point, a range of temporary security measures have been implemented at West Point. These enhanced security measures are forecast to continue at West Point for the foreseeable future. As a component of enhanced security measures, West Point proposes to install additional perimeter security fencing at selected locations around the main cantonment area of the installation. This perimeter security fence is proposed for selected portions of the West Point boundary, essentially running from Thayer Gate along the boundary between West Point and the Town of Highland Falls, along

Highway 218 to Stony Lonesome Gate, then through West Point to the vicinity of Washington Gate, and then proceeding generally along Highway 218 to terminate at Lee Gate. The fence will be green-coated vinyl to reduce visual impacts. At locations immediately adjacent to historic gates (e.g. Washington Gate, Thayer Gate and Lee Gate) the fence will consist of granite pedestals and decorative wrought iron fencing similar to that recently installed at the West Point South Post (Pershing Center) under a previous project. Some vegetation clearing would occur in conjunction with this fence installation, but precise widths and locations for this vegetation clearance remain to be defined. Specific details such as stream crossings also remain to be defined. No fencing is currently proposed along the Hudson River shoreline, or for Constitution Island. No lighting or mechanical equipment (such as cameras or barricades) are proposed for this perimeter security fence.

- **Hotel Thayer Annex Renovation** – The Thayer Hotel Annex, which is connected to the Thayer Hotel, is used to host conferences, banquets, and similar events. This building, while attached to the Thayer Hotel, is not a historic property. Renovations for the interior of the building are planned, with only the construction staging area occurring outside of the building. The Hotel Thayer Annex Renovation is currently in the design phase.
- **Keller Army Community Hospital Expansion** – Located to the north of Washington Gate, the Keller Army Community Hospital is planning a 50,000 square-foot (4,645 square meters) expansion.
- **Fiber Optics Upgrade** – West Point is planning to implement the Installation Information Infrastructure Modernization Program (I3MP) Fiber Optics Upgrade Program, and to install telecommunications closets at Building 600 (Taylor Hall). This project has two components:
 - Install telecommunications closets in Taylor Hall (Building 600). Taylor Hall is one of the most historically significant and prominent buildings at West Point. The building is individually eligible for the National Register of Historic Places, and is a contributing element to the West Point NHL. This project entails the installation of new telecommunications closets at numerous locations throughout the building; to include the installation of necessary cabling.
 - Install I3MP Fiber Optics Upgrade. This project involves the installation of an upgraded fiber optics upgrade throughout the main cantonment area, and running to Camp Buckner. The majority of this project occurs within the West Point NHL boundaries. This project involves the following components: installation of fiber optics upgrades into 40 buildings (nearly all historic properties within the West Point NHL), 43,000 lineal feet of new ground disturbance (trenching), 65,000 square feet of cut and resurface of existing asphalt, 700 square feet of cut and resurface of existing concrete, 1,600 square feet of cut and resurface of existing cobblestone, 121 total road cuts, and construction of 31 new manholes.

In addition to the RFFAs mentioned above, the proposed access gate upgrades would be adding to impacts from recent development, specifically in the area of Stony Lonesome Gate. In the past 10 years, the Stony II housing development, new Post Exchange, Child Development Center, and Stony Lonesome Fire Station have been constructed in the area of Stony Lonesome Gate. The Stony II development consists of three- and four-bedroom townhouses, located adjacent to the Stony I development. These townhouses were built in 1998. The new Post Exchange, also located in this area, is located off an access road that originates in the Stony Lonesome Gate area. The Child Development Center offers both full-day and hourly care for children ages 6 weeks through 5 years

and was also constructed in the Stony Lonesome Gate area. Most recently, the Stony Lonesome Firehouse was constructed. This building (Building 1203) was constructed in 2003 and is located along the Stony Lonesome Access Road, immediately accessible to the Stony Lonesome Gate. The firehouse is a year-round, permanently-staffed, two-company fire station.

In the vicinity of Thayer Gate, other projects that have already been completed include the Thayer Hotel renovation in 2001. Projects completed in the past 10 years in the vicinity of Washington Gate include Gray Ghost Housing and installation of a gas transmission line. Gray Ghost housing, which was completed in 1998, constructed new housing in the area of Washington Gate, to the east of Worth Place. In 2003, a 10-inch steel gas transmission line was brought over Crows Nest Mountain and the power plant was upgraded to use natural gas from this line.

Washington Gate Proposed Action Alternative

Should implementation and construction of the upgrades under this alternative occur simultaneously with other RFFAs, cumulative impacts from air quality, noise, water resources, soils, traffic, and the coastal zone are possible. Specific projects that have the potential to add cumulative effects to the alternatives assessed in this document are the West Point School Classroom Additions and the Perimeter Security Fence. Construction vehicles for the classroom addition and gate upgrades would occur in the same area on-post and would both be expected to use the Washington Gate, creating potential cumulative impacts for transportation. Additional cumulative impacts may be created to water quality and soils through erosion during construction due to the close proximity of these projects. Implementation of the security fence may create cumulative impacts to cultural resources. To minimize any impacts, the implementation of these two projects at the Washington Gate would be coordinated. Additional cumulative impacts to water quality, soils, noise, and air quality would be expected to occur if these projects occur in the same area at the same time. Coordination should occur and BMPs during construction would be implemented to ensure that cumulative impacts from the base-wide Fiber Optics upgrade are managed. With numerous large construction projects occurring simultaneously, there would be a potential for cumulative impacts to traffic and transportation. In areas where traffic is already constrained, such as the intersection of Mills Road and Washington Road by the Catholic Chapel (Building 669), in the vicinity of Washington Gate, and the intersection of five roads in the old PX/Cemetery/Washington Road vicinity, these potential impacts would be of even greater concern. West Point will minimize these potential impacts by coordinating construction activities with the Directorate of Housing and Public Works (DHPW) to minimize traffic congestion, ensuring that community members are kept apprised of any potential traffic issues and construction projects by DHPW, and continuously maintaining traffic at all West Point roads and gates during all construction projects. The Washington Gate area has had a variety of projects in the area over the past 10 years and will in the next few years, including installation of a gas transmission line, Worth Place Housing, Gray Ghost Housing, and the Keller Army Community Hospital Expansion. Although cumulative impacts are possible, the small scale of the proposed access gate upgrades and incorporation of BMPs would be expected to limit the overall cumulative effects of the proposed action to the surrounding environment.

BMPs, as described in the EA, that would limit overall cumulative impacts would occur both during and post-construction. BMPs for runoff control during construction as recommended by the Environmental Protection Agency could include the minimization of clearing through preserving natural vegetation and creating permanent diversions or stabilizing drainage ways with check dams, filter berms, grass-lined channels, and riprap. Erosion and sediment control during construction could be accomplished with BMPs such as stabilizing exposed soils (chemical stabilization, mulching, permanent seeding, sodding, soil roughening), installing perimeter controls (temporary diversion dikes, silt fences, wild fences and sand fences), installing sediment trapping devices (sediment basins

and rock dams, sediment filters and sediment chambers, sediment traps), and inlet protection (storm drain inlet protection) (EPA, 2003a). Post construction, either structural or non-structural BMPs could be implemented to reduce runoff. Structural BMPs could include ponds (dry extended detention ponds, wet ponds), infiltration practices (infiltration basins, infiltration trench, porous pavement), filtration practices (bioretention, sand and organic filters), vegetative practices (storm water wetlands, grassed swales, grassed filter strips), or runoff pretreatment practices (catch basins/catch basin insert, in-line storage, manufactured products for stormwater inlets). Non-structural BMPs that could be implemented, as recommended by the Environmental Protection Agency, include on-lot treatment and better site design such as buffer zones, open space design, urban forestry, conservation easements, infrastructure planning, narrower residential streets, and eliminating curbs and gutters (EPA, 2003b).

Washington Gate Guardhouse Relocation Alternative

Cumulative impacts under the Washington Gate Guardhouse Relocation Alternative would be the same as those under the Washington Gate Proposed Action Alternative.

Stony Lonesome Gate Proposed Action Alternative

Should implementation and construction of the upgrades under this alternative occur simultaneously with other RFFAs, cumulative impacts from air quality, noise, water resources, soils, traffic, and the coastal zone are possible. A specific project that has the potential to have cumulative effects under this alternative is the Perimeter Security Fence. Implementation of the security fence may add cumulative water quality, soils, noise, and air quality effects if these projects occur in the same area at the same time as the gate construction activities. Coordination would occur and BMPs during construction would be implemented to ensure that cumulative impacts from the base-wide Fiber Optics upgrade are managed. With numerous large construction projects occurring simultaneously, there would be a potential for cumulative impacts to traffic and transportation. In areas where traffic is already constrained, such as the intersection of Mills Road and Washington Road by the Catholic Chapel (Building 669), in the vicinity of Washington Gate, and the intersection of five roads in the old PX/Cemetery/Washington Road vicinity, these potential impacts would be of even greater concern. West Point will minimize these potential impacts by coordinating construction activities with the DHPW to minimize traffic congestion, ensuring that community members are kept apprised of any potential traffic issues and construction projects by DHPW, and continuously maintaining traffic at all West Point roads and gates during all construction projects. The Stony Lonesome Gate area has been an area of increasing development, creating the possibility of cumulative effects to the Stony Lonesome watershed when considering the access gate upgrades with previous projects such as the Child Development Center, Stony II housing development, and the Stony Lonesome Firehouse. Although these cumulative impacts are possible, the small scale of the proposed access gate upgrades and incorporation of BMPs, as described under the Washington Gate Proposed Action Alternative, would be expected to limit the overall cumulative effects of the proposed action to the surrounding environment.

Stony Lonesome Gate Design Alternative

Cumulative impacts under the Stony Lonesome Gate Design Alternative would be the same as those under the Stony Lonesome Proposed Action Alternative.

Stony Lonesome Gate Expanded Design Alternative

Cumulative impacts under the Stony Lonesome Gate Expanded Design Alternative would be the same as those under the Stony Lonesome Proposed Action Alternative.

Thayer Gate Proposed Action – Thayer Road Alternative

Should implementation and construction of the upgrades under this alternative occur simultaneously with other RFFAs, cumulative impacts from air quality, noise, water resources, soils, traffic, and the coastal zone are possible. A specific project that has the potential to have cumulative effects under this alternative is the Perimeter Security Fence. Implementation of the security fence may add cumulative impacts to cultural resources. To minimize any impacts, the implementation of these two projects at the Thayer Gate would be coordinated. Coordination would occur and BMPs during construction would be implemented to ensure that cumulative impacts from the base-wide Fiber Optics upgrade are managed. With numerous large construction projects occurring simultaneously, there would be a potential for cumulative impacts to traffic and transportation. In areas where traffic is already constrained, such as the intersection of Mills Road and Washington Road by the Catholic Chapel (Building 669), in the vicinity of Washington Gate, and the intersection of five roads in the old PX/Cemetery/Washington Road vicinity, these potential impacts would be of even greater concern. West Point will minimize these potential impacts by coordinating construction activities with the DHPW to minimize traffic congestion, ensuring that community members are kept apprised of any potential traffic issues and construction projects by DHPW, and continuously maintaining traffic at all West Point roads and gates during all construction projects. Additional cumulative impacts to water quality, soils, noise and air quality would be expected to occur if these projects occur in the same area at the same time. The construction staging area for the Hotel Thayer Annex Renovation would also have the potential to create cumulative impacts in the Thayer Gate Area. Although these cumulative impacts are possible, the small scale of the proposed access gate upgrades and incorporation of BMPs, as described under the Washington Gate Proposed Action Alternative, would be expected to limit the overall cumulative effects of the proposed action to the surrounding environment.

Thayer Gate – Swift Road Alternative

Cumulative impacts under the Thayer Gate – Swift Road Alternative would be the same as those under the Thayer Gate Proposed Action – Thayer Road Alternative.

Thayer Gate - Roundabout Alternative

Cumulative impacts under the Thayer Gate – Roundabout Alternative would be the same as those under the Thayer Gate Proposed Action – Thayer Road Alternative.

No Action Alternative

Implementation of the No Action Alternative would avoid new impacts that could interact with the impacts of other past, present, or reasonably foreseeable future actions. Therefore, there would be no cumulative impacts associated with the No Action Alternative.

2.14 Unavoidable Adverse Impacts

Unavoidable impacts are those impacts that West Point would experience if the access gate security upgrades were implemented. These impacts would include effects to soils, water quality, vegetation, cultural resources, and transportation. Additionally, alternatives that include the culverting of Stony Lonesome Brook would adversely affect the biological communities of the stream. The BMPs discussed below would be employed to minimize these and other potential adverse impacts.

Activities undertaken by West Point to implement the access gate security upgrades would include appropriate BMPs prescribed in applicable regulations, where applicable. These would include:

- Construction operations utilization of Erosion and Sediment Control Law BMPs, as described in the EA, to prevent erosion and sedimentation from harming nearby water bodies.
- Implementing stormwater management measures to control runoff from the increase in impervious surfaces during the operational phase.
- Potential traffic management measures during times of peak visitation, including football game weekends and potential moderate vehicle delays during operation.
- Continual coordination with the New York SHPO throughout the design phase.

3.0 SUMMARY OF CONCLUSIONS

This section provides an overview of the environmental consequences of the proposed action and their significance. The primary issues related to the implementation of the access gate security upgrades are: 1) ground disturbance of over one acre (0.40 hectares) would occur at Stony Lonesome and Thayer Gates; 2) a class A(T) stream at Stony Lonesome Gate would need to be culverted; under two alternatives 3) diversion and redirection of traffic could temporarily impact both installation and regional traffic patterns during construction; 4) all three gates are located in the West Point NHL, and there are historic structures associated with Washington Gate and Thayer Gate; and 5) the Washington Gate Proposed Action Alternative is located in the right-of-way of a historic road bed.

At Stony Lonesome Gate and Thayer Gate, over one acre (0.40 hectares) of ground would be disturbed. The disturbance, and resulting increase in impervious surfaces, would result in increased stormwater runoff and erosion. In compliance with the NYS DEC Construction Activity SPDES Permit, a SWPPP and Erosion and Sediment Control Plan would be completed to address these potential impacts.

At Stony Lonesome Gate, the proposed action would avoid Stony Lonesome Brook; however, the other two alternatives would involve the culverting of Stony Lonesome Brook. Stony Lonesome Brook is a Class A(T) stream and a Protection of Waters Permit would be required for any activity that would disturb the bed or banks of the stream. Further permits required could include NPDES or MS4.

All three gates are located in the West Point NHL. Thayer Gate and Washington Gate, as well as their associated gatehouses and public restrooms, are contributing elements to the West Point NHL. Under the proposed action, all historic structures at the access gates would be retained. Any improvements at these gates, as well as at Stony Lonesome Gate, would ensure that new sentry boxes are designed to be architecturally compatible with historic sentry boxes at West Point, all new construction is architecturally compatible with extant architecture, and that the lighting at each gate is carefully designed. All historic structures existing at the access gates would be retained and any new structures built would be constructed in a manner that is consistent with the historic architecture at each gate. Coordination has begun with the New York SHPO during the concept design, and would continue as schematic designs of the gate upgrades are developed.

At the Washington Gate, the proposed bypass would be located in a historic road bed. The mitigation preferred by West Point would be avoidance; however, if this is not possible, archeological and historic documentation would be prepared.

Potential impacts range from negligible to moderate for all alternatives at Washington Gate and Thayer Gate, and for the Proposed Action at Stony Lonesome Gate, either through avoidance, minimization, or best management practices. Two alternatives at Stony Lonesome Gate, which are not proposed, would include culverting of Stony Lonesome Brook with potentially major effects. Such effects, were the alternatives to be pursued, could require further NEPA assessment, to potentially include an EIS.

Mitigation measures that would be employed to address impacts from implementation of the Proposed Action include:

- (1) Erosion and sedimentation controls would be used in accordance with West Point and NYSDEC standards and specifications. West Point would require its contractor to prepare and implement an Erosion Control Plan in compliance with NYSDEC's current stormwater management regulations, where required, and this plan would be approved by West Point before initiating construction activities.
- (2) Where the project area includes over one acre of disturbance, West Point would obtain a NYDEC Construction Activity State Pollution Discharge Elimination System permit.
- (3) Best management practices (BMPs) would be implemented to mitigate the effects of any increase in stormwater runoff and would be consistent with the New York State Stormwater Design Manual.
- (4) West Point would monitor construction areas for timber rattlesnake activity when construction activities are scheduled outside of the September through May time period. In the event a timber rattlesnake is in an area where it is at risk of being harmed, West Point's NRB would be notified to move timber rattlesnakes to a suitable, off-site rookery, den, or foraging habitat. Additionally, West Point would provide pre-construction training to contractor personnel to recognize and avoid road-killing occasional transient timber rattlesnakes that may traverse active construction areas.
- (5) The impacts of construction and operation on visual and cultural resources (including historic structures, on-site and off-site viewshed areas, and State Scenic Highways) would be minimized by the following:
 - (a) Phase I Cultural Resource Surveys at Washington Gate and Stony Lonesome Gate have been completed.
 - (b) The historic roadbed at Washington Gate would be avoided to the extent possible. If the roadbed could not be avoided due to design constraints, archaeological and historic documentation of the roadway would be prepared.
 - (c) All new sentry boxes would be architecturally compatible with existing structures.
 - (d) Historic documentation of the 1942 Washington Gate and ancillary structures (stone pillars, guardhouse, public restrooms) would be performed to Historic American Building Survey (HABS) standards.
 - (e) A determination of National Register of Historic Places eligibility for the structures at Thayer Gate, and the gate itself, would occur.
 - (f) Potential impacts to Buffalo Soldiers Field would be carefully evaluated as the gate design process progresses.
 - (g) All lighting at each gate would be sensitive to the historic character of the area and would use "West Point Standard" lighting fixtures to maintain the historic appearance of the gate; modern or inappropriate light fixtures would be removed and replaced with "West Point Standard" light fixtures.
- (6) Areas suspected of containing lead-based paint or asbestos containing materials would be evaluated in accordance with Occupational Health and Safety and National Emissions Standards for Hazardous Air Pollutants, and any hazardous materials identified would be taken off-post by a qualified contractor.
- (7) Mitigation for gate closures during construction would include maintaining access through Washington Gate, if possible. The preferred approach would include maintaining at least one lane of traffic into the installation during the morning rush period (approximately 6:00 am to 12:00 pm) and one lane of traffic out of the installation during

the afternoon period (approximately 12:00 pm to 6:00 pm). From 6:00 pm to 6:00 am, Washington Gate could be closed entirely to allow for nighttime construction. If traffic flow at Washington Gate cannot be maintained safely, Lee Gate would be reopened to handle the redirected traffic. At the Thayer Gate, traffic would be redirected onto Swift Road if Thayer Road is closed. It is assumed that sufficient space exists at Stony Lonesome Gate to keep it open during construction.

Implementation of the Stony Lonesome Gate Design Alternative or Stony Lonesome Gate Expanded Design Alternative, which are not proposed, would require that West Point obtain a Protection of Waters Permit for the proposed culverting of Stony Lonesome Brook, as well as a Municipal Separate Storm Sewers System and National Pollution Discharge Elimination permits, as required.

The implementation of the access gates security upgrades, as proposed, is not expected to result in significant adverse impacts on the environment; therefore, an environmental impact statement is not required. Table 3-1 provides a brief comparison of the environmental consequences (*i.e.*, impacts) associated with the each action alternative and No Action Alternative.

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TABLE 3-1: SUMMARY OF IMPACTS

Resource	Washington Gate Proposed Action	Washington Gate Guardhouse Relocation	Stony Lonesome Gate Proposed Action	Stony Lonesome Gate Design	Stony Lonesome Gate Expanded Design	Thayer Gate Proposed Action – Thayer Road	Thayer Gate – Swift Road	Thayer Gate – Roundabout	No Action
Water Resources	Creates 0.73 acres (0.3 hectares) of impervious surfaces. SPDES permit not required. Minor impacts from runoff. The closest stream to Washington Gate is approximately 150 feet (46 meters) away. Negligible impacts to floodplains, groundwater, and wetlands.	Creates 0.44 acres (0.18 hectares) of impervious surfaces. SPDES permit not required. Minor impacts from runoff. The closest stream to Washington Gate is approximately 150 feet (46 meters) away. Negligible impacts to floodplains, groundwater, and wetlands.	Creates 1.50 acres (0.61 hectares) of impervious surfaces. SPDES permit required. Stony Lonesome Brook not culverted. Minor impacts from runoff. Negligible impacts to floodplains, groundwater, and wetlands.	Creates 2.07 acres (0.84 hectares) of impervious surfaces. SPDES permit required. Culverting Class A(T) stream requires Protection of Waters Permit. Major impacts from culverting. Negligible impacts to floodplains, groundwater, and wetlands.	Creates 2.24 acres (0.91 hectares) of impervious surfaces. SPDES permit required. Culverting Class A(T) stream requires Protection of Waters Permit. Major impacts from culverting. Negligible impacts to floodplains, groundwater, and wetlands.	Creates 1.94 acres (0.78 hectares) of impervious surfaces. SPDES permit required. Minor impacts from runoff. The closest stream to Thayer Gate is approximately 1,200 feet (366 meters) away. Negligible impacts to floodplains, groundwater, and wetlands.	Creates 2.06 acres (0.83 hectares) of impervious surfaces. SPDES permit required. Minor impacts from runoff. The closest stream to Thayer Gate is approximately 1,200 feet (366 meters) away. Negligible impacts to floodplains, groundwater, and wetlands.	Creates 0.88 acres (0.36 hectares) of impervious surfaces. SPDES permit not required. Minor impacts from runoff. The closest stream to Thayer Gate is approximately 1,200 feet (366 meters) away. Negligible impacts to floodplains, groundwater, and wetlands.	No impacts.
Geology, Topography, and Soils	Minor short-term impacts to microtopography. Increase in impervious surfaces and stormwater runoff and erosion. BMPs would be implemented and impacts would be minor.	Minor short-term impacts to microtopography. Increase in impervious surfaces and stormwater runoff and erosion. BMPs would be implemented and impacts would be minor.	Moderate short-term impacts to microtopography. Increase in impervious surfaces and stormwater runoff and erosion. BMPs would be implemented and impacts would be minor.	Moderate short-term impacts to microtopography. Increase in impervious surfaces and stormwater runoff and erosion. BMPs would be implemented and impacts would be minor. Erosion and Sediment Control Plan required.	Moderate short-term impacts to microtopography. Increase in impervious surfaces and stormwater runoff and erosion. BMPs would be implemented and impacts would be minor. Erosion and Sediment Control Plan required.	Minor short-term impacts to microtopography. Increase in impervious surfaces and stormwater runoff and erosion. BMPs would be implemented and impacts would be minor. Erosion and Sediment Control Plan required.	Minor short-term impacts to microtopography. Increase in impervious surfaces and stormwater runoff and erosion. BMPs would be implemented and impacts would be minor. Erosion and Sediment Control Plan required.	Minor short-term impacts to microtopography. Increase in impervious surfaces and stormwater runoff and erosion. BMPs would be implemented and impacts would be minor.	No impacts.
Air Quality	Emissions would be below the <i>De minimis</i> values. Minor impacts. Potential moderate impacts for combined emissions.	Emissions would be below the <i>De minimis</i> values. Minor impacts. Potential moderate impacts for combined emissions.	Emissions would be below the <i>De minimis</i> values. Minor impacts. Potential moderate impacts for combined emissions.	Emissions would be below the <i>De minimis</i> values. Minor impacts. Potential moderate impacts for combined emissions.	Emissions would be below the <i>De minimis</i> values. Minor impacts. Potential moderate impacts for combined emissions.	Emissions would be below the <i>De minimis</i> values. Minor impacts. Potential moderate impacts for combined emissions.	Emissions would be below the <i>De minimis</i> values. Minor impacts. Potential moderate impacts for combined emissions.	Emissions would be below the <i>De minimis</i> values. Minor impacts. Potential moderate impacts for combined emissions.	No impacts.

Resource	Washington Gate Proposed Action	Washington Gate Guardhouse Relocation	Stony Lonesome Gate Proposed Action	Stony Lonesome Gate Design	Stony Lonesome Gate Expanded Design	Thayer Gate Proposed Action – Thayer Road	Thayer Gate – Swift Road	Thayer Gate – Roundabout	No Action
Biological Resources	Approximately 0.14 acres (0.06 hectares) of forested vegetation to be cleared. Mortality of less mobile fauna expected. Minor impacts.	Existing forested area to be disturbed. Mortality of less mobile fauna expected. Minor impacts.	Existing vegetation to be disturbed. Mortality of less mobile fauna expected. Minor impacts. Stony Lonesome Brook would not be culverted.	Existing vegetation to be disturbed. Mortality of less mobile fauna expected. Minor impacts. Potential moderate impacts to downstream biological communities from new culvert.	Existing vegetation to be disturbed. Mortality of less mobile fauna expected. Minor impacts. Potential moderate impacts to downstream communities from new culvert.	Removal of existing landscape vegetation, including trees. Mortality of less mobile fauna expected. Minor impacts.	Removal of existing landscape vegetation, including trees. Mortality of less mobile fauna expected. Minor impacts.	Removal of existing landscape vegetation, including trees. Mortality of less mobile fauna expected. Minor impacts.	No impacts.
Threatened and Endangered Species	No effects.	No effects.	No effects.	No effects.	No effects.	No effects.	No effects.	No effects.	No impacts.
Cultural Resources	Upgrades are being accomplished in a manner that is consistent with existing architecture. Phase I and II Cultural Resources Surveys are being performed where necessary. Coordination with SHPO is ongoing. A determination of no effect under any alternative is not possible at this early stage of design.								Temporary security measures not consistent with historic architecture.
Visual Resources	Lighting would be sensitive to the historic character of the area and could enhance the historic scene as viewed from proximate areas. Minor impacts.	Lighting would be sensitive to the historic character of the area and could enhance the historic scene as viewed from proximate areas. Minor impacts.	Topography shields gate from viewshed. Negligible impacts.	Topography shields gate from viewshed. Negligible impacts.	Topography shields gate from viewshed. Negligible impacts.	Lighting would be sensitive to the historic character of the area and could enhance the historic scene as viewed from proximate areas. Minor impacts.	Lighting would be sensitive to the historic character of the area and could enhance the historic scene as viewed from proximate areas. Minor impacts.	Lighting would be sensitive to the historic character of the area and could enhance the historic scene as viewed from proximate areas. Minor impacts.	Temporary trailer mounted flood lights would create moderate impacts.
Human Health and Safety	Potential for unexploded ordnance (UXO) exists, but due to previous disturbance in the area, is not expected. Negligible impacts from asbestos containing materials (ACM) and lead based-paint (LBP). Beneficial impacts related to force protection from upgrades.	Potential for UXO exists, but due to previous disturbance in the area, is not expected. Negligible impacts from ACM, and LBP. Beneficial impacts related to force protection from upgrades.	Negligible impacts from UXO, ACM, and LBP. Beneficial impacts related to force protection from upgrades.	Negligible impacts from UXO, ACM, and LBP. Beneficial impacts related to force protection from upgrades.	Negligible impacts from UXO, ACM, and LBP. Beneficial impacts related to force protection from upgrades.	Negligible impacts from UXO, ACM, and LBP. Beneficial impacts related to force protection from upgrades.	Negligible impacts from UXO, ACM, and LBP. Beneficial impacts related to force protection from upgrades.	Negligible impacts from UXO, ACM, and LBP. Beneficial impacts related to force protection from upgrades.	West Point would not realize permanent improvements at access gates; impacts would occur.

Resource	Washington Gate Proposed Action	Washington Gate Guardhouse Relocation	Stony Lonesome Gate Proposed Action	Stony Lonesome Gate Design	Stony Lonesome Gate Expanded Design	Thayer Gate Proposed Action – Thayer Road	Thayer Gate – Swift Road	Thayer Gate – Roundabout	No Action
Noise	Under all alternatives, short-term minor impacts occur during construction. Additional short-term minor impacts from blasting activities would occur for alternatives at Stony Lonesome Gate. A 6-dB reduction in the noise level occurs with a doubling of distance from the source, which would result in noise levels at the nearest sensitive receptor that are below regulatory standards. No new operational noise would be created. Impacts from noise would be minor.								No impacts.
Transportation	Gate closures during construction could cause minor to moderate impacts. During construction, one-lane of traffic would be maintained from 6:00 am to 6:00 pm, with complete gate closure from 6:00 pm to 6:00 am. If this is not possible, Lee Gate would be reopened to accommodate the redirected traffic during construction. Under this alternative, Washington Gate is would likely operate over capacity with a total delay of 3 seconds per vehicle. Operational impacts to traffic would be moderate.	Gate closures during construction could cause minor to moderate impacts. The Guardhouse house location would likely operate over capacity with a total delay of 10 seconds per vehicle. Operational impacts to traffic would be moderate.	Gate closures during construction could cause minor to moderate impacts. The capacity to accommodate vehicles would not be met. The first gatehouse would likely operate over capacity with a total delay of 4 seconds per vehicle, while the second would likely experience a total delay 49 seconds per vehicle. Operational impacts would be moderate.	Gate closures during construction could cause minor to moderate impacts. The DoD lane is expected to operate below capacity while the non-DoD lane is expected to operate above capacity with a total delay of 4 seconds per vehicle. Operational impacts to traffic would be moderate.	Gate closures during construction could cause minor to moderate impacts. The first checkpoint at this location is expected to operate over capacity with a total delay of 8 seconds per vehicle. The processing of non-DoD vehicles is expected to operate over capacity with a total delay 47 seconds per vehicle. Operational impacts to traffic would be moderate.	Gate closures during construction could cause minor to moderate impacts. The DoD lane is expected to operate below capacity. The non-DoD lane would likely operate over capacity with a total delay 10 seconds per vehicle. Operational impacts to traffic would be moderate.	Gate closures during construction could cause minor to moderate impacts. The DoD lane would operate below capacity. The non-DoD lane is expected to operate over capacity. Operational impacts to traffic would be moderate.	Gate closures during construction could cause minor to moderate impacts. The capacity to accommodate vehicles would be improved as a result of this alternative and the gate would operate below capacity. Operational impacts would be negligible.	The capacity to accommodate vehicles would remain the same as the existing condition.
Land Use	Under all alternatives, upgrades would be compatible with existing land uses. Minor impacts.								No impacts.
Coastal Zone	In a letter dated October 14, 2004, the New York Department of State concurred with West Point’s findings that the proposed access gate security upgrades are consistent, to the maximum extent practicable, with the enforceable policies of the New York State CMP.								No impacts.
Socioeconomics, Environmental Justice and the Protection of Children	Under all alternatives, no significant impacts are expected to socioeconomic factors. There would not be disproportionately high and adverse human health or environmental effects to minority or low-income populations.								No impacts.

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4.0 REFERENCES

Bjornsen, Alan. 2004. U.S. Military Academy, West Point, NEPA Director. Personal Communication by Email. 16 October 2004.

Cubbison, Doug. 2003. U.S. Military Academy, West Point, Cultural Resources Director. Personal Communication by Telephone. 3 November 2003.

Department of Defense (DoD). 2003. United Facilities Criteria (UFC) DoD Minimum Antiterrorism Standards for Buildings, UFC 4-010-01. October 8, 2003.

Department of the Navy (Navy). 2003. Final Environmental Assessment for the Construction of National Maritime Technology Information Center and Engineering Management and Logistics Facility and the Demolition of Fourteen Structures: 8, 30, 100, 103, 121, 124, 126, 127, 128, 129, 137, T-40, Complex M and Complex N at the Naval Surface Warfare Center, Carderock Division. September.

Environmental Laboratory. 1987. *Corps of Engineers Wetland Delineation Manual*. Tech. Rpt. Y-87-1, U.S. Army Engineer Waterways Experiment Station, Vicksburg, Mississippi.

Escarpeta, Denny. 2003. New York Department of Environmental Conservation Air Quality Division. Personal Communication by Telephone and Email. 20 November 2003.

Federal Emergency Management Agency (FEMA). 1987. Flood Insurance Rate Map, Town of Highlands, New York, Orange County. Community Panel Number 361251 0005 C.

Highway Capacity Manual. 1997. LOS Criteria for Unsignalized Intersections.

Highway Capacity Manual. 1997. LOS Criteria for Signalized Intersections.

Jole, Steve. 2004. New York State Department of Environmental Conservation Endangered Species Unit. Personal communication by telephone. 17 February 2004.

New York State Department of Environmental Conservation (NYS DEC). nd. Ambient Air Quality Standards New York State and Federal. Accessible via the Internet at: http://www.dec.state.ny.us/website/dar/reports/96annrpt/96ar_std.html. Site visited 17 November 2003.

New York State Department of Environmental Conservation (NYS DEC). 2001. *New York State Stormwater Management Design Manual*. October.

New York Department of Transportation (NY DOT). nd. New York's Scenic Byways. Accessible via the Internet at: <http://www.dot.state.ny.us/scenic/descript.html>. Visited 19 November 2003.

U.S. Army Engineer Research and Development Center (USAERDC) Construction Engineering Research Laboratory. 2002. *Historic Landscape Management Plan for the U.S. Military Academy at West Point, New York*. February.

U.S. Census Bureau, 2000. Accessible via the Internet at: <http://www.census.gov>. Visited 20 November 2003.

U.S. Department of Agriculture Soil Conservation Service (USDA SCS). 1981. *Soil Survey of Orange County New York*.

U.S. Environmental Protection Agency. 2003a. National Pollutant Discharge Elimination System (NPDES) Construction Site Storm Water Runoff Control. Accessible via the Internet at: http://cfpub.epa.gov/npdes/stormwater/menuofbmps/con_site.cfm. Site visited on 2 November 2004.

U.S. Environmental Protection Agency. 2003b. National Pollutant Discharge Elimination System (NPDES) Post Construction Storm Water Management in New Development and Redevelopment. Accessible via the Internet at: <http://cfpub.epa.gov/npdes/stormwater/menuofbmps/post.cfm>. Site visited on 2 November 2004.

U.S. Environmental Protection Agency. 2003c. *EPA AIRData*. Site updated October 8, 2003. Accessible via the Internet at: <http://www.epa.gov/air/data/index.html>. Site visited on 2 November 2003.

U.S. Geological Survey (USGS). 2000. *Groundwater Atlas of the United States*. Reston, VA.

U.S. Military Academy (USMA). 1997. *Final Supplement to the Final Environmental Impact Assessment for the Expansion and Development of the Stony Lonesome Community Center*. July.

U.S. Military Academy (USMA). 1998. *Integrated Natural Resources Management Plan, United States Military Academy, West Point, New York*. Prepared by Tetra Tech, Inc. May.

U.S. Military Academy (USMA). 1999. *Master Plan Report Plan for the Year 2007, United States Military Academy, West Point, New York*. Prepared by Vollmer Associates, LLP. April.

U.S. Military Academy (USMA). 2001. *Integrated Cultural Resource Management Plan, United States Military Academy, West Point, New York*. November.

U.S. Military Academy (USMA). 2003a. U.S. Military Academy at West Point Home Page. Accessible via the Internet at: <http://www.usma.edu>. Visited 19 October 2003.

U.S. Military Academy (USMA). 2003b. *Integrated Natural Resources Management Plan for the United States Military Academy 2003-2007*. West Point, New York. June.

U.S. Military Academy (USMA). 2003b. Post Population Profile Report Family Members, Retirees, USMA Demographics. September.

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8.0 ACRONYMS

ACHP	Advisory Council on Historic Preservation
ACM	Asbestos Containing Materials
AIRS	Aerometric Information Retrieval System
AT/FP	Anti-terrorism/Force Protection
BMP	Best Management Practice
CAA	Clean Air Act
CAAA	Clean Air Act Amendments
CCTV	Closed Circuit Television
CEQ	Council on Environmental Quality
CERCLA	Comprehensive Environmental Response, Compensation, and Liability
CFR	Code of Federal Regulations
CMP	Coastal Management Plan
CO	Carbon Monoxide
CWA	Clean Water Act
dB	Decibel
dBA	A-weighted decibel
DoD	Department of Defense
EA	Environmental Assessment
EO	Executive Order
EPA	Environmental Protection Agency
ESA	Endangered Species Act

FAA	Federal Aviation Administration
FEMA	Federal Energy Management Agency
FHWA	Federal Highway Administration
FIRM	Federal Insurance Rate Map
FNSI	Finding of No Significant Impact
GIS	geographic information systems
gpm	gallons per minute
HCM	Highway Capacity Manual
HCS	Highway Capacity Software
HUD	Housing and Urban Development
I3MP	Installation Information Infrastructure Modernization Program
IR	Installation Restoration
kgpy	kilograms per year
LBP	Lead Based Paint
Ldn	Day-Night Average Sound Level
lpm	liters per minute
LOS	level of service
MILCON	Military Construction
mgd	million gallons per day
MS4	Municipal Separate Storm Sewers System
msl	mean sea level
NAAQS	National Ambient Air Quality Standards
NAMS	National Air Monitoring Stations
NEPA	National Environmental Policy Act

NFIP	National Flood Insurance Program
NHPA	National Historic Preservation Act
NHL	National Historic Landmark
NPDES	National Pollution Discharge Elimination System
NO	Nitrogen Dioxide
NO _x	Nitrogen Oxides
NRHP	National Register of Historic Places
NWI	National Wetlands Inventory
NYNHP	New York National Heritage Program
NYS DEC	New York State Department of Environmental Conservation
O ₃	Ozone
OSHA	Occupational Safety and Health Administration
Pb	Lead
PM ₁₀	Particulate Matter <10 microns
PA	Programmatic Agreement
ppt	parts per thousand
RCRA	Resource Conservation and Recovery Act
SHPO	State Historic Preservation Officer
SIP	State Implementation Plan
SLAMS	State and Local Air Monitoring Stations
SO ₂	Sulfur Dioxide
SPDES	State Pollution Discharge Elimination System
SWPP	Stormwater Pollution Prevention Plan
T&E	threatened and endangered

TPY	tons per year
TWA	Time Weighted Average
WPSC	West Point School Complex
USACE	United States Army Corps of Engineers
USDA	United States Department of Agriculture
USFWS	United States Fish and Wildlife Service
USGS	United States Geologic Survey
UXO	Unexploded Ordnance
VOC	Volatile Organic Compounds

APPENDIX A: AIR QUALITY APPLICABILITY ANALYSIS

AIR QUALITY APPLICABILITY ANALYSIS

This air quality applicability analysis was conducted to identify potential increases or decreases in criteria air pollutant emissions associated with the proposed access gate security upgrades at the U.S. Army Garrison at West Point (West Point), New York. Since the project will occur within a U.S. EPA designated ozone non-attainment area, it is subject to the federal conformity requirements. The purpose of the analysis is to further determine the applicability of the Federal General Conformity Rule established in 40 CFR, Part 93 entitled: *Determining Conformity of Federal Actions to State or Federal Implementation Plans* to the action.

The federal conformity rules were established to ensure that federal activities do not hamper local efforts to control air pollution. In particular, Section 176(c) of the Clean Air Act (CAA) prohibits federal agencies, departments or instrumentalities from engaging in, supporting, licensing, or approving any action, in an area that is in non-attainment of the National Ambient Air Quality Standards (NAAQS), which does not conform to an approved state or federal implementation plan. Therefore, the agency must determine whether or not the project would interfere with the clean air goals in the State Implementation Plan (SIP).

1.0 Project Description

As a result of enhanced security requirements at West Point, a range of temporary security measures have been implemented at the three West Point access gates, which include Washington Gate, Stony Lonesome Gate, and Thayer Gate. The majority of these security measures are temporary, and include such features as traffic barriers, lighting, security posts, vehicle inspection stations, etc. These enhanced security measures are forecasted to continue at West Point for the foreseeable future. Accordingly, West Point has decided to install permanent security measures at the three West Point access gates. The Proposed Action would implement permanent security measures at Washington Gate, Stony Lonesome Gate, and Thayer Gate. Proposed security enhancements include: roadway widening and the addition of new traffic lanes, truck inspection areas, security vehicle parking areas, the construction of new guard houses, traffic control measures such as traffic arms, new signage, and deployable vehicle barrier systems, permanent lighting and canopies to protect soldiers on duty from inclement weather, and the addition of Closed Circuit Television cameras.

2.0 Meteorology/Climate

Temperature is a parameter used in calculations of emissions for air quality applicability. Climate at West Point can be characterized as a humid, continental climate with an mean high temperature of 86°F (30°C) in July and a mean low temperature of 27°F (-2.7°C) in January. Summers are warm with periods of high humidity and winters are cold, with extended periods of snow cover and are influenced by the cold Hudson Bay air masses that are brought into the area. The climate at West Point is also influenced by an air mass that flows from the North Atlantic Ocean bringing cool, cloudy, and damp weather to the region (USMA, 1998).

3.0 Current Ambient Air Quality Conditions

The EPA has classified the New York – North New Jersey – Long Island area, including the area of the proposed project (Orange County, New York), as in severe non-attainment for the criteria pollutant ozone.

4.0 Air Quality Regulatory Requirements

The EPA defines ambient air in 40 CFR Part 50 as “that portion of the atmosphere, external to buildings, to which the general public has access.” In compliance with the 1970 Clean Air Act (CAA) and the 1977 and 1990 Clean Air Act Amendments (CAAA), the EPA has promulgated NAAQS. The NAAQS were enacted for the protection of the public health and welfare, allowing for an adequate margin of safety. To date, the EPA has issued NAAQS for six criteria pollutants: carbon monoxide (CO), sulfur dioxide (SO₂), particles with a diameter less than or equal to a nominal 10 micrometers (PM₁₀), ozone (O₃), nitrogen dioxide (NO₂), and lead (Pb). Areas that do not meet NAAQS are called non-attainment areas. The EPA classified the New York – North New Jersey – Long Island area, including the project area, as in severe non-attainment for ozone. The NAAQS for ozone is presented in Table 1.

Table 1. Ambient Air Quality Standards For Ozone

Pollutant	Federal Standard	New York Standard
Ozone (O ₃) ¹		
1-Hour Average	0.12 ppm	0.12 ppm
8-Hour Average	0.08 ppm	0.08 ppm

¹ Federal primary and secondary standards for this pollutant are identical.

Source: EPA 2003, NYS DEC, nd.

To regulate the emission levels resulting from a project, federal actions located in non-attainment areas are required to demonstrate compliance with the general conformity guidelines established in 40 CFR Part 93 *Determining Conformity of Federal Actions to State or Federal Implementation Plans* (the Rule). The project area is located within a severe ozone non-attainment area; therefore, a General Conformity Rule applicability analysis is warranted.

Section 93.153 of the Rule sets applicability requirements for projects subject to the Rule through establishment of *de minimis* levels for annual criteria pollutant emissions. These *de minimis* levels are set according to criteria pollutant non-attainment area designations. Projects below the *de minimis* levels are not subject to the Rule. Those at or above the levels are required to perform a conformity analysis as established in the Rule. The *de minimis* levels apply to direct and indirect sources of emissions that can occur during the construction and operational phases of the action.

Direct emissions are those caused by, or initiated by, the federal action that occur at the same time and place as the action. Indirect emissions are those caused by the action, but which occur later in time and/or at a distance removed from the action itself, yet are reasonably foreseeable and the federal agency responsible for the action can maintain control as part of the actions program responsibility. To determine the applicability of the Rule to this action, emissions must be estimated for the ozone precursor pollutants nitrogen oxides (NO_x) and volatile organic compounds (VOC). Annual emissions for these compounds were estimated for the project to determine if it would be below or above the *de minimis* levels established in the Rule. The *de minimis* for severe ozone areas is 25 tons per year (tpy) (22,680 kilograms per year (kgpy)) for both NO_x and VOC.

In addition to evaluation of air emissions against *de minimis* levels, emissions are also evaluated for regional significance. A federal action that does not exceed the threshold emission rates of criteria pollutants may still be subject to a general conformity determination if the direct and indirect emissions from the action exceed ten percent of the total emissions inventory for a particular criteria pollutant in a non-attainment or maintenance area. If the emissions exceed this ten percent threshold, the federal action is considered to be a “regionally significant” activity, and thus, the general conformity rules apply.

5.0 Conformity Applicability Analysis

This project construction- and operations-related General Conformity analysis needs to be performed for the proposed access gate security upgrades at West Point. This conformity analysis and air emissions evaluation will follow the criteria regulated in *40 CFR Parts 6, 51, and 93, Determining Conformity of General Federal Actions to State or Federal Implementation Plans; Final Rule* (November 30, 1993).

5.1 Construction Phase Emissions

Construction emissions would result from the operation of heavy equipment, the commuter vehicle traffic from the construction crew, and the painting of parking spaces and building surfaces. The project would utilize a mix of heavy equipment for construction, mainly associated with road replacement and paving.

5.1.1 Emissions from Heavy Equipment

Annual emissions were calculated for various types of diesel construction vehicles using EPA's document *Exhaust Emission Factors for Nonroad Engine Modeling—Compression-Ignition* (Report No. NR-009A, 1998). Truck emission levels were calculated using EPA's *MOBILE6* model for an average temperature of 56° F (13.3° C). The total annual emissions, in tons per year, were determined for each vehicle based on the number of vehicles used and the number of operating hours per year. It was assumed that access gate security upgrades would occur at only one gate at any given time. At each gate, construction activities would last approximately 6 months (120 workdays), resulting in an 18 month (360 workdays) construction period to complete improvements at all three gates. The access gate security upgrades are expected to commence in Fall 2004. Construction personnel were assumed to commute an average of 60 miles (97 km) per day over the 18 months. Emissions factors used for construction vehicles, under all alternatives, are shown in Table 2.

Table 2. Emissions Factors for Construction Vehicles

Construction Vehicle Type	Emissions Factors lbs/hr-vehicle (kg/hr-vehicle)	
	NO _x	VOC
Construction		
Grader	2.43 (1.10)	0.149 (0.68)
Concrete Truck	3.04 (1.38)	0.186 (0.84)
Curb & Gutter Former	1.98 (0.90)	0.121 (0.55)
Paver	1.98 (0.90)	0.121 (0.55)
Concrete Cutting Saw and Masonry Saw	0.76 (0.34)	0.081 (0.04)
Vibratory Roller	2.21 (1.00)	0.135 (0.61)
Pneumatic Tire Roller	1.29 (0.59)	0.138 (0.63)
Steel Wheel Roller	1.29 (0.59)	0.138 (0.63)
Concrete Pumper Truck	3.04 (1.38)	0.186 (0.84)
Crane	1.52 (0.69)	0.09 (0.40)
Pick-up Truck	1.30 (0.002)*	1.78 (0.002)*
Dump Truck	11.94 (0.016)*	0.56 (0.001)*
Delivery Truck (heavy duty)	11.94 (0.016)*	0.56 (0.001)*

*units are in grams/mile/vehicle (lb/km/vehicle)

For a conservative analysis, it was assumed that new roadway would be constructed at each gate and that the existing roadway would not be used. Estimates for the amount of roadway and parking to be constructed are approximations, based on preliminary design concepts. In determining the amount of

roadway to be constructed, it was assumed that 12-foot (3.7 meter) lanes with 6-foot (1.8 meter) shoulders would be constructed. The estimated amount of roadway and parking, as well as new building space, to be constructed under each alternative is shown in Table 3.

Table 3. Impervious Surface to be Constructed

Alternative	Roadway in square feet (square meters)	Parking in square feet (square meters)	Building in square feet (square meters)	Total Impervious Surface in square feet (square meters)
Washington Gate Proposed Action Alternative	28,800 (2,676)	2,000 (186)	1,000 (93)	31,800 (2,954)
Washington Guardhouse Relocation Alternative	16,500 (1,533)	2,000 (186)	600 (56)	19,100 (1,774)
Stony Lonesome Gate Proposed Action Alternative	56,200 (5,221)	2,000 (186)	1,800 (167)	60,000 (6,132)
Stony Lonesome Gate Design Alternative	68,100 (6,327)	1,900 (177)	20,000 (1,858)	90,000 (8,361)
Stony Lonesome Gate Expanded Design Alternative	75,100 (6,977)	2,500 (232)	20,000 (1,858)	97,600 (9,067)
Thayer Gate Proposed Action – Thayer Road Alternative	68,160 (6,332)	6,480 (602)	1,250 (116)	75,890 (7,050)
Thayer Gate – Swift Road Alternative	72,400 (6,726)	6,480 (602)	1,250 (116)	80,130 (7,444)
Thayer Gate – Roundabout Alternative	36,000 (3,345)	1,100 (102)	1,250 (116)	38,350 (3,563)

For this project, it was assumed that pick-up trucks, delivery trucks, and dump trucks would be utilized. It was assumed that pick-up trucks would travel 20 miles (32 km) per trip, making three trips a day, for a total of 60 miles (97 km) a day traveled by pick-up truck. Delivery trucks and dump trucks would both travel 30 miles (48 km) per trip, with delivery trucks making two trips a day and dump trucks making four trips a day for a total of 60 miles (97 km) and 120 miles (193 km) traveled, respectively.

5.1.1.1 Calculations for Construction Emissions

Using the emissions factors in Table 2, annual construction emissions were calculated for the access gate security upgrades. Using the assumptions described above, the annual emissions in tons per year of NO_x and VOC for construction emissions were calculated for each vehicle type using the appropriate equations displayed in Table 4.

Table 5 through Table 12 summarize total annual emissions for the heavy equipment used during construction of the access gate security upgrades, based upon hours of usage, for each alternative.

Table 4: Equations for Construction Emissions Calculations

Emission Source	Equation	Sample Calculation
Heavy Equipment Emissions, On-Site Activities	(# of vehicle type) (Emission factor) (Total # of days in operation) (percent usage) (hours/day) (1 ton/2000 lbs) = TPY of air emissions	(1 grader) (2.434 lbs/hr/vehicle) (20 days in operation) (100% usage) (8 hours/day) (1 ton/2000 lbs) = 0.195 TPY of NO_x emissions (177 kgpy)
Construction Crew, Commuting	(# of vehicles) (#miles/day) (#days) (emissions factor grams/mile) (1 lb/453.59 grams) (1ton/2000 lb) = TPY of Vehicle Emissions	(20 vehicles) (60 miles/day) (120 days) (0.946 grams/mile/vehicle) (1 lb/453.59 grams) (1ton/2000 lb) = 0.15 TPY (136 kgpy) NO_x of Vehicle Emissions

Table 5. Total Emissions from On-Site Construction Activity – Washington Gate Proposed Action Alternative

Construction Vehicle Type	Number	Length of Operation (days)	Total Annual Emissions –TPY (kgpy)	
			NO _x	VOC
Grader	1	20	0.195 (177)	0.012 (11)
Concrete Truck	1	50	0.608 (551)	0.037 (34)
Curb and Gutter Former	1	30	0.237 (215)	0.014 (13)
Paver	1	50	0.396 (359)	0.024 (22)
Concrete Cutting Saw and Masonry Saw	2	30	0.183 (166)	0.020 (18)
Vibratory Roller	1	50	0.441 (373)	0.027 (24)
Pneumatic Tire Roller	1	50	0.259 (235)	0.028 (25)
Steel Wheel Roller	1	50	0.259 (235)	0.028 (25)
Concrete Pumper Truck	1	50	0.608 (552)	0.037 (34)
Pick-up Truck	1	120	0.010 (9)	0.014 (13)
Delivery Truck	1	100	0.079 (72)	0.004 (4)
Dump Truck	1	100	0.158 (143)	0.007 (6)
Crane	1	20	0.122 (111)	0.007 (6)
Total Emissions			3.554 (3,224)	0.244 (221)

Table 6. Total Emissions from On-Site Construction Activity – Washington Gate Guardhouse Relocation Alternative

Construction Vehicle Type	Number	Length of Operation (days)	Total Annual Emissions –TPY (kgpy)	
			NO _x	VOC
Grader	1	20	0.195 (177)	0.012 (11)
Concrete Truck	1	40	0.487 (442)	0.030 (27)
Curb and Gutter Former	1	30	0.237 (215)	0.015 (14)
Paver	1	40	0.316 (278)	0.019 (17)
Concrete Cutting Saw and Masonry Saw	2	20	0.122 (111)	0.013 (12)
Vibratory Roller	1	40	0.353 (320)	0.022 (20)
Pneumatic Tire Roller	1	40	0.207 (188)	0.022 (20)
Steel Wheel Roller	1	40	0.207 (188)	0.022 (20)
Concrete Pumper Truck	1	40	0.487 (442)	0.030 (27)
Pick-up Truck	1	120	0.009 (8)	0.012 (11)
Delivery Truck	1	100	0.070 (64)	0.003 (3)
Dump Truck	1	100	0.140 (127)	0.007 (6)
Crane	1	20	0.122 (111)	0.007 (6)
Total Emissions			2.951 (2,677)	0.199 (181)

Table 7. Total Emissions from On-Site Construction Activity – Stony Lonesome Gate Proposed Action Alternative

Construction Vehicle Type	Number	Length of Operation (days)	Total Annual Emissions –TPY (kgpy)	
			NO _x	VOC
Grader	1	20	0.195 (177)	0.012 (11)
Concrete Truck	1	90	1.096 (994)	0.067 (61)
Curb and Gutter Former	1	60	0.475 (431)	0.029 (26)
Paver	1	90	0.712 (654)	0.043 (39)
Concrete Cutting Saw and Masonry Saw	2	20	0.122 (111)	0.013 (12)
Vibratory Roller	1	90	0.794 (720)	0.048 (44)
Pneumatic Tire Roller	1	90	0.465 (422)	0.050 (45)
Steel Wheel Roller	1	90	0.465 (422)	0.050 (45)
Concrete Pumper Truck	1	90	1.095 (993)	0.067 (61)
Pick-up Truck	1	120	0.010 (9)	0.014 (13)
Delivery Truck	1	100	0.079 (72)	0.004 (4)
Dump Truck	1	100	0.158 (143)	0.007 (6)
Crane	1	20	0.122 (111)	0.007 (6)
Total Emissions			5.787 (5,250)	0.397 (360)

Table 8. Total Emissions from On-Site Construction Activity – Stony Lonesome Gate Design Alternative

Construction Vehicle Type	Number	Length of Operation (days)	Total Annual Emissions –TPY (kgpy)	
			NO _x	VOC
Grader	1	20	0.195 (177)	0.012 (11)
Concrete Truck	1	90	1.096 (994)	0.067 (61)
Curb and Gutter Former	1	60	0.475 (431)	0.029 (26)
Paver	1	90	0.712 (654)	0.043 (39)
Concrete Cutting Saw and Masonry Saw	2	20	0.122 (111)	0.013 (12)
Vibratory Roller	1	90	0.794 (720)	0.048 (44)
Pneumatic Tire Roller	1	90	0.465 (422)	0.050 (45)
Steel Wheel Roller	1	90	0.465 (422)	0.050 (45)
Concrete Pumper Truck	1	90	1.095 (993)	0.067 (61)
Pick-up Truck	1	120	0.010 (9)	0.014 (13)
Delivery Truck	1	100	0.079 (72)	0.004 (4)
Dump Truck	1	100	0.158 (143)	0.007 (6)
Crane	1	20	0.122 (111)	0.007 (6)
Total Emissions			5.787 (5,250)	0.397 (360)

Table 9. Total Emissions from On-Site Construction Activity – Stony Lonesome Gate Expand Design Alternative

Construction Vehicle Type	Number	Length of Operation (days)	Total Annual Emissions –TPY (kgpy)	
			NO _x	VOC
Grader	1	20	0.195 (177)	0.012 (11)
Concrete Truck	1	90	1.096 (994)	0.067 (61)
Curb and Gutter Former	1	60	0.475 (431)	0.029 (26)
Paver	1	90	0.712 (654)	0.043 (39)
Concrete Cutting Saw and Masonry Saw	2	20	0.122 (111)	0.013 (12)
Vibratory Roller	1	90	0.794 (720)	0.048 (44)
Pneumatic Tire Roller	1	90	0.465 (422)	0.050 (45)
Steel Wheel Roller	1	90	0.465 (422)	0.050 (45)
Concrete Pumper Truck	1	90	1.095 (993)	0.067 (61)
Pick-up Truck	1	120	0.010 (9)	0.014 (13)
Delivery Truck	1	100	0.079 (72)	0.004 (4)
Dump Truck	1	100	0.158 (143)	0.007 (6)
Crane	1	20	0.122 (111)	0.007 (6)
Total Emissions			5.787 (5,250)	0.397 (360)

Table 10. Total Emissions from On-Site Construction Activity – Thayer Gate Proposed Action – Thayer Road Alternative

Construction Vehicle Type	Number	Length of Operation (days)	Total Annual Emissions –TPY (kgpy)	
			NO _x	VOC
Grader	1	20	0.195 (177)	0.012 (11)
Concrete Truck	1	90	1.096 (994)	0.067 (61)
Curb and Gutter Former	1	60	0.475 (431)	0.029 (26)
Paver	1	90	0.712 (654)	0.043 (39)
Concrete Cutting Saw and Masonry Saw	2	20	0.122 (111)	0.013 (12)
Vibratory Roller	1	90	0.794 (720)	0.048 (44)
Pneumatic Tire Roller	1	90	0.465 (422)	0.050 (45)
Steel Wheel Roller	1	90	0.465 (422)	0.050 (45)
Concrete Pumper Truck	1	90	1.095 (993)	0.067 (61)
Pick-up Truck	1	120	0.010 (9)	0.014 (13)
Delivery Truck	1	100	0.079 (72)	0.004 (4)
Dump Truck	1	100	0.158 (143)	0.007 (6)
Crane	1	20	0.122 (111)	0.007 (6)
Total Emissions			5.787 (5,250)	0.397 (360)

Table 11. Total Emissions from On-Site Construction Activity – Thayer Gate – Swift Road Alternative

Construction Vehicle Type	Number	Length of Operation (days)	Total Annual Emissions –TPY (kgpy)	
			NO _x	VOC
Grader	1	20	0.195 (177)	0.012 (11)
Concrete Truck	1	90	1.096 (994)	0.067 (61)
Curb and Gutter Former	1	60	0.475 (431)	0.029 (26)
Paver	1	90	0.712 (654)	0.043 (39)
Concrete Cutting Saw and Masonry Saw	2	20	0.122 (111)	0.013 (12)
Vibratory Roller	1	90	0.794 (720)	0.048 (44)
Pneumatic Tire Roller	1	90	0.465 (422)	0.050 (45)
Steel Wheel Roller	1	90	0.465 (422)	0.050 (45)
Concrete Pumper Truck	1	90	1.095 (993)	0.067 (61)
Pick-up Truck	1	120	0.010 (9)	0.014 (13)
Delivery Truck	1	100	0.079 (72)	0.004 (4)
Dump Truck	1	100	0.158 (143)	0.007 (6)
Crane	1	20	0.122 (111)	0.007 (6)
Total Emissions			5.787 (5,250)	0.397 (360)

Table 12. Total Emissions from On-Site Construction Activity – Thayer Gate – Roundabout Alternative

Construction Vehicle Type	Number	Length of Operation (days)	Total Annual Emissions –TPY (kgpy)	
			NO _x	VOC
Grader	1	20	0.195 (177)	0.012 (11)
Concrete Truck	1	70	0.852 (773)	0.052 (47)
Curb and Gutter Former	1	40	0.316 (287)	0.019 (17)
Paver	1	70	0.554 (503)	0.034 (31)
Concrete Cutting Saw and Masonry Saw	2	20	0.183 (166)	0.020 (18)
Vibratory Roller	1	70	0.618 (561)	0.038 (34)
Pneumatic Tire Roller	1	70	0.362 (328)	0.039 (35)
Steel Wheel Roller	1	70	0.362 (328)	0.039 (35)
Concrete Pumper Truck	1	70	0.852 (773)	0.052 (47)
Pick-up Truck	1	120	0.010 (9)	0.014 (13)
Delivery Truck	1	100	0.079 (72)	0.004 (4)
Dump Truck	1	100	0.316 (287)	0.015 (14)
Crane	1	20	0.122 (111)	0.007 (6)
Total Emissions			4.820 (4,373)	0.321 (291)

5.1.2 Emissions from Construction Crew Workers

Emissions from construction personnel traffic were calculated using the EPA's *MOBILE6*. It is assumed that the construction crew would consist of approximately 20 workers per gate over a 6 month (120 workdays) time period for each gate. The completion of all three gates is expected to take approximately 18 months (360 workdays). For a conservative analysis, it was assumed each person will drive to the site. It is assumed that the average number of workers (20) will drive approximately 60 miles each day. Based on *MOBILE6*, the emission factor for NO_x is 0.95 grams/mile/vehicle (0.001 pounds/kilometer/vehicle) and VOC is 1.48 grams/mile/vehicle (0.002 pounds/kilometer/vehicle) for the average fleet in Orange County, New York. It was found that the total emissions associated with the commuter vehicles from the construction crew are approximately 0.15 tpy (136 kgpy) of NO_x and 0.23 tpy (209 kgpy) of VOC.

5.1.3 Emissions from Painting Activities

To calculate the amount of interior space to be painted, it was assumed that the guardhouse facilities would consist of a single room and would be one story. When calculating VOC emissions from painting interior surfaces, it was assumed that water-based latex paint would be used with a VOC content of one pound (0.45 kg) per gallon, and one gallon of paint covers an average for three coats of approximately 300 square feet (28 square meters). Three coats of paint would be applied (one primer and two finish) to all interior surfaces. The total amount of interior surfaces to be painted under each alternative and the amount of paint required would be as follows:

- Washington Gate Proposed Action Alternative – This alternative would require 1,646 square feet (153 square meters) of interior space to be painted, using approximately 17 gallons (64 liters) of paint. Painting of the interior surfaces would create VOC emissions of approximately 0.01 tpy (9.07 kgpy).
- Washington Gate Guardhouse Relocation Alternative – This alternative would require 1,227 square feet (114 square meters) of interior space to be painted, using approximately 13 gallons (49

liters) of paint. Painting of the interior surfaces would create VOC emissions of approximately 0.01 tpy (9.07 kgpy).

- Stony Lonesome Gate Proposed Action Alternative– This alternative would require 1,188 square feet (110 square meters) of interior space to be painted, using approximately 6 gallons (38 liters) of paint. Painting of the interior surfaces would create VOC emissions of approximately 0.003 tpy (2.72 kgpy).
- Stony Lonesome Gate Design Alternative– This alternative would require 2,600 square feet (242 square meters) of interior space to be painted, using approximately 26 gallons (98 liters) of paint. Painting of the interior surfaces would create VOC emissions of approximately 0.01 tpy (9.07 kgpy).
- Stony Lonesome Gate Expand Design Alternative – This alternative would require 1,200 square feet (111 square meters) of interior space to be painted, using approximately 12 gallons (45 liters) of paint. Painting of the interior surfaces would create VOC emissions of approximately 0.01 tpy (9.07 kgpy).
- Thayer Gate Proposed Action – Thayer Road Alternative– This alternative would require 2,600 square feet (242 square meters) of interior space to be painted, using approximately 26 gallons (98 liters) of paint. Painting of the interior surfaces would create VOC emissions of approximately 0.01 tpy (9.07 kgpy).
- Thayer Gate – Swift Road Alternative– This alternative would require 12,600 square feet (242 square meters) of interior space to be painted, using approximately 26 gallons (98 liters) of paint. Painting of the interior surfaces would create VOC emissions of approximately 0.01 tpy (9.07 kgpy).
- Thayer Gate – Roundabout Alternative– This alternative would require 22,600 square feet (242 square meters) of interior space to be painted, using approximately 26 gallons (98 liters) of paint. Painting of the interior surfaces would create VOC emissions of approximately 0.01 tpy (9.07 kgpy).

Emissions from painting parking spaces were based on four-inch (0.10 meter) wide stripes. It was assumed that the average parking space is 9 feet (2.7 meters) wide by 19 feet (5.8 meters) long and every two parking spaces share a common line. Approximately 20 square feet (1.86 square meters) would be painted for every two parking spaces. For parking spaces, it was assumed that alkyd paint would be used with a VOC content of three pounds (1.36 kg) per gallon and one gallon of paint covers approximately 200 square feet (18.58 square meters). One coat of paint would be applied to the parking surfaces. Based on these assumptions, the amount of area to be painted, gallons required, and approximate VOC emission for each alternative are:

- Washington Gate Proposed Action Alternative – Approximately 6 parking spaces would be painted, resulting in 3 two space areas (60 square feet (5.57 square meters)), requiring one gallon (3.79 liters) of paint. Painting of the parking spaces would create VOC emissions of approximately 0.0005 tpy (0.45 kgpy).
- Washington Gate Guardhouse Relocation Alternative – Approximately 6 parking spaces would be painted, resulting in 3 two space areas (60 square feet (5.57 square meters)), requiring one gallon (3.79 liters) of paint. Painting of the parking spaces would create VOC emissions of approximately 0.0005 tpy (0.45 kgpy).
- Stony Lonesome Gate Proposed Action Alternative – Approximately 7 parking spaces would be painted, resulting in 4 two space areas (80 square feet (7.43 square meters)), requiring one gallon (3.79 liters) of paint. Painting of the parking spaces would create VOC emissions of approximately 0.0006 tpy (0.54 kgpy).

- Stony Lonesome Gate Design Alternative – Approximately 6 parking spaces would be painted, resulting in 3 two space areas (60 square feet (5.57 square meters)), requiring one gallon (3.79 liters) of paint. Painting of the parking spaces would create VOC emissions of approximately 0.0005 tpy (0.45 kgpy).
- Stony Lonesome Gate Expand Design Alternative – Approximately 6 parking spaces would be painted, resulting in 3 two space areas (60 square feet (5.57 square meters)), requiring one gallon (3.79 liters) of paint. Painting of the parking spaces would create VOC emissions of approximately 0.0005 tpy (0.45 kgpy).
- Thayer Gate Proposed Action – Thayer Road Alternative– Approximately 40 parking spaces would be painted, resulting in 20 two space areas (400 square feet (37.16 square meters)), requiring two gallons (7.57 liters) of paint. Painting of the parking spaces would create VOC emissions of approximately 0.003 tpy (2.72 kgpy).
- Thayer Gate – Swift Road Alternative - Approximately 40 parking spaces would be painted, resulting in 20 two space areas (400 square feet (37.16 square meters)), requiring two gallons of paint (7.57 liters). Painting of the parking spaces would create VOC emissions of approximately 0.003 tpy (2.72 kgpy).
- Thayer Gate – Roundabout Alternative – Approximately 6 parking spaces would be painted, resulting in 3 two space areas (60 square feet (5.57 square meters)), requiring one gallon (3.79 liters) of paint. Painting of the parking spaces would create VOC emissions of approximately 0.0005 tpy (0.45 kgpy).

The total emissions associated with painting activities under each alternative are shown in Table 13.

5.1.4 Summary of Construction Emissions

After emissions analysis was performed for all aspects of construction, the totals were added to determine the combined construction emissions. Table 14 through Table 21 display a summary of the findings compared to the *de minimis* values for each alternative.

Table 13. Total VOC Emissions from Painting Activities

Alternative	Emission from Interior Painting	Emissions from Parking Space Painting	Total Painting Emissions
Washington Gate Proposed Action Alternative	0.01 tpy (9.07 kgpy)	0.0005 tpy (0.45 kgpy)	0.009 tpy (8.2 kgpy)
Washington Gate Guardhouse Relocation Alternative	0.01 tpy (9.07 kgpy)	0.0005 tpy (0.45 kgpy)	0.007 tpy (6.4 kgpy)
Stony Lonesome Gate Proposed Action Alternative	0.003 tpy (2.72 kgpy)	0.0006 tpy (0.54 kgpy)	0.004 tpy (3.6 kgpy)
Stony Lonesome Gate Expanded Design Alternative	0.01 tpy (9.07 kgpy)	0.0005 tpy (0.45 kgpy)	0.006 tpy (5.4 kgpy)
Thayer Gate Proposed Action – Thayer Road Alternative	0.01 tpy (9.07 kgpy)	0.003 tpy (2.72 kgpy)	0.016 tpy (14.5 kgpy)
Thayer Gate – Swift Road Alternative	0.01 tpy (9.07 kgpy)	0.003 tpy (2.72 kgpy)	0.016 tpy (14.5 kgpy)
Thayer Gate – Roundabout Alternative	0.01 tpy (9.07 kgpy)	0.0005 tpy (0.45 kgpy)	0.013 tpy (11.8 kgpy)

Table 14. Total Emissions from Construction Related Activities – Washington Gate Proposed Action Alternative

Construction Activity	Total Annual Emissions –TPY (kgpy)		De minimis values –TPY (kgpy)	
	NO _x	VOC	NO _x	VOC
Use of Heavy Equipment (on –site construction)	3.554 (3,224)	0.244 (221)	25 (22,680)	25 (22,680)
Construction Crew Workers	0.150 (136)	0.235 (209)		
Painting	NA	0.009 (8.2)		
Total Emissions from Construction	3.705 (3,361)	0.488 (443)		

Table 15. Total Emissions from Construction Related Activities – Washington Gate Guardhouse Relocation Alternative

Construction Activity	Total Annual Emissions –TPY (kgpy)		De minimis values –TPY (kgpy)	
	NO _x	VOC	NO _x	VOC
Use of Heavy Equipment (on –site construction)	2.951 (2,677)	0.199 (181)	25 (22,680)	25 (22,680)
Construction Crew Workers	0.150 (136)	0.235 (209)		
Painting	NA	0.007 (6.4)		
Total Emissions from Construction	3.101 (2,813)	0.441 (400)		

Table 16. Total Emissions from Construction Related Activities – Stony Lonesome Gate Proposed Action Alternative

Construction Activity	Total Annual Emissions –TPY (kgpy)		De minimis values –TPY (kgpy)	
	NO _x	VOC	NO _x	VOC
Use of Heavy Equipment (on –site construction)	5.787 (5,250)	0.397 (360)	25 (22,680)	25 (22,680)
Construction Crew Workers	0.150 (136)	0.235 (209)		
Painting	NA	0.004 (3.6)		
Total Emissions from Construction	5.938 (5,387)	0.635 (576)		

Table 17. Total Emissions from Construction Related Activities – Stony Lonesome Gate Design Alternative

Construction Activity	Total Annual Emissions –TPY (kgpy)		De minimis values –TPY (kgpy)	
	NO _x	VOC	NO _x	VOC
Use of Heavy Equipment (on –site construction)	5.787 (5,250)	0.397 (360)	25 (22,680)	25 (22,680)
Construction Crew Workers	0.150 (136)	0.235 (209)		
Painting	NA	0.013 (11.8)		
Total Emissions from Construction	5.938 (5,387)	0.645 (585)		

Table 18. Total Emissions from Construction Related Activities – Stony Lonesome Gate Expand Design Alternative

Construction Activity	Total Annual Emissions –TPY (kgpy)		De minimis values –TPY (kgpy)	
	NO _x	VOC	NO _x	VOC
Use of Heavy Equipment (on –site construction)	5.787 (5,250)	0.397 (360)	25 (22,680)	25 (22,680)
Construction Crew Workers	0.150 (136)	0.235 (209)		
Painting	NA	0.006 (5.4)		
Total Emissions from Construction	5.938 (5,387)	0.638 (579)		

Table 19. Total Emissions from Construction Related Activities – Thayer Gate Proposed Action – Thayer Road Alternative

Construction Activity	Total Annual Emissions –TPY (kgpy)		De minimis values –TPY (kgpy)	
	NO _x	VOC	NO _x	VOC
Use of Heavy Equipment (on –site construction)	5.787 (5,250)	0.397 (360)	25 (22,680)	25 (22,680)
Construction Crew Workers	0.150 (136)	0.235 (209)		
Painting	NA	0.016 (14.5)		
Total Emissions from Construction	5.938 (5,387)	0.648 (588)		

Table 20. Total Emissions from Construction Related Activities – Thayer Gate – Swift Road Alternative

Construction Activity	Total Annual Emissions –TPY (kgpy)		De minimis values –TPY (kgpy)	
	NO _x	VOC	NO _x	VOC
Use of Heavy Equipment (on –site construction)	5.787 (5,250)	0.397 (360)	25 (22,680)	25 (22,680)
Construction Crew Workers	0.150 (136)	0.235 (209)		
Painting	NA	0.016 (14.5)		
Total Emissions from Construction	5.938 (5,387)	0.648 (588)		

Table 21. Total Emissions from Construction Related Activities – Thayer Gate – Roundabout Alternative

Construction Activity	Total Annual Emissions –TPY (kgpy)		De minimis values –TPY (kgpy)	
	NO _x	VOC	NO _x	VOC
Use of Heavy Equipment (on –site construction)	4.820 (4,373)	0.321 (291)	25 (22,680)	25 (22,680)
Construction Crew Workers	0.150 (136)	0.235 (209)		
Painting	NA	0.013 (11.8)		
Total Emissions from Construction	4.970 (4,345)	0.570 (517)		

5.2 Operational Emissions

It is assumed that the guardhouses would be heated using the existing steam system and would not require separate boilers and that the water heaters in the guardhouses would be electric. The access gate security upgrades are not expected to create an increase in traffic entering the base. It was assumed that at 30 KW (40 hp) emergency generator would be located at the guardhouse at each gate. Regardless of what alternative is chosen for each gate, it was assumed that it would include a generator and that operational emissions would include the simultaneous operation of the three generators.

Assumptions for emergency generator emissions use the EPA's *Report No. NR-009A Exhaust Emission Factors for Nonroad Engine Modeling – Compression-Ignition* to determine NO_x and VOC emissions. Assuming that a new generator would be used at each guardhouse, emission factors for a generator between 25 and 50 horsepower that has a model year after 2004 (classified as Tier 2 Regulation) were used, resulting in NO_x emissions of 0.011 lb/hp-hr (5.0 gram/hp-hr) and VOC emissions of 0.001 lb/hp-hr (0.60 gram/hp-hr). Using the above stated emission factors and assuming that all three generators would operate at 40 horsepower for a total of 300 hours per year per generator. The 300 hours include up to 10 hours per month of scheduled tests plus an allowance for emergency use. Using these assumptions, the emissions of NO_x and VOC for each generator were calculated to be 0.066 tpy (59.87 kgpy) and 0.006 tpy (5.44 kgpy) respectively. Operating simultaneously, the three emergency generators would create total emissions of 0.198 tpy (180 kgpy) of NO_x and 0.018 tpy (18 kgpy) of VOC.

5.3 Combined Emissions

Although it is assumed that the security upgrades at each access gate would be completed separately, there is a potential for more than one gate upgrade occurring during a one-year time period. For a conservative estimate, the analysis of combined emissions considered that all three gate projects would be

completed in one year. For this, the alternative with highest emission estimate for each gate was used. The results of this analysis, shown in Table 20, show that, even if all projects occurred within the same year, emissions would be below the *de minimis* level. Combined operations emissions would include the operation of all three emergency generators at one time, and as stated above, would create total emissions of 0.198 tpy (180 kgpy) of NO_x and 0.018 tpy (18 kgpy) of VOC.

Table 20. Total Combined Emissions

Construction Activity	Total Annual Emissions –TPY (kgpy)		<i>De minimis</i> values –TPY (kgpy)	
	NO _x	VOC	NO _x	VOC
Use of Heavy Equipment (on –site construction)	15.130 (13,726)	0.244 (221)	25 (22,680)	25 (22,680)
Construction Crew Workers	0.450 (408)	0.071 (64)		
Painting	NA	0.03 (34.5)		
Total Combined Emissions from Construction	15.580 (14,134)	1.412 (1,281)		

5.4 Regional Significance

In addition to *de minimis* values, actions are also evaluated for regional significance. An action is considered to be regionally significant if the annual increase in emissions would make up 10 percent or more of the available regional emission inventory. The *New York Metropolitan Area State Implementation Plan* sets forth 2005 daily emission targets for non-road construction vehicles of 18.36 tons per day (16,656 kilograms per day) of VOC and 100.26 tons per day (90,954 kilograms per day) of NO_x for the New York Metropolitan ozone non-attainment area where West Point is located (Escarpeta, pers. comm., 20 November 2003). The increase in annual emissions from the construction activities would not make up ten percent or more of the available regional emission target for VOC or NO_x and would not be regionally significant.

6.0 Overall Results

The table below summarizes the total emissions associated with the construction of the access gate security upgrades at West Point. Construction related emissions would be temporary and only occur during the development period, 6 months for each gate. Operational emissions associated with the operation of the emergency generator at each gate would be long-term and occur throughout the life of the facility. When compared to the *de minimis* values for this non-attainment area of 25 tpy (22,680 kgpy) each for NO_x and VOC, the emissions associated with implementation of the access gate security upgrades fall below the *de minimis* values for all alternatives evaluated. As a result the access gate security upgrades project, under any alternative, is not subject to the General Conformity Rule requirements.

Table 21. Total Emissions from the Access Gate Security Upgrades – All Alternatives

Activity	Washington Proposed Action Alternative TPY (kgpy)		Washington Guardhouse Relocation Alternative TPY (kgpy)		Stony Lonesome Proposed Action Alternative TPY (kgpy)		Stony Lonesome Design Alternative TPY (kgpy)		Stony Lonesome Expand Design Alternative TPY (kgpy)		Thayer Road Proposed Action – Thayer Road Alternative TPY (kgpy)		Thayer – Swift Road Alternative TPY (kgpy)		Thayer – Roundabout Alternative TPY (kgpy)	
	NO _x	VOC	NO _x	VOC	NO _x	VOC	NO _x	VOC	NO _x	VOC	NO _x	VOC	NO _x	VOC	NO _x	VOC
Construction Emissions																
Construction Equipment	3.554 (3,224)	0.244 (221)	2.951 (2,677)	0.199 (181)	5.787 (5,250)	0.397 (360)	5.787 (5,250)	0.397 (360)	5.787 (5,250)	0.397 (360)	5.787 (5,250)	0.397 (360)	5.787 (5,250)	0.397 (360)	4.820 (4,373)	0.321 (291)
Construction Crew Commuters	0.150 (136)	0.235 (209)	0.150 (136)	0.235 (209)	0.150 (136)	0.235 (209)	0.150 (136)	0.235 (209)	0.150 (136)	0.235 (209)	0.150 (136)	0.235 (209)	0.150 (136)	0.235 (209)	0.150 (136)	0.235 (209)
Painting	NA	0.009 (8.2)	NA	0.007 (6.4)	NA	0.004 (3.6)	NA	0.013 (11.8)	NA	0.006 (5.4)	NA	0.016 (14.5)	NA	0.016 (14.5)	NA	0.013 (11.8)
Total Construction Emissions	3.705 (3,361)	0.488 (443)	3.101 (2,813)	0.441 (400)	5.938 (5,387)	0.635 (576)	5.938 (5,387)	0.645 (585)	5.938 (5,387)	0.638 (579)	5.938 (5,387)	0.648 (588)	5.938 (5,387)	0.648 (588)	4.970 (4,345)	0.570 (517)
Operation Emissions																
Emergency Generator (Total Operation Emissions)	0.198 (180)	0.018 (18)	0.198 (180)	0.018 (18)	0.198 (180)	0.018 (18)	0.198 (180)	0.018 (18)	0.198 (180)	0.018 (18)	0.198 (180)	0.018 (18)	0.198 (180)	0.018 (18)	0.198 (180)	0.018 (18)

Appendix References

- Escarpeta, Denny. 2003. New York Department of Environmental Conservation Air Quality Division. Personal Communication by Telephone and Email. 20 November 2003.
- New York State Department of Environmental Conservation (NYS DEC). nd. Ambient Air Quality Standards New York State and Federal. Accessible via the Internet at: http://www.dec.state.ny.us/website/dar/reports/96annrpt/96ar_std.html. Site visited 17 November 2003.
- New York State Department of State. 1982. State Coastal Policies. Albany, New York.
- RS Means. 2001. *Facilities Construction Cost Data*. RS Means Company Inc: Kingston, MA.
- U.S. Environmental Protection Agency. 1998a. *Compilation of Air Pollutant Emission Factors, Volume I, Chapter 1 Supplement D: Stationary Sources, AP-42, 5th edition*.
- U.S. Environmental Protection Agency. 1998b. *Exhaust Emission Factors for Nonroad Engine Modeling-Compression-Ignition, Report No. NR-009A*. February 13, 1998, revised June 15, 1998.
- U.S. Environmental Protection Agency. 1997. *MOBILE5b Emission Factor Model, for Trucks year 2002 Vehicle Emissions*.
- U.S. Environmental Protection Agency. *National Primary and Secondary Ambient Air Quality Standards*. 40 CFR Part 50.
- U.S. Environmental Protection Agency. *Conformity to State or Federal Implementation Plans of Transportation Plans, Programs, and Projects Developed, Funded or Approved under Title 23 U.S.C. or the Federal Transit Act*. 40 CFR Part 51, Subpart T.
- U.S. Environmental Protection Agency. *Designation of Areas for Air Quality Planning Purposes, Subpart C: Section 107 Attainment Status Designations*. 40 CFR Part 81.
- U.S. Military Academy (USMA). 1998. *Integrated Natural Resources Management Plan, United States Military Academy, West Point, New York*. Prepared by Tetra Tech, Inc. May.

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APPENDIX B: AGENCY CORRESPONDENCE



DEPARTMENT OF THE ARMY
UNITED STATES MILITARY ACADEMY
West Point, New York 10996

March 24, 2003

REPLY TO
ATTENTION OF

Directorate of Housing and Public Works

Subject: Introduction of Access Gates Security Upgrades at U.S. Military Academy

Mr. Greg Donofrio
New York State Office of Parks, Recreation and Historic Preservation
Historic Preservation Field Services Bureau
Peebles Island, PO Box 189
Waterford, New York 12188-0189

Dear Mr. Donofrio:

The U.S. Military Academy (USMA) proposes to install security upgrades to three access gates at the U.S. Military Academy, West Point, Orange County, New York (USMA).

As a result of enhanced security requirements at the USMA, a range of temporary security measures have been implemented at the three USMA access gates (Washington Gate, Thayer Gate and Stony Lonesome Gate). The majority of these security measures is temporary, and includes such features as traffic barriers, lighting, security posts, vehicle inspection stations, etc. Trailers installed to provide shelter for soldiers at Thayer Gate and Stony Lonesome Gate have been previously discussed with your office (03PR00270). These enhanced security measures are forecast to continue at the USMA for the foreseeable future. Accordingly, the USMA has determined to install permanent security measures at the three USMA access gates (Washington Gate, Thayer Gate and Stony Lonesome Gate). It should be noted that Wilson Gate and Lee Gate are not components of this project, and no construction is presently planned for these two gates. As previously discussed under project 03PR00270, the temporary shelter trailers recently installed at Thayer Gate and Stony Lonesome Gate will be removed at the conclusion of this construction project.

Study efforts have just been initiated for this project. The current schedule for this project calls for an initial design this summer (August 2003 timeframe). It is the USMA's intent to inform your office of this project at this time, to facilitate your involvement in design development.

The most substantial construction is planned for Stony Lonesome Gate. Construction tentatively identified for Stony Lonesome Gate includes:

- Major changes, new lanes, significantly widened, entire appearance of gate altered;
- New security vehicle parking area;
- New truck inspection area;
- New Visitor Control Building (20,000 square feet) with adjacent parking;
- Significant ground disturbance and rock removal;
- Existing gatehouse retained;
- Traffic control measures including traffic arms, new signage;
- Permanent lighting;
- Deployable vehicle barrier systems;
- Canopies to protect soldiers on duty from inclement weather; and
- More Closed Circuit Television (CCTV) cameras.

Although the most intensive construction would occur at Stony Lonesome Gate, substantial improvements would also be required for both Thayer and Washington Gates. Construction tentatively identified for Washington Gate includes:

- New lanes, significantly widened;
- New sentry house;
- Existing gatehouse and restroom retained;
- Traffic control measures including traffic arms, new signage;
- Permanent lighting;
- Deployable vehicle barrier systems;

- Canopies to protect soldiers on duty from inclement weather; and
- More CCTV cameras.

Construction tentatively identified for Thayer Gate includes:

- Completely new traffic lanes along Thayer Road on USMA;
- New limited access to Thayer Hotel;
- External (Highland Falls/South Post) views of Thayer Gate should not be altered;
- Existing Thayer Gatehouse and associated buildings will be retained;
- New permanent traffic control measures along Thayer Road;
- Removal of extant landscape vegetation (including trees) and sidewalk along Thayer Road;
- Some reduction in extant parking along Thayer Road;
- Traffic control measures including traffic arms, new signage;
- Permanent lighting;
- Deployable vehicle barrier systems;
- Canopies to protect soldiers on duty from inclement weather; and
- More CCTV cameras.

The USMA would also like to note that the Electronic Message Board and Marquee project previously proposed for the intersection of Mills Road and Thayer Road has been postponed, pending resolution of the Thayer Gate Security Upgrades (Project 02PR0395).

All three gates are located within the boundaries of the USMA National Historic Landmark District (NHL). Stony Lonesome Gate was constructed in the late 1950s or early 1960s. The only structure at Stony Lonesome Gate is the Sentry Station, Building 1205, which was constructed in 1995. It is not a historic structure. Stony Lonesome Gate is not considered to be a historic property.

Thayer Gate was constructed at its present location as the USMA South Gate in 1936 as a Works Progress Administration (WPA) project, and was renovated in 1989 as a contribution from the USMA Class of 1943. In 1951 the Sentry Station from Wilson Gate (originally constructed in 1945) was moved to Thayer Gate. This building was altered in 1989, as a component of the Class of 1943 sponsored upgrades. The Thayer Gate Sentry Station (Building 608) requires National Register review to evaluate its historic property status. The other structure at Thayer Gate is the Thayer Gate Public Restrooms (Building 610), which was constructed in 1938, and also requires National Register review to evaluate its historic property status. Thayer Gate requires National Register review to evaluate its historic property status.

Washington Gate was constructed at its present location in 1942. The Washington Gates Sentry Station (Building 711) was constructed in 1942, is considered to be individually eligible for the National Register of Historic Places, and is a contributing structure to the USMA NHL. The other structure at Washington Gate is the Public Restrooms (Building 729), was constructed in 1943, is considered to be individually eligible for the National Register of Historic Places, and is a contributing structure to the USMA NHL. The appearance of Washington Gate has not been altered since its construction in 1942, and the gate is considered to be eligible for the National Register of Historic Places, and is a contributing element to the USMA NHL.

The Area of Potential Effects (APE) for this project is defined as the immediate Stony Lonesome Gate vicinity; the northern portion of the Town of Highland Falls, Thayer Gate vicinity, and Buffalo Soldier Field for the Thayer Gate activities; and Washington Gate vicinity, Washington Road historic and scenic corridor, and the Highway 218 scenic corridor for the Washington Gate effort. This APE contains numerous historic properties within the USMA NHL.

Cultural resources concerns that the USMA has identified include:

- Consultation with the New York SHPO in accordance with Section 106 of the National Historic Preservation Act will be required. At this point in the project a determination of effect is not possible;
- Phase I Cultural Resources surveys will be required at Washington Gate (approximately one acre) and Stony Lonesome Gate (approximately four acres) for areas of new ground disturbance;
- Determination of National Register of Historic Places eligibility for structures at Thayer Gate, and Thayer Gate itself, will be necessary;
- Historic documentation of Washington Gate will be necessary prior to any construction activities;
- Historic documentation of Thayer Gate cannot be evaluated at this time, but might be required;

- New sentry boxes should be designed to be architecturally compatible with historic sentry boxes at the USMA (numerous historic photographs are extant);
- All new construction should be architecturally compatible with extant architecture, particularly for Washington and Thayer Gates;
- Placement of truck inspection and visitor access building at Stony Lonesome Gate is appropriate;
- Impacts to Thayer Gate vicinity, Washington Gate vicinity, and Buffalo Soldier Field must be carefully evaluated; and
- Lighting will have to be carefully designed.

The USMA intends to consult with your office throughout this project, to provide you with opportunities to provide review and comment upon this project's design as it matures. We invite your review and comment at this time, to identify any cultural resources concerns that you may specifically have as regards this conceptual project.

The USMA would also like to note that the increase in population of the U.S. Corps of Cadets is anticipated to result in additional renovation, expansion and new construction projects within the Cadet Zone. As study efforts identify such requirements, the USMA will provide your office with opportunities to consult on these projects.

If there is further information required, or any questions, please contact Mr. Douglas R. Cubbison at (845) 938-3522.



Patrice A. Halin
Cultural Resources Manager
United States Military Academy

May 6, 2003

Douglas R. Cubbison
Acting NEPA Coordinator
USMA
Directorate of Housing and Public Works (EP&SD)
Building 667, Ruger Rd.
West Point, NY 10996

RE: Access Gates Security Upgrades
USMA
Thayer, Stoney Lonesome, Washington gates
03PR02175

Dear Mr. Cubbison:

Thank you for requesting the comments of the State Historic Preservation Office (SHPO) for the proposed access gates security upgrades at the USMA, West Point. We have begun to review the project in accordance with Section 106 of the National Historic Preservation Act of 1966 and relevant implementing regulations.

The SHPO will of course be concerned with any modifications that have the potential to adversely effect National Register-listed or eligible properties, for these projects namely Thayer Gate and Washington Gate. The SHPO concurs with the list of cultural resource concerns that the USMA has identified at this point. The proposed additional research and survey work is an appropriate response to these concerns. The National Register evaluation for the Thayer Gate structures should, to the greatest extent possible, establish the design and material integrity of the buildings by documenting changes that have been made over time. The report should interpret contemporary photographs of the building in light of a review of historic plans and photographs, as well as project materials associated with the 1989 alterations.

If adverse effects are identified, the USMA and SHPO will have to thoroughly explore alternatives to the proposed undertakings. The SHPO looks forward to reviewing schematic plans for the Thayer Gate and Washington Gate modifications, and Phase I Archeological surveys for Stony Lonesome Gate and Washington Gate, as they become available.

Thank you again for your assistance. If you have any questions, feel free to call me at (518) 237-8643, ext. 3282. Please refer to the SHPO Project Review (PR) number in any future correspondences regarding this project.

Sincerely,



Greg Donofrio
Historic Sites Restoration Coordinator
(greg.donofrio@oprhp.state.ny.us)



THE Louis Berger Group, INC.

2300 N Street, NW, Washington, DC 20037 U.S.A.
Tel 202 912 0200 Fax 202 293 0787 www.louisberger.com

November 25, 2003

Ms. Jean Pietrusiak
New York National Heritage
625 Broadway
5th Floor
Albany, New York 12233-4757

Dear Ms. Pietrusiak:

On behalf of the U.S. Military Academy (USMA) at West Point, and in compliance with the National Environmental Policy Act (NEPA), the Louis Berger Group, Inc. is preparing an Environmental Assessment (EA) to determine the potential effects associated with access gate security upgrades at the USMA.

The purpose of the proposed action is for the USMA, through its directorate of Housing and Public Works, to perform security upgrades to the Washington Gate, Stony Lonesome Gate, and Thayer Gate at the USMA, West Point, New York. These upgrades will serve to make the temporary security measures at the installation permanent, creating a more secure post and maintaining the historic nature of the entrance gates, where appropriate. The need for the proposed access gate security upgrades at the USMA results from a Department of Defense (DoD) directive that all military installations provide for enhanced safety and security of residents and critical military facilities. As a result of enhanced security requirements at the USMA, a range of temporary security measures have been implemented at the three USMA access gates, which include Washington Gate, Stony Lonesome Gate, and Thayer Gate. The majority of these security measures are temporary, and include such features as traffic barriers, lighting, security posts, vehicle inspection stations, etc. These enhanced security measures are forecast to continue at the USMA for the foreseeable future. Accordingly, the USMA has decided to install permanent security measures at the three USMA access gates. These security upgrades would include road reconfiguration and widening, traffic control measures such as traffic arms, new signage, and deployable vehicle barrier systems, construction of new guard houses, permanent lighting and canopies to protect soldiers on duty from inclement weather, and more Closed Circuit Television cameras.

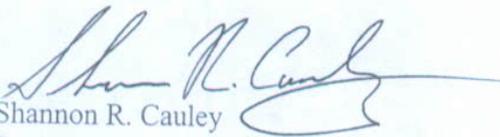
The purpose of this correspondence is to request a current list of federally and state listed threatened, endangered, and candidate species that are known to occur, or that could potentially occur on, or in the vicinity of the USMA. I would also like to know if there are any other sensitive natural resources or ecosystems that should be considered during the development of the EA. For quick reference, the USMA can be found on the United States Geological Survey 7.5 series topographic map for West Point Quadrangle, Orange County, New York. A regional



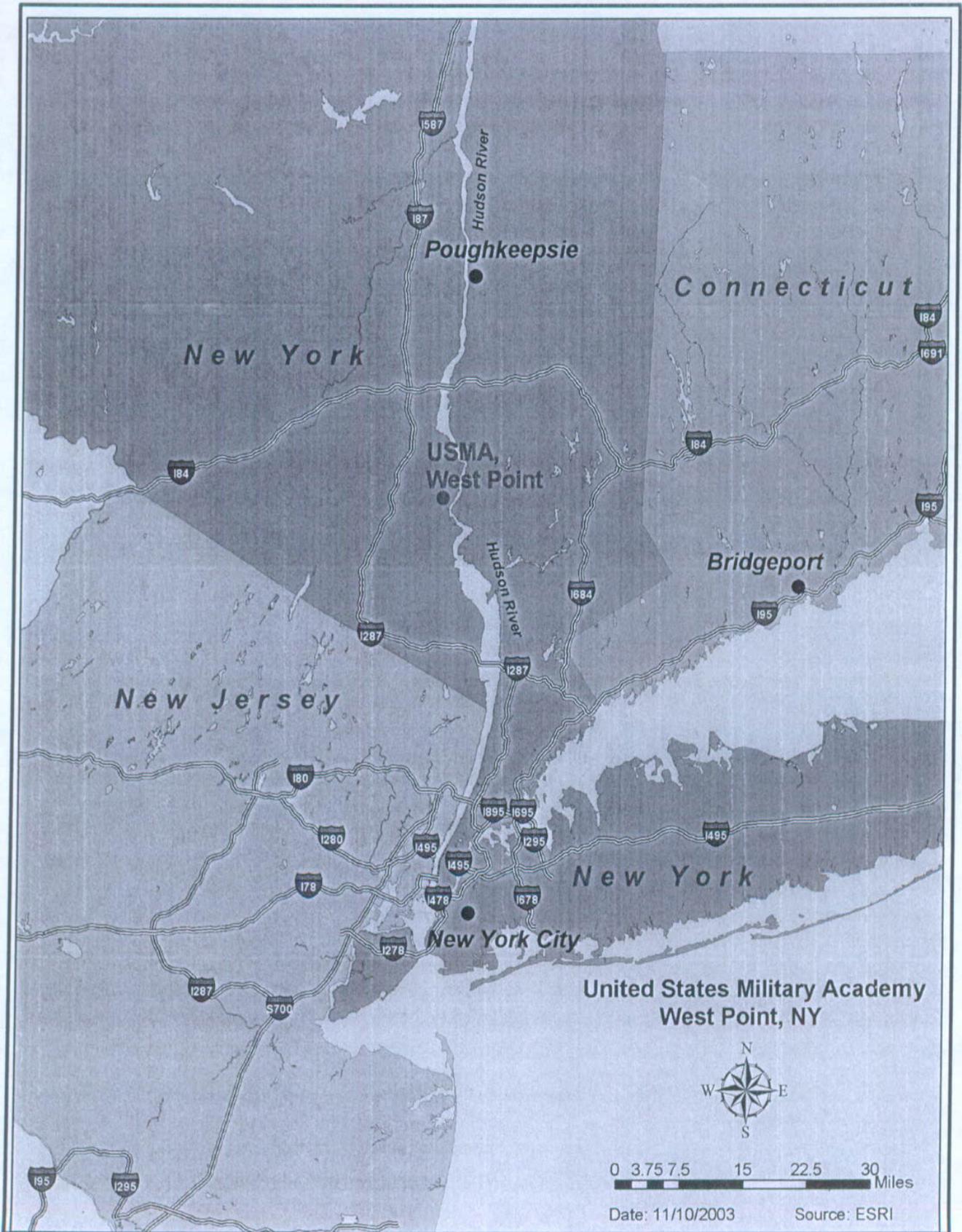
map showing the location of the USMA and a site map showing the area of the proposed access gate security upgrades is enclosed.

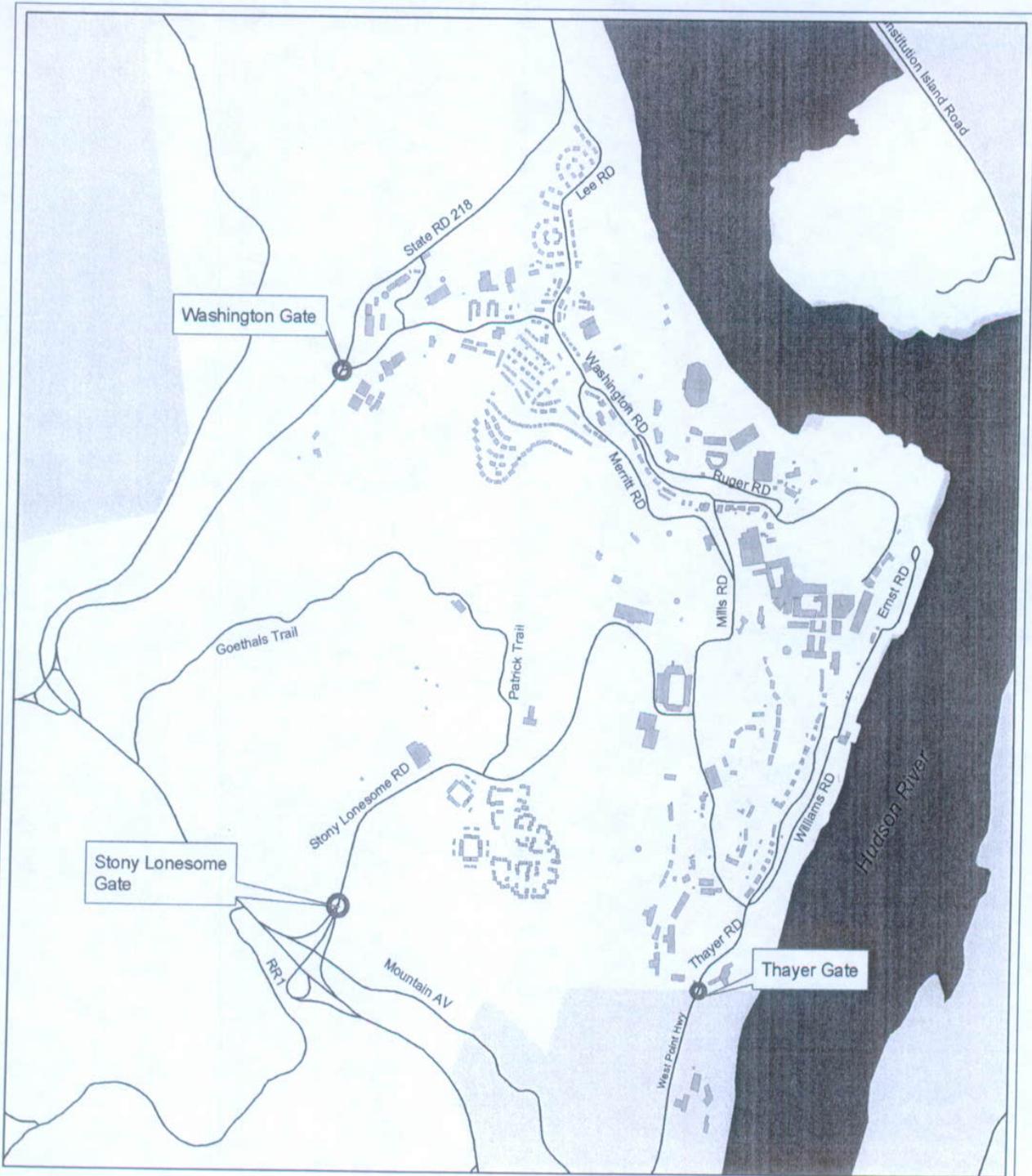
If you have any questions or need additional information, I can be reached by phone at (202) 912-0306, by facsimile at (202) 293-0787, or by e-mail at scauley@louisberger.com. Thank you in advance for your assistance.

Sincerely,
The Louis Berger Group, Inc.


Shannon R. Cauley
Senior Scientist

cc: Doug Cubbison, USMA NEPA Coordinator and Cultural Resources Coordinator
Frank Skidmore, Director of Environmental Sciences, The Louis Berger Group, Inc.

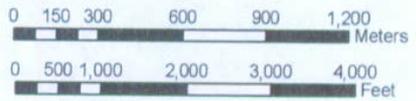




Legend

-  gates
-  post-facilities
-  gps roads
-  boundary

USMA Installation and Project Areas





THE Louis Berger Group, INC.

2300 N Street, NW, Washington, DC 20037 U.S.A.
Tel 202 912 0200 Fax 202 293 0787 www.louisberger.com

November 25, 2003

Mr. Pete Nye, Chief
New York Department of Environmental Conservation
Endangered Species Unit
625 Broadway
Albany, New York 12233-4757

Dear Mr. Nye:

On behalf of the U.S. Military Academy (USMA) at West Point, and in compliance with the National Environmental Policy Act (NEPA), the Louis Berger Group, Inc. is preparing an Environmental Assessment (EA) to determine the potential effects associated with access gate security upgrades at the USMA.

The purpose of the proposed action is for the USMA, through its directorate of Housing and Public Works, to perform security upgrades to the Washington Gate, Stony Lonesome Gate, and Thayer Gate at the USMA, West Point, New York. These upgrades will serve to make the temporary security measures at the installation permanent, creating a more secure post and maintaining the historic nature of the entrance gates, where appropriate. The need for the proposed access gate security upgrades at the USMA results from a Department of Defense (DoD) directive that all military installations provide for enhanced safety and security of residents and critical military facilities. As a result of enhanced security requirements at the USMA, a range of temporary security measures have been implemented at the three USMA access gates, which include Washington Gate, Stony Lonesome Gate, and Thayer Gate. The majority of these security measures are temporary, and include such features as traffic barriers, lighting, security posts, vehicle inspection stations, etc. These enhanced security measures are forecast to continue at the USMA for the foreseeable future. Accordingly, the USMA has decided to install permanent security measures at the three USMA access gates. These security upgrades would include road reconfiguration and widening, traffic control measures such as traffic arms, new signage, and deployable vehicle barrier systems, construction of new guard houses, permanent lighting and canopies to protect soldiers on duty from inclement weather, and more Closed Circuit Television cameras.

The purpose of this correspondence is to request a current list of federally and state listed threatened, endangered, and candidate species that are known to occur, or that could potentially occur on, or in the vicinity of the USMA. I would also like to know if there are any other sensitive natural resources or ecosystems that should be considered during the development of the EA. For quick reference, the USMA can be found on the United States Geological Survey 7.5 series topographic map for West Point Quadrangle, Orange County, New York. A regional



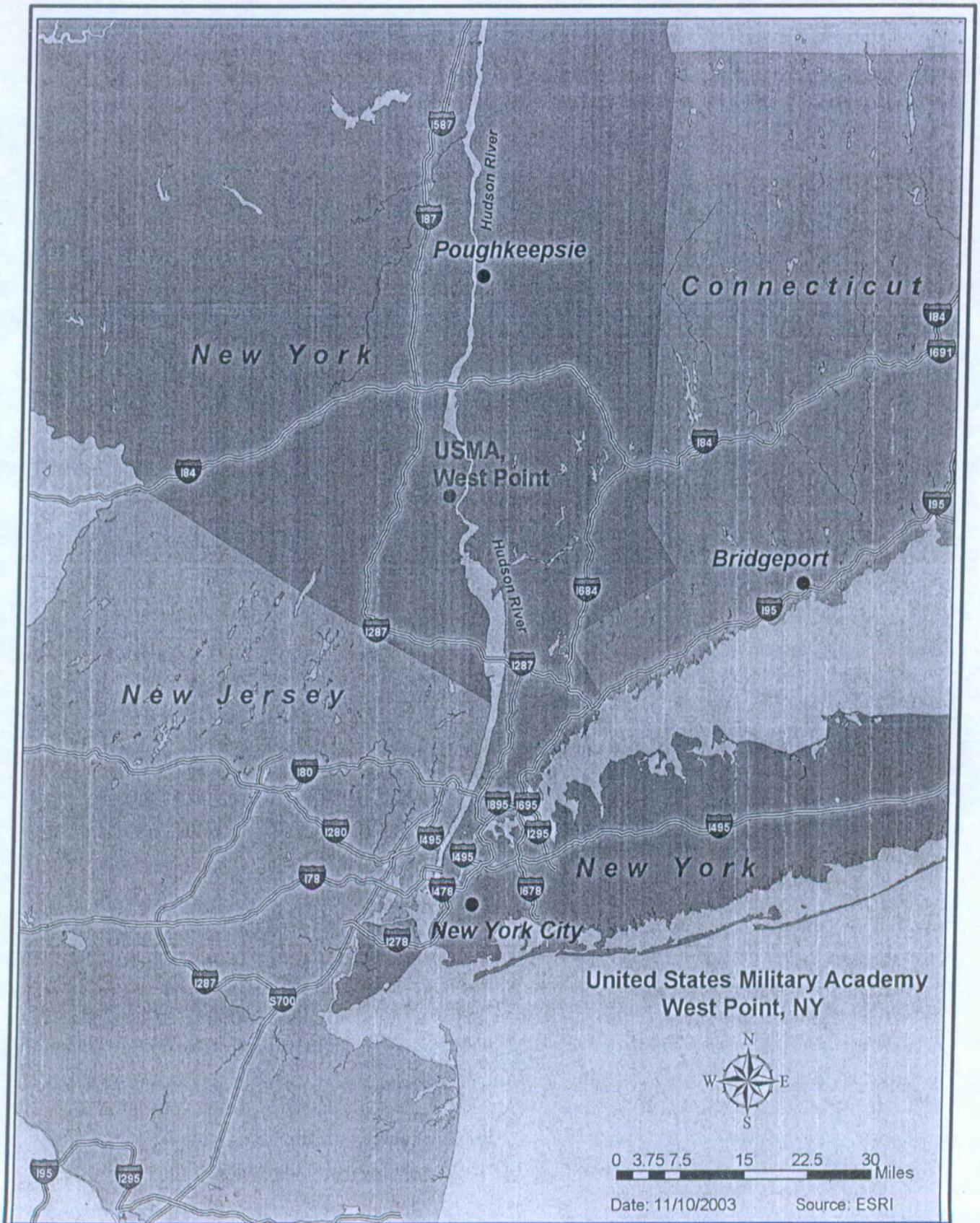
map showing the location of the USMA and a site map showing the area of the proposed access gate security upgrades is enclosed.

If you have any questions or need additional information, I can be reached by phone at (202) 912-0306, by facsimile at (202) 293-0787, or by e-mail at scauley@louisberger.com. Thank you in advance for your assistance.

Sincerely,
The Louis Berger Group, Inc.

Shannon R. Cauley
Senior Scientist

cc: Doug Cubbison, USMA NEPA Coordinator and Cultural Resources Coordinator
Frank Skidmore, Director of Environmental Sciences, The Louis Berger Group, Inc.



Poughkeepsie

Connecticut

New York

USMA,
West Point

Bridgeport

New Jersey

New York

New York City

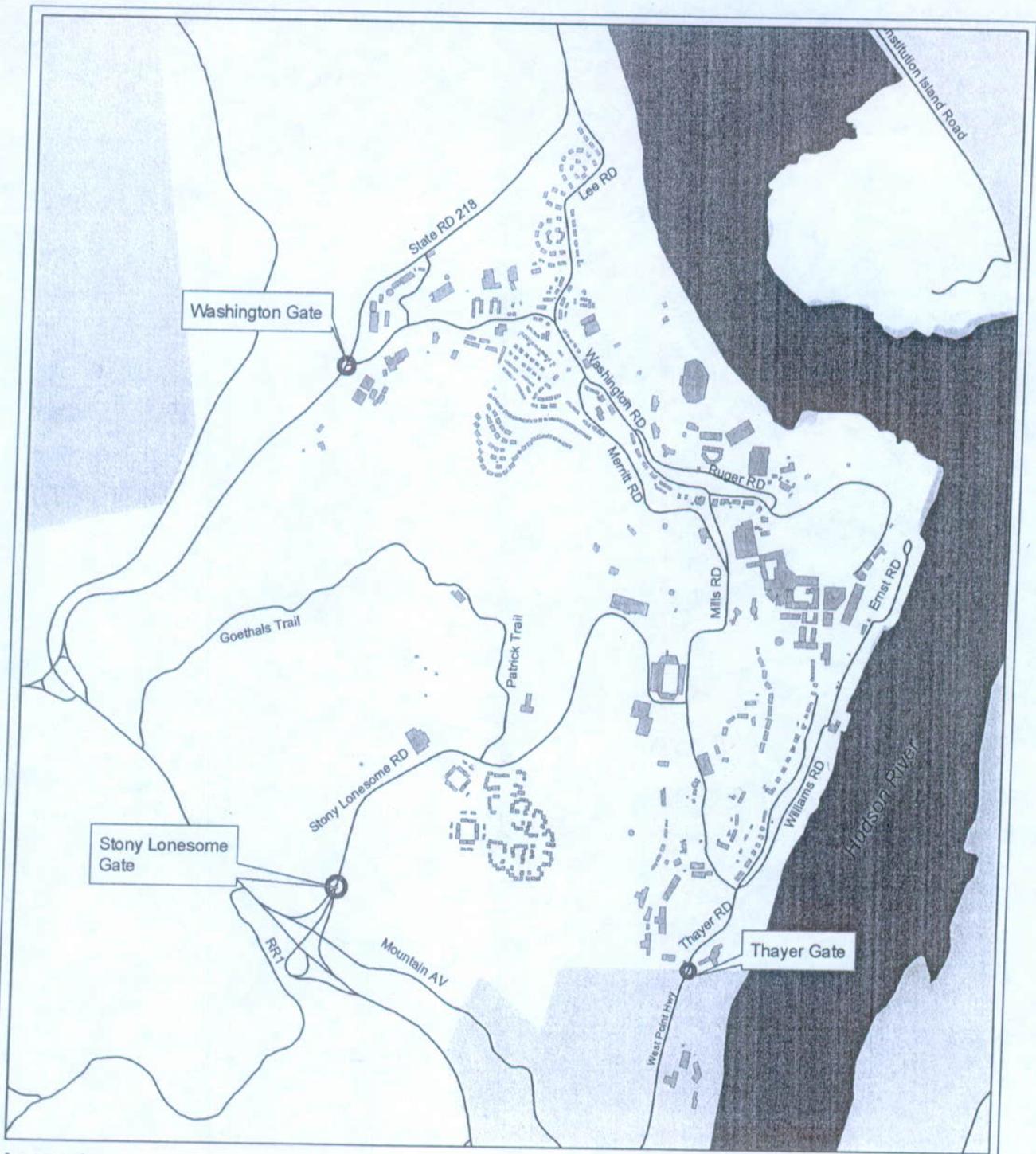
United States Military Academy
West Point, NY



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Date: 11/10/2003

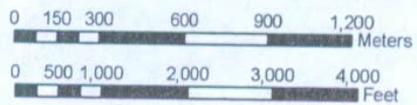
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Legend

-  gates
-  post-facilities
-  gps roads
-  boundary

USMA Installation and Project Areas





THE **Louis Berger Group, INC.**

2300 N Street, NW, Washington, DC 20037 U.S.A.
Tel 202 912 0200 Fax 202 293 0787 www.louisberger.com

November 25, 2003

Mr. Mike Stoll
U.S. Fish and Wildlife Service
New York Field Office
3817 Luker Road
Cortland, New York 13045

Dear Mr. Stoll:

On behalf of the U.S. Military Academy (USMA) at West Point, and in compliance with the National Environmental Policy Act (NEPA), the Louis Berger Group, Inc. is preparing an Environmental Assessment (EA) to determine the potential effects associated with access gate security upgrades at the USMA.

The purpose of the proposed action is for the USMA, through its directorate of Housing and Public Works, to perform security upgrades to the Washington Gate, Stony Lonesome Gate, and Thayer Gate at the USMA, West Point, New York. These upgrades will serve to make the temporary security measures at the installation permanent, creating a more secure post and maintaining the historic nature of the entrance gates, where appropriate. The need for the proposed access gate security upgrades at the USMA results from a Department of Defense (DoD) directive that all military installations provide for enhanced safety and security of residents and critical military facilities. As a result of enhanced security requirements at the USMA, a range of temporary security measures have been implemented at the three USMA access gates, which include Washington Gate, Stony Lonesome Gate, and Thayer Gate. The majority of these security measures are temporary, and include such features as traffic barriers, lighting, security posts, vehicle inspection stations, etc. These enhanced security measures are forecast to continue at the USMA for the foreseeable future. Accordingly, the USMA has decided to install permanent security measures at the three USMA access gates. These security upgrades would include road reconfiguration and widening, traffic control measures such as traffic arms, new signage, and deployable vehicle barrier systems, construction of new guard houses, permanent lighting and canopies to protect soldiers on duty from inclement weather, and more Closed Circuit Television cameras.

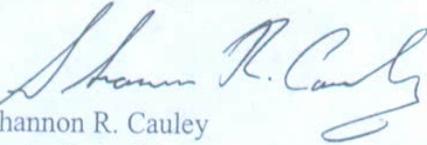
The purpose of this correspondence is to request a current list of federally listed threatened, endangered, and candidate species that are known to occur, or that could potentially occur on, or in the vicinity of the USMA. I would also like to know if there are any other sensitive natural resources or ecosystems that should be considered during the development of the EA. For quick reference, USMA can be found on the United States Geological Survey 7.5 series topographic map for the West Point Quadrangle, Orange County, New York. A regional map showing the



location of the USMA and a site map showing the area of proposed access gate security upgrades is enclosed.

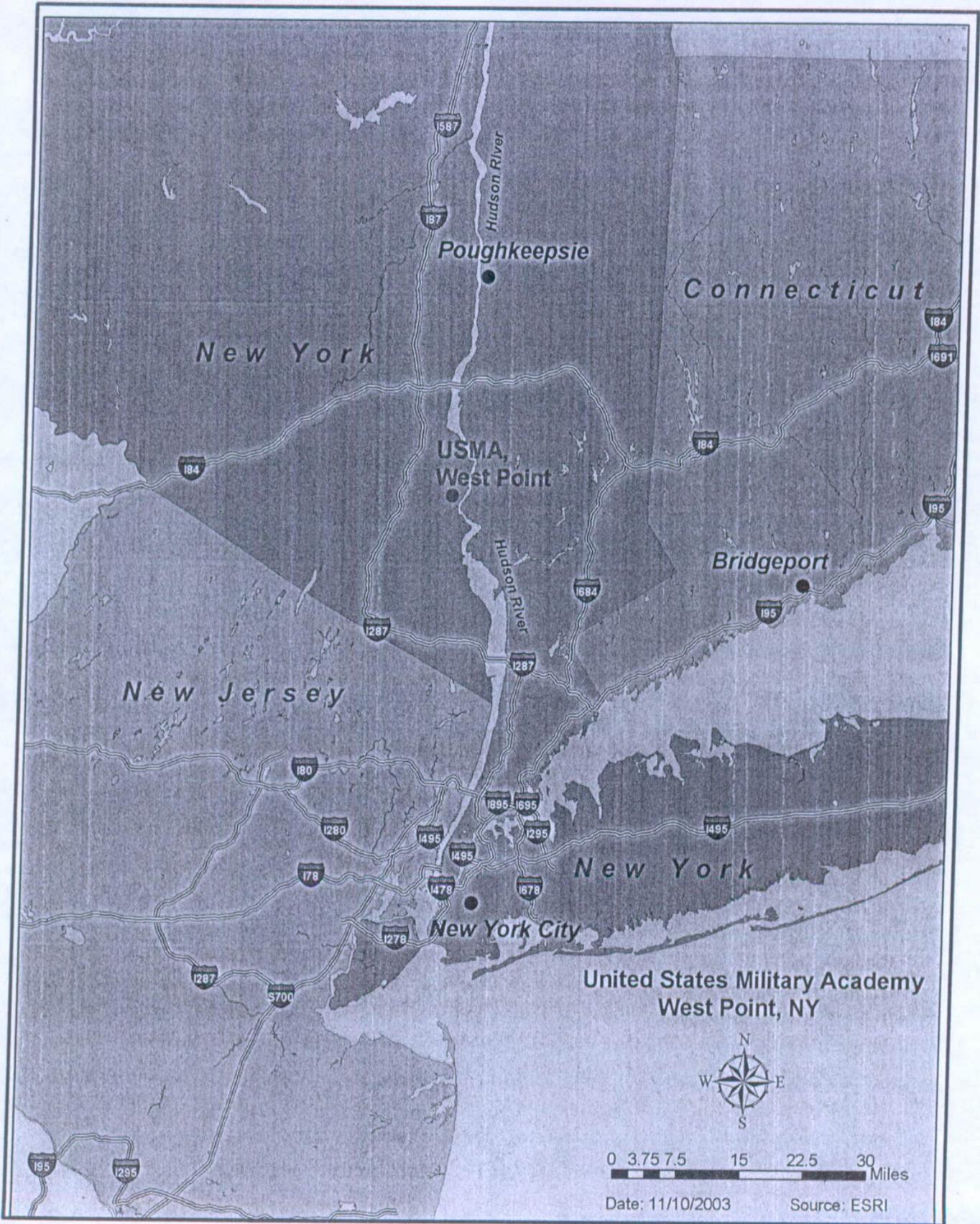
If you have any questions or need additional information, I can be reached by phone at (202) 912-0306, by facsimile at (202) 293-0787, or by e-mail at scauley@louisberger.com. Thank you in advance for your assistance.

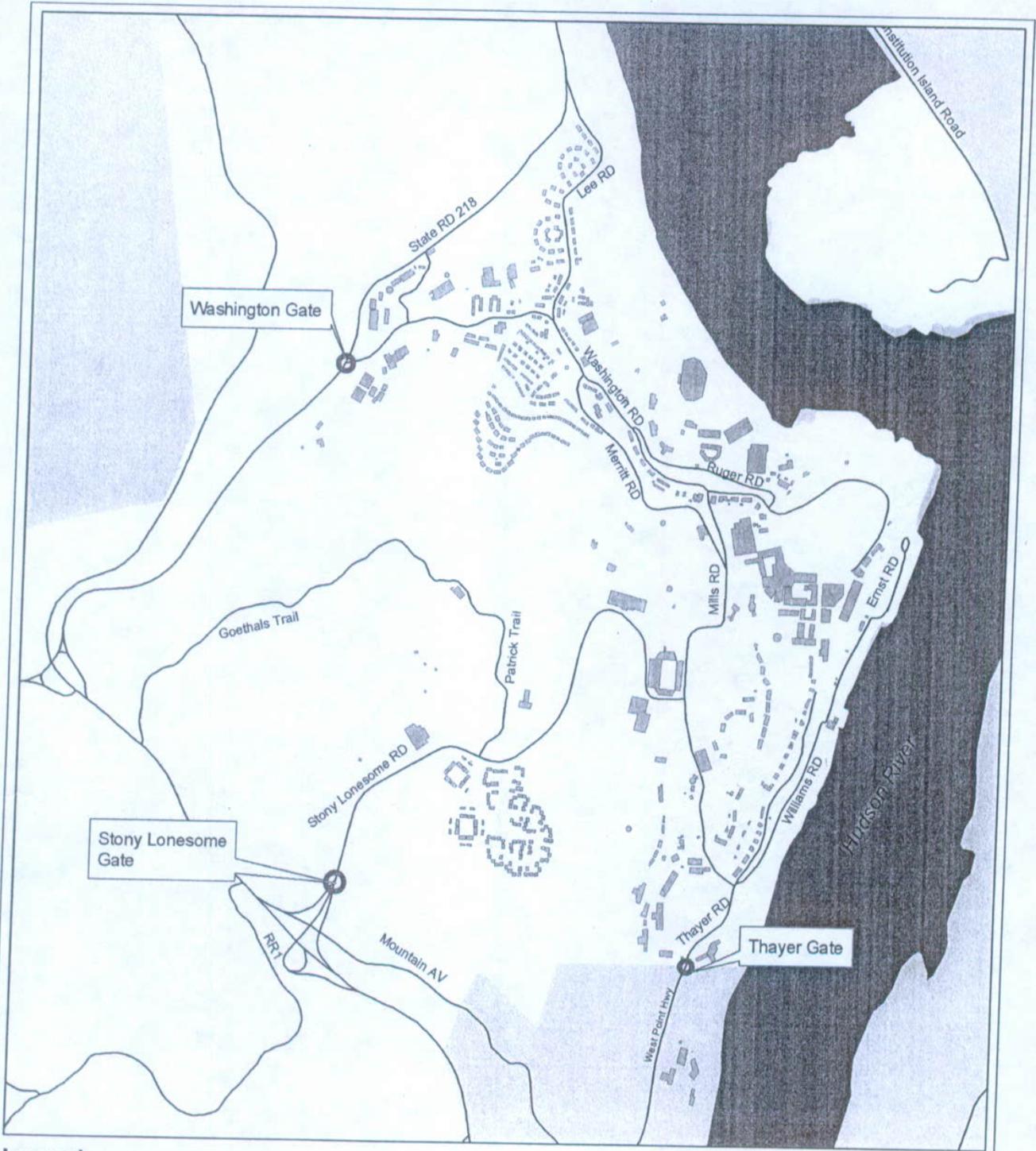
Sincerely,
The Louis Berger Group, Inc.



Shannon R. Cauley
Senior Scientist

cc: Doug Cubbison, USMA NEPA Coordinator and Cultural Resources Coordinator
Frank Skidmore, Director of Environmental Sciences, The Louis Berger Group, Inc.

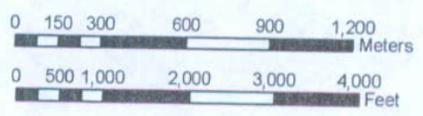


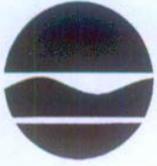


Legend

-  gates
-  post-facilities
-  gps roads
-  boundary

USMA Installation and Project Areas





NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

DIVISION OF FISH, WILDLIFE AND MARINE RESOURCES

WILDLIFE DIVERSITY TEAM

ENDANGERED SPECIES UNIT

625 BROADWAY

ALBANY, NEW YORK 12233

tel: 518-402-8859 fax: 518-402-8925 e-mail: penye@gw.dec.state.ny.us

NYSDEC WEBSITE: <http://www.dec.state.ny.us>



A NOTE FROM THE DESK OF PETE NYE.....

3 Dec '03

TO: Shannon Cautley

Re: West Point Gate upgrades

Rec'd your letter of 25 November. If your work / project involves solely work on and in the immediate vicinity of the 3 gates you mention, we have no concerns regarding E/T species.

You can find a complete list of species at our website (see above).

For details on West Point species, suggest you contact James Beemer at West Point Environmental office @ 845-938-3857.

Peter E. Nye
Wildlife Biologist II
Endangered Species Unit Leader

DIVISION OF ENVIRONMENTAL PERMITS

June 2001

REGION	COUNTIES	REGIONAL PERMIT ADMINISTRATORS
1	Nassau & Suffolk Telephone: (631) 444-0365	John Pavacic NYS-DEC BLDG. 40 SUNY at Stony Brook Stony Brook, NY 11790-2356
2	New York City (Boroughs of Manhattan, Brooklyn, Bronx, Queens, & Staten Island) Telephone: (718) 482-4997	John Cryan NYS-DEC One Hunters Point Plaza 47-40 21st Street Long Island City, NY 11101-5407
3	Dutchess, Orange, Putnam, Rockland, Sullivan, Ulster & Westchester Telephone: (845) 256-3054	Margaret Duke (Peg) NYS-DEC 21 South Putt Corners Road New Paltz, NY 12561-1696
4	Albany, Columbia, Greene, Montgomery, Rensselaer & Schenectady Telephone: (518) 357-2069	William Clarke NYS-DEC 1150 North Wescott Road Schenectady, NY 12306-2014
4 (sub-office)	Delaware, Otsego & Schoharie Telephone: (607) 652-7741	John Feltman NYS-DEC Route 10 HCR#1, Box 3A Stamford, NY 12167-9503
5	Clinton, Essex, Franklin & Hamilton Telephone: (518) 897-1234	Richard Wild NYS-DEC Route 86, PO Box 296 Ray Brook, NY 12977-0296
5 (sub-office)	Fulton, Saratoga, Warren & Washington Telephone: (518) 623-1281	Thomas Hall* NYS-DEC County Route 40 PO Box 220 Warrensburg, NY 12885-0220
6	Jefferson, Lewis & St. Lawrence Telephone: (315) 785-2245	Brian Fenlon NYS-DEC State Office Building 317 Washington Street Watertown, NY 13601-3787
6 (sub-office)	Herkimer & Oneida Telephone: (315) 793-2555	J. Joseph Homburger* NYS-DEC State Office Building 207 Genesee Street Utica, NY 13501-2885

7	Broome, Cayuga, Chenango, Cortland, Madison, Onondaga, Oswego, Tioga & Tompkins	Ralph Manna NYS-DEC 615 Erie Blvd. West (Env. Permits Room 206) Syracuse, NY 13204-2400
7 (sub-office)	Telephone: (315) 426-7438	Michael Barylski* NYS-DEC 1285 Fisher Avenue Cortland, NY 13045-1090
8	Chemung, Genesee, Livingston, Monroe, Ontario, Orleans, Schuyler, Seneca, Steuben, Wayne & Yates	Peter Lent NYS-DEC 6274 East Avon Lima Road Avon, NY 14414-9519
9	Telephone: (716) 226-5390	Steve Doleski NYS-DEC 270 Michigan Avenue Buffalo, NY 14203-2999
9 (sub-office)	Allegany, Cattaraugus, Chautauqua, Erie, Niagara & Wyoming	Ken Taft* NYS-DEC 182 East Union, Suite 3 Allegany, NY 14706-1328
	Telephone: (716) 851-7165	
	Telephone: (716) 372-0645	

* Deputy Regional Permit Administrator

V = Exploitably vulnerable: listed species are likely to become threatened in the near future throughout all or a significant portion of their range within the state if causal factors continue unchecked.
U = Unprotected; no state status.

NEW YORK STATE STATUS (communities): At this time there are no categories defined for communities.

FEDERAL STATUS (plants and animals): The categories of federal status are defined by the United States Department of the Interior as part of the 1974 Endangered Species Act (see Code of Federal Regulations 50 CFR 17). The species listed under this law are enumerated in the Federal Register vol. 50, no. 188, pp. 39526 - 39527.

(blank) = No Federal Endangered Species Act status.

LE = The element is formally listed as endangered.

LT = The element is formally listed as threatened.

E/SA = The element is treated as endangered because of similarity of appearance to other endangered species or subspecies.

PE = The element is proposed as endangered.

PT = The element is proposed as threatened.

C = The element is a candidate for listing.

(LE) = If the element is a full species, all subspecies or varieties are listed as endangered; if the element is a subspecies, the full species is listed as endangered.

(LE-LT) = The species is formally listed as endangered in part of its range, and as threatened in the other part; or, one or more subspecies or varieties is listed as endangered, and the others are listed as threatened.

(LT-C) = The species is formally listed as threatened in part of its range, and as a candidate for listing in the other part; or, one or more subspecies or varieties is listed as threatened, and the others are candidates for listing.

(LT-(T/SA)) = One or more subspecies or populations of the species is formally listed as threatened, and the others are treated as threatened because of similarity of appearance to the listed threatened subspecies or populations.

(PS) = Partial status: the species is listed in parts of its range and not in others; or, one or more subspecies or varieties is listed, while the others are not listed.

GLOBAL AND STATE RANKS (animals, plants, ecological communities and others): Each element has a global and state rank as determined by the NY Natural Heritage Program. These ranks carry no legal weight. The global rank reflects the rarity of the element throughout the world and the state rank reflects the rarity within New York State. Intraspecific taxa are also assigned a taxon rank to reflect the intraspecific taxon's rank throughout the world. ? = Indicates a question exists about the rank. Range ranks, e.g. S1S2, indicate not enough information is available to distinguish between two ranks.

GLOBAL RANK:

G1 = Critically imperiled globally because of extreme rarity (5 or fewer occurrences), or very few remaining acres, or miles of stream) or especially vulnerable to extinction because of some factor of its biology.

G2 = Imperiled globally because of rarity (6 - 20 occurrences, or few remaining acres, or miles of stream) or very vulnerable to extinction throughout its range because of other factors.

G3 = Either rare and local throughout its range (21 to 100 occurrences), or found locally (even abundantly at some of its locations) in a restricted range (e.g. a physiographic region), or vulnerable to extinction throughout its range because of other factors.

G4 = Apparently secure globally, though it may be quite rare in parts of its range, especially at the periphery.

G5 = Demonstrably secure globally, though it may be quite rare in parts of its range, especially at the periphery.

GH = Historically known, with the expectation that it might be rediscovered.

GX = Species believed to be extinct.

STATE RANK:

S1 = Typically 5 or fewer occurrences, very few remaining individuals, acres, or miles of stream, or some factor of its biology making it especially vulnerable in New York State.

S2 = Typically 6 to 20 occurrences, few remaining individuals, acres, or miles of stream, or factors demonstrably making it very vulnerable in New York State.

S3 = Typically 21 to 100 occurrences, limited acreage, or miles of stream in New York State.

S4 = Apparently secure in New York State.

S5 = Demonstrably secure in New York State.

SH = Historically known from New York State, but not seen in the past 15 years.

SX = Apparently extirpated from New York State.

SZ = Present in New York State only as a transient migrant.

SxB and SxN, where Sx is one of the codes above, are used for migratory animals, and refer to the rarity within New York State of the breeding (B) populations and the non-breeding populations (N), respectively, of the species.

TAXON (T) RANK: The T-ranks (T1 - T5) are defined the same way as the Global ranks (G1 - G5), but the T-rank refers only to the rarity of the subspecific taxon.

T1 through T5 = See Global Rank definitions above.

Q = Indicates a question exists whether or not the taxon is a good taxonomic entity.

OFFICE USE: Information for use by the Natural Heritage Program.

USERS GUIDE TO NY NATURAL HERITAGE DATA

NATURAL HERITAGE PROGRAM: The Natural Heritage Program is an ongoing, systematic, scientific inventory whose goal is to compile and maintain data on the rare plants and animals native to New York State, and significant ecological communities. The data provided in the report facilitate sound planning, conservation, and natural resource management and help to conserve the plants, animals and ecological communities that represent New York's natural heritage.

DATA SENSITIVITY: The data provided in the report are ecologically sensitive and should be treated in a sensitive manner. The report is for your in-house use and should not be released, distributed or incorporated in a public document without prior permission from the Natural Heritage Program.

NATURAL HERITAGE REPORTS (may contain any of the following types of data):

COUNTY NAME: County where the occurrence of a rare species or significant ecological community is located.

TOWN NAME: Town where the occurrence of a rare species or significant ecological community is located.

USGS 7 1/2' TOPOGRAPHIC MAP: Name of 7.5 minute US Geological Survey (USGS) quadrangle map (scale 1:24,000).

SIZE (acres): Approximate acres occupied by the rare species or significant ecological community at this location. A blank indicates unknown size.

SCIENTIFIC NAME: Scientific name of the occurrence of a rare species or significant ecological community.

COMMON NAME: Common name of the occurrence of a rare species or significant ecological community.

ELEMENT TYPE: Type of element (i.e. plant, animal, significant ecological community, other, etc.)

LAST SEEN: Year rare species or significant ecological community last observed extant at this location.

EO RANK: Comparative evaluation summarizing the quality, condition, viability and defensibility of this occurrence. Use with LAST SEEN.

A-E = Extant: A=excellent, B=good, C=marginal, D=poor, E=extant but with insufficient data to assign a rank of A - D.

F = Failed to find. Did not locate species, but habitat is still there and further field work is justified.

H = Historical. Historical occurrence without any recent field information.

X = Extirpated. Field/other data indicates element/habitat is destroyed and the element no longer exists at this location.

? = Unknown.

Blank = Not assigned.

NEW YORK STATE STATUS (animals): Categories of Endangered and Threatened species are defined in New York State Environmental Conservation Law section 11-0535. Endangered, Threatened, and Special Concern species are listed in regulation 6NYCRR 182.5.

E = Endangered Species: any species which meet one of the following criteria:

1) Any native species in imminent danger of extirpation or extinction in New York.

2) Any species listed as endangered by the United States Department of the Interior, as enumerated in the Code of Federal Regulations 50 CFR 17.11.

T = Threatened Species: any species which meet one of the following criteria:

1) Any native species likely to become an endangered species within the foreseeable future in NY.

2) Any species listed as threatened by the U.S. Department of the Interior, as enumerated in the Code of the Federal Regulations 50 CFR 17.11.

SC = Special Concern Species: those species which are not yet recognized as endangered or threatened, but for which documented concern exists for their continued welfare in New York. Unlike the first two categories, species of special concern receive no additional legal protection under Environmental Conservation Law section 11-0535 (Endangered and Threatened Species).

P = Protected Wildlife (defined in Environmental Conservation Law section 11-0103): wild game, protected wild birds, and endangered species of wildlife.

U = Unprotected (defined in Environmental Conservation Law section 11-0103): the species may be taken at any time without limit; however a license to take may be required.

G = Game (defined in Environmental Conservation Law section 11-0103): any of a variety of big game or small game species as stated in the Environmental Conservation Law, many normally have an open season for at least part of the year, and are protected at other times.

NEW YORK STATE STATUS (plants): The following categories are defined in regulation 6NYCRR part 193.3 and apply to NYS Environmental Conservation Law section 9-1503.

E = Endangered Species: listed species are those with:

1) 5 or fewer extant sites, or

2) fewer than 1,000 individuals, or

3) restricted to fewer than 4 U.S.G.S. 7 1/2 minute topographical maps, or

4) species listed as endangered by U.S. Department of Interior, as enumerated in Code of Federal Regulations 50 CFR 17.11.

T = Threatened: listed species are those with:

1) 6 to fewer than 20 extant sites, or

2) 1,000 to fewer than 3,000 individuals, or

3) restricted to not less than 4 or more than 7 U.S.G.S. 7 and 1/2 minute topographical maps, or

4) listed as threatened by U.S. Department of Interior, as enumerated in Code of Federal Regulations 50 CFR 17.11.

R = Rare: listed species have:

1) 20 to 35 extant sites, or

2) 3,000 to 5,000 individuals statewide.



United States Department of the Interior



FISH AND WILDLIFE SERVICE

3817 Luker Road
Cortland, NY 13045

December 17, 2003

Ms. Shannon R. Cauley
Senior Scientist
The Louis Berger Group, Inc.
2300 N Street, NW
Washington, DC 20037

Dear Ms. Cauley:

This responds to your letter of November 25, 2003, requesting information on the presence of Federally listed or proposed endangered or threatened species in the vicinity of the proposed improvements to gate security at the Stony Lonesome Gate, Thayer Gate, and Washington Gate of the U.S. Military Academy at West Point in the Town of Highland, Orange County, New York.

Except for occasional transient individuals, no Federally listed or proposed endangered or threatened species under our jurisdiction are known to exist in the project impact area. In addition, no habitat in the project impact area is currently designated or proposed "critical habitat" in accordance with provisions of the Endangered Species Act (87 Stat. 884, as amended; 16 U.S.C. 1531 et seq.). Therefore, no further Endangered Species Act coordination or consultation with the U.S. Fish and Wildlife Service (Service) is required. Should project plans change, or if additional information on listed or proposed species or critical habitat becomes available, this determination may be reconsidered. The most recent compilation of Federally listed and proposed endangered and threatened species in New York* is available for your information.

The above comments pertaining to endangered species under our jurisdiction are provided pursuant to the Endangered Species Act. This response does not preclude additional Service comments under other legislation.

For additional information on fish and wildlife resources or State-listed species, we suggest you contact the appropriate New York State Department of Environmental Conservation regional office(s),* and:

New York State Department of Environmental Conservation
New York Natural Heritage Program Information Services
625 Broadway
Albany, NY 12233-4757
(518) 402-8935

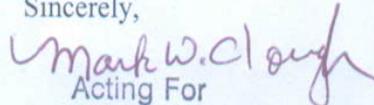
Since wetlands may be present, you are advised that National Wetlands Inventory (NWI) maps may or may not be available for the project area. However, while the NWI maps are reasonably accurate, they should not be used in lieu of field surveys for determining the presence of wetlands or delineating wetland boundaries for Federal regulatory purposes. Copies of specific NWI maps can be obtained from:

Cornell Institute for Resource Information Systems
302 Rice Hall
Cornell University
Ithaca, NY 14853
(607) 255-4864

Work in certain waters of the United States, including wetlands, may require a permit from the U.S. Army Corps of Engineers (Corps). If a permit is required, in reviewing the application pursuant to the Fish and Wildlife Coordination Act, the Service may concur, with or without recommending additional permit conditions, or recommend denial of the permit depending upon potential adverse impacts on fish and wildlife resources associated with project construction or implementation. The need for a Corps permit may be determined by contacting the appropriate Corps office(s).*

If you require additional information or assistance please contact Michael Stoll at (607) 753-9334.

Sincerely,


Acting For

David A. Stilwell
Field Supervisor

*Additional information referred to above may be found on our website at:
<http://nyfo.fws.gov/es/esdesc.htm>.

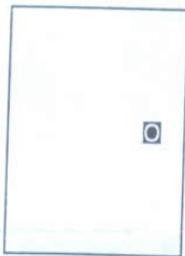
cc: NYSDEC, New Paltz, NY (Environmental Permits)
NYSDEC, Albany, NY (Natural Heritage Program)
COE, New York, NY

U.S. Fish and Wildlife Service
New York Field Office
3817 Luker Road
Cortland, NY 13045

To provide a timely response to future requests for endangered species comments in New York, please include the following in future inquiries:

1. A concise brief description of the project/action.
2. Name of the hamlet/village/city/town/county where the project/action occurs.
3. The latitude and longitude of the project/action, i.e.: 42° 13' 28" / 76° 56' 30". If the project/action is linear, you may provide coordinates for both ends or just one near center.
4. A map showing the project/action location. Preferrably the map should be a U.S. Geological Survey quadrangle map (USGS Quad). You need only provide a copy of that portion where the project/action occurs. Please provide the name(s) of the USGS quadrangle.

If providing only a portion, indicate where the portion would be located on the full quadrangle, i.e.



Providing the information above will assist us in responding to your needs.

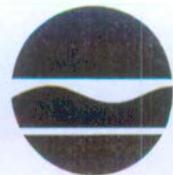
If you require additional information please contact Michael Stoll at (607) 753-9334.

New York State Department of Environmental Conservation
Division of Fish, Wildlife & Marine Resources
New York Natural Heritage Program

625 Broadway, 5th floor, Albany, New York 12233-4757

Phone: (518) 402-8935 • FAX: (518) 402-8925

Website: www.dec.state.ny.



Erin M. Crotty
Commissioner

January 8, 2004

Shannon R Cauley
Louis Berger Group, Inc
2300 N Street, NW
Washington, DC 20037

Dear Ms. Cauley:

In response to your recent request, we have reviewed the New York Natural Heritage Program database with respect to an Environmental Assessment for the proposed Security Upgrades for the U.S. Military Academy at West Point - 3 Gates, Washington Gate, Stony Lonesome Gate and Thayer Gate, sites as indicated on the map you provided, located in the Town of Highlands, Orange County.

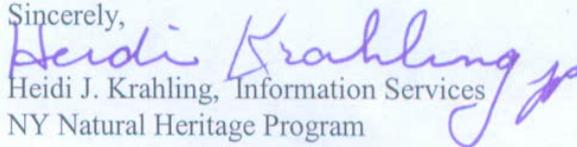
Enclosed is a report of rare or state-listed animals and plants, significant natural communities, and other significant habitats, which our databases indicate occur, or may occur, on your site or in the immediate vicinity of your site. The information contained in this report is considered sensitive and may not be released to the public without permission from the New York Natural Heritage Program.

The presence of rare species may result in this project requiring additional permits, permit conditions, or review. For further guidance, and for information regarding other permits that may be required under state law for regulated areas or activities (e.g., regulated wetlands), please contact the appropriate NYS DEC Regional Office, Division of Environmental Permits, at the enclosed address.

For most sites, comprehensive field surveys have not been conducted; the enclosed report only includes records from our databases. We cannot provide a definitive statement on the presence or absence of all rare or state-listed species or significant natural communities. This information should not be substituted for on-site surveys that may be required for environmental impact assessment.

Our databases are continually growing as records are added and updated. If this proposed project is still under development one year from now, we recommend that you contact us again so that we may update this response with the most current information.

Sincerely,


Heidi J. Krahling, Information Services
NY Natural Heritage Program

Encs.

cc: Reg. 3, Wildlife Mgr.
Peter Nye, Endangered Species Unit, Albany



DEPARTMENT OF THE ARMY
UNITED STATES MILITARY ACADEMY

West Point, New York 10996

December 1, 2003

REPLY TO
ATTENTION OF

Directorate of Housing and Public Works

Subject: Consistency Determination, Access Gate Security Upgrades, U.S. Military Academy at West Point, Orange County, New York

Mr. Bill Feldhusen, Supervisor of Consistency
Division of Coastal Resources
Department of State
41 State Street
Albany, New York 12231

Dear Mr. Feldhusen:

This letter provides the New York State Coastal Management Program (CMP) with the U.S. Military Academy's (USMA) Consistency Determination under the Coastal Zone Management Act (CSMA) Section 307 (c) (1) and (2), and 15 CFR 930.30-930.46, for proposed access gate security upgrades at the USMA, Orange County, New York.

Prior to September 11, 2003, the USMA was an open facility. Due to the events of September 11, the USMA became a closed facility and temporary security measures were implemented to achieve a secure campus. Prior to this time, the USMA was accessible by four gates: Lee Gate, Washington Gate, Stony Lonesome Gate, and Thayer Gate. As part of the enhanced security measures, Lee Gate was closed and temporary security measures were implemented at Washington Gate, Stony Lonesome Gate, and Thayer Gate. These measures include the addition of traffic barriers, lighting, security posts, and vehicle inspection stations. These enhanced security measures are forecast to continue at USMA for the foreseeable future. To accommodate this, the USMA has decided to install permanent security measures at Washington Gate, Stony Lonesome Gate, and Thayer Gate. These upgrades will serve to make the temporary security measures at the installation permanent, maintaining a secure post and the historic nature of the entrance gates, where appropriate.

A full description of the proposed action is presented in Attachment A of this document.

An Environmental Assessment has been prepared for this project in accordance with the National Environmental Policy Act (NEPA) and implementing regulations. The USMA has determined that these access gate security upgrades would not have a significant effect upon the land, water, and natural or cultural resources of New York.

The New York State CMP contains the following policies that are directly applicable to the proposed action:

- Significant Coastal Fish and Wildlife Habitats will be Protected, Preserved and Restored (Policy No. 7);
- Erosion Protection Structures 30-year Design (Policy No. 13);
- No Measurable Increase in Erosion or Flooding (Policy No. 14);
- Proposed major actions in the coastal area must give full consideration to those interests, and to the safeguards which the state has established to protect valuable coastal resource areas (Policy No. 18);
- Historic and Scenic Resources (Policy No. 23);
- Scenic Resources of Statewide Significance (Policy No. 24);
- Resources which Contribute to the Overall Scenic Quality (Policy No. 25);
- Stormwater Best Management Practices (Policy No. 33);
- Non-Point Discharge Best Management Practices (Policy No. 37);
- Transport, Storage, Treatment and Disposal of Solid Wastes, Particularly Hazardous Wastes (Policy No. 39);
- and
- National or State Air Quality Standards (Policy No. 41).

Each of these policies is addressed in detail in Attachment B of this document. A series of maps and detailed sheets are contained in Attachment C, and include:

- Regional Location Map;
- Project Location Map; and

▪Concept Design Drawings.

Based upon the following information, data, and analysis the USMA finds that the proposed access gate security upgrades are consistent, to the maximum extent practicable, with the enforceable policies of the New York State CMP.

Pursuant to 15 CFR 930.41, the New York State CMP has 60 days from the receipt of this letter in which to concur with, or object to, this Consistency Determination, or to request an extension under 15 CFR 930.41 (b). The NYSCMP's concurrence will be presumed if a response is not received by the USMA on the 60th day from receipt of this document (on or about January 30, 2003). The New York State CMP's response should be sent to:

Douglas R. Cubbison
Acting NEPA Coordinator
U.S. Military Academy
Directorate of Housing & Public Works (EP&SD)
Building 667 Ruger Road
West Point NY 10996
(845) 938-3522
Fax (845) 938-2529
Cell (914) 805-9269
E-mail: yd5777@exmail.usma.army.mil.

The USMA appreciates your cooperation.

Respectfully Submitted;

Douglas R. Cubbison
Acting NEPA Coordinator
U.S. Military Academy

Attachments

ATTACHMENT A
PROPOSED ACTION

DESCRIPTION OF PROPOSED ACTION SHORELINE MAINTENANCE ACTIVITIES AT CONSTITUTION ISLAND

Summary

As a result of enhanced security requirements at the USMA, a range of temporary security measures have been implemented at the three USMA access gates, which include Washington Gate, Stony Lonesome Gate, and Thayer Gate. The majority of these security measures are temporary, and include such features as traffic barriers, lighting, security posts, vehicle inspection stations, etc. These enhanced security measures are forecast to continue at the USMA for the foreseeable future. Accordingly, the USMA has decided to install permanent security measures at the three USMA access gates. The proposed action would implement permanent security measures at Washington Gate, Stony Lonesome Gate, and Thayer Gate. Needed improvements identified at each gate include:

- Washington Gate – Improvements at Washington Gate would include the addition of new traffic lanes that would greatly widen the existing configuration. Other roadway improvements would include traffic control measures such as traffic arms, new signage, and deployable vehicle barrier systems. In addition to the roadway improvements, a new sentry house would be constructed, permanent lighting and canopies to protect soldiers on duty from inclement weather would be added, and more Closed Circuit Television (CCTV) cameras would be added at the gate. The existing gatehouse and restroom, both of which are considered to be historic structures, would be retained.
- Stony Lonesome Gate – The greatest amount of construction and improvements would occur at Stony Lonesome Gate. Improvements at Stony Lonesome Gate would include the addition of new traffic lanes that would greatly widen the existing configuration as well as alter the entire appearance of the gate. Other roadway improvements would include traffic control measures such as traffic arms, new signage, and deployable vehicle barrier systems. Associated construction that would occur includes a security vehicle parking area, truck inspection area, and a 20,000 square foot Visitor Control Building with adjacent parking. These construction projects would result in a large amount of ground disturbance and rock removal. In addition to these improvements, permanent lighting and canopies to protect soldiers on duty from inclement weather would be added and more CCTV cameras would be added at the gate. The existing gatehouse, which is not considered to be a historic structure, would be retained.
- Thayer Gate – Access gate security improvements at the Thayer Gate would include the reconfiguration and addition of traffic lanes along Thayer Road entering the USMA. The new traffic pattern would also include limited access to the Thayer Hotel, the addition of permanent traffic control measures along Thayer Road, some reduction in the extent of parking along Thayer Road, and traffic control measures such as traffic arms, new signage, and deployable vehicle barrier systems. These improvements would require the removal of landscape vegetation, including trees, and the sidewalk for a limited distance along Thayer Road. In addition to these improvements, permanent lighting and canopies to protect soldiers on duty from inclement weather and more CCTV cameras would be added at the gate. The existing Thayer Gatehouse and associated buildings, which are considered contributing structures to the USMA National Historic Landmark District (NHL), would be retained, and external views of Thayer Gate from Highland Falls and South Post would not be altered.

The alternatives evaluated consider various methods of achieving the above stated improvements under the Proposed Action.

Alternatives

Under the proposed action, security access upgrades would be completed at the USMA. The proposed action alternative for each gate and the design alternative(s) consider different ways to accomplish the proposed security improvements for these areas. Design concepts under each alternative are preliminary and represent the greatest amount of disturbance that would occur on the site. For the impact analysis under all alternatives, it was assumed that each lane of roadway would be 12 feet (3.6 meters) wide, with 6 feet (1.8 meters) of paved shoulders on each side. For parking, it was assumed that each parking space would require approximately 400 square feet (37 square meters).

Washington Gate Proposed Action Alternative

Washington Gate, which was constructed in 1942, is currently composed of two stone gateposts, a guard booth, and restroom. All of these structures are contributing to the USMA NHL. Traffic currently entering through this gate includes solely DoD vehicles. This condition is expected to continue under this alternative. Construction under this alternative would mostly occur in existing space, but would require some widening of the roadway, as well as construction of a bypass between Reynolds Road and the Washington Gate entrance road.

Under this alternative, the entrance would be reconfigured to provide two entrance lanes that are separated from the two exit lanes by a median containing the existing guard booth and landscaping. A new guard booth would be constructed where Reynolds Road divides from the entrance road. Traffic entering the post would separate onto Reynolds Road, and then turn left onto a newly constructed bypass that would link Reynolds Road and the Washington Gate entrance road. This bypass would provide two lanes for vehicles being checked into the post, as well as a vehicle inspection area. The bypass is located in a historic roadway.

New security features at Washington Gate would include fixed and retractable bollards, use of large rocks in place of bollards, and speed control tables. This design would also include parking for guards and police in the median separating the incoming and outgoing traffic. Other features of this proposed design include the addition of a sidewalk to allow pedestrian access from the Highway 218 bus stop, a possible bus stop on Reynolds Road to eliminate staff having to cross Highway 218, a vehicle overrun area located on the entrance road, traffic control measures such as new signage and deployable vehicle barrier systems, permanent lighting, canopies to protect soldiers on duty from inclement weather, and CCTV cameras. Both the historic guard house and restroom building would remain in tact under this alternative.

Washington Gate Guardhouse Relocation Alternative

Washington Gate is currently composed of two stone gateposts, a guard booth, and restroom. All of these structures are contributing to the USMA NHL. Traffic currently entering through this gate includes solely DoD vehicles. This condition is expected to continue under this alternative. Under this alternative, the existing guard booth and gate posts would be relocated to accommodate the new guard booth. The exact location of the old guard booth would be determined when an adaptive re-use for this building had been decided. The new guard booth, which would be located further into the USMA boundary than the present structure, would allow for longer queuing of vehicles between the public highway and the guard booth structure. The new guard booth would be approximately 15 feet (4.6 meter) wide with a four foot (1.2 meters), six inch (0.21 meter) walkway on either side of the booth, for total width of 24 feet (7.3 meters). The guard booth would also include a canopy to protect soldiers in inclement weather. This canopy would allow for a 15-foot (4.6 meter) clearance at the guard booth. Vehicles entering the facility would enter through a single 12-foot (3.7 meter) wide lane and would exit through a similar 12-foot (3.7 meter) lane on the opposite side of the guard booth structure.

This alternative would include similar features as the Washington Gate Proposed Action Alternative such as traffic control measures and security features, including permanent and retractable bollards, new signage, deployable vehicle barrier systems, permanent lighting, canopies to protect soldiers on duty from inclement weather, and CCTV cameras.

Stony Lonesome Gate Proposed Action Alternative

The Stony Lonesome Gate was constructed in the 1950s and is not considered a historic structure. Currently, all truck traffic entering the USMA is supposed to enter through Stony Lonesome Gate, but occasionally trucks enter through other gates. Under this alternative, all truck traffic entering the USMA must enter through Stony Lonesome Gate.

This alternative would require the realignment of the roadway and expansion of the gate area to the east. The entrance to Stony Lonesome Road would be expanded to a two-lane roadway, with each lane being 12 feet (3.7 meter) wide. The traffic entering post would be separated from traffic leaving the post by a barrier of retractable bollards and large rocks. A new guard booth would be constructed on Stony Lonesome Road where vehicles would initially stop before entering the USMA. At this check point, two potential paths for vehicles entering the post would be available. DoD vehicles allowed on post without inspection would continue straight on Stony Lonesome Road to enter the USMA. Those vehicles requiring registration prior to entering would turn right into a vehicle inspection area. The vehicle inspection area would consist of a second guard booth, two lanes for cars, one lane for trucks, and the installation of a truck X-ray device. Guard parking would also be located in this area. The establishment of the new inspection area would require placing a new culvert in an existing stream and the relocation of the Post Exchange access road to the north.

Security features under this alternative include retractable and permanent bollards, a W-beam guide rail along the eastern side of Stony Lonesome Road, new signage, and large rocks as barriers. Other features of this proposed design include traffic control measures such as new signage, deployable vehicle barrier systems, permanent lighting, canopies to protect soldiers on duty from inclement weather, and CCTV cameras.

Stony Lonesome Gate Expanded Design Alternative

The Stony Lonesome Gate was constructed in the 1950s and is not considered a historic structure. Currently, all truck traffic entering the USMA is supposed to enter through Stony Lonesome Gate, but occasionally trucks enter through other gates. Under this alternative, all truck traffic entering the USMA must enter through Stony Lonesome Gate.

As under the Stony Lonesome Gate Proposed Action Alternative, this alternative would require the realignment of the roadway and expansion of the gate area to the east; however, this would be achieved through an alternate alignment and the development of additional USMA land to the west of the existing entrance roadway. Stony Lonesome Road entering the post would remain a one-lane road, with a new guard booth where vehicles would initially stop before entering the USMA. At this check point, two potential paths for vehicles entering the post would be available. DoD vehicles allowed on post without inspection would continue straight on Stony Lonesome Road to enter the USMA. Those vehicles that need to register before entering would turn right into the vehicle X-ray area, which would be approximately two lanes wide. Parking for USMA guards would also be provided in this area.

The establishment of the X-ray area would require a new culvert in an existing stream and the relocation of the Post Exchange access road to the north. The X-ray area would take up less right-of-way than the inspection area under the Stony Lonesome Proposed Action Alternative, but would only be used for X-ray inspection and not detailed vehicle inspection. Vehicles leaving the X-ray inspection area would either make a right onto Stony Lonesome Road, or be directed to the east side of Stony Lonesome Road into a detailed vehicle inspection facility, which would be two lanes wide. Once a vehicle had been inspected, it would make a left back onto Stony Lonesome Road to enter the USMA. A secondary guard booth would be constructed to the north of the primary guard booth, just before vehicles enter the post. Security features under this alternative include retractable and permanent bollards, a W-beam guide rail along the eastern side of Stony Lonesome Road, new signage, and large rocks as barriers. Other aspects of this proposed design include traffic control measures such as new signage, deployable vehicle barrier systems, permanent lighting, canopies to protect soldiers on duty from inclement weather, and CCTV cameras. This alternative would require greater excavation than the Stony Lonesome Proposed Action Alternative, and would require a retaining wall, which would not be required under the Stony Lonesome Proposed Action Alternative.

Thayer Gate Proposed Action – Thayer Road Alternative

The Thayer Gate and surrounding features, such as Buffalo Soldier Field, are considered contributing elements to the USMA NHL. The security access upgrades at Thayer Gate would involve the retention of the existing guard house, which is considered a historic structure. The roadway entering the facility would be widened and reconfigured, which would require the removal of approximately 150 parking spaces currently located across the entrance road from the Thayer Hotel. The existing entrance road would be realigned to consist of a divided roadway. East of the dividing median would be two lanes, one ingress and one egress, as well as the addition of approximately 40 parking spaces along the roadway. To the west of the median, a three-lane roadway would be added consisting of two northbound lanes for traffic entering the USMA and one southbound lane for those exiting. The two lanes of traffic entering the USMA would be divided by a small median, and a new guard booth would be located on this median. One lane of traffic would serve visitors who do not require the formal check in process, such as DoD vehicles. The other lane would include parking spaces for vehicle checks and would be the entrance for all visitors who need to check in. These two lanes of traffic would merge together after the check point where visitors would enter the USMA. The addition of these lanes would require the use of a small portion of Buffalo Soldier Field. To account for using a portion of the field, two of the five existing ball fields would be relocated to the west of their existing location with the associated relocation of the ball field fence. These improvements would require the removal of landscape vegetation, including trees, and sidewalk along Thayer Road. Security features under this alternative include retractable and permanent bollards, new signage, and concrete barriers. Other features of this proposed design include traffic control measures such as new signage, deployable vehicle barrier systems, permanent lighting, canopies to protect soldiers on duty from inclement weather, and CCTV cameras. The existing Thayer Gatehouse and associated buildings, which are considered contributing structures to the USMA NHL, would be retained, and external views of Thayer Gate from Highland Falls and South Post would not be altered.

Thayer Gate – Swift Road Alternative

The Thayer Gate and surrounding features, such as Buffalo Soldier Field, are considered contributing elements to the USMA NHL. The security access upgrades at Thayer Gate would involve the retention of the existing guard house, which is considered a historic structure. Under this alternative, all traffic entering the USMA at Thayer Gate would not use the current entrance road, but would turn off to the left onto Swift Road. Swift Road would be widened and realigned to serve as the new Thayer Gate entrance road. Swift Road would be reconstructed to include a three-lane roadway, consisting of two northbound lanes for traffic entering the USMA and one southbound lane for those exiting. The two lanes of traffic entering the USMA would become divided, with a small median and a new guard booth located on the median. One lane of traffic would serve visitors who do not need to go through the formal check in process, such as DoD vehicles. The other lane would include parking spaces for vehicle checks and would be the entrance for visitors needing to check in. Vehicles in the inspection area would merge back into the main traffic stream before entering the facility. The addition of these lanes would require the use of a small portion of Buffalo Soldier Field, as well as the removal of approximately 40 parking spaces that are located to the west of Buffalo Soldier Field. To account for using a portion of the field, two of the five existing ball fields would need to be relocated to the east of their existing location with the associated relocation of the ball field fence, and approximately 40 parking spaces would be added to the existing entrance roadway, to the north of the Thayer Hotel. These improvements would require the removal of landscape vegetation, including trees, and sidewalk along Thayer Road.

Security features under this alternative include retractable and permanent bollards, new signage, and concrete barriers. Other aspects of this proposed design include traffic control measures such as new signage, deployable vehicle barrier systems, permanent lighting, canopies to protect soldiers on duty from inclement weather, and CCTV cameras. The existing Thayer Gatehouse and associated buildings, which are considered contributing structures to the USMA NHL, would be retained and external views of Thayer Gate from Highland Falls and South Post would not be altered.

Thayer Gate – Roundabout Alternative

The Thayer Gate and surrounding features, such as Buffalo Soldier Field, are considered contributing elements to the USMA NHL. The security access upgrades at Thayer Gate would involve the retention of the existing guard house, which is considered a historic structure. Under this alternative, the existing entrance road would be realigned to accommodate traffic entering and exiting the facility. Part of the realignment would include the construction of a traffic roundabout in the southern portion.

of Buffalo Soldier Field. Two lanes of traffic would enter the installation and stop at the location of a new guard booth. Those vehicles requiring inspection would pull off to a three-lane area to the west of the roadway. Once the inspection was complete, the vehicle would proceed to the roundabout, where they would enter the installation or continue on the circle to exit the installation. The new alignment would also include one lane of traffic, located off of the roundabout, exiting the facility. A secondary guard booth would be located to the north of the roundabout. This alternative would require the removal of approximately 150 parking spaces currently located across the entrance road from the Thayer Hotel. These improvements would require the removal of landscape vegetation, including trees, and sidewalk along Thayer Road.

Security features under this alternative include retractable and permanent bollards, new signage, and large rocks as barriers. Other aspects of this proposed design include traffic control measures such as new signage, deployable vehicle barrier systems, permanent lighting, canopies to protect soldiers on duty from inclement weather, and CCTV cameras. The existing Thayer Gatehouse and associated buildings, which are considered contributing structures to the USMA NHL, would be retained and external views of Thayer Gate from Highland Falls and South Post would not be altered.

ATTACHMENT B
COASTAL POLICIES

**STATE COASTAL POLICIES CONSISTENCY
ACCESS GATE SECURITY UPGRADES, USMA, WEST POINT**

Significant Coastal Fish and Wildlife Habitats will be Protected, Preserved, and Where Practicable, Restored (Policy No. 7)

The proposed action would include construction activities at the three USMA access gates that would involve roadway widening and realignment, addition of parking spaces, and construction of new guardhouses. These construction activities would involve ground disturbance of over one acre (0.40 hectares) in the Thayer Gate and Stony Lonesome Gate areas, which would result in an increase erosion and stormwater runoff during the 6 month construction period at each gate. To minimize the amount and velocity of runoff, appropriate erosion, sedimentation, and stormwater best management practices (BMPs) would be implemented where appropriate. The BMPs would be consistent with the New York State Stormwater Design Manual. Furthermore, since this project would include over one acre (0.40 hectares) of disturbance at Stony Lonesome Gate and Thayer Gate, a New York State Department of Environmental Conservation (NYS DEC) Construction Activity State Pollution Discharge Elimination System (SPDES) Permit would be required including a Stormwater Pollution Prevention Plan (SWPPP) and Erosion and Sediment Control Plan. The proposed action also includes the culverting of Stony Lonesome Brook at the Stony Lonesome Gate, which is classified at a Class A(T) stream. Because this action would cause disturbance to the bed or banks of a stream with a classification and standard of C(T) or higher, a Protection of Waters Permit would be required. Additional permits such as a Municipal Separate Storm Sewers System (MS4) and a National Pollution Discharge Elimination (NPDES) permits may also be required under this action. Since these measures would be taken to address any potential impacts construction may have on coastal habitats, the proposed action is consistent with State Coastal Policy No. 7.

Erosion Protection Structures 30-year Design (Policy No. 13)

Any erosion control structures designed to address the increase of impervious surfaces at the access gates would be designed to have a reasonable probability of controlling erosion in these areas for at least thirty years. The proposed action is consistent with State Coastal Policy No. 13.

No Measurable Increase in Erosion or Flooding (Policy No. 14)

Construction activities and the resulting increase of impervious surfaces at the access gates has the potential to increase erosion in these areas. To minimize the amount of erosion, appropriate erosion, sedimentation, and stormwater BMPs would be implemented where appropriate. The BMPs would be consistent with the New York State Stormwater Design Manual. Furthermore, in the areas of Stony Lonesome Gate and Thayer Gate, where the project would result in over an acre (0.40 hectares) of disturbance, a NYS DEC Construction Activity SPDES Permit would be required including an Erosion and Sediment Control Plan. Since these measures would be taken to address any potential increases in erosion, the proposed action is consistent with State Coastal Policy No. 14.

Proposed major actions in the coastal area must give full consideration to those interests, and to the safeguards which the state has established to protect valuable coastal resource areas (Policy No. 18)

USMA has prepared and Environmental Assessment for the proposed access gates security upgrades and has determined that there would be no significant effect to natural resources, water levels and flows, shoreline damage, hydro-electric power generation, and recreation in the coastal area. The proposed action is consistent with State Coastal Policy No. 18.

Historic and Scenic Resources (Policy No. 23)

Thayer Gate and Washington Gate, as well as their associated gatehouses and public restrooms, are contributing elements to the USMA National Historic Landmark District (NHL). Thayer Gate was established as the USMA South Gate in 1936 as a Works Progress Administration (WPA) project. This gate was renovated in 1989 as a contribution from the USMA Class of 1943. In 1951, the Sentry Station from the Wilson Gate, which was originally constructed in 1945) was moved to Thayer Gate. This building was also altered in 1989 as part of the gate upgrade project. Washington Gate, and the associated Washington Gate Sentry Station (Building 711) were constructed in 1942. The Washington Gate Sentry Station is considered to be individually eligible for the National

Register of Historic Places and is a contributing structure to the USMA NHL. The Public Restroom structure (Building 729), located at Washington Gate, was constructed in 1943 and is considered to be individually eligible for the National Register of Historic Places that is a contributing structure to the USMA NHL. Under the proposed action, all historic structures at the access gates would be retained. Any improvements at these gates, as well as at Sony Lonesome Gate, would ensure that new sentry boxes are designed to be architecturally compatible with historic sentry boxes at USMA, all new construction is architecturally compatible with extant architecture, and that the lighting at each gate is carefully designed. All historic structures existing at the access gates would be retained and any new structures built would be constructed in a manner that is consistent with the historic architecture at each gate. Coordination has begun with the New York State Historic Preservation Officer (SHPO) during the concept design. Once available, the SHPO would review the cultural resources surveys prepared for this project, as well as the schematic plans for the gates. These measures would ensure that the proposed action would be consistent with State Coastal Policy No. 23.

Scenic Resources of Statewide Significance (Policy No. 24)

Thayer Gate and Washington Gate, as well as their associated gatehouses and public restrooms, are contributing elements to the USMA NHL, as discussed under Policy No. 23. An important component of the USMA NHL is the scenic viewshed from the Hudson River, from which the Thayer Gate and Washington Gate are highly visible. In addition to the USMA NHL, Route 9W and Route 218 are considered state scenic highways. As with Policy No. 23, the USMA believes that the proposed action is consistent with Policy No. 24 because sentry boxes would be designed to be architecturally compatible with historic sentry boxes at USMA, all new construction would be architecturally compatible with extant architecture, the lighting at each gate would be carefully designed, and coordination with the SHPO has occurred throughout the concept design. Once available, the SHPO would review the cultural resources surveys prepared for this project, as well as the schematic plans for the gates. These measures would ensure that the proposed action would be consistent with State Coastal Policy No. 24.

Resources which Contribute to the Overall Scenic Quality (Policy No. 25)

Thayer Gate and Washington Gate are highly visible from the Hudson River viewshed. The gate upgrades in these areas would be designed in a matter that is compatible with the existing architecture and sited to maintain the attractive quality of the shoreline and to retain views to and from the shore. The existing historic structures at these sites would be incorporated into the upgrade designs to protect the scenic resource. Actions taken to be consistent with Policy No. 23 and Policy No. 24 would ensure that the proposed action is consistent with State Coastal Policy No. 25.

Stormwater Best Management Practices (Policy No. 33)

Stormwater discharge at the USMA drains directly into the Hudson River. The proposed action is expected to increase the amount of impervious surfaces at each access gate. BMPs would be used to control stormwater runoff draining into coastal waters. For upgrades that disturb over one acre (0.40 hectares), a NYS DEC Construction Activity SPDES Permit would be required including a Stormwater Pollution Prevention Plan SWPPP. Through this compliance, the proposed action would be consistent with State Coastal Policy No. 33.

Non-point discharge Best Management Practices (Policy No. 37)

Construction activities under the proposed action would be expected to cause an increase in erosion during the construction period. BMPs would be used to control non-point source pollution from soil erosion into coastal waters. For upgrades that disturb over one acre (0.40 hectares), a NYS DEC Construction Activity SPDES Permit would be required including an Erosion and Sediment Control Plan. Through this compliance, the proposed action would be consistent with State Coastal Policy No. 37.

Transport, Storage, and Treatment of Solid Wastes, Particularly Hazardous Wastes (Policy No. 39)

Construction debris resulting from the proposed access gate security upgrades would be handled in accordance with New York's Solid Waste Management Act (Environmental Conservation Law, Article 27). Because of the age of the gates and structures at Washington Gate and Thayer Gate, the potential for lead-based paint (LBP) or asbestos containing materials (ACM) in the construction debris exists. Prior to construction activities, suspected surfaces would be evaluated for LBP and ACM in accordance with Occupational Health and Safety (29CFR1926.1101 and

29CFR.1926.62) and National Emissions Standards for Hazardous Air Pollutants (40CFR, Part 61). All materials to be disposed of that contain LBP or ACM would be taken off-post by a qualified contractor. Following these regulations, the proposed action would be consistent with State Coastal Policy No. 39.

National or State Air Quality Standards (Policy No. 41)

A project construction and operations-related General Conformity Applicability Analysis was performed for the proposed construction and operation activities under each alternative for the proposed action. The General Conformity applicability analysis estimated the level of potential air emissions (VOC and NO_x) for the alternatives under the proposed action. For all alternatives evaluated, construction emission levels at each gate, when compared to the *de minimis* values for this ozone non-attainment area of 50 TPY (45,360 kgpy) for both NO_x and VOC, fall well below the *de minimis* values. Construction related emissions would be temporary and only occur during the 6-month construction period at each gate. It was assumed that the guard houses would operate on the existing steam system and that water heaters would be electric, resulting in no additional emissions from operations. Additionally, a more conservative analysis was conducted that assumed that all three access gate upgrade projects would be completed within the same year. This analysis used the alternative at each gate that would produce the highest emissions. It was found that, if all gate upgrade projects were completed in one year, emissions would be 15.580 tpy (14,134 kgpy) for NO_x and 1.412 tpy (1,281 kgpy) for VOC. Under this conservative assumption, emission levels, when compared to the *de minimis* values for this ozone non-attainment area of 50 TPY (45,360 kgpy) for both NO_x and VOC, fall well below the *de minimis* values. This alternative is not subject to the General Conformity Rule requirements. The proposed action would be consistent with State Coastal Policy No. 41.

ATTACHMENT C

LOCATION MAP AND DESIGN DRAWINGS

FIGURE 1: UNITED STATES MILITARY ACADEMY AT WEST POINT REGIONAL LOCATION



FIGURE 2: UNITED STATES MILITARY ACADEMY AT WEST POINT

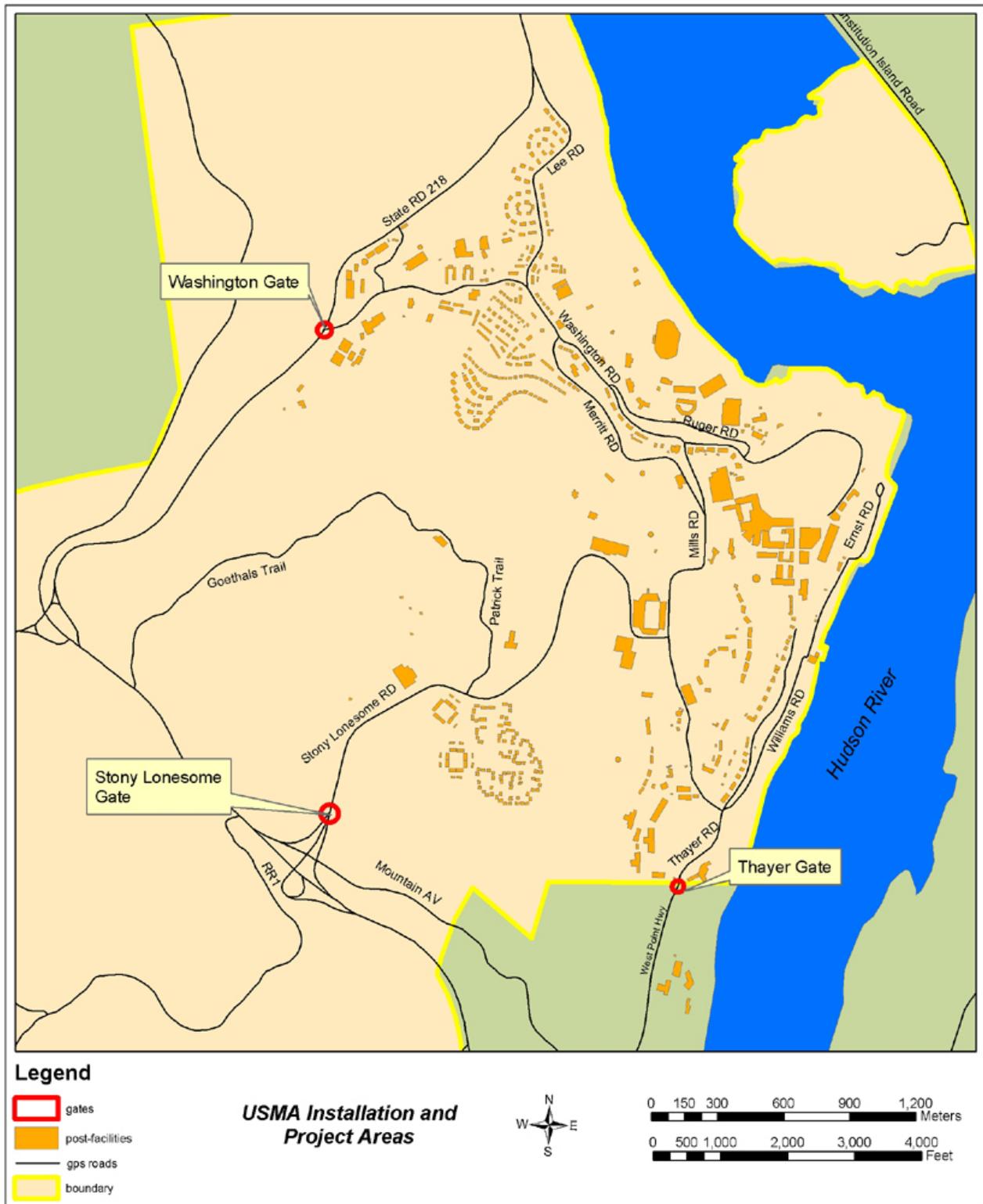


FIGURE 3: WASHINGTON GATE PROPOSED ACTION ALTERNATIVE AND GUARDHOUSE RELOCATION ALTERNATIVE

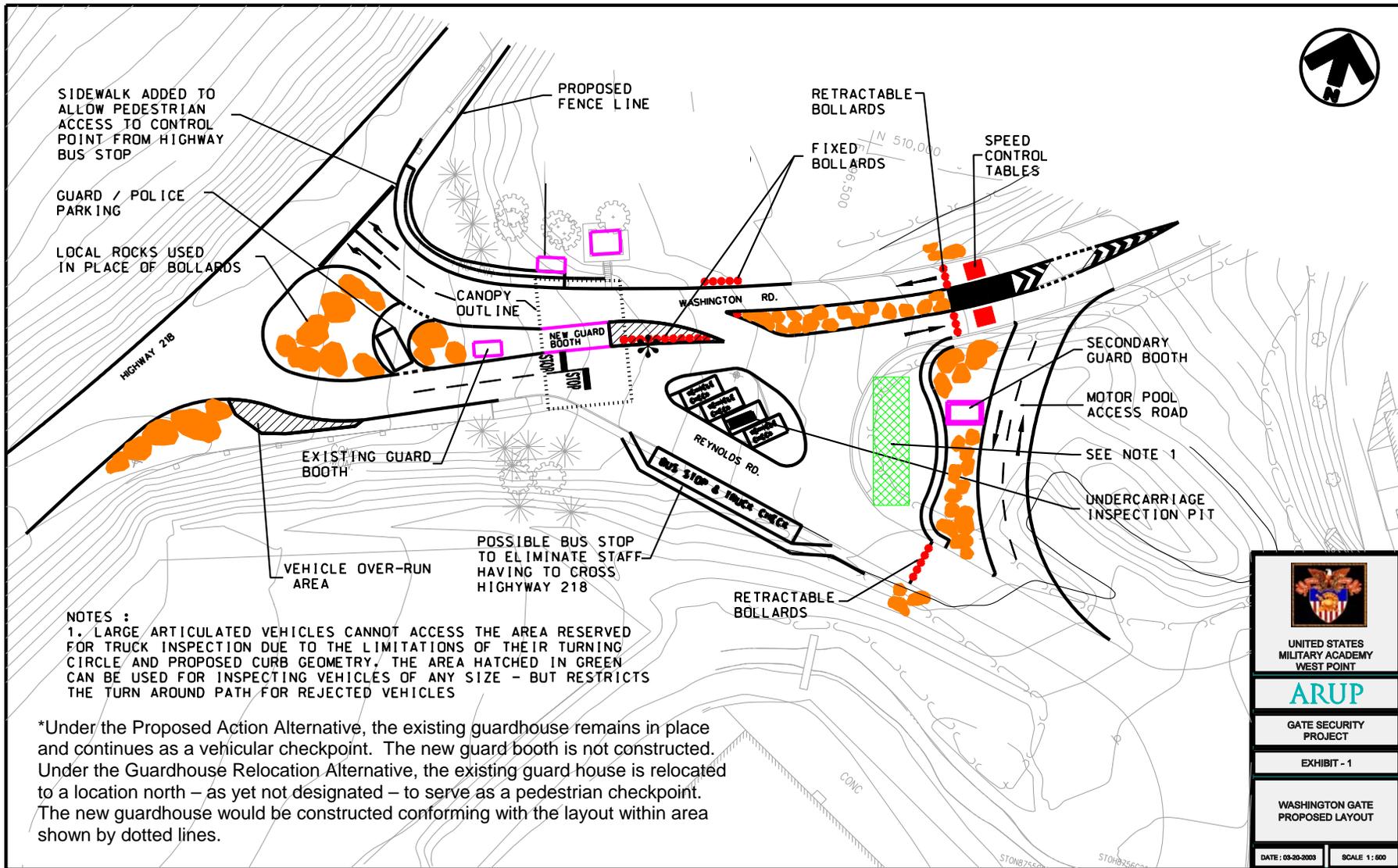
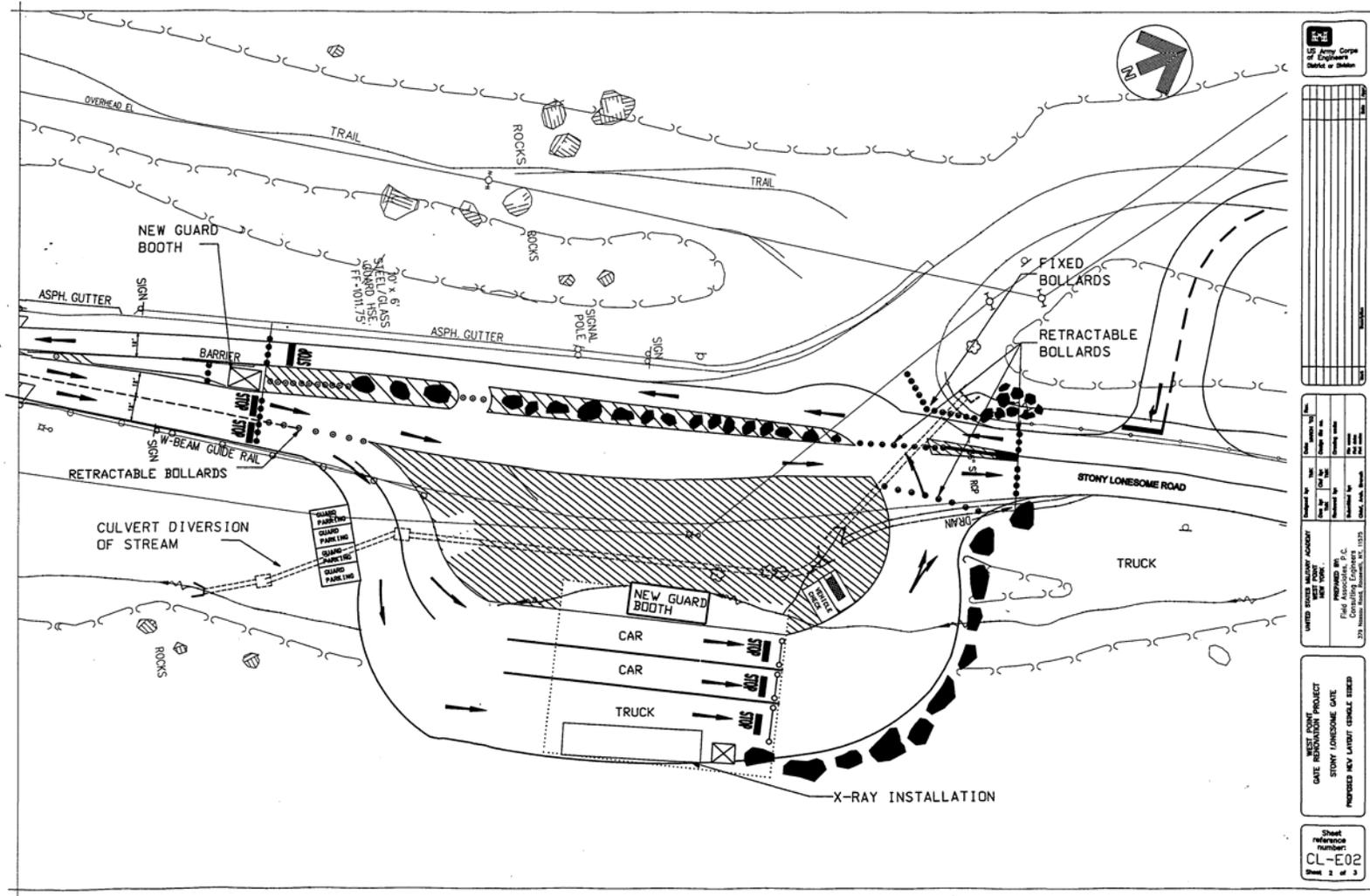
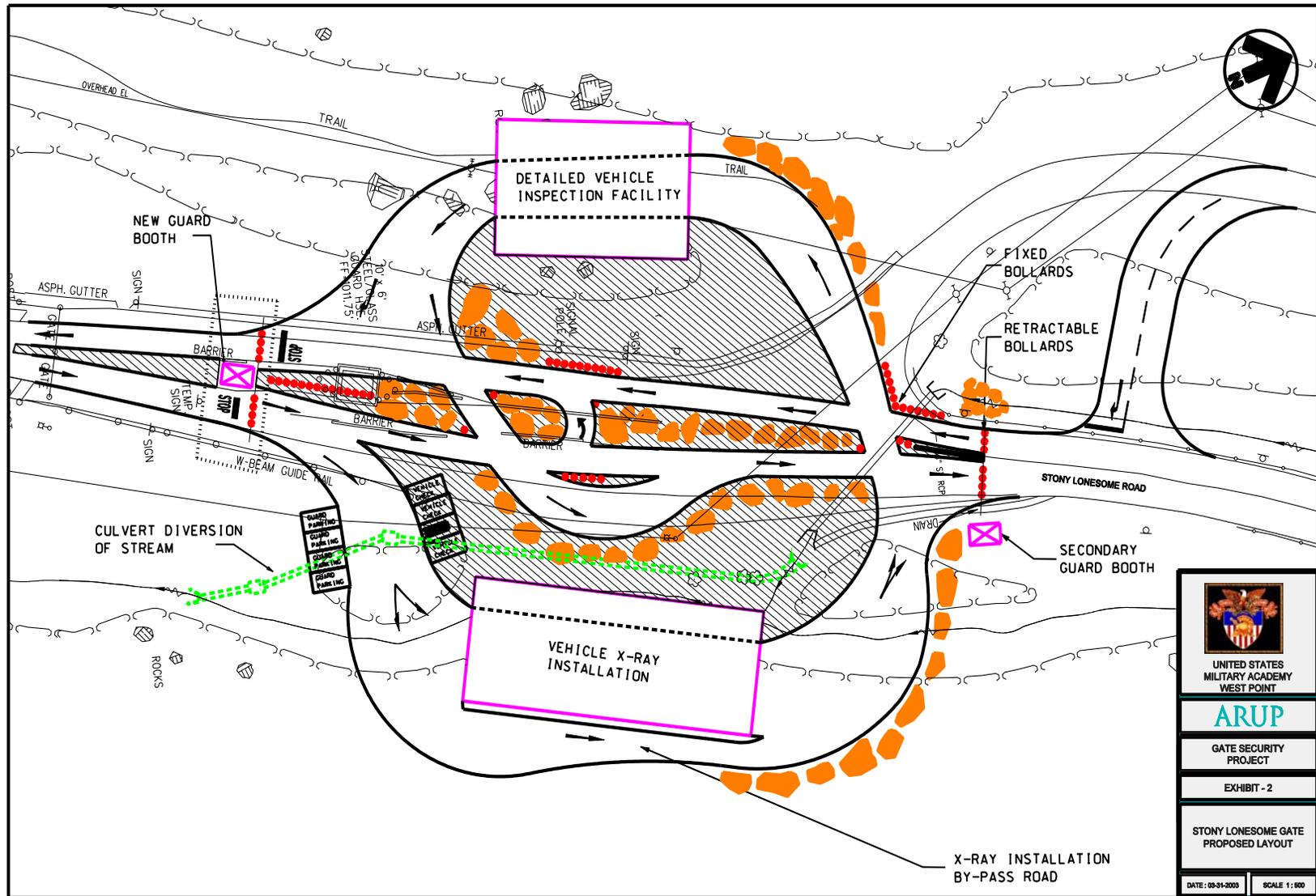


FIGURE 5: STONY LONESOME GATE PROPOSED ACTION ALTERNATIVE



 US Army Corps of Engineers District of Columbia	
UNITED STATES GOVERNMENT DISTRICT OF COLUMBIA UNITED STATES OF AMERICA	SHEET NO. CL-E02 PROJECT NO. 10-1011.75 DRAWING NO. 10-1011.75-101 DATE 10/11/75 DRAWN BY [blank] CHECKED BY [blank]
UNITED STATES GOVERNMENT DISTRICT OF COLUMBIA UNITED STATES OF AMERICA	PROJECT TITLE STONY LONESOME GATE PROPOSED NEW LANTER SIGNAL SYSTEM
SHEET REFERENCE NUMBER CL-E02 OF 2	

FIGURE 6: STONY LONESOME GATE EXPANDED DESIGN ALTERNATIVE



 UNITED STATES MILITARY ACADEMY WEST POINT	
 ARUP	
GATE SECURITY PROJECT	
EXHIBIT - 2	
STONY LONESOME GATE PROPOSED LAYOUT	
DATE: 03-31-2003	SCALE 1:800

FIGURE 7: THAYER GATE PROPOSED ACTION - THAYER ROAD ALTERNATIVE

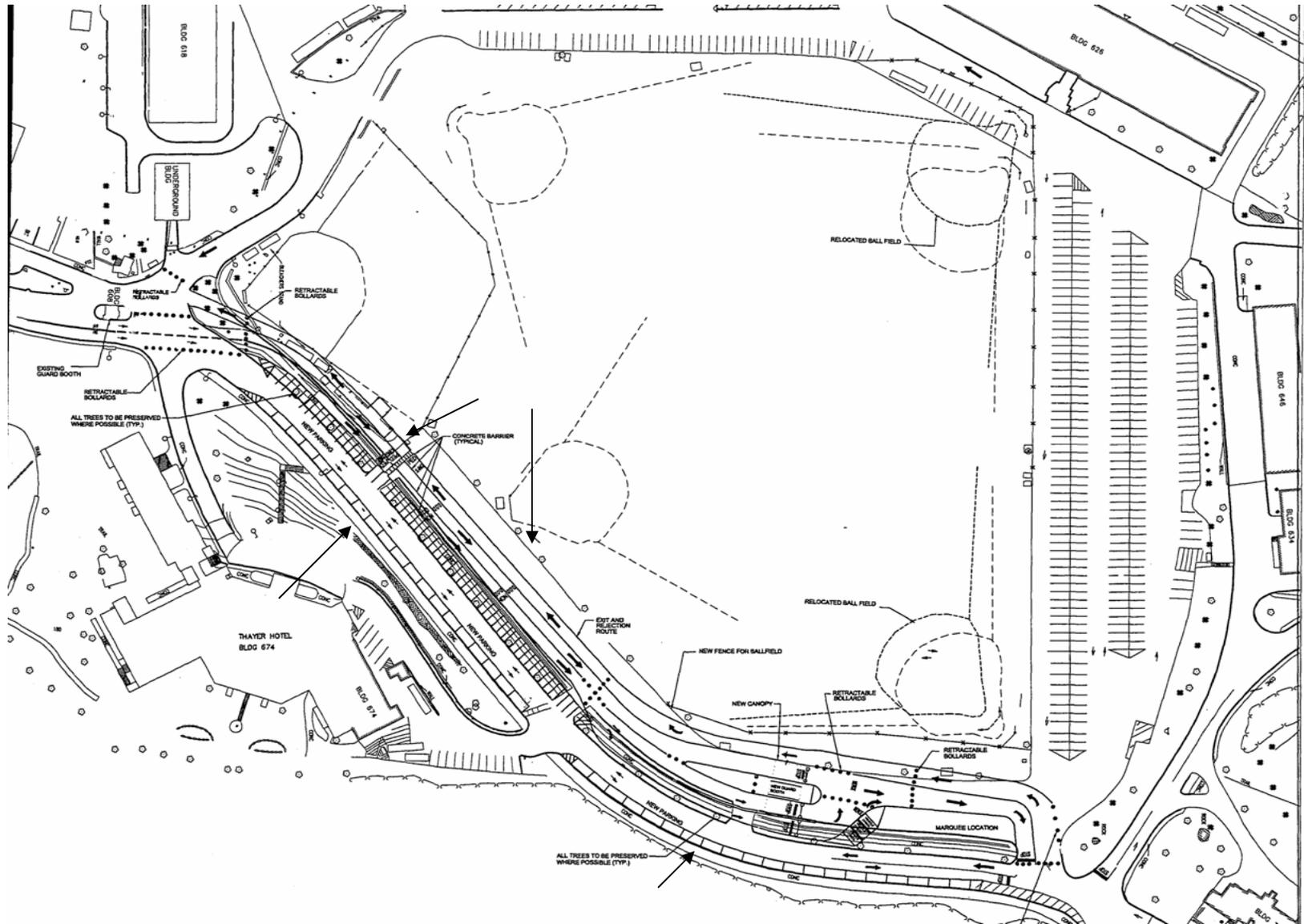
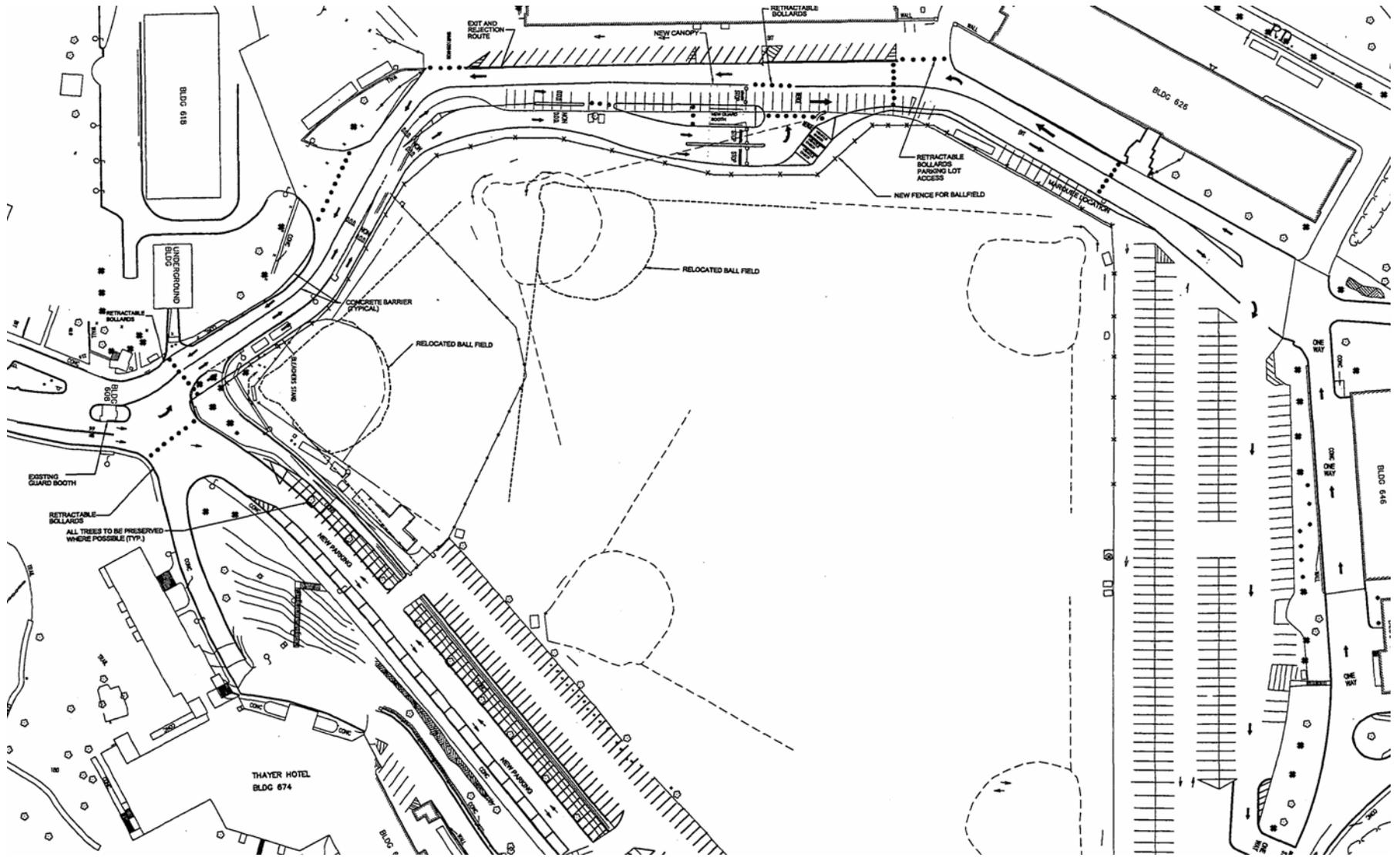


FIGURE 8: THAYER GATE – SWIFT ROAD ALTERNATIVE





STATE OF NEW YORK
DEPARTMENT OF STATE
41 STATE STREET
ALBANY, NY 12231-0001

GEORGE E. PATAKI
GOVERNOR

October 14, 2004

RANDY A. DANIELS
SECRETARY OF STATE

Alan B. Bjornsen, CEP
NEPA Coordinator
U.S. Military Academy
Directorate of Housing and Public Works
Building 667 Ruger Road
West Point, NY 10996

Re: F-2004-0721 DA
U.S. Military Academy - Permanent security measures at
Washington, Stony Lonesome, and Thayer Gates
Town of Highland, Orange County
Concurrence with Consistency Determination

Dear Mr. Bjornsen:

The Department of State has completed its review of the U.S. Military Academy consistency determination regarding the consistency of the above mentioned activity with the New York State Coastal Management Program.

Based upon the information submitted, the Department of State concurs with the U.S. Military Academy consistency determination regarding this matter.

Sincerely,

Sam Messina
Deputy Director
Division of Coastal Resources



DEPARTMENT OF THE ARMY
UNITED STATES MILITARY ACADEMY
West Point, New York 10996

December 2, 2004

REPLY TO
ATTENTION OF

Directorate of Housing and Public Works

Subject: "Draft Historical and Architectural Investigation of Access Gates (March 2004)" in support of Access Gates Security Upgrades at U.S. Military Academy (03PR02175)

Mr. Kenneth Markunas
New York State Office of Parks, Recreation and Historic Preservation
Historic Preservation Field Services Bureau
Peebles Island, PO Box 189
Waterford, New York 12188-0189

Dear Mr. Markunas:

The U.S. Military Academy (USMA) proposes to install security upgrades to three access gates (Washington Gate, Stony Lonesome Gate, and Thayer Gate) at the U.S. Military Academy, West Point, Orange County, New York (USMA), as previously introduced (03PR02175).

As per our previous correspondence, the USMA identified three areas of specific concerns:

- Determination of National Register of Historic Places eligibility for structures at Thayer Gate, and Thayer Gate itself, will be necessary;
- Historic documentation of Washington Gate will be necessary prior to any construction activities; and
- Historic documentation of Thayer Gate cannot be evaluated at this time, but might be required.

The USMA has contracted with Geo-Marine of Plano, Texas to perform a historic and architectural investigation of all three access gates. The intent of this study was to provide a historic context on the history of access gates and entry gate security at the USMA; to perform historic documentation of Washington Gate prior to any construction activities; and to perform a determination of National Register of Historic Places eligibility of Thayer Gate.

Enclosed find their final report "Historical and Architectural Investigation of Access Gates, U.S. Military Academy, West Point, New York." This report confirms that Thayer Gate should be considered to be a contributing element to the USMA National Historic Landmark District, and should be considered to be individually eligible for the National Register of Historic Places.

As the design concept currently exists, no direct effects would occur to Thayer Gate, as the existing gate and structures would not be altered, modified, or changed in any manner. Should this approach change as the design matures, the USMA would re-evaluate the third concern. Currently, the USMA has not identified any requirement for historic documentation of Thayer Gate.

The design approach for this project has been delayed, and is currently being revised. The USMA anticipates receiving a revised design for Stony Lonesome Gate (the first gate scheduled for construction) in the near future, and will continue to consult with your office regarding this project.

If there is further information required, or any questions, please contact me at (845) 938-3522, or at yd5777@exmail.usma.army.mil via E-mail.

Douglas R. Cubbison
Cultural Resources Manager
United States Military Academy

Enclosure- Final Historical and Architectural Investigation of Access Gates (September 2004), as stated

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**APPENDIX C: COASTAL ZONE MANAGEMENT ACT
CONSISTENCY DETERMINATION**

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