

**December 27, 2022**  
**Breakneck Connector and Bridge Project**  
**Full EAF Part 3 – Attachment A**

**A. PROJECT DESCRIPTION**

**INTRODUCTION**

The proposed action is referred to as the Breakneck Connector and Bridge (BNCB) Project (the “Project”). The Project Sponsor is Hudson Highlands Fjord Trail, Inc. (HHFT, Inc), a subsidiary of Scenic Hudson, Inc. The Project comprises a 0.58-mile publicly-accessible shared-use trail, which is a section of the larger proposed 7.5-mile Hudson Highlands Fjord Trail (proposed Fjord Trail) which would connect Beacon and Cold Spring, New York. The Project is located about midway between Beacon and Cold Spring along NYS Route 9D where there are currently two trailheads (Wilkinson Memorial Trailhead and Breakneck Ridge Trailhead), the Metropolitan Transportation Authority (MTA) Metro-North Railroad (MNR) Breakneck Ridge station, and a gravel parking area and ad hoc street parking that provide access to the Hudson Highlands State Park Preserve (HHSP). The Project is on the border of the Town of Fishkill, Dutchess County, NY and the Town of Philipstown, Putnam County, NY along a half-mile portion of NYS Route 9D, just north of the NYS Route 9D vehicular tunnel and adjacent to and on both sides of the MNR tracks (“the Project Site”).

The proposed Fjord Trail is being evaluated in a Generic Environmental Impact Statement (GEIS) pursuant to the State Environmental Quality Review Act (SEQRA). However, this Project is being advanced independent of the proposed Fjord Trail due to an urgent need to address pedestrian safety and congestion issues along this section of NYS Route 9D. In accordance with SEQRA regulations at §617.3(g)(1), “if a lead agency believes that circumstances warrant a segmented review, it must clearly state in its determination of significance, and any subsequent EIS, the supporting reasons and must demonstrate that such review is clearly no less protective of the environment.” Related actions should be identified and thoroughly explained to the extent possible.

The New York State Office of Parks, Recreation, and Historic Preservation (OPRHP), as lead agency, has determined that this Project can be permissibly segmented from the GEIS for the larger proposed Fjord Trail due to the following factors:

- The Project has independent utility to address clear and present safety risks that exist at this specific location due to the density of and lack of capacity to accommodate park users that arrive by rail, vehicle, and other modes of transportation to access the Wilkinson Memorial and Breakneck Ridge Trailheads;
- The Project is independent and distinct from the rest of the proposed Fjord Trail because it will improve New York City Department of Environmental Protection’s (DEP) access to its Hudson River Drainage Chamber (HRDC) facility for maintenance and operational purposes by providing a safer crossing and lightweight vehicular access to the HRDC over the MNR railroad.
- The planning and design for the Breakneck Connector and Bridge Project have progressed much further than the rest of the proposed Fjord Trail;
- Physically and functionally, an unimproved version of the Breakneck Connector Trail already exists as the public currently uses NYS Route 9D to access nearby trailheads. But for MNR’s emergency improvements discussed below, the rest of the proposed Fjord Trail sections would be entirely new, and this Project is important and essential as a stand-alone project;

- Funding is available for this Project, whereas funding for the proposed Fjord Trail has not yet been fully determined; and
- Except for the MNR Breakneck Ridge Station, OPRHP owns, or is in the process of acquiring, the BNCB Project Site in fee or as other types of property interests for this Project, which will allow OPRHP and HHFT, Inc. to construct this Project, provide public access, and maintain and operate the facility. Whereas the real property interests granting public access to the rest of the proposed Fjord Trail do not yet exist or are under negotiation.

These factors were discussed in more detail in the FEAF Part 1 Revised Attachment A. As demonstrated in the following sections of this document, the Project would not result in any significant adverse impacts. Therefore, evaluating this Project independently from the proposed Fjord Trail would not be any less protective of the environment.

## PROJECT ELEMENTS

As shown on **Figure 1**, this Project consists of the following elements:

- a 0.58-mile non-motorized, shared-use, publicly accessible trail<sup>1</sup> that includes:
  - A new Breakneck Bridge (the “Bridge”) over the MNR tracks, which will be designed for H-10 vehicles primarily for vehicle use by DEP to access DEP’s HRDC located along the Hudson River, as needed;
  - The Bridge also serves as an extension of the shared-use trail and accommodates people traveling in multiple modes of non-motorized movement, including pedestrians and bicyclists;
  - Parking areas along NYS Route 9D;
  - Trail connections to the Breakneck Ridge Trail and Wilkinson Memorial Trail within HHSPP;
  - The addition of two comfort station buildings; and
  - Removal of the existing MNR Breakneck Ridge station wooden platforms and replacement with new platforms (each about 40 feet by 12 feet, with a 30-foot overhead canopy and ADA-accessible).
- Relocation of the power lines from the west side of NYS Route 9D to the east side; and
- Upgrades to the Upper Overlook area, including installation of a small steward station (about 9 feet by 12 feet, with a canopy about 18 feet by 25 feet) along the Breakneck Ridge Trail, the closing of social paths (including restoration of native vegetation), and a scramble reconstruction area.

The section of the Breakneck Connector shared-use publicly accessible trail from the north end to the intersection with the Bridge would measure 2,620 linear feet (LF), the Bridge itself would measure 445 LF, and the trail section from the Bridge intersection south to the Breakneck Ridge Trailhead would measure 342 LF. The Project Site is 12.2 acres in size. See **Figures 1 and 2** for a depiction of the Project Features and the Project Site bounds, respectively. The Project Site encompasses the proposed area of disturbance, but some areas within the Project Site would have minimal disturbance—for instance, work along NYS Route 9D would be limited to the shoulders, restriping, and new underground utility connections under the highway; during construction, there will be temporary single-lane closures

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<sup>1</sup> The trail will meet the US Access Board’s accessibility standards for outdoor developed areas under the Architectural Barriers Act (ABA). Where the trail meets the entrances to MNR Breakneck Ridge Station platforms, it will comply with the Americans with Disabilities Act (ADA), as applicable.

and a temporary realignment near the eastern Bridge abutment. Disturbance for the Upper Overlook improvements would be primarily contained within the trail footprints and immediately adjacent areas and for installation of a steward station and fencing. Project Drawing Sets and related documentation for the Breakneck Connector, for the Bridge, and for the steward station are included in **Appendices A, B and C**, respectively.

The Project would be developed on previously disturbed lands (i.e., DEP's HRDC land, MNR right-of-way, New York State Department of Transportation [NYSDOT] Route 9D, dirt parking areas, MNR access roads, the MNR Breakneck Ridge station, and a very heavily trafficked Breakneck Ridge Trail) (see **Figures 3 and 4** for existing site conditions) to achieve the following:

- Formalize trails that are already in place and currently in use;
- Improve safety where there are dangerous traffic, parking, pedestrian and bicycle conditions; and
- Enhance access for all persons to this area by building trails and parking that meet generally-accepted accessibility standards.

## **CONSTRUCTION MEANS AND METHODS**

The Project would have several construction work zones, as shown on **Figure 2**. Construction of components west of and over the MNR tracks would be facilitated from the Hudson River via barges, and components east of the MNR tracks would be facilitated from land and accessed via NYS Route 9D. The Project limits (i.e., area of disturbance) would be 12.2 acres. All tree removal would be conducted between November 1 and March 31 to minimize potential impacts to wildlife (see Section 7, "Impact on Plants and Animals"). Construction activities within each construction area would occur in parallel, as feasible, with the overall construction duration taking approximately 24 to 30 months. All design documents and construction means and methods will be reviewed by MNR, NYSDOT and DEP prior to any permit approvals to ensure impacts to the railroad and other infrastructure are minimized. The construction means and methods for the various construction areas are described below and detailed further in **Appendix D**.

### *POWER LINE RELOCATION*

As an early enabling action, overhead power lines that are currently located along the west side of NYS Route 9D in the Project Site would be relocated to the east side of NYS Route 9D. The relocated power lines would be overhead in the northern section of the Project Site and underground in the southern section. This work would involve tree removal and installation of new poles along the east side of NYS Route 9D, and removal of the existing poles and wires on the west side of NYS Route 9D. An underground connection beneath NYS Route 9D would be provided from the relocated power lines to the new comfort stations. At the southern end of the Project Site, the power lines would travel beneath NYS Route 9D to reconnect to the existing underground power lines on the west side of the roadway.

Tree removal would occur for about eight weeks and would require temporary single-lane closures along NYS Route 9D. These activities would occur during weekday off-peak hours to minimize traffic disruptions. Removal of the existing poles on the west side of NYS Route 9D and installation of the new poles on the east side of NYS Route 9D would occur for about nine weeks and would also require temporary single-lane closures along NYS Route 9D. Measures to maintain traffic through the work zone would be coordinated with NYSDOT (see Section 13, "Impact on Transportation" for further discussion).

### *BREAKNECK CONNECTOR TRAIL AND AMENITIES EAST OF MNR TRACKS*

The majority of the Breakneck Connector Trail and related amenities (i.e., comfort stations, parking areas, and northbound MNR platform) would be on the east side of the MNR tracks and construction would be facilitated from land. The existing gravel parking area (the future southern parking area shown on **Figure 1**) would be used as a staging area. Materials would be delivered from NYS Route 9D, with one to two trucks anticipated per day. Construction of these components would take approximately 22 months.

The northern portion of the trail would be an elevated walkway with a glulam deck supported by micro-piles that would connect to the existing pedestrian bridge over the railroad tracks (see **Figure 1**). Erosion and sediment control measures and grading would be implemented as an initial step to stabilize the slope, followed by installation of micro-piles and foundation supports, including pilecaps, concrete walls and abutments. Steel piers, glulam beams, and a pre-fabricated deck would be installed using a crane situated along NYS Route 9D, which would require temporary single-lane closures on the roadway. Measures to maintain traffic through the work zone would be coordinated with NYSDOT (see Section 13, “Impact on Transportation” for further discussion).

In the remaining portion of the Breakneck Connector work zone, site preparation activities would be conducted to construct the at-grade portion of the trail, parking areas, comfort stations, northbound MNR platform, stormwater management practices, and stone trail banks. The site preparation activities include implementing erosion and sediment control measures, tree clearing, grubbing, and grading. Crushed stone would be laid for the trail and the parking areas would be paved. An excavator would be used to create an adjoining basement for the comfort stations to house a composting toilet system. If rock is encountered, hydraulic mounted hammers would be used for removal. For the northbound MNR platform, about 12 to 16 micro-piles would be installed and a pre-fabricated platform would be set in place with a crane. An overhead canopy would then be constructed and related utilities (e.g., lighting) would be installed.

### *SOUTHBOUND MNR PLATFORM*

The southbound MNR platform would be constructed on the west side of the MNR tracks and would connect to the existing pedestrian bridge at the northern end of the Project Site. Construction would be facilitated from the Hudson River via barges and would take approximately 15 weeks. The contractor would be expected to stage off-site operations on private commercial property. Personnel would access the construction site using the existing pedestrian bridge over the MNR tracks.

At the onset of construction, an equipment barge (up to 30 feet by 90 feet) would be anchored offshore using four 36-inch spud piles installed by self-weight and remain in place for about one week. This barge would serve as a landing point for delivery of equipment and to establish soil erosion and sedimentation measures (e.g., silt fence, turbidity curtain) within the area of disturbance for the southbound MNR platform. A temporary ramp would be deployed from the barge to offload equipment. A compacted stone and a steel road plate system would be in place for the ramp to bear upon. The equipment barge would then be demobilized, and site preparation activities would continue, including site clearing, grubbing, and grading. Debris and vegetation would be temporarily stockpiled onsite for eventual removal on the logistics barge. Erosion and sediment control measures would be established around stockpiled material in accordance with the Stormwater Pollution Prevention Plan (SWPPP) prepared for the Project. There would be no shoreline stabilization required for this component of the Project.

Following site preparation, a logistics barge (up to 50 feet by 200 feet) would be anchored offshore with four 36-inch diameter steel piles installed by self-weight and remain in place for about 14 weeks.

The logistics barge would deliver materials for construction and remove materials at the completion of construction. It would have a ramp to deliver and retrieve materials from the construction site. The ramp would have compacted stone and steel road plates to bear upon.

Concrete for the southbound MNR platform foundations would be mixed and pumped on the barge or onsite. No trucks would be mobilized to the site for this portion of construction. About 14 to 18 micro-piles would be installed to support the platform. Equipment would be demobilized to the logistics barge when construction is complete.

A crane barge (up to 100 feet by 200 feet) would be mobilized to the site to move pre-fabricated platform components and heavy materials to land. This crane barge would be mobilized for about six weeks.

### *BRIDGE*

Construction of the eastern abutment of the Bridge (located on the east side of the MNR tracks) would be facilitated from land via NYS Route 9D. Construction of the deck over the MNR tracks and the western abutment of the Bridge would be facilitated from the Hudson River via barges. Construction of the Bridge would take approximately 24 months.

The eastern abutment would be in close proximity to NYS Route 9D. Pending further geotechnical investigation, construction of the foundation of the eastern abutment may require excavation. To facilitate construction, NYS Route 9D would be temporarily realigned with the speed limit reduced to 30 miles per hour (mph) in this section. A temporary single-lane closure on NYS Route 9D would be required to establish temporary pavement for the realignment. Measures to maintain traffic through the work zone would be coordinated with NYSDOT (see Section 13, “Impact on Transportation” for further discussion).

Staging and site access for the eastern abutment would be facilitated through the same staging area used for the Breakneck Connector Trail and related amenities east of the MNR tracks (discussed above), as feasible. Additionally, a staging area immediately adjacent to the eastern abutment would be established on the higher elevation ground surface for construction activities in this area and for site access should the Breakneck Connector Trail staging area be unavailable. A backhoe/excavator would be used to grade land and a mini pile driver would be used to install approximately 20 piles for the eastern abutment. If rock is encountered, it may require removal by hydraulic mounted hammers.

Waterside construction of the Bridge elements would require the use of barges within the Hudson River. Up to four barges may be present at one time:

- 1) Logistics barge (about 100 feet by 300 feet) for staging for the duration of the Bridge construction (approximately 24 months);
- 2) Materials barge for periodic delivery of materials (estimated at about 10 trips, anchored for about 1 week at each occurrence), which would moor temporarily to the logistics barge;
- 3) Bridge barge (about 54 feet by 254 feet) to deliver and erect major Bridge components (in place for about 12 weeks); and
- 4) Crane barge (up to 100 feet by 300 feet) for Bridge assembly (in place for about 12 weeks).

The logistics barge would be anchored adjacent to the shoreline by four 36-inch diameter steel pipe piles which would be installed by self-weight, throughout the approximately 24-month Bridge construction period. While the logistics barge may not be needed continuously during Bridge construction, the analyses in this document conservatively predicts that it would be in place for the full duration. Compacted stone and steel road plates would be installed for the ramp from the barge to bear upon. Materials, personnel and equipment would be transferred onshore using the ramp.

Two options are being considered for the placement of cranes to assemble the Bridge structure:

- Crane Option 1: A crane would remain on the crane barge and lift Bridge sections into place from its anchored position. The crane barge would be secured in place by four 30 to 36-inch diameter steel piles installed by self-weight. Bridge components would be assembled on the barge and then lifted into place. The anticipated duration for this work would be about 12 weeks.
- Crane Option 2: A land crane would be rolled from the crane barge onto land via a ramp. The land crane would assemble the Bridge components on land and then erect the Bridge sections. The anticipated duration for this work would be about 12 weeks, with the crane barge remaining in place for this period.

Both Crane Options would require shoreline stabilization. Approximately 90 feet of shoreline adjacent to the logistics barge would be cleared and stabilized with two layers of geotextile fabric followed by placement of crushed, compacted limestone, in a stable slope. This shoreline stabilization would result in the placement of sediments below spring high water (SHW) and mean high water (MHW). Under Crane Option 2, the Bridge barge would deliver the large Bridge structural components and moor to the logistics barge. Materials would be transferred to the logistics barge and delivered to the shoreline using the ramp. Following construction of the Bridge structure, the temporary stabilization materials would be removed from the landing areas, the soil would be stabilized, and landscaped with native vegetation.

#### *UPPER OVERLOOK IMPROVEMENTS*

As shown on **Figures 1 and 2**, the existing Breakneck Ridge Trailhead leads to the Upper Overlook, an elevated area at the southern end of the Project Site. The Project would upgrade existing informal and unimproved trails (“social trails”) to better define designated trails and would close social trails that are less desired. Upper Overlook trail improvements would be mainly conducted using handheld tools (i.e., picks, shovels, and steel bars for leveraging stone) and would require minimal ground disturbance and tree removal. Materials would be transported using mini skid steers, tracked crawler carriers, and potentially a small excavator. Hand-powered cable rigging would be used to move rocks aside, as needed, and to drag stones when mechanized tracked equipment is not safe or otherwise feasible. Digging and anchoring of fencing would be performed with hand tools, a rotary hammer, and electric or pneumatic drills (with air compressors staged at the parking area).

The Upper Overlook improvements would include construction of a small steward station to serve as storage shed and a place for stewards to greet trail users. Construction would require minimal earthwork, and no utility connections would be required. Solar panels may be installed to support minimal electricity needs. Materials would be moved to the site using the same methods as the trail work (e.g., skid steer loader for unloading trucks, and walk-behind tracked carrier and possibly another mini skid steer up above at the site). Timber components, potential green roof materials, doors and shelving would be carried by hand and/or by using rigging or a walk-behind track carrier. Site clearing and preparation would be done by hand, and the bottom course of the timber structure would be scribed and cut to fit the bedrock. The rest of the timber structure would be assembled, adjusted for final fit, and fastened by hand with assistance of temporary staging. A potential green roof, doors, and shelving would be installed with handheld tools.

An approximately 2,000-square foot scramble reconstruction area is located near the steward station (see **Figure 1**). The work for the scramble reconstruction would include providing tread hardening and definition through the installation of stone steps and a natural boulder wall on the south side of the trail. The steps would be installed to create a naturalistic "rock scramble" character while remaining relatively easy to use and clearly defined. Steps would vary in width from 12 inches to 36 inches and

in rises from 7 inches to 13 inches. When step rises exceed 9 inches, a helper step adjacent to the tall step would be provided. Overall, useable tread width would vary from 36 inches to 60 inches. This work would occur within the existing trail corridor and is similar to what is proposed along trails at the Upper Overlook. Equipment to be used in conducting the reconstruction would include hand tools and hand operated rigging gear. Should sufficient snow cover be present, mechanized narrow-tracked crawler carriers (28 inches wide) may be used to move stones up to the site.

#### *PUBLIC COMMUNICATION*

Prior to and during the construction period, HHFT, Inc., in coordination with OPRHP and the contractor, would establish a communication plan to convey pertinent construction information to the public. This would include advanced notifications of potential temporary single-lane closures along NYS Route 9D and temporary trailhead closures. Information would be disseminated via HHFT, Inc.'s website (hhft.org) and social media outlets, as well as local news publications, as needed. Additional notification measures may be implemented in coordination with NYSDOT, such as variable message signs (VMS), to alert motorists of planned lane closures or other temporary changes in travel patterns.

Following construction, HHFT, Inc. would continue to use its website and social media, as well as its monthly newsletters, to inform the public about trail activities and trail access. Additionally, stewards housed at the new steward station would continue to be onsite to provide information to trail users.

## **B. POTENTIAL IMPACTS**

For purposes of Section B of this Attachment A, if there is no discussion of a numbered question included in the FEAF Part 2, the response should be understood to be “no impact” or “not applicable to the Project.”

### **1. IMPACT ON LAND**

**Proposed action may involve construction on, or physical alteration of, the land surface of the proposed site.**

*a. Not applicable.*

*b. The proposed action may involve construction on slopes of 15% or greater.*

Impact Level: Small impact.

Description: There would be construction on slopes greater than 15 percent at each end (on the east side of the MNR tracks, and along the Hudson River shoreline on the west side of the MNR tracks) of the proposed Bridge. See sheet BNB-L-300, Design Grading Plan in **Appendix B**. The Project has been designed to consider these constraints through the implementation of construction techniques to limit and manage erosion, including development of an Erosion Sediment Control Plan in compliance with New York State Department of Environmental Conservation (NYSDEC) regulations and guidelines.

If Crane Option 2, land crane, is selected for the Bridge construction, the stabilized shoreline area waterside of the proposed Bridge would accommodate a crane pad for the erection of the structure. This area would be restored to the original or proposed grades per the construction documents when the cranes are demobilized.

The scramble reconstruction area above the Upper Overlook has slopes greater than 15 percent. Most of the work area is covered by rocks and large boulders and is the beginning of the steep ascent of

Breakneck Ridge Trail. The scramble reconstruction work would provide tread hardening and definition through the installation of stone steps and a natural boulder wall on the south side of the trail. These improvements would help prevent future soil erosion by leading visitors along a narrower hardened surface and reducing visitors wandering away from the trail corridor.

The Project would not result in a significant or moderate impact on land with steep slopes due to the limited disturbance, the anticipated construction techniques to limit erosion (Erosion Sediment Control Plan), and slope stabilization plantings to protect slopes and limit erosion long-term. See **Appendix B**.

*c. The proposed action may involve construction on land where bedrock is exposed, or generally within 5 feet of existing ground surface.*

Impact Level: Small impact.

Description: Construction would take place in areas of exposed and/or shallow bedrock including in and around the Upper Overlook, and likely at the Bridge and around the new comfort station. Roughly five percent of the Project Site comprises bedrock outcroppings, but no blasting is anticipated. The Project would conform to existing natural contours.

The proposed steward station would be a new park amenity on the exposed bedrock of Breakneck Ridge (Upper Overlook). Construction would require minimum vegetation removal and the bottom course of the timber structure would be scribed and cut to fit the bedrock. Impacts resulting from the proposed improvements, including construction of the steward station, would be limited and therefore determined to be “small.”

See response to Question 2.a for a discussion of potential impacts to Breakneck Ridge. Refer to Question 9 responses for discussion of potential visual impacts.

*d. Not applicable.*

*e. The proposed action may involve construction that continues for more than one year or in multiple phases.*

Impact Level: Small impact.

Description: The anticipated duration of construction on the Project is approximately 24 to 30 months, following the award of construction work to the winning bidder. Because some construction activities are restricted during certain windows of the year to protect wildlife species (see responses to Question 7), construction duration would ultimately depend on specific timing of construction activities.

*f. The proposed action may result in increased erosion, whether from physical disturbance or vegetation removal (including from treatment by herbicides).*

Impact Level: Small impact.

Description: To address the removal of trees/vegetation (treatment by herbicides is not proposed) and proposed physical disturbance of the ground, a draft SWPPP has been developed for the Project in accordance with NYSDEC requirements. Temporary soil erosion and sediment control measures proposed for the Project are covered in the C series drawings (included in **Appendices A and B**) and within the draft SWPPP (**Appendix E**). Native plantings would be used to permanently restore



disturbed areas. The Project minimizes impervious surfaces through the use of flagstone pavers on crushed stone at the comfort station area, permeable pavers in portions of the parking lots, and crushed stone surfacing for on-grade sections of the trail. Revisions to the Draft SWPPP will be sent to MNR, DEP and NYSDOT for their review and comments.

*g. Not applicable.*

## **2. IMPACT ON GEOLOGICAL FEATURES**

**The proposed action may result in the modification or destruction of, or inhibit access to, any unique or unusual land forms on the site (e.g., cliffs, dunes, minerals, fossils, caves).**

*a. Identify the specific land form(s) attached: Breakneck Ridge.*

Impact Level: No/Small impact.

Description: Breakneck Ridge is a unique and significant geological feature on the landscape. Although it is not documented in the State's database and was therefore checked as No on the FEAF Part 1, E.2.g. using NYSDEC's EAF Mapper, due to its local significance, it has been included here for analysis. The Project proposes various improvements on Breakneck Ridge (Upper Overlook), including construction of a new steward station and trail improvements. No blasting is anticipated as part of construction. The bottom course of the timber structure of the steward station would be scribed and cut to fit the bedrock. There will be rock steps installed along some sections of the Upper Overlook trails. Trail improvements would be mainly conducted using handheld tools with no to minimal changes to the rocky surface. The major rock promontory that is called Breakneck Ridge will remain unchanged.

*b. Not applicable.*

## **3. IMPACTS ON SURFACE WATER**

**The proposed action may affect one or more wetlands or other surface water bodies (e.g., streams, rivers, ponds or lakes).**

*a-c. Not applicable.*

*d. The proposed action may involve construction within or adjoining a freshwater or tidal wetland, or in the bed or banks of any other water body.*

Impact Level: Small impact.

Description: As described earlier under "Construction Means and Methods," the Project would result in construction activities along the shoreline of the Hudson River for the southbound MNR platform and the new Bridge. The spud piles that would be used to secure construction barges adjacent to the shoreline would be hollow steel pipe piles or spud piles, which do not constitute fill within Waters of the United States under Section 404 of the Clean Water Act (CWA). Shoreline stabilization activities

adjacent to the logistics barge that would occur under both Crane Options would result in the placement of a minimal amount of temporary fill material (i.e., geotextile and crushed limestone) below SHW and/or MHW. The shoreline stabilization activities would require a CWA Section 404 and Section 10 of the Rivers and Harbors Act permit from the U.S. Army Corps of Engineers (USACE), a Section 401 Water Quality Certification from NYSDEC, and a NYSDEC Protection of Waters Permit.

Minor grading to approximately 0.095 acres of freshwater wetland located between the MNR tracks and NYS Route 9D may also occur and would require a CWA Section 404 permit from USACE if deemed to be under USACE jurisdiction, and a Section 401 Water Quality Certification and Article 24 Freshwater Wetlands Permit from NYSDEC if deemed to be under NYSDEC jurisdiction. Work within the wetlands would include grading and plantings to enhance the ecological functions and values of the wetlands. Proposed regrading in the wetlands would result in a net-fill of about 59.7 cubic yards. Filling would generally include well-graded amended native soil from on-site. Proposed filling is less than three feet in depth at specific areas to support grading for drainage. Total area of wetlands within the finished Project would be approximately 0.29 acres, an approximate increase of 0.10 acres of wetland habitat. Regraded areas would be planted with a diverse palette of native wetland species and would follow the OPRHP Native Plant Policy. In addition, invasive species would be removed from other areas within the wetlands and these areas would be replanted with the same native species palette as the regraded areas.

Measures to further minimize potential impacts to wetlands and other waters of the United States and to New York State surface waters would be explored as the Project design advances to ensure the Project would have no more than a small potential impact on these waterbodies.

*e. The proposed action may create turbidity in a waterbody, either from upland erosion, runoff or by disturbing bottom sediments.*

**Impact Level:** Small impact.

**Description:** Erosion and sediment control measures (e.g., silt fencing, inlet protection, surface stabilization, and dust control) would be implemented in accordance with the SWPPP prepared for the Project as required by the New York State Pollutant Discharge Elimination System (SPDES) General Permit GP-0-20-001 for Stormwater Discharges from Construction Activity (General Permit). Erosion and sediment control measures would minimize the potential for sediments to discharge to the Hudson River during upland construction activities. Refer to the Full EAF Part 1 (Attachment A, Revised Project Description and the response to D.1.h) for additional details on proposed stormwater management practices.

Piles securing the logistics barges would be installed on the river bottom by self-weight. The resulting increase in suspended sediments due to pile installation would be minimal and would be localized. Sediments that become resuspended when the spuds are demobilized would dissipate quickly with the tidal currents of the river and would not result in long term adverse impacts to water quality or aquatic biota. Additionally, barges and any other smaller vessels would maintain a 2-foot separation from the mudline at all times to minimize the potential for sediment resuspension.

Native plantings would be incorporated to restore disturbed areas. The new steward station may incorporate a green roof, which would help reduce runoff. The Project minimizes impervious surfaces to 1.7 acres through the use of flagstone pavers on crushed stone at the comfort station area, permeable pavers in portions of the parking lots, and crushed stone surfacing for on-grade sections of the trail.

*f. and g. Not applicable.*

*h. The proposed action may cause soil erosion, or otherwise create a source of stormwater discharge that may lead to siltation or other degradation of receiving water bodies.*

**Impact Level:** Small impact.

**Description:** The use of silt barriers or turbidity barriers during shoreline stabilization under both Crane Options, would minimize the potential for sediment re-suspension during placement of the geotextile and crushed limestone that would adversely affect water quality and aquatic biota of the Hudson River. The Project Site is strongly influenced by the tidal currents of the Hudson River and any temporary increase in suspended sediment and localized turbidity that may result from the installation of shoreline stabilization would dissipate shortly after the completion of the sediment disturbing activity.

Erosion and sediment control measures implemented in compliance with the SWPPP, similar to that described in response to 3.e. above, would minimize the potential for soil erosion and discharge of sediments to nearby waterbodies. Stormwater management would be incorporated into the Project design with a series of swales for water quality treatment prior to the stormwater runoff being discharged to the Hudson River, in accordance with NYSDEC standards. The drainage design for the Project intends to largely maintain existing flow patterns and proposes to keep existing culverts crossing under NYS Route 9D and the MNR tracks. The proposed vegetated swales would reduce runoff and promote infiltration through soil improvement and are expected to reduce stormwater impacts and minimize flood impacts to MNR properties and operations and to NYS Route 9D. The swales would treat water prior to discharge into the Hudson River. With these measures in place, potential impacts related to stormwater runoff and erosion during construction and operation of the Project would be minimized.

*i. The proposed action may affect the water quality of any water bodies within or downstream of the site of the proposed action.*

**Impact Level:** Small impact.

**Description:** Erosion and sediment control measures would be incorporated to minimize the potential for discharge into nearby waterbodies, as described in response to 3.e and 3.h, above. The design of stormwater management practices would conform to NYSDEC's New York State Stormwater Management Design Manual, minimizing the potential for upland erosion to result in discharge of sediments to downstream/downgradient surface waters.

Potential increases in suspended sediment in the Hudson River may occur during installation by self-weight of the spud piles securing the logistics barges and during installation of the temporary shoreline. The potential increases in suspended sediment for the installation of the spud piles by self-weight would be minimal, short-term, and localized. The potential increases in suspended sediment resulting from the installation of the temporary shoreline stabilization would be contained within silt barriers or turbidity barriers. Sediments that become resuspended during these activities are expected to dissipate quickly with the tidal currents of the river and would not result in long term adverse impacts to water quality or aquatic biota. Additionally, barges and any other smaller vessels would always maintain a 2-foot separation from the mudline during all tidal cycles to minimize the potential for sediment resuspension.

Post-construction stormwater management measures, such as swales for water quality treatment prior to discharge to the Hudson River, would protect water quality of the Hudson River.

With these measures in place, the Project would result in no more than a small potential impact on water quality.

*j. and k. Not applicable.*

#### **4. IMPACT ON GROUNDWATER**

**The proposed action may result in new or additional use of ground water, or may have the potential to introduce contaminants to ground water or an aquifer.**

*a. The proposed action may require new water supply wells, or create additional demand on supplies from existing water supply wells.*

*b. Water supply demand from the proposed action may exceed safe and sustainable withdrawal capacity rate of the local supply or aquifer.*

Impact Level: Small impact.

Description: A new water supply well would be constructed southwest of the comfort stations. The maximum water demand for the comfort stations is estimated to be 23.3 gallons per minute (gpm). The results of testing have demonstrated that groundwater is available to supply a new well, and that the aquifer would recharge sufficiently. At the well location, a six-inch-inner-diameter steel casing was installed into bedrock to about 40 feet deep, and a 6-inch-diameter well-hole was then drilled into bedrock to about 310-feet deep. A pump test was conducted in the well-hole and proved about 30-gpm of water yield, which would sufficiently accommodate the anticipated water demand. Although the FEAF Part 1 E.2.1., run on the EAF Mapper, indicates a Principal Aquifer at the Project Site, additional mapping resources indicate there are no Sole-Source, Primary, or Principal Aquifers in or near the Project Site.

*c. Not applicable.*

*d. The proposed action may include or require wastewater discharged to groundwater.*

Impact Level: No impact.

Description: The comfort stations would use Clivus composting toilets that would not discharge to groundwater. Wastewater would be stored in liquid end tanks that would be pumped out by a service company.

*e.- g. Not applicable.*

## 5. IMPACT ON FLOODING

### The proposed action may result in development on lands subject to flooding

*a. Not applicable.*

*b. The proposed action may result in development within a 100-year floodplain.*

*c. The proposed action may result in development within a 500-year floodplain.*

Impact Level (for 5.b and 5.c): Small impact.

Description (for 5.b and 5.c): The Project would develop approximately 0.74 acres within the 100-year floodplain located to the west of the MNR tracks within the portion of the Project adjacent to the DEP HRDC. The Project would result in no development within the 500-year floodplain. The Hudson River is tidal, and its water level at the Project Site is controlled mainly by tidal conditions with some influence from freshwater inflow from upriver and smaller tributaries. The Project would result in minimal occupation of the floodplain. The only Project elements in the 100-year floodplain are the retaining wall to the west of the MNR tracks, three Bridge piers, the western Bridge abutment, and the trail southwest of the bridge landing extension. These structures and the trail would occupy a minimal footprint within the floodplain and would not result in significant adverse effects to the floodplain or exacerbate flooding conditions in adjacent areas. Temporary waterfront fill associated with the shoreline stabilization would be removed and the area restored at the end of the Project causing no permanent impacts to the floodplain.

*d. The proposed action may result in, or require, modification of existing drainage patterns.*

Impact Level: Small impact.

Description: The pre-development (existing) stormwater runoff storage volume between NYS Route 9D and the MNR tracks is approximately 38,400 cubic feet (CF). The Project would increase the runoff storage to approximately 126,000 CF. Therefore, the likelihood of flooding from runoff in the MNR right-of-way from equivalent storms would decrease because of the Project. Expected flow to the MNR culverts from a 2-year storm (and other storms) would be reduced because of the Project (please refer to the Draft SWPPP in **Appendix E**). It should be noted that as the Bridge design has been refined, these numbers have not changed, and current Project level flow calculations are still valid.

Grading around the Bridge would generally preserve existing drainage patterns. The Bridge deck would be a “free draining” structure. Stormwater runoff from the Bridge deck would infiltrate through nominal gaps in the timber members to the steel box girder below. Then the stormwater runoff would drip directly to the ballasted ground surface below on the north and south sides of the Bridge, similar to the current condition within the Bridge footprint during a precipitation event. The 20-foot height of the Bridge above the ground surface affords opportunity to dissipate some of the runoff from the Bridge through dispersal to the air minimizing any potential for erosion of the ground surface below. The ballast below the bridge in the track corridor would be resistant to erosion from the free-draining structure. No additional surface flow would be directed toward the track corridor. Outside the MNR right-of-way, any surface runoff from the Bridge structure would be taken into consideration through the landscape design, such as use of erosion resistant ground surfacing including gravel and/or planting of appropriate vegetation. Therefore, the free draining Bridge structure would not adversely affect

existing drainage patterns. Revisions to the Draft SWPPP will be sent to MNR, DEP and NYSDOT for their review and comments.

*e. and f. Not applicable.*

## 6. IMPACTS ON AIR

*Not applicable.*

## 7. IMPACT ON PLANTS AND ANIMALS

**The proposed action may result in a loss of flora or fauna.**

*a. The proposed action may cause reduction in population or loss of individuals of any threatened or endangered species, as listed by New York State or the Federal government, that use the site, or are found on, over, or near the site.*

Impact Level: Small Impact.

Description: The New York Natural Heritage Program (NYNHP) database indicates that four federally-listed animal species and five state-listed animal species may potentially occur in or near the Project Site. The NYNHP database also indicates one Special Concern species. The U.S. Fish and Wildlife Service (USFWS) Information for Planning and Consultation (IPaC) Official Species List reports four additional species. See Table 2.

Table 2:

Common Name	Scientific Name	Federal Status	NYS Status	Source
Atlantic Sturgeon	<i>Acipenser oxyrinchus</i>	Endangered	NYS Protected	NYNHP
Bald Eagle	<i>Haliaeetus leucocephalus</i>	Protected*	Threatened	NYNHP, IPaC
Eastern Wormsnake	<i>Carphophis amoenus</i>		Special Concern	NYNHP
Fence Lizard	<i>Sceloporus undulatus</i>		Threatened	NYNHP
Golden Eagle	<i>Aquila chrysaetos</i>	Protected*	Endangered	IPaC
Indiana Bat	<i>Myotis sodalis</i>	Endangered	Endangered	IPaC
Monarch Butterfly	<i>Danaus plexippus</i>	Candidate		IPaC
Northern Long-eared Bat	<i>Myotis septentrionalis</i>	Endangered**	Threatened	IPaC
Peregrine Falcon	<i>Falco peregrinus</i>	Protected***	Endangered	NYNHP
Shortnose Sturgeon	<i>Acipenser brevirostrum</i>	Endangered	Endangered	NYNHP

Timber Rattlesnake	<i>Crotalus horridus</i>		Threatened	NYNHP
<p>* Note that although not federally listed, Bald and Golden Eagles and their nests are granted special protections under the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act.  ** In November 2022, the USFWS published a final rule to reclassify Northern Long-eared Bats from Threatened to Endangered status under the Endangered Species Act. The rule takes effect on January 30, 2023.  *** Protected under the Migratory Bird Treaty Act</p>				

To date, the project sponsor has had multiple consultation occurrences (i.e. calls, meetings, on-site visits) with NYSDEC regarding potential impacts to threatened and endangered species and their habitat to inform the impact analysis and mitigation measures identified below. As the Project will require permits from USACE under the CWA and the Rivers and Harbors Act, consultation with USFWS has been conducted through its IPaC system and consultation with the National Marine Fisheries Service (NMFS), with respect to Essential Fish Habitat (EFH) and threatened and endangered species, will be conducted during the permitting process.

**Bald Eagle (*Haliaeetus leucocephalus*)**

The bald eagle is listed as threatened in New York State and federally protected under the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act. Throughout their range, bald eagles have shown dramatic generational adaptation to disturbance and development over the past few decades (Johnson 2010, Guinn 2013). This has partly led to the national population more than quadrupling in size in recent times (USFWS 2020).

Concerns for this species are related to potential noise impacts associated mainly with the construction of the Project. The closest known bald eagle nests to the Project Site are on the opposite (western) side of the Hudson River. Eagles from these locations and from nests elsewhere up- or down-river and wintering eagles have the potential to occasionally perch along the shore in the vicinity of the Project Site and occur over the open water of the Hudson River when foraging for fish or perched on ice floes. Wintering eagles commonly occur on the west side of the river, across from Dockside Park to the south and at Denning’s Point on the east side of the river to the north. Bald eagles that roost and forage in portions of the Hudson River in the vicinity of the Project Site are tolerant of the high levels of human disturbance currently generated by human recreation, the passage of trains on the MNR and CSX tracks, vehicular traffic on NYS Route 9D, and waterborne vessels on the Hudson River.

A construction noise assessment was conducted to determine the potential for impacts on nesting bald eagles in the vicinity of the Project. This assessment considered the most noise-intensive portions of construction; for example, if pile drilling were to occur at the same time as site clearing and tree removal. The noise assessment also considered the potential use of hydraulic mounted hammers if bedrock is encountered. Noise emission levels and usage factors for specific pieces of construction equipment that would be used during Project construction were determined based on guidance from the Federal Highway Administration’s Roadway Construction Noise Model. These were projected to an aggregate construction noise level at the nearest nest, which is approximately 4,900 feet from the Project Site. Details of this noise assessment are included in **Appendix F**. Given that there would be no blasting associated with the Project and that the level of activity would not be significantly different from the existing condition, construction and subsequent use of the Project would not cause significant or long-term displacement of bald eagles from foraging habitat on the Hudson River. Based on the results of the noise assessment, construction of the Project would not have the potential to impact nesting eagles, the closest nest sites of which are on the opposite side of the river. Additionally, the tops of cranes and any other tall construction equipment would be marked with flagging to prevent bald

eagles from landing on them and potentially becoming impinged. Therefore, the Project would have no more than a small potential impact on bald eagles.

### **Golden Eagle (*Aquila chrysaetos*)**

The golden eagle is listed as endangered in New York State and protected under the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act. The NYNHP does not list golden eagles in the area, however they are included on the USFWS IPaC as being present in the region. Golden eagles winter directly across the river from the project site at Storm King Mountain and may also occur near the Project Site as occasional transients during migration. There are a few wintering sites in Dutchess County, one of which has been used by golden eagles since the 1970s (NYNHP 2022), but all of these sites are outside of NYSDEC's screening distance from the Project Site and no time of year restrictions would be required (NYSDEC 2022). The tops of cranes and any other tall construction equipment would be marked with flagging to prevent golden eagles from landing on them and potentially becoming impinged. Therefore, the proposed action would be expected to have no impact on golden eagles.

### **Peregrine Falcon (*Falco peregrinus*)**

The peregrine falcon is currently listed as endangered in New York State and federally protected under the Migratory Bird Treaty Act. However, peregrine falcons have recovered significantly in New York State since a sharp population decline in the mid-1900s. The Lower Hudson Valley in particular has become a stronghold for peregrine falcons and an epicenter of population recovery in New York State and the Northeast (Loucks 2008). Due to this recovery and population trend, NYSDEC has proposed down-listing peregrine falcon from endangered to a species of special concern in its next revision of the state's list of endangered, threatened, and special concern species (NYSDEC 2019).

Peregrine falcons nest in HHSPP on exposed ledges overlooking the Hudson River. Multiple pairs have nested on ledges on Breakneck Ridge in recent years (Wells 1998; Graham and Kiviat, 2021; OPRHP 2010a, 2021). The proposed steward station and improvements of existing trails for the Upper Overlook on Breakneck Ridge are the closest Project elements to a peregrine falcon nest site on Breakneck Ridge. Specifically, the improvements to the Upper Overlook area's "scramble trail" would be approximately 200 feet from the closest nest. On the Upper Overlook area, the Project considers eliminating one trail and formalizing some existing "social trails" that have been created by people deviating from the officially designated Breakneck Ridge Trail. This improvement is intended to reduce human disturbance to the area that currently results from hikers meandering around the Ridge, off-trail. After construction, this portion of the Project would not result in a substantial difference in current levels of human activity on the heavily trafficked Breakneck Ridge Trail. Equipment to be used for the Upper Overlook work includes hand tools and hand-operated rigging gear. Should sufficient snow cover be present in winter, mechanized narrow tracked crawler carriers (28 inches wide) may be used on the north side of Breakneck Ridge to move stones up to the site.

The portions of the Project Site located along NYS Route 9D, the MNR tracks, and the river's edge are far from high-elevation areas that are known or potential nesting sites for peregrine falcons. Peregrine falcons would not be expected to occur on or along the portion of the Project Site along the shoreline, except infrequent potential occurrences of birds perched for brief periods between hunting bouts.

The Project would not be expected to have any effect on peregrine falcons or their continued use of Breakneck Ridge for nesting given the species' notable ability to habituate to and tolerate human disturbance. Their high tolerance for disturbance is evidenced by their increasing commonness in cities, on bridges, and in other such areas with extremely high levels of noise and human activity (Cade et al. 1996, White et al. 2002). Peregrine falcons have been described as tolerant of almost any level of human



activity, provided they feel their nest is inaccessible (Ratcliffe 1972), and they are notoriously reluctant to abandon nest sites at which they have successfully nested before (Cade et al. 1996, White et al. 2002). As detailed in **Appendix G**, Project construction would result in a negligible change in existing noise levels to which nesting peregrine falcons on Breakneck Ridge are already exposed due to motor vehicle and commuter rail activity below, and other sources. This minor incremental change would not be expected to cause nest site abandonment, behavioral changes, or chronic stress that would result in reduced nesting success. To further minimize the potential for any impacts to this species, any need for work to be performed during the restricted period (Feb 1 through July 31) will be undertaken only after consultation with NYSDEC and in compliance with their required mitigation measures. The tops of cranes and any other tall construction equipment would also be marked with flagging to prevent peregrine falcons from landing on them and potentially becoming impinged. For these reasons, the Project would have no more than a small potential impact on peregrine falcon.

### **Indiana Bat (*Myotis sodalis*)**

The Indiana bat is a federally and state-listed endangered species. Habitats used by Indiana bats outside of their winter hibernation period are varied and include riparian, bottomland/floodplain, and upland forests (Humphrey et al. 1977, Britzke et al. 2006, Watrous et al. 2006), often within agricultural landscapes (Murray and Kurta 2004, Watrous et al. 2006, USFWS 2007a). They typically roost near forest gaps or edges, where trees receive direct sunlight for much of the day (Callahan et al. 1997, Menzel et al. 2002), and forage along forest edges or over fields and other large open habitats. The Indiana bat is listed by the USFWS IPaC System as potentially present in or near the Project Site. NYNHP has records of a hibernaculum and maternity colonies to the east, north, and across the Hudson River to the west of the Project Site, but all of these occurrences are at least five miles away. While Indiana bats have not been documented anywhere within HHSP (OPRHP 2010a, 2021a), they have not specifically been surveyed for in this area and there is potential habitat within the wooded areas near Breakneck Ridge that could be used for foraging or roosting.

As a precautionary measure, all tree clearing (3-inch diameter at breast height [dbh] or larger) to construct the Project would be limited to the winter hibernation period (November 1–March 31). This would avoid the potential for direct impacts to Indiana bats during the active season. All trees cut during January through March would also be inspected for nesting birds of prey (hawks, eagles, and owls) prior to cutting, to avoid impacts to these federally protected species during their breeding and nesting seasons. With the protection measures described above in place, the Project would have a small potential impact on Indiana bats.

### **Northern Long-eared Bat (*Myotis septentrionalis*)**

The northern long-eared bat is a federally endangered (effective 1/30/2023) and state threatened species. Habitat of the northern long-eared bat generally includes mature, closed-canopy, deciduous or mixed forest within heavily forested landscapes (Owen et al. 2003, Carter and Feldhammer 2005, Ford et al. 2005). The northern long-eared bat is considered a forest-dependent species that is sensitive to fragmentation and requires interior forest for both foraging and breeding (Foster and Kurta 1999, Broders et al. 2006, Henderson et al. 2008). Northern long-eared bats are expected to occur in HHSP (OPRHP 2010a), which contains a vast tract of preferred forest interior habitat and is within five miles of a hibernaculum on the west side of the river (OPRHP 2021, NYNHP 2022). In contrast, woodland habitat along the Project Site is limited to small fragments with sharp edges along roads, rail tracks, and along the heavily trafficked Breakneck Ridge. Similar to Indiana bats, the NYNHP has records of northern long-eared bat hibernacula and maternity colonies across the Hudson River and to the east of the Project Site, but all of these occurrences are at least five miles away. The occurrence of northern

long-eared bats in the vicinity of the Project Site is expected to be unlikely, particularly considering the abundance of preferred forest-interior habitat available in the eastern portions of HHSPP.

As with the Indiana bat, as a precautionary measure, all tree clearing (3-inch dbh or larger) to construct the Project would be limited to the winter hibernation period (November 1–March 31). This would avoid any potential for direct impacts to northern long-eared bats during the active season. All trees cut during January through March would also be inspected for nesting birds of prey (hawks, eagles, and owls) prior to cutting, to avoid impacts to these federally protected species during their breeding and nesting seasons. With the protection measures described above in place, the Project would have a small potential impact on northern long-eared bats.

#### **Timber Rattlesnake (*Crotalus horridus*)**

The timber rattlesnake is a New York State threatened species that once ranged throughout most forested, hilly portions of New York State, but is now limited to remnant, isolated populations in the Hudson Valley, Catskills, Southern Tier, and eastern edge of the Adirondacks. Timber rattlesnakes are typically found in deciduous forests containing thick understory vegetation, large woody debris, and rock outcrops or talus slopes, often near surface waters. They may also occur in edge habitats (Gibbs et al. 2007, Ulev 2008). Winter dens are typically on south-facing, rocky slopes with closed-canopy forest that has nearby gaps or other openings that receive abundant sunlight (Ulev 2008).

The NYNHP has records of timber rattlesnake hibernaculum, gestating/birthing area, basking/shedding area, and foraging area within 1.5 miles of the Project Site. OPRHP staff conducted targeted surveys to determine the potential for these timber rattlesnake habitats to occur within the Project Site (Jaycox 2021, 2022). The Upper Overlook area of the Project Site comprises hardwood forest/rocky summit habitats surrounding the Breakneck Ridge trailhead leading to a small rocky summit community that is characterized by exposed bedrock outcroppings with some scattered rock slabs. These areas contain potential timber rattlesnake habitat suitable for foraging and basking but are likely unsuitable for gestating, birthing, or denning (Jaycox 2022). The woodlands on the east side of NYS Route 9D in this area are also potential foraging habitat for the species (Jaycox 2021). The portion of the Project Site between NYS Route 9D and the MNR tracks is unlikely to support this species; however, its presence cannot be ruled out (Jaycox 2021).

Concerns for this species pertain to habitat removal and direct impact to individuals. While construction activities would be conducted during the active period for timber rattlesnake, they would be conducted by hand and would result in only minimal disturbance. Measures that would be implemented to reduce potential impacts to timber rattlesnakes during construction include tree clearing outside of the active seasons (between November 1 and March 31), using an on-site NYSDEC-licensed monitor during construction activities if during the active season (April 1 to October 31), and developing and implementing an Education and Encounter Plan in coordination with NYSDEC. With these measures in place, the Project would have a small potential impact on timber rattlesnake.

#### **Eastern Fence Lizard (*Sceloporus undulatus*)**

The eastern fence lizard is listed as threatened in New York State, which represents the northernmost extent of its geographic range (Gibbs et al. 2007). Eastern fence lizards prefer xeric hardwood and conifer forests with rocky outcrops or talus slopes and can also be found in grasslands and old fields (Mitchell et al. 2006, Gibbs et al. 2007).

The NYNHP has records of eastern fence lizard within 0.5 miles of the Project Site and OPRHP and others have documented individuals of this species in the general area of the Project Site and within

HHSP (OPRHP 2010a; Graham and Kiviat, 2021). Appropriate habitat for eastern fence lizards occurs on Breakneck Ridge in the Upper Overlook portion of the Project, including at the rocky summit bedrock outcroppings at the Breakneck Ridge Trailhead, where the hardwood forest/rocky summit ecological community, containing dry, open woodland and rocky outcrops and ledges, represents suitable habitat for the species (Jaycox 2021). NYS Route 9D likely inhibits the dispersal of eastern fence lizards west to the portions of the Project Site along the shoreline from occupied habitats in more interior portions of HHSP, given that the closely related western fence lizard (*S. occidentalis*) is known to avoid roads. This includes two-lane, paved roads similar in size and traffic volume to NYS Route 9D (Brehme et al. 2013). Fence lizards may access the west side of NYS Route 9D and the MNR tracks by moving along Breakneck Ridge where the mountain goes over the highway (over the tunnel); outside the immediate vicinity of Breakneck Ridge, this area was not considered suitable habitat for fence lizards (Jaycox 2021).

As with the timber rattlesnake, construction activities in the Upper Overlook would be conducted by hand and would result in only minimal disturbance. Measures that would be implemented to reduce potential impacts to eastern fence lizard during construction include tree clearing outside of the active seasons, between November 1 and March 31, using an on-site NYSDEC-licensed monitor during construction activities if during the active season, and developing and implementing an Education and Encounter Plan in coordination with NYSDEC. With these measures in place, the Project would have a small potential impact on eastern fence lizards.

#### **Atlantic Sturgeon (*Acipenser oxyrinchus*) and Shortnose Sturgeon (*Acipenser brevirostrum*)**

The New York Bight Distinct Population Segment of the Atlantic sturgeon, which includes sturgeon from the Hudson River, is Federally listed as endangered. Atlantic sturgeon spend most of their lives in marine waters along the Atlantic coast. Adults migrate from the ocean upriver to spawn in fresh water above the salt front in the Hudson River from late April to early July. Juvenile Atlantic sturgeon could potentially occur in the study area at any time throughout the year; however, sub-adult and adult Atlantic sturgeon and early life stages occur in the Hudson River seasonally during the late spring to fall months and potentially occur in the study area during those months. The NMFS has designated critical habitat for Atlantic sturgeon along the length of the tidal Hudson River. NYSDEC annual monitoring of juvenile Atlantic sturgeon shows a significant increase in relative abundance in the Hudson River since 2004 but are still at risk of mortality from fisheries bycatch, vessel strikes, and habitat loss and degradation (Pendleton and Adams 2021).

The shortnose sturgeon is a Federally and state-listed endangered species that can occur in riverine, estuarine, and marine environments along the Atlantic coast of North America. Shortnose sturgeon are distributed throughout the Hudson River, though their distribution varies by life stage and time of the year (NMFS 2018). Shortnose sturgeon are also known to occur at a wide range of depths. A minimum depth of 0.6 meters (approximately two feet) is necessary for the unimpeded swimming by adults and they are known to occur at depths of up to 30 meters (98.4 feet) but are generally found in waters less than 20 meters (65.5 feet) (Dadswell et al. 1984; Dadswell 1979). Shortnose sturgeon typically occur in the deepest parts of rivers or estuaries where suitable oxygen and salinity values are present (Gilbert 1989); however, they forage on vegetated mudflats and over shellfish beds in shallower waters when suitable forage is present (NMFS 2018).

Construction of the Project would result in shoreline stabilization that would extend below MHW. This shoreline stabilization would result in the placement of a minimal amount of temporary fill material below SHW and/or MHW, which would require permits from the USACE and NYSDEC. All materials placed along the shoreline would be removed at the completion of construction. The temporary

placement of any fill material would represent a minimal loss of potential foraging habitat for shortnose and Atlantic sturgeon when compared to the amount of similar habitat elsewhere in the Hudson River.

Under Crane Options 1 and 2, up to four construction barges could be present on site at the same time for Bridge construction and up to three barges could be present at the same time for the construction of the southbound MNR platform. The resulting overwater coverage would be about 2 acres. However, it would be temporary and certain barges such as materials barges would arrive intermittently (about 10 times during the construction period) and would remain on site for up to one week at each occurrence, and other barges such as the equipment barge for the southbound MNR platform would only be expected to be at the site for 1 week.

Potential increases in suspended sediment during installation by self-weight of the piles securing the logistics barges and temporary shoreline stabilization activities would be temporary and localized. The use of turbidity barriers during the installation of the temporary shoreline stabilization would further minimize discharge of sediment to the Hudson River. Sediments that become resuspended during these activities are expected to dissipate quickly with the tidal currents of the river and would not result in long term adverse impacts to water quality or aquatic biota. Additionally, barges and any other smaller vessels would always maintain a 2-foot separation from the mudline during all tidal cycles to minimize the potential for sediment resuspension. The area affected by the temporary shoreline stabilization would be restored when the Project is demobilized. Ongoing coordination with NYSDEC, USACE, and NMFS will determine any additional measures required to further minimize impacts to sturgeon. Therefore, the Project would have a small potential impact on Atlantic and shortnose sturgeon.

### **Rare Plant Species**

The NYNHP database indicates a number of historical and extant occurrences of rare plant species near the Project Site. In consultation with NYNHP, two of those rare plant species are most likely to be found in or near the Project Site: stiff flat-topped goldenrod (*Solidago rigida* var. *rigida*) and one species of prickly pear (*Opuntia* spp.), although the likelihood for either species in the area of the Project Site is very low according to NYNHP. Stiff flat-topped goldenrod (*Solidago rigida* var. *rigida*) is listed as threatened in New York State. It grows well in successional old fields and other grassland habitats. Its largest threat is development and highway construction as well as invasive species (NYNHP 2022ba). OPRHP stewardship staff conducted a survey for the goldenrod species along the MNR tracks and NYS Route 9D at the Project Site during an appropriate time of year (late August). Very few goldenrod species were seen, and no stiff flat-topped goldenrod were observed in the area of the Project Site during this survey. Additionally, Graham and Kiviat (2021) did not find any stiff flat-topped goldenrod during a site visit at Breakneck Point in September 2021. Although this cannot completely rule out the presence of the species in or near the Project Site, it continues to support the opinion that the likelihood for presence is very low, and it is highly unlikely that the Project would impact this species.

There are two distinct species of prickly pear that grow in New York, both within the *Opuntia* genus. *Opuntia humifusa*, also called Eastern prickly pear or devil's-tongue, is listed as apparently secure in New York State. It is a highly salt-tolerant plant which grows well in sandy, thin fields, sandy maritime areas, woodlands, and rocky summits and outcrops. *Opuntia cespitosa* was more recently recognized as a separate species and is the rarer cacti in New York State (Aboagye 2022). *Opuntia cespitosa* is listed as state endangered and grows in similar habitats to *O. humifusa*, except that it is found more inland and on calcareous rock. The most likely location within the Project Site where prickly pear may be found is the Upper Overlook area. These species would be clearly identified as cacti and have not been identified at this very high-use area by OPRHP staff nor others, including during the same survey period as noted above. In addition, most of the Project work in the Upper Overlook would occur on

existing trails with the exception of the steward station construction (where no cacti have been identified). Therefore, it is highly unlikely that either species would be impacted by this Project.

*b. The proposed action may result in a reduction or degradation of any habitat used by any rare, threatened or endangered species, as listed by New York State or the federal government.*

Impact Level: Small Impact.

Description:

### **Bald Eagle**

As described above, the closest known bald eagle nests to the Project Site are on the opposite (western) side of the Hudson River. The Project would not be expected to impact bald eagle nesting habitat, as there are no known nests within or near the Project Site and those on the western side of the river would not be expected to be impacted by the construction or use of the trail due to intervening distance and existing, noise-generating uses including traffic on the river, rail lines along the river, and traffic on NYS Route 9D. Individual bald eagles looking for roosting trees at the river's edge may look to other areas of the shoreline during construction of the Project but this would be a temporary condition. Therefore, the Project would have a small potential impact on bald eagle habitat.

### **Golden Eagle**

As noted above, golden eagles are only likely to occur near the Project Site as occasional transients during migration and in winter. There is a wintering site across the Hudson River at Storm King Mountain and at least two sites in Dutchess County, one of which has been used since the 1970s (NYNHP 2022), but all of these sites are outside of NYSDEC's screening distance from the Project Site and no time of year restrictions would be required (NYSDEC 2022). Therefore, the proposed action would not be expected to impact golden eagle habitat.

### **Peregrine Falcon**

Peregrine falcons nest in HHSPP, on exposed ledges overlooking the river, including at Breakneck Ridge (Wells 1998; OPRHP 2010a, 2021). The proposed steward station and improvement of existing trails for the Upper Overlook on Breakneck Ridge would not result in a substantial difference from the existing condition of the currently heavily trafficked Breakneck Ridge Trail. The Project would close/restore some social trails while formalizing other existing trails, which would be expected to reduce the impact resulting from hikers meandering around on the Ridge off designated trails. The portions of the Project Site along NYS Route 9D, MNR tracks, and the Hudson River's edge are far from high-elevation areas that are known or potential nesting sites for peregrine falcons.

As discussed above and in detail in **Appendix G**, the Project would not be expected to have any effect on peregrine falcons or their continued use of Breakneck Ridge for nesting. Peregrine falcons have a notable ability to habituate to and tolerate human disturbance and are notoriously reluctant to abandon nest sites at which they have successfully nested before (Cade et al. 1996, White et al. 2002). Further, Project construction would result in only a negligible change in existing noise levels to which nesting peregrine falcons on Breakneck Ridge are already exposed due to motor vehicle and commuter rail activity below, and other sources (**Appendix G**). This minor incremental change would not be expected to cause nest site abandonment, or behavioral changes or chronic stress that would result in reduced nesting success. As such, the Project would not be expected to adversely impact the peregrine falcon. Any need for work to be performed during the restricted period (Feb 1 through July 31) will be undertaken only after consultation with NYSDEC and in compliance with their required mitigation measures. The tops of cranes and any other tall construction equipment would also be marked with

flagging to prevent peregrine falcons from landing on them and potentially becoming impinged. Therefore, the Project would have a small potential impact on peregrine falcon habitat.

### **Indiana Bat**

Habitats used by Indiana bats outside of their winter hibernation period are varied and include riparian, bottomland/floodplain, and upland forests (Humphrey et al. 1977, Britzke et al. 2006, Watrous et al. 2006), often within agricultural landscapes (Murray and Kurta 2004, Watrous et al. 2006, USFWS 2007a). They typically roost near forest gaps or edges, where trees receive direct sunlight for much of the day (Callahan et al. 1997, Menzel et al. 2002), and forage along forest edges or over fields and other large open habitats. As discussed above, while Indiana bats are not known to occur anywhere within HHSPP, there is potential habitat for them within the wooded areas near Breakneck Ridge that could be used for foraging or roosting.

Most of the tree clearing for the Project would occur directly along NYS Route 9D and the MNR tracks and would occur from November 1 through March 31. Tree clearing in general has the potential to reduce bat habitat. Trees necessary for removal have been specifically identified with some larger trees identified to remain and be protected during construction. The loss of some trees along the Project corridor is not likely to significantly reduce habitat for Indiana bat given the vast tract of preferred forest interior habitat present nearby and given that this area is already heavily trafficked by vehicles, visitors, and trains. The Project would have a small potential impact on Indiana bat habitat.

### **Northern Long-eared Bat**

Habitat of the northern long-eared bat generally includes mature, closed-canopy, deciduous or mixed forest within heavily forested landscapes (Owen et al. 2003, Carter and Feldhammer 2005, Ford et al. 2005). The northern long-eared bat is considered a forest-dependent species that is sensitive to fragmentation and requires interior forest for both foraging and breeding (Foster and Kurta 1999, Broders et al. 2006, Henderson et al. 2008). Northern long-eared bats are expected to occur in HHSPP (OPRHP 2010a), which contains a vast tract of preferred forest interior habitat and is within five miles of a hibernaculum on the west side of the river (OPRHP 2021, NYNHP 2022). In contrast, woodland habitat along the Project Site is limited to small fragments with sharp edges along roads, rail tracks, and the heavily trafficked Breakneck Ridge. Northern long-eared bats are not likely to occur in the vicinity of the Project Site, although their presence is possible.

As with the Indiana bat, most of the tree clearing for the Project would occur directly along NYS Route 9D and the MNR tracks and would occur from November 1 through March 31. Tree clearing in general has the potential to reduce bat habitat. Trees necessary for removal have been specifically identified with some larger trees identified to remain and be protected during construction. The loss of some trees along the Project corridor is not likely to significantly reduce habitat for northern long-eared bat given the vast tract of preferred forest interior habitat present nearby and given that this area is already being heavily trafficked by vehicles, visitors, and trains. The Project would have a small potential impact on northern long-eared bat habitat.

### **Timber Rattlesnake**

Timber rattlesnakes are typically found in deciduous forests containing thick understory vegetation, large woody debris, and rock outcrops or talus slopes, often near surface waters. They may also occur in edge habitats (Gibbs et al. 2007, Ulev 2008). Winter dens are typically on south-facing, rocky slopes with closed-canopy forest that has nearby gaps or other openings that receive abundant sunlight (Ulev 2008). There is habitat for timber rattlesnake within the Upper Overlook portion of the Project Site, but only for foraging and/or basking. The portion of the Project Site between NYS Route 9D and the MNR tracks is unlikely to support this species; however, its presence here cannot be ruled out.

Proposed trail enhancements and the steward station at the Upper Overlook would result in a small reduction of potential habitat for timber rattlesnake. As described above, measures would be implemented to reduce potential impacts to this species during construction of the Project. With these measures in place, the Project would have a small potential impact on timber rattlesnake habitat.

### **Eastern Fence Lizard**

Eastern fence lizards prefer xeric hardwood and conifer forests with rocky outcrops or talus slopes and can also be found in grasslands and old fields (Mitchell et al. 2006, Gibbs et al. 2007). They have been documented within HHSPP (OPRHP 2010a), and the NYNHP has records of the species in the general area of the Project Site. Appropriate habitat for eastern fence lizards occurs on Breakneck Ridge, where there is dry, open woodland, and rocky outcrops and ledges (Jaycox 2021). NYS Route 9D likely inhibits the dispersal of eastern fence lizards west to the portions of the Project Site along the shoreline from occupied habitats in more interior portions of HHSPP, given that the closely related western fence lizard (*S. occidentalis*) is known to avoid roads. This includes two-lane, paved roads similar in size and traffic volume to NYS Route 9D (Brehme et al. 2013). Fence lizards may access the west side of NYS Route 9D and the MNR tracks by moving along Breakneck Ridge where the mountain goes over the highway (over the tunnel); outside the immediate vicinity of Breakneck Ridge, this area was not considered suitable habitat for fence lizards (Jaycox 2021).

Proposed trail enhancements and the steward station at the Upper Overlook would result in a small reduction of potential habitat for eastern fence lizard. The steward station is located directly adjacent to the existing trail which limits new disturbance to a central area. The enclosed structure is designed at less than 100 square feet (approximately 70 square feet) with the roof structure extending for an additional approximately 260 square feet. The existing natural ground surface under the roof extension has no planned new surfacing material and is expected to remain natural surfacing. Trail enhancements would take place along existing trails for the most part to limit new disturbance and would include closure of some existing social trails. These closures and restoration would reduce visitor use of these areas and provide more undisturbed potential fence lizard habitat back on the Project Site. As described above, measures would be implemented to reduce potential impacts to this species during construction of the Project. Consultation between OPRHP and NYSDEC with respect to minimization and mitigation measures for eastern fence lizard is ongoing. With these measures in place, the Project would have a small potential impact on eastern fence lizard habitat.

### **Atlantic Sturgeon and Shortnose Sturgeon**

Juvenile Atlantic sturgeon could potentially occur in the area at any time throughout the year; however, sub-adult and adult Atlantic sturgeon and early life stages occur in the Hudson River seasonally during the late spring to fall months and potentially occur in the study area during those months. Shortnose sturgeon are distributed throughout the Hudson River, though their distribution varies by life stage and time of the year (NMFS 2018). Shortnose sturgeon are also known to occur at a wide range of depths. A minimum depth of 0.6 meters (approximately two feet) is necessary for the unimpeded swimming by adults and they are known to occur at depths of up to 30 meters (98.4 feet) but are generally found in waters less than 20 meters (65.5 feet) (Dadswell et al. 1984; Dadswell 1979). Shortnose sturgeon typically occur in the deepest parts of rivers or estuaries where suitable oxygen and salinity values are present (Gilbert 1989); however, they forage on vegetated mudflats and over shellfish beds in shallower waters when suitable forage is present (NMFS 2018).

Consultation with NYSDEC and USACE with respect to minimization and mitigation measures to protect sturgeon is ongoing. Sturgeon would likely avoid the area during construction activities. Spud piles that would be installed to secure any logistics barges within the Hudson River would not be considered fill within Waters of the United States. Temporary shoreline stabilization activities would

require the placement of a minimal amount of temporary fill below SHW and/or MHW along the Hudson River shoreline; any fill would be removed, and the area restored, once construction is complete. Placement and removal of fill and restoration of the shoreline would be in accordance with conditions issued in USACE and NYSDEC permits for these in-water construction activities. No submerged aquatic vegetation (SAV) is documented within the vicinity of the proposed barge zones. During construction of the southbound MNR platform and the Bridge, in-water activities associated with construction of these elements may cause sturgeon to temporarily avoid the area in the vicinity of the proposed barge zones and any shoreline stabilization, eliminating potential foraging habitat during the in-water construction period. However, the area affected temporarily by in-water construction activities is small compared to the available habitat elsewhere along the Hudson River. The spud piles that secure the logistics barges would be inserted into the sediment by self-weight which would not generate underwater noise. The only underwater noise resulting from the Project would be temporary engine noise from marine vessels. For these reasons, the Project would have a small potential impact on Atlantic and shortnose sturgeon habitat.

### **Monarch Butterfly (*Danaus plexippus*)**

The monarch butterfly is a recently listed candidate species under Section 7 of the Endangered Species Act (ESA). Monarch butterflies are primarily found in open meadows and fields with wildflowers, including milkweed (*Asclepias* spp.), coastal beaches with dunes, and man-made butterfly gardens (NYSDEC 2022, ECOS 2022). While these habitats do not exist within the Project Site, wildflowers and milkweed that could provide habitat for the monarch butterfly may be present. Monarch butterflies would likely avoid the area during construction, but post-construction landscaping of native coastal plants might attract them to the area. For these reasons, the Project would have a small, temporary potential impact on monarch butterfly habitat.

### **Rare Plant Species**

The Project is highly unlikely to reduce existing habitat for stiff flat-topped goldenrod and the state-endangered prickly pear species (*Opuntia cespitosa*). A survey of the potential habitat was conducted for both species in the area of the Project Site during an appropriate time of year (late August) and none were found. Although this cannot completely rule out the presence of the species in or near the Project Site, it continues to support the opinion that the likelihood for presence is very low, and it is highly unlikely that the species will be impacted by the Project.

*c. The proposed action may cause reduction in population, or loss of individuals, of any species of special concern or conservation need, as listed by New York State or the federal government, that use the site, or are found on, over, or near the site.*

Impact Level: Small Impact.

Description:

### **Eastern Wormsnake (*Carphophis amoenus*)**

The eastern wormsnae's range within New York is limited to a few counties in the southeastern part of the state and on Long Island, as well as Albany County (Gibbs et al. 2007). It is uncommon in New York State relative to other northeastern states (DeGraaf and Yamasaki 2001, Gibbs et al. 2007) and is listed as a species of special concern. Eastern wormsnaes are most closely associated with damp forests with mesic, loose soils into which they can burrow, but they are also found in dry forests and a variety of other woodland habitat types (DeGraaf and Yamasaki 2001, Mitchell et al. 2006, Gibbs et al. 2007), where macrohabitat selection can be highly variable and generalistic (Orr 2006, Diefenbacher



and Pauley 2014). They are not considered highly sensitive to fragmentation, as they can occur in small habitat islands, including in urban areas (Klemens 1993, Russell and Hanlin 1999, Herrera and Cove 2020). Eastern wormsnares have been documented within HHSPP (OPRHP 2010a) and could occur within the Project Site.

Similar protection measures to those proposed for eastern fence lizards and timber rattlesnakes would be implemented to protect eastern wormsnake, including tree clearing outside of the active season between November 1 and March 31, using an on-site NYSDEC-licensed monitor during construction activities if during the active season, and developing and implementing an Education and Encounter Plan in coordination with NYSDEC. With these measures in place, the Project would have a small potential impact on the eastern wormsnake.

*d. The proposed action may result in a reduction or degradation of any habitat used by any species of special concern and conservation need, as listed by New York State or the Federal government.*

Impact Level: Small Impact.

Description:

#### **Eastern Wormsnake**

Given eastern wormsnake's ability to occur in a variety of habitats, the Project could result in the degradation of habitat for this species. However, the protection measures described above would minimize any potential impact during construction, and plenty of habitat would remain to support eastern wormsnake during operation of the Project. For these reasons, the Project would have a small potential impact on eastern wormsnake habitat.

*e. Not applicable.*

*f. The proposed action may result in the removal of, or ground disturbance in, any portion of a designated significant natural community.*

Impact Level: No to Small Impact.

Description:

The Project Site is adjacent to HHSPP and the Hudson River. The NYNHP has designated the following significant natural communities adjacent to or nearby the Project Site: Pitch Pine-Oak-Heath Rocky Summit, Appalachian Oak-Hickory Forest, Chestnut Oak Forest, Oak-Tulip Tree Forest, Rocky Summit Grassland, and on the west side of the Project Site is the Tidal Hudson River.

The area adjacent to the east side of NYS Route 9D along the 0.58-mile-long Project Site is Oak-Tulip Tree Forest. The Project would develop parallel parking along portions of this section and electric utilities would be moved to the east side of NYS Route 9D. Approximately 90 trees (6-inch dbh or greater) would be removed in this area for these Project elements. (Note: 3-inch dbh or greater trees planned for removal have not been counted to date.) All tree removals would occur along the edge of the Oak-Tulip Tree Forest significant natural community, but there would be no direct overlap with the mapped community. As this area is directly along NYS Route 9D, habitat quality is also likely lower.

The scramble reconstruction area in the Upper Overlook is located on the edge of Pitch Pine-Oak-Heath Rocky Summit, noted as a significant natural community. The work in this area will harden and define

the trail tread making it easier to use, with the expectation of reducing the number of visitors wandering along the ridge and protecting more of the habitat. The remainder of the Project does not occur within the footprint of a significant natural community. Therefore, the Project would have no to small potential impact on any designated significant natural community.

*g.- i. Not applicable.*

## **8. IMPACT ON AGRICULTURAL RESOURCES**

*Not applicable.*

## **9. IMPACT ON AESTHETIC RESOURCES**

**The land use of the proposed action are obviously different from, or are in sharp contrast to, current land use patterns between the proposed project and a scenic or aesthetic resource.**

*a. Proposed action may be visible from any officially designated federal, state, or local scenic or aesthetic resource.*

Impact Level: This has the potential for a moderate impact, as the Project and specifically the new Bridge is within the Hudson Highlands Scenic Area of Statewide Significance (SASS) along a mostly forested section of shoreline/upland.

Description:

### *Hudson Highlands Scenic Area of Statewide Significance*

Scenic resources are a major component of community character, and special landscape features and views contribute to a community's visual quality. To that end, the New York State Department of State (NYS DOS) Office of Planning, Development and Community Infrastructure oversees a scenic assessment program that identifies the scenic qualities of coastal landscapes, evaluates them against criteria for determining aesthetic significance, and recommends areas for designation as SASS.<sup>1</sup>

The Hudson Highlands SASS encompasses a twenty-mile stretch of the Hudson River and its shorelands and varies in width from approximately one to six miles.<sup>2</sup> It is a highly scenic and valued region of the Hudson River Valley, rich in natural beauty, cultural, and historical features. The SASS includes the Hudson River and its east and west shorelands. It extends from its northern boundary, which runs from the northern end between Scofield Ridge and Denning's Point to its southern boundary at Roa Hook (Cortlandt, NY), comprising much of HHSPP and across the Hudson River from the base of Storm King Mountain to the southern limits of Bear Mountain State Park, as well as the eastern areas of Harriman State Park. The Hudson Highlands SASS encompasses the area in which the Project would be constructed.

New York State has formally recognized the value of the area's scenic and recreational resources. For example, the HHSPP, which is under the jurisdiction of OPRHP and most of which is contained in the SASS, is a designated Park Preserve under the Parks, Recreation and Historic Preservation Law

<sup>1</sup> <https://dos.ny.gov/scenic-areas-statewide-significance-sass> (accessed November 10, 2021).

<sup>2</sup> <https://dos.ny.gov/system/files/documents/2020/08/hudson-river-valley-sass.pdf> (accessed November 10, 2021).

(Chapter 36-B, Article 20, of the Consolidated Laws of the State of New York).<sup>1</sup> Article 20 recognizes the importance of the natural and historic value of the park preserves, including HHSPP, finding that “[w]ith the loss of natural areas through development, there is a critical need for the creation of a new designation of park land containing wildlife, flora, scenic, historical and archeological sites that are unique and rare in New York State.”

#### *Guidance for Evaluating Visual Impacts*

NYSDEC has issued guidance (Program Policy DEP-00-2) to assist in the review of visual impacts of projects requiring NYSDEC actions.<sup>2</sup> Aesthetic impact occurs when there is a detrimental effect on the perceived beauty of a place or structure. Visual impact occurs when the mitigating effects of perspective do not reduce the visibility of an object to insignificant levels. Thus, while a project may be visible from a certain location, mere visibility is not a threshold of significance. Using NYSDEC’s guidance, significance is determined based on the extent to which the visibility interferes with the public’s enjoyment or appreciation of a resource. Public viewpoints (vantage points) include open space with potential views of the Project.

To evaluate the potential visual and aesthetic impacts of the Project, this section discusses views of and from the area of the Project.

#### *The Project*

The Connector Trail portion of the Project would be ‘behind’ (on the east side of) the MNR tracks from a Hudson River/western shoreline viewpoint and much of it would have trees and vegetation blocking it. Therefore, the Bridge would be the most visible element of the Project. To minimize the visual impact of the Bridge, from very early in the planning process, alternative bridge designs were considered. The ultimate design chosen is the least obvious and intrusive on the existing landscape. The Bridge is designed to be as visually quiet as possible. The abutments would appear to grow out of the existing landscape and land on either side of the MNR tracks. The Bridge, while maintaining necessary clearances for train traffic, would be visually unobtrusive as the elevation of the Bridge deck would be similar to the existing elevation of NYS Route 9D. In addition, the curvilinear design of the Bridge would conform with the surrounding geological features. Moreover, the materials and colors for the Bridge were intentionally selected to blend into the landscape. Thus, the constructed Bridge would not negatively impact the views of Breakneck Ridge.

#### *Vantage Point Analysis*

To further evaluate the potential visual and aesthetic impacts of the Project, a vantage point analysis was performed from various viewpoints, and renderings of how the Project would appear were generated. The viewpoints are from on the Hudson River and from the Breakneck Ridge Upper Overlook.

The first rendering (see **Figure 5**) shows a view from the Hudson River looking east-northeast towards the Project. From this viewpoint, the DEP HRDC is prominent as a manmade structure on the landscape. By contrast, the profile of the Bridge is minimal, and the shape, color, and orientation of the Bridge mimic the surrounding landscape. Per the DEP-00-2 guidance, significance is determined based on the extent to which the visibility interferes with the public’s enjoyment or appreciation of a resource. In this case, the Project, and particularly the Bridge component, are not anticipated to interfere with the

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<sup>1</sup> <https://www.nysenate.gov/legislation/laws/PAR/TCA20> (accessed February 4, 2022).

<sup>2</sup> New York State Department of Environmental Conservation (NYSDEC) Program Policy DEP-00-2 “*Assessing and Mitigating Visual and Aesthetic Impacts*,” dated December 13, 2019. Available at [https://www.dec.ny.gov/docs/permits\\_ej\\_operations\\_pdf/visualpolicydep002.pdf](https://www.dec.ny.gov/docs/permits_ej_operations_pdf/visualpolicydep002.pdf).

public's enjoyment of the eastern shoreline of the Hudson River, and mountainous contours of the SASS and HHSPP beyond.

The second rendering (see **Figure 6**) shows a view from the Hudson River looking east-southeast towards the Project. Similar to the view in **Figure 5**, the DEP HRDC is prominent on the landscape. The Bridge blends very well into the surrounding context, with the Bridge decking at an elevation similar to NYS Route 9D, and the curvilinear design evokes the mountaintops beyond. The Bridge and overall Project are not anticipated to interfere with the public's enjoyment of views from the Hudson River looking east.

The third rendering (see **Figure 7**) shows a view looking north, from the Upper Overlook, towards the Project, the DEP HRDC, the MNR tracks, and NYS Route 9D. Compared to the existing infrastructure and improvements on the land, the Project is unintrusive. The low profile of the Bridge helps it blend into its surroundings, and the Project is contextual.

The fourth rendering (see **Figure 8**) shows a view looking north-northwest, from the Upper Overlook, towards the Project, the NYCDEP Hudson River Drainage Chamber, the MNR tracks, and NYS Route 9D. The view is similar to the view shown in **Figure 7** but captures more of the Bridge as it slopes down and along the eastern shoreline of the Hudson River. Given the color, materials, design and clearance over the MNR tracks, the Bridge blends well into the landscape. The remaining elements of the Project, including part of the trail which can be seen in the distance, past the point where the Bridge lands next to NYS Route 9D, also conform to the natural landscape and the existing linear railroad and roadway corridors.

Views from areas west of the Hudson River, including from NYS Route 218, Storm King Mountain, and Donahue Memorial Park, would not be disrupted by the Project.

From the west side of the Hudson River, looking northeast from NYS Route 218 at its closest point to the Hudson River (where the road curves around Storm King Mountain) towards the Project, the Bridge would be visible, but appear small on the landscape, relative to its natural, mountainous surroundings. As the Bridge is designed to evoke the area's natural landscape, both in shape and color, and given its low profile, the distance from which it would be viewed from, and the limited number of people (viewers) affected, an observer would not be expected to perceive the Bridge, and the broader Project, as a uniquely new element on the landscape. The Bridge and associated trail would not impede views of the greater natural context within which it would be situated and would not interfere with the public's enjoyment of the eastern shoreline of the Hudson River.

From the west side of the Hudson River, looking from Donahue Memorial Park in Cornwall-on-Hudson eastward towards the Project, the view would be similar to that of **Figure 6**, but from a significantly farther distance away. From that viewpoint, the DEP HRDC would appear to a viewer as a notably more prominent manmade structure on the landscape than the Project. The profile of Bridge would be minimal, and the shape, color, and orientation of the Bridge would mimic the surrounding landscape. The Project, and particularly the Bridge, would not be anticipated to interfere with the public's enjoyment of the eastern shoreline of the Hudson River, and mountainous contours of the SASS and HHSPP beyond.

From Storm King Mountain on the west side of the Hudson River, the Project would be visible from some viewpoints but not others. For example, a viewer on the northern face of the mountain would not see the Project. From the eastern face of the mountain, the view would be similar to that from NYS Route 218. The Bridge and associated trail would be visible but appear small on the landscape. The view from the peak of Storm King Mountain would be at an even higher elevation than from on NYS Route 218, and thus the Project would appear to be even more on the same plane as the existing

improvements (i.e., the existing MNR tracks and NYS Route 9D) that surround it. Given the design of the Project, distance from which it would be viewed from, and the limited number of people (viewers) affected, an observer would not be expected to perceive the Bridge, and the broader Project, as a uniquely new element on the landscape.

Due to the use of barges, cranes and heavy equipment, there would be temporary visual impacts from the Hudson River and Upper Overlook during construction. While construction activities would be visible to the north from sections of the Upper Overlook, much of the vantage points from the Upper Overlook face southward or westward and would not be impeded by construction activities. For periods during construction, the Breakneck Ridge and Wilkinson Memorial Trailheads may be closed for safety reasons, during which times there would be limited visitors at the Upper Overlook vantage point, further reducing temporary visual impacts. From the Hudson River, barges and heavy equipment would be visible but construction would be temporary (up to about 24 to 30 months) and equipment would move in different areas of the Project boundary over this time. Once the waterside construction is complete, the continuation of landside construction would be less visible due to its location farther upland behind the MNR tracks. These visual impacts would be temporary.

Ultimately, construction and operation of the Project is not anticipated to result in a significant adverse visual impact to the Hudson Highlands SASS. The development of a Bridge and associated trail segment is in keeping with other, similar, recreational resources in the area. Construction of the Project would grant users greater access to the Hudson River shoreline and other natural features of the area, and provide greater connectivity to the nearby trailheads, ultimately enhancing the public's enjoyment of those resources, including the SASS. Furthermore, the materials proposed for the Project, and the proposed alignment selected for the Project, were carefully chosen to integrate the Project with its natural environment, and to blend it into the existing landscape. Finally, the size and scale of the Project, when compared to (and taken in the context of) the overall expanse of HHSPP and the surrounding landscape, support a determination that construction and operation of the Project would not interfere with the public's enjoyment of the SASS, and the other community assets within its boundaries, and that the Project would in fact enhance the public's enjoyment of them.

*b. The proposed action may result in the obstruction, elimination or significant screening of one or more officially designated scenic views.*

Impact Level: Small impact.

Description: The Project would not obstruct, eliminate, or screen any officially designated scenic views. The new Bridge would likely be visible from the Upper Overlook within HHSPP. However, the DEP HRDC, located at the foot of Breakneck Ridge, is already visible and at a higher elevation than the Bridge would be. As the Bridge is part of a new recreational amenity in this area, it is not a feature that is in sharp contrast to current recreational land uses in the area. The Bridge would follow along and over the alignment of the MNR tracks, so again, it would not be in sharp contrast.

*c. The proposed action may be visible from publicly accessible vantage points:*

- i. Seasonally (e.g., screened by summer foliage, but visible during other seasons)*
- ii. Year round*

Impact Level: Small impact.

Description: See responses to Questions 9.a and 9.b, above. While the Bridge may be visible from viewpoints on the western side of the Hudson River and from the Hudson River itself, in context of the

broader Hudson River shoreline and mountains of the Hudson Highlands SASS and within HHSP, the Project would construct a relatively small bridge near existing infrastructure (DEP HRDC), NYS Route 9D, and MNR tracks.

*d. The situation or activity in which viewers are engaged while viewing the proposed action is:*

- i. Routine travel by residents, including travel to and from work*
- ii. Recreational or tourism based activities*

Impact Level: Small impact.

Description: See response to Question 9.c, above. The Project would be most visible to those engaging in recreational activities in the area, particularly on the Hudson River (e.g., boating and kayaking). The Project would be visible to some drivers in the area, particularly to those on NYS Route 9D, but many of those drivers would be coming to the area to use the Project's amenities and nearby trails. For drivers passing by the Project, it would only be a temporal impact on their visual experience.

*e. The proposed action may cause a diminishment of the public enjoyment and appreciation of the designated aesthetic resource.*

Impact Level: Small impact.

Description: See response to Question 9.a, above. The Project would not diminish the public's enjoyment and appreciation of the Hudson Highland's SASS. The Project, and specifically the Bridge component, are designed to blend into the existing landscape. The Bridge would facilitate public access to the Hudson River waterfront and would provide better and safer linkages to area trails.

*f. Not applicable.*

*g. Other impacts:*

Impact Level: Beneficial Impacts.

Description: See response to Question 9.a, above. Once constructed and operational, the Project would have a variety of beneficial impacts. The Bridge would provide the public with improved visual access to the Hudson River shoreline in this location. The Project would facilitate better connections to area trails, specifically those in HHSP. The Project would also provide a variety of safety improvements, including dedicated and formalized parking areas, as well as pedestrian, biker, and hiker protections from vehicles, which would improve the experience for pedestrians, bikers, hikers and motorists alike along this section of NYS Route 9D.

## **10. IMPACT ON HISTORIC AND ARCHEOLOGICAL RESOURCES**

**The proposed action may occur in or adjacent to a historic or archaeological resource. (Part 1. E.3.e, f, and g.)**

*a. The proposed action may occur wholly or partially within, or substantially contiguous to, any buildings, archaeological site or district which is listed on the National or State Register of Historical Places, or that has been determined by the Commissioner of the NYS Office of Parks, Recreation and Historic Preservation to be eligible for listing on the State Register of Historic Places.*

Impact Level: No impact.

Description: The DEP HRDC, located near Breakneck Ridge, is eligible to be listed on the National Register of Historic Places. The DEP has been involved in the Project design and layout as it occurs adjacent to the DEP HRDC. There are no direct impacts to the structure itself. The Applicant has a Section 14.09 letter from the OPRHP Division for Historic Preservation (DHP)/State Historic Preservation Office (SHPO) indicating DHP has “no concerns regarding the potential impacts of the proposed Breakneck Connector segment on archaeological and/or historic architectural resources listed in or eligible for the New York State and National Registers of Historic Places” (Farry, 2/10/2020). The Applicant also has a Section 106 letter from DHP indicating “it is the SHPO’s opinion that this Project will have No Effect upon cultural resources in or eligible for inclusion in the National Registers of Historic Places” (Farry, 4/7/2022). These letters are included as **Appendix H**. The Project would have no impact on this resource.

*b. The proposed action may occur wholly or partially within, or substantially contiguous to, an area designated as sensitive for archaeological sites on the NY State Historic Preservation Office (SHPO) archaeological site inventory.*

Impact Level: No impact.

Description: The area in which the Project would be constructed is noted as being archeologically sensitive in the FEAF Part 1 (see response to E.3.f). The Applicant has received Section 14.09 and Section 106 letters from SHPO, as noted in response to Question 10.a. The letters are included as **Appendix H**. The Project is not expected to have any impact on archeological resources.

*c. Not applicable.*

## **11. IMPACT ON OPEN SPACE AND RECREATION**

**The proposed action may result in a loss of recreational opportunities or a reduction of an open space resource as designated in any adopted municipal open space plan.**

*a. The proposed action may result in an impairment of natural functions, or “ecosystem services”, provided by an undeveloped area, including but not limited to stormwater storage, nutrient cycling, wildlife habitat.*

Impact Level: No impact.

Description: The Project would not change undeveloped areas in a manner that would impair natural functions provided by those areas. To the extent the Project makes physical improvements to the area, those improvements include accommodations and mitigation for stormwater and habitat concerns.

*b. The proposed action may result in the loss of a current or future recreational resource.*

Impact Level: No/small impact.

*c. The proposed action may eliminate open space or recreational resource in an area with few such resources.*

Impact Level: No/small impact.

*d. The proposed action may result in loss of an area now used informally by the community as an open space resource.*

Impact Level: No/Small impact.

Description for (b), (c), and (d): The Project would not result in the permanent loss of a current or future recreational resource, eliminate open space, or result in loss of an area now used informally by the community as an open space resource.

In fact, the Project would ultimately provide recreational access to an area which is presently inaccessible and increase safe connections to open space areas.

For example, the Project would provide public access to the foreshore and to lands immediately adjacent to the foreshore or water's edge through the creation of a publicly accessible recreational trail and Bridge connecting to the Hudson River. Provision of this public access would be compatible with the adjoining recreational uses, which include the trail system in and around HHSPP. Additionally, the Project would enhance access for all persons to this area by building a trail and parking areas that meet generally-accepted accessibility standards, including a trail that meets Accessibility Standards for Outdoor Areas and Accessible parking.

A large portion of the Project Site is currently held by the MTA, operator of MNR, and public access is largely restricted due to the proximity to the MNR tracks. The Project would amplify physical barriers to the MNR tracks and make for safe pedestrian and bicycle use of the trail and the Bridge corridor. In addition, upon completion of the Project, MTA intends to grant the applicable permissions for public use of the Breakneck Connector and Bridge. Thus, the Project would create a recreational resource where there currently is none.

While nearby trailheads to the Breakneck Ridge and Wilkinson Memorial Trails may be closed during periods of construction for safety reasons, these recreational resources would remain open and accessible from other points along their lengths during the Project's construction. Thus, the Project would not result in the loss of these recreational resources or access to nearby open space in the HHSPP, which is replete with various other trails. Moreover, the proposed improvements at the Upper Overlook would formalize, define, and make safer an area that is currently used informally as an open space resource.

*e. Other impacts: Temporary restriction in access to recreational resources during construction only.*

Impact Level: Small impact.

Description: The MNR Breakneck Ridge station would be closed during construction to construct new station platforms and to keep pedestrians away from the work zones, as needed. OPRHP and HHFT, Inc. will coordinate with MNR to determine any periods during construction where the station can be operated safely, as feasible. Existing parallel parking along NYS Route 9D would also be temporarily unavailable during construction. HHFT, Inc. may explore alternative transportation opportunities to allow trail user access from other locations (e.g., the Beacon and/or Cold Spring rail stations) to the Breakneck Ridge and Wilkinson Memorial Trailheads. While OPRHP and HHFT, Inc. would endeavor to maintain access to the Breakneck Ridge and Wilkinson Memorial Trailheads to the extent feasible



during construction, as safety permits, these trailheads may be closed for periods to address possible safety concerns and prevent visitors from accessing the construction site. The access to the trailheads along NYS Route 9D may be temporarily restricted. However, the Breakneck Ridge and Wilkinson Memorial Trails are accessible from other nearby points, including from within HHSP, and thus would still be accessible by the public during construction of the Project.

As these restrictions are only temporary, the completed Project would ultimately enhance the public's enjoyment of nearby recreational resources. Specifically, the Project is located adjacent to/within HHSP, allowing better and safer access to parking, the MNR Breakneck Ridge station, and trails within HHSP. Pedestrian safety would be increased by way of more formalized parking and new pathways. The Bridge would allow for new recreational and visual access to the Hudson River shoreline. The new steward station in the Upper Overlook would allow for better housing of steward staff and equipment and would serve as a more formal introduction area for visitors to HHSP and the surrounding area.

## **12. IMPACT ON CRITICAL ENVIRONMENTAL AREAS**

*Not applicable.*

## **13. IMPACT ON TRANSPORTATION**

**The proposed action may result in a change to existing transportation systems.**

*a. – e. Not applicable.*

*f. Other impacts:*

Impact Level: Small short-term (temporary) construction impacts. Long-term beneficial impacts to transportation systems and to pedestrian and driver safety.

Description: Construction of the Project would result in short-term impacts on traffic, limitations on access to and from the MNR Breakneck Ridge station, and temporary closures of the Breakneck Ridge and Wilkinson Memorial Trailheads, as needed to address possible safety concerns (though these trails would still be accessible and accessed from other points in HHSP). To address temporary single-lane closures along NYS Route 9D, Work Zone Traffic Control (WZTC) Plans would be developed in conjunction with NYSDOT, consistent with their Driver's First Initiative. The WZTC Plans would minimize travel delays for drivers in the vicinity of the work zones. As part of the WZTC Plans, temporary traffic signals could be installed to provide traffic control for alternating traffic flows within the work zones along NYS Route 9D. As noted under "Construction Means and Methods," the traveling public would be kept informed of temporary roadway conditions during construction through various messaging systems. Messaging systems may include HHFT, Inc.'s website and social media, local newspaper notices, and additional measures implemented in coordination with NYSDOT, such as variable message signs (VMS).

Parking along NYS Route 9D would be prohibited during construction. This would eliminate the existing unsafe parking condition whereby vehicles haphazardly park along both sides of NYS Route 9D. The current parking conditions cause delays and congestion along the half-mile stretch of road north of the Breakneck tunnel. At peak hours, as many as 158 cars park along the roadway, with others

arriving and departing throughout the day resulting in unsafe conditions, including vehicle-to-vehicle conflicts and vehicle-to-pedestrian and vehicle-to-bicycle conflicts. As a result of the temporary trailhead closures during construction, it is anticipated that there would be a decline in visitors and vehicular traffic to this area along NYS Route 9D. This would, in turn, reduce vehicle congestion in the area around the Project.

Construction is anticipated to take place over a period of approximately 24 to 30 months, and given the size and scale of the Project, involve an on-site labor force of 15 to 20 workers. Most of the vehicle trips associated with construction would arrive and depart around the construction start and stop work hours. Construction hours are expected to be 7:00AM to 4:00PM, with arrivals generally between 6:45AM and 7:00AM, and departures generally between 4:00PM and 4:15PM. Peak hours for construction activity are expected to be from 8:00AM to 12:00PM and 1:00PM to 3:00PM. This would result in predictable impacts on vehicular traffic.

The increase in construction vehicle trips and equipment during the construction period would be offset by the significant reduction in visitor traffic. Parking for the construction workers and delivery vehicles would be at the current dirt lot north of the Breakneck tunnel (the future southern parking area shown on **Figure 1**) and at off-site locations during construction of the Breakneck Connector portion of the Project. Construction of the Breakneck Connector would require up to about 1 to 2 truck trips per day. Similarly, truck trips for deliveries via NYS Route 9D for the Bridge construction would be limited to about 1 to 2 truck trips per day since larger materials would arrive on barges along the Hudson River shoreline on the west side of the MNR tracks. The expected vehicle trips for construction workers and materials would be further reduced when the waterside construction and Bridge erection tasks are executed. Some workers and most materials and equipment for the Bridge construction and the southbound MNR platform construction would be mobilized by water and not utilize the highways or roads to access the area west of the MNR tracks. A limited number of workers for construction of the southbound MNR platform would arrive to the site via NYS Route 9D and the workers would access the work zone using the existing pedestrian bridge at the northern end of the Project Site. As such, significant impacts to traffic would not result from the construction of the Project. Additionally, implementation of the communication methods described above would provide real-time traffic information, further mitigating impacts on transportation.

The location of the barges to be used during the construction process would be outside of the federally-maintained navigable river channel. There is no expected impact to navigation due to the Project.

Completion of the Project would result in a number of long-term beneficial impacts related to transportation. The Project includes improvements to the bicyclist and pedestrian experience, moving those users off NYS Route 9D and increasing safety. There would be new and improved parking areas (replacing informal and unsafe parking on the narrow NYS Route 9D), which would reduce congestion and improve safety. The MNR station and platform enhancements for riders would increase accessibility and facilitate easier access to nearby trails from the MNR station. Project improvements would also lead to safer and easier access to nearby trailheads. No long-term adverse impacts on transportation are expected from the Project.

#### 14. IMPACT ON ENERGY

*Not applicable.*

#### 15. IMPACT ON NOISE, ODOR, AND LIGHT

**The proposed action may result in an increase in noise, odors, or outdoor lighting.**

*a. The proposed action may produce sound above noise levels established by local regulation.*

Impact Level: No/Small impact.

Description: The Project is located directly adjacent to the MNR tracks, which have high-speed MNR and Amtrak passenger trains as well as slower freight trains passing by multiple times a day that create substantial, albeit, temporary, noise in the immediate vicinity. The loudest noise-producing activities from the Project construction are anticipated to take place generally between 8:00AM and 3:00PM and would entail the installation of drilled piles for the Bridge foundation and the potential use of hydraulic mounted hammers if bedrock is encountered. The spuds for the logistics barges and crane barges would be installed by self-weight and would not generate noise. There would be occasional noise generated from truck deliveries that is not anticipated to exceed acceptable noise thresholds and such noise would be limited to, at most, a few hours each workday. Additionally, there is limited development in proximity to the Project Site that would be affected. Two residences are located about 1,500 feet south of the Project Site, with Breakneck Ridge intervening. The next nearest residences to the Project Site are about 2,000 feet to the north and 1.5 miles to the south.

Given the nature of the Bridge installation portion of the Project, work would be performed during extended working hours between 6:00AM and 5:00PM to maximize flexibility around the Hudson River tides. Further, to minimize impacts to railroad operations, critical-lift erection of the Bridge over the MNR tracks is anticipated to be completed during overnight periods from 11:00PM to 4:00AM the next morning.

*b. The proposed action may result in blasting within 1,500 feet of any residence, hospital, school, licensed day care center, or nursing home.*

Impact Level: No impact.

Description: No blasting is anticipated as part of the Project.

*c. The proposed action may result in routine odors for more than one hour per day.*

Impact Level: Small impact.

Description: The Project would produce temporary noise and exhaust during the period of construction only. Thus, these impacts would only be temporary in nature. Furthermore, prolonged construction is not anticipated at any single location. Additionally, contractors would have to comply with environmental controls, as well as worker health and safety protocols. In the instance of dusty conditions, a water tanker would be available to spray and manage dust. If deemed necessary, contractors would be required to implement truck tracking pad and wheel washing stations to ensure roads remain clean and free from construction debris.

The composting comfort stations would emit odors, but any such emissions would dissipate quickly since there are no additional tall buildings or plantings in the immediate area and the stack height would meet manufacturer recommendations.

*d. The proposed action may result in light shining onto adjoining properties.*

Impact Level: No/Small impact.

Description: Lighting proposed at the parking area, on the trail, near the comfort station, and possibly for signage would be dark sky compliant. There will be areas on MNR lands, especially on the 40-foot platforms on each side of the MNR tracks, where “dark sky compliant” will not be permissible for the safety of MNR’s Operation, Customers and Employees. There is the possibility for some light spillage directly around the platforms near the tracks. There are no residential or commercial properties directly adjacent to these facilities; therefore, no impacts are expected. Some dark sky compliant lighting will be added near NYS Route 9D (ex. comfort station). Coordination with NYSDOT and MNR would take place as necessary for lighting details.

*e. The proposed action may result in lighting creating sky-glow brighter than existing area conditions.*

Impact Level: Small impact.

Description: Lighting proposed at the parking area, on the trail, near the comfort station, and possibly for signage would be dark sky compliant. There will be areas on MNR lands, especially on the 40-foot platforms on each side of the MNR tracks, where “dark sky compliant” will not be permissible for the safety of MNR’s Operation, Customers and Employees. As there are no lights on the existing platforms, this will add new lighting to the Breakneck Ridge Station. There is the possibility for some light spillage directly around the platforms near the tracks. To the extent possible, the Project minimizes light pollution by using dark sky compliant fixtures where feasible.

## 16. IMPACT ON HUMAN HEALTH

**The proposed action may have an impact on human health from exposure to new or existing sources of contaminants.**

*a. – l. Not applicable.*

*m. Other impacts: Hudson River PCBs.*

Impact Level: No/small impact.

Description: The Hudson River is flagged for PCBs, but no impacts are anticipated. During mobilization for the crane and logistics barges, when the spuds enter the river bottom by self-weight, there would be temporary and minor disturbance of the sediments while the spud piles are lowered into position at a controlled rate. No pile driving in the water would be performed. All barges, tugs, and vessels delivering workers, equipment, and materials to the Project Site would maintain at least a 2-foot separation from the mudline at all times. Additionally, the shoreline work that would occur only for barge Option 2, land barge, would be enclosed in turbidity curtains so there would be no

resuspension of sediments in the water column. As such, any disturbance of sediments would be minimized and temporary.

## 17. CONSISTENCY WITH COMMUNITY PLANS

### **The proposed action is not consistent with adopted land use plans.**

*a. – g. Not applicable.*

*h. other: beneficial impacts; consistent with community plans/adopted land use plans.*

Description: The Project is located within or adjacent to the Maurice D. Hinchey Hudson River Valley National Heritage Area (Heritage Area), the Hudson River Valley Greenway, and the HHSPP. The Project is designed to be consistent with community land use plans, including these three plans.

The Heritage Area, designated by Congress in 1996, encompasses ten counties adjacent to the Hudson River, extending across four million acres. According to the National Park Service, the Hudson River Valley is a landscape that defined American history, serving as a political boundary during the early Revolutionary War, a destination on the Underground Railroad, as well as a powerhouse for early industry. The purpose of the Heritage Area is to recognize this historical significance, interpret and protect this heritage, and authorize federal financial and technical assistance. This is largely achieved by linking the many Heritage Sites within the Heritage Area. Construction and operation of the Project is in keeping with other, similar, recreational resources in the Heritage Area, and would grant users greater access to the Hudson River shoreline and other natural features of the area.

The Hudson River Valley Greenway (established under the Hudson River Valley Greenway Act of 1991) is a state sponsored program created to facilitate the development of a regional strategy for preserving scenic, natural, historic, cultural, and recreational resources. The Greenway Act created the Hudson River Valley Greenway Communities Council (“Greenway Communities Council”), tasked with facilitating the goals of the Hudson River Valley Greenway. The Greenway Communities Council works with local and county governments to enhance local planning and carry through the Greenway’s guiding principles. These guiding principles include improving public access to the Hudson River, linking historic sites within the Hudson River Valley, and improving public access to the Hudson River. The land uses envisioned by the Project are consistent with these principles.

While most of the Project site is not within HHSPP, it is important to note the Project is located directly adjacent to, and includes trail connections to, HHSPP. HHSPP is an 8,900 acre park preserve that spans Dutchess, Putnam, and Westchester Counties. It is made up of a series of separate parcels along a 16-mile stretch of the eastern shore of the Hudson River and extends eastward up to four miles from the Hudson River’s shoreline. HHSPP is a designated Park Preserve under New York State’s Parks, Recreation and Historic Preservation Law (Chapter 36-B, Article 20, of the Consolidated Laws of the State of New York).

The HHSPP includes over 70 miles of trails, and within HHSPP, the popular Breakneck Ridge Trail connects with Undercliff Trail, Breakneck Bypass, Notch Trail, Wilkinson Memorial Trail, Nimham Trail, and Casino Trail. The trails in HHSPP offer hiking, hunting access, and birdwatching. OPRHP acts as a steward by protecting the wide variety of habitats located within HHSPP borders. The Project would grant users greater visual access to the Hudson River shoreline and enhanced access to HHSPP resources in the area. Fee title to the Breakneck Ridge Trailhead and Upper Overlook was recently transferred to OPRHP and is now part of HHSPP.

Although a very small portion of the Project Site is located in the HHSPP boundary, due to its proximity and integral connection to HHSPP, OPRHP reviewed the entire Project for consistency with the HHSPP Final Master Plan. OPRHP determined the Project is consistent with many of the goals identified in the HHSPP Master Plan, including natural resource, recreation, cultural, scenic, access, and facility development goals. Regarding the Master Plan's natural resource goals, the work at the Upper Overlook would better define and harden the trail tread and install some barriers to keep visitors in areas with a smaller footprint and protect more natural habitat. In addition, the Project would remove invasive species along the MNR tracks and NYS Route 9D and install new plantings that are consistent with OPRHP's Native Plants Policy (6/1/2017). The Project's consistency with recreation goals includes providing year-round day-use facilities for the public. While OPRHP and HHFT, Inc. would endeavor to maintain access to the Breakneck Ridge and Wilkinson Memorial Trailheads to the extent feasible during construction, as safety permits, these trailheads may be closed for periods to address possible safety concerns and prevent visitors from accessing the construction site. For protection of cultural resources, the planning and design of the Project have been conducted in direct coordination with DEP regarding protection measures for the adjacent DEP HRDC (National Register eligible) and associated infrastructure. The Project has also been reviewed by OPRHP's Division for Historic Preservation (see Question 10).

Regarding the HHSPP Master Plan's scenic resource goals, the Project is consistent by maintaining scenic vistas from the Upper Overlook area and providing a new vista of the Hudson River from the Bridge. Public access goals that are met by the Project include: providing safe access to HHSPP from a local road and across a roadway; providing a non-motorized trail facility that links parking areas to natural and recreational resources; providing enhanced access for emergency response and rescue operations; and providing a new ADA-compliant recreational resource. Lastly, the Project is consistent with the facility development goal of improving parking at Breakneck Ridge and secondarily providing restrooms for an HHSPP trailhead and parking area.

It is again noted that MTA/MNR will retain fee title to most of the Project Site (i.e., the Breakneck Connector and Bridge). Thus, this part of the Project Site would not be appended to HHSPP. Nevertheless, the public would be able to enjoy access to the Breakneck Connector and Bridge through public access permissions that would be granted to OPRHP and HHFT, Inc.

## **18. CONSISTENCY WITH COMMUNITY CHARACTER**

**The proposed project is inconsistent with the existing community character.**

*a. – f. Not applicable.*

*g. other impacts: beneficial impacts; consistent with community character.*

Description: The Project is designed to be consistent with the existing community character of the area. It would not replace or eliminate existing facilities, structures, or areas of historic importance to the community. Rather, it would enhance the area by upgrading existing facilities and add a new trail that connects to HHSPP. The Project would improve trail facilities and provide greater visual access to the Hudson River Shoreline. The shape, color, and orientation of the Bridge are designed to evoke the surrounding landscape. Per the DEP-00-2 guidance, significance is determined based on the extent to which the visibility interferes with the public's enjoyment or appreciation of a resource (see Question 9, above). In this case, the Project, and particularly the Bridge component, given its low profile, would

not be anticipated to interfere with the public's enjoyment of the eastern shoreline of the Hudson River and mountainous contours beyond. The Project would not be perceived as a uniquely new element on the landscape.

The size and scale of the Bridge would also be consistent with the predominant architectural scale and character of other man-made structures in the area, particularly the DEP HRDC, which is greater in size and bulk than the Bridge. The Breakneck Connector component of the Project would be keeping in kind with the linear nature of the existing infrastructure, including the MNR tracks and NYS Route 9D and the recreational use of the area.

The Project would not interfere with the use or enjoyment of officially recognized or designated public resources. Public resources can include parks, playgrounds, public properties and buildings, ball fields, picnic areas, and pedestrian pathways such as hiking and biking trails, among others. When a proposed project interferes with the public use or enjoyment of these resources, quality of life, and thus community character, can be adversely impacted. The Project is expected to improve quality of life for nearby residents, as well as users traveling to the area for its recreational offerings. It would not eliminate any public resources, but rather formalize and enhance the existing resources and add a new one (the Bridge).

Finally, the Project would address the currently overrun parking areas, and the lack of pedestrian and hiker safety that exists along the NYS Route 9D corridor near the MNR Breakneck Ridge station and the Breakneck Ridge Trail. Upgrades to access points to the Breakneck Ridge and Wilkinson Memorial Trails would facilitate a safer connection for those arriving by car, bike, foot, and rail. Separation of vehicular and pedestrian uses, by way of new parking areas and dedicated bike and pedestrian paths and areas, would make the user experience safer. Part of a community's character comes from the community services that are available because those contribute to the residents' sense of community. These include, among others, police, fire, and emergency medical services. As a result of the numerous safety improvements the Project would introduce, the Project would not place additional demand on these emergency services, and could, in fact, help reduce demand.

## C. REFERENCES

Aboagye, D. 2022. Blooming Now: The Valley's Own Native Cactus. Scenic Hudson. Available from: <https://www.scenichudson.org/viewfinder/blooming-now-the-valleys-own-native-cactus/>

Brehme CS, Tracey JA, McClenaghan LR, Fisher RN. 2013. Permeability of roads to movement of scrubland lizards and small mammals. *Conservation Biology* 27(4):710–20.

Britzke, E.R., A.C. Hicks, S.L. Von Oettingen, S.R. Darling. 2006. Description of spring roost trees used by female Indiana bats in the Lake Champlain Valley of Vermont and New York. *American Midland Naturalist* 155:181-187.

Brodgers, H.G., G.J. Forbes, S. Woodley and I.D. Thompson. 2006. Range extent and stand selection for roosting and foraging in forest-dwelling northern long-eared bats and little brown bats in the Greater Fundy Ecosystem, New Brunswick. *Journal of Wildlife Management* 70:1174-1184.

Brum, R. 2018. Tappan Zee Bridge: what happened to the peregrine falcons? Lohud.com, April 24, 2018. Available from: <https://www.lohud.com/story/news/local/rockland/2018/04/24/tappan-zee-bridge-peregrine-falcons/543011002/>

- Cade, T.J, M. Martell, P. Redig, G. Septon, and H. Tordoff. 1996. Peregrine falcons in urban North America. In: D.M. Bird, D. Varland, and J. Negro (eds.), *Raptors in Human Landscapes: Adaptations to Built and Cultivated Environments*. Academic Press, San Diego, CA.
- Callahan, E.V., R.D. Drobney and R.L. Clawson. 1997. Selection of summer roosting sites by Indiana bats (*Myotis sodalis*) in Missouri. *Journal of Mammalogy* 78:818-825.
- Carter, T.C., and G.A. Feldhamer. 2005. Roost tree use by maternity colonies of Indiana bats and northern long-eared bats in southern Illinois. *Forest Ecology and Management* 219:259-268.
- Dadswell, M.J. 1979. Biology and population characteristics of the shortnose sturgeon, *Acipenser brevirostrum* LeSueur 1818 (*Osteichthyes:Acipenseridae*), in the Saint John River Estuary, New Brunswick, Canada. *Canadian Journal of Zoology* 57(11): 2186-2210.
- Dadswell M.J., Taubert B.D., Squires T.S., Marchette D., Buckley J. 1984. Synopsis of biological data on shortnose sturgeon, *Acipenser vrevirostrum* LeSuer 1818. NOAA Technical Report NMFS-14, FAO Fisheries Synopsis No. 140, 45p.
- DeGraaf, R. and M. Yamasaki. 2001. *New England Wildlife: Habitat, Natural History, and Distribution*. University Press of New England.
- Diefenbacher, E. H., & Pauley, T. K. . (2014). Notes on the Distribution and Natural History of the Eastern Wormsnake (*Carphophis amoenus amoenus*) in West Virginia. *Reptiles & Amphibians*, 21(4), 120–124. <https://doi.org/10.17161/randa.v21i4.14010>
- Ford, W.M., M.A. Menzel, J.L. Rodrigue, J.M. Menzel, and J.B. Johnson. 2005. Relating bat species presence to simple habitat measures in a central Appalachian forest. *Biological Conservation* 126: 528-539.
- Foster, R.W. and A. Kurta, A. 1999. Roosting ecology of the northern bat (*Myotis septentrionalis*) and comparisons with the endangered Indiana bat (*Myotis sodalis*). *Journal of Mammalogy* 80: 659-672.
- Gibbs, J.P., A.R. Breisch, P.K. Ducey, G. Johnson, J.L. Behler, and R.C. Bothner. 2007. *The amphibians and reptiles of New York State*. Oxford University Press, New York.
- Gilbert, C.R. 1989. Species profiles: life histories and environmental requirements of coastal fishes and invertebrates (Mid-Atlantic Bight)--Atlantic and shortnose sturgeons. U.S. Fish Wildl. Serv. Biol. Rep. 82(11.122). U.S. Army Corps of Engineers TR EL-82-4. 28 pp.
- Graham, C. and E. Kiviat. 2021. *Flora Survey and Biodiversity Assessment of the Hudson River Shoreline from Cold Spring to Breakneck Point, Putnam and Dutchess Counties, New York*. Report from Hudsonia Inc. to Hudson Highlands Fjord Trail Inc., September 30, 2021.
- Guinn, J.E. 2013. Generational habituation and current bald eagle populations. *Human–Wildlife Interactions* 7:69–76.
- Henderson, L.E., L.J. Farrow, and H.G. Broders. 2008. Intraspecific effects of forest loss on the distribution of the forest-dependent northern long-eared bat (*Myotis septentrionalis*). *Biological Conservation* 141:1819-1828.
- Herrera D.J. and M.V. Cove. 2020. Camera trap serendipity and citizen science point to broader effects of urban heat islands on food webs. *Food Webs* 25:e00176.
- Holthuijzen AM, Eastland WG, Ansell AR, Kochert MN, Williams RD, Young LS. 1990. Effects of blasting on behavior and productivity of nesting prairie falcons. *Wildlife Society Bulletin* 18:270-281.



- Humphrey, S.R., A.R. Richter, J.B. Cope. 1977. Summer habitat and ecology of the endangered Indiana bat, *Myotis sodalis*. *Journal of Mammalogy* 58:334-346.
- Jaycox, J.W. 2021. Breakneck Connector and Bridge Project, Timber Rattlesnake and Eastern Fence Lizard Habitat Assessment. Report from NYS Office of Parks, Recreation and Historic Preservation, October 7, 2021.
- Jaycox, J. 2022. Breakneck Connector and Bridge Project Timber Rattlesnake and Eastern Fence Lizard Habitat Assessment Addendum. NYS Office of Parks, Recreation, and Historic Preservation. August 11, 2022.
- Johnson, N.P. 2010. Nesting bald eagles in urban areas of southeast Alaska. In: Bald Eagles in Alaska (B.A. Wright and P. Schempf, Eds.). Hancock House Publishing, Blaine, WA.
- Klemens, M.W. 1993. Amphibians and reptiles of Connecticut and adjacent regions. *State Geological and Natural History Survey of Connecticut Bulletin* 112.
- Kramer, P.D. 2019. Peregrine falcons return to Cuomo Bridge nest, lay eggs. Lohud.com, April 7, 2019. Available from: <https://www.lohud.com/story/news/local/tappan-zee-bridge/2019/04/05/cuomo-bridge-pictures-peregrine-falcons/3362893002/>
- Larson CL, Reed SE, Merenlender AM, Crooks KR. 2016. Effects of recreation on animals revealed as widespread through a global systematic review. *PloS One* 11(12):e0167259.
- Loucks, B.A. 2008. Peregrine falcon, *Falco peregrinus*. In: K. McGowan and K. Corwin (eds.), *The Second Atlas of Breeding Birds in New York State*. Cornell University Press, Ithaca, NY.
- Menzel, M.A., S.F. Owen, W.M. Ford, J.W. Edwards, P.B. Wood, B.R. Chapman, and K.V. Miller. 2002. Roost tree selection by northern long-eared bat (*Myotis septentrionalis*) maternity colonies in an industrial forest of the central Appalachian mountains. *Forest Ecology and Management* 155:107-114.
- Mitchell, J.C., A.R. Breisch, K.A. Buhlmann. 2006. Habitat management guidelines for amphibians and reptiles of the northeastern United States. *Partners in Amphibian and Reptile Conservation Technical Publication HMG-3*. Montgomery, AL.
- Moore, N., Kelly, P., Lang, F. 1992. Quarry nesting by peregrine falcons in Ireland. *Irish Birds* 4:519-524.
- Murray, S.W. and A. Kurta. 2004. Nocturnal activity of the endangered Indiana bat (*Myotis sodalis*). *Journal of Zoology* 262:197–206.
- National Marine Fisheries Service (NMFS). 2018. Endangered Species Act Section 7 Consultation Biological Opinion, Tappan Zee Bridge Replacement NER–2018-14953. Issued July 10, 2018.
- New York Natural Heritage Program. 2022. Element Occurrence Dataset. New York Natural Heritage Program. State University of New York College of Environmental Science and Forestry, Albany, NY. Accessed 7/2022.
- New York Natural Heritage Program. 2022. Online Conservation Guide for *Myotis septentrionalis*. Available from: <https://guides.nynhp.org/northern-long-eared-bat/>. Accessed October 19, 2022.
- New York Natural Heritage Program. 2022b. Online Conservation Guide for *Solidago rigida* var. *rigida*. Available from: <https://guides.nynhp.org/stiff-flat-topped-goldenrod/>. Accessed October 19, 2022.

- New York State Department of Environmental Conservation (NYSDEC). 2019. Draft List Under Part 182.5 Pre-proposal—October 2019. Available from: [https://www.dec.ny.gov/docs/wildlife\\_pdf/masterlistpropreg.pdf](https://www.dec.ny.gov/docs/wildlife_pdf/masterlistpropreg.pdf)
- New York State Department of Environmental Conservation (NYSDEC). 2022. Watchable Wildlife: Monarch Butterfly. Available from: <https://www.dec.ny.gov/animals/60392.html>
- Office of Parks, Recreation, and Historic Preservation (OPRHP). 2010a. Final Master Plan/Final Environmental Impact Statement For Clarence Fahnestock Memorial State Park and Hudson Highlands State Park Preserve. New York State Office of Parks, Recreation, and Historic Preservation, December 15, 2010.
- Office of Parks, Recreation, and Historic Preservation (OPRHP). 2021. Electronic mail communication from Nancy Stoner, Office of Parks, Recreation, and Historic Preservation to Chris Robbins, AKRF Inc. on October 8, 2021 Re: Fjord Trail – NHP data request.
- Olsen P., Allen T. 1997. The trails of quarry-nesting Peregrine Falcons. *Australian Birdwatcher* 17:87-90.
- Olsen, P. 1995. *Australian Birds of Prey*. University of New South Wales Press, Sydney.
- Orr, John M. 2006. Microhabitat use by the Eastern worm snake, *Carphophis amoenus*. *Hepetological Bulletin*. 97: 29-35.
- Owen, S.F., M.A. Menzel, W.M. Ford, B.R. Chapman, K.V. Miller, J.W. Edwards, and P.B. Wood. 2003. Home-range size and habitat used by the northern myotis (*Myotis septentrionalis*). *American Midland Naturalist* 150:352-359.
- Palmer, A.G., D.L. Nordmeyer, and D.D. Roby. 2003. Effects of jet aircraft overflights on parental care of peregrine falcons. *Wildlife Society Bulletin* 31:499-509.
- Pendleton, R. M. and R. D. Adams. 2021. Long-term trends in juvenile Atlantic sturgeon abundance may signal recovery in the Hudson River, NY, USA. *North American Journal of Fisheries Management* 41(4): 1170-1181.
- Ratcliffe, D.A. 1972. The peregrine population in Great Britain in 1971. *Bird Study* 19:117-156.
- Russell, K.R. and H. G. Hanlin. 1999. Aspects of the ecology of worm snakes, *Carphophis amoenus*, associated with small isolated wetlands in South Carolina. *Journal of Herpetology* 33(2): 339–344.
- Slankard KG, Taylor LF, Stoelb DM, Gannon C. 2020. Peregrine falcons nest successfully during reconstruction of bridge over Ohio River. *Human–Wildlife Interactions* 14:96-103.
- Smith, K.J. and J.A. Lundgren. 2010. Rare species and ecological communities of Hudson Highlands State Park. New York State Office of Parks, Recreation and Historic Preservation and New York Natural Heritage Program, Albany NY.
- Stewart, G.R. 2011. Personal communication between Glenn R. Stewart, Santa Cruz Predatory Bird Research Group and Chad L. Seewagen, AKRF Inc. November 18 and 21, 2011.
- Ulev, E. 2008. *Crotalus horridus*. In: Fire Effects Information System, [Online]. U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station, Fire Sciences Laboratory (Producer). Available: [www.fs.fed.us/database/feis/animals/reptile/crhc/all.html](http://www.fs.fed.us/database/feis/animals/reptile/crhc/all.html)
- U.S. Fish and Wildlife Service (USFWS). 2007a. Indiana Bat (*Myotis sodalis*) Draft Recovery Plan: First Revision, April 2007. USFWS Great Lakes-Big Rivers Region – Region 3, Fort Snelling, MN.

U.S. Fish and Wildlife Service (USFWS). 2020. U.S. Fish and Wildlife Service Final Report: Bald Eagle Population Size: 2020 Update. Available from:

<https://www.fws.gov/migratorybirds/pdf/management/bald-eagle-population-size-2020.pdf>

U.S. Fish and Wildlife Service Environmental Conservation Online System (ECOS). 2022. Monarch Butterfly (*Danaus plexippus*). Available from: <https://ecos.fws.gov/ecp/species/9743>

Watrous, K.S., T.M. Donovan, R.M. Mickey, S.R. Darling, A.C. Hicks, S.L. Von Oettingen. 2006. Predicting minimum habitat characteristics for the Indiana bat in the Champlain Valley. *Journal of Wildlife Management* 70:1228-1237.

Wells, J.V. 1998. Important Bird Areas in New York State. National Audubon Society, Albany, New York.

White, C.M., N.J. Clum, T.J. Cade, and W.G. Hunt. 2002. Peregrine Falcon (*Falco peregrinus*). In: A. Poole and F. Gill (eds.) *The Birds of North America*, No. 660. The Birds of North America, Inc., Philadelphia, PA.

White, C., Emison, W.B., Bren, W. 1988. Atypical nesting of the peregrine falcon in Victoria, Australia. *Raptor Research* 22:37-43.