A. INTRODUCTION

This document is a Draft Generic Environmental Impact Statement (DGEIS) for the proposed Hudson Highlands Fjord Trail ("Fjord Trail"; the "Project") in Dutchess and Putnam Counties, New York. The DGEIS has been prepared in accordance with the New York State Environmental Quality Review Act (SEQRA) and its implementing regulations and includes all required elements pursuant to 6 NYCRR 617.9(b). Hudson Highlands Fjord Trail, Inc. (HHFT, Inc.) is the Project Sponsor or Applicant, and the New York State Office of Parks, Recreation, and Historic Preservation (OPRHP) is serving as Lead Agency for SEQRA.

B. DESCRIPTION OF THE PROPOSED ACTION

PROJECT OVERVIEW

HHFT, Inc. proposes to construct the Fjord Trail, a 7.5-mile non-motorized, shared-use (pedestrian and bicycle), publicly accessible linear park between the City of Beacon, New York (Dutchess County) and the Village of Cold Spring, New York (Putnam County), along with ancillary components such as parking, restroom buildings, and a maintenance facility. This DGEIS reviews the proposed Fjord Trail consisting of two sections, each described and discussed separately in this DGEIS: the approximately 5.5-mile northern portion ("Fjord Trail North") and the approximately 2-mile southern portion ("Fjord Trail South")[1] (see **Figure S-1**). The term "Trail Corridor" is used to refer to the potential outer limit in which disturbance may occur for the Fjord Trail and its ancillary components. The Fjord Trail would also traverse the Breakneck Connector and Bridge (BNCB), a 0.6-mile shared-use trail that includes a new bridge over the Metro-North Railroad (MNR) tracks that was the subject of a separate SEQRA review by OPRHP that resulted in the issuance of a Negative Declaration in December 2022. The BNCB consists of the bridge, parking areas along NYS Route 9D, trail connections to two different trailheads within HHSPP, two restroom buildings, replacement of MNR Breakneck Ridge train station platforms, utility relocations, and upgrades to the Upper Overlook area along the existing Breakneck Ridge Trail. Work on the BNCB began in 2023.

The Fjord Trail is proposed to be located on the eastern side of, and generally parallel to, the Hudson River. The Fjord Trail would be partially within the Hudson Highlands State Park Preserve (HHSPP), which is owned and managed by OPRHP, and would extend through other public and private lands. The Fjord Trail would connect Beacon to Cold Spring and link existing parks and trails.

[1] In previous documents, the northern portion of the trail has been referred to as the Master Planned Trail and the southern portion has been referred to as the Riverfront Trail or Shoreline Trail. These portions of the trail are being referred to as Fjord Trail North and Fjord Trail South, respectively, for ease of discussion in this DGEIS.

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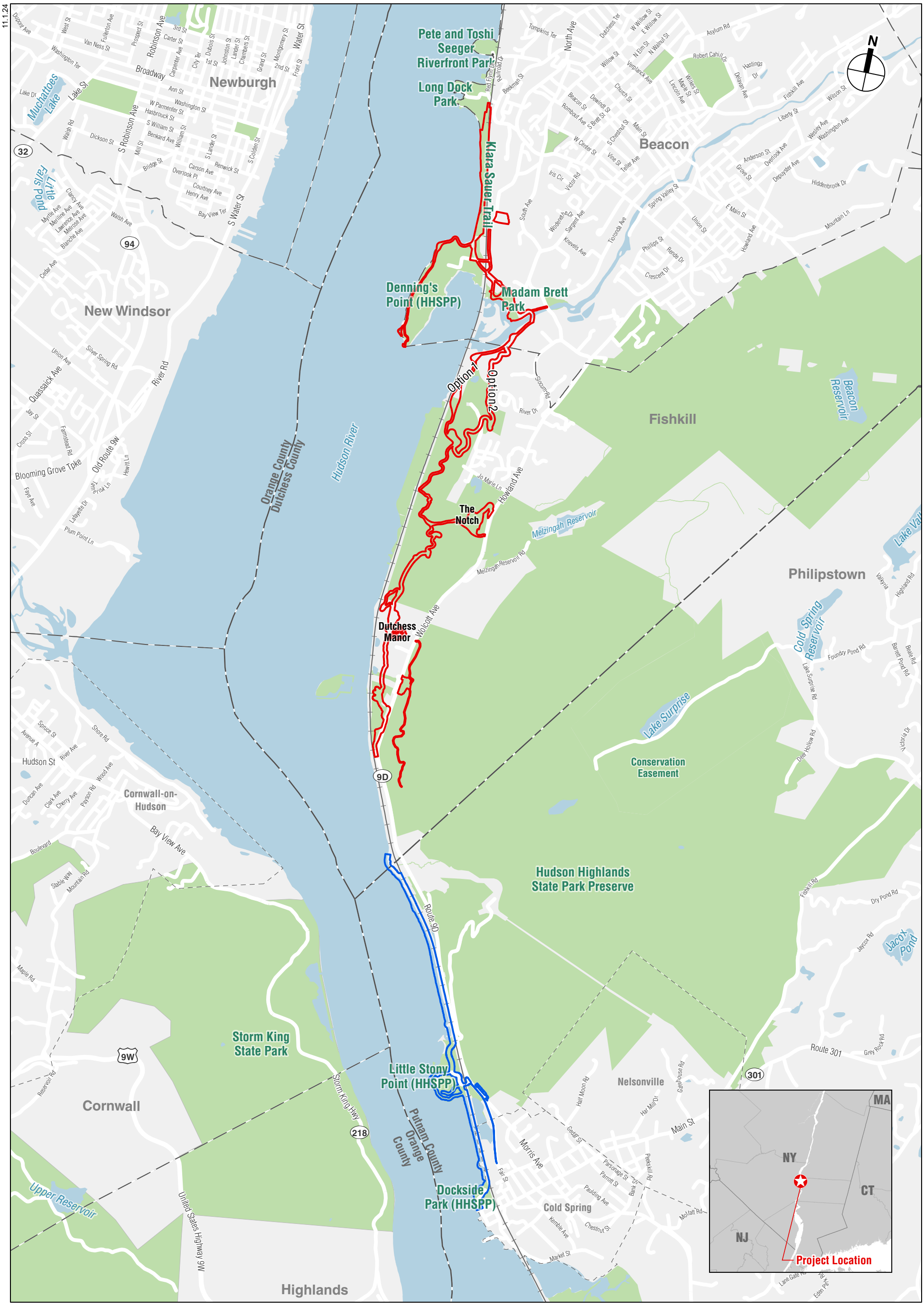

Trail Corridor - Fjord Trail South

Trail Corridor - Fjord Trail North

Project Location

HUDSON HIGHLANDS FJORD TRAIL

Figure S-1

The Project proposes various trail components, including 7.5 miles of Main Trail, 2.8 miles of Trail Meanders, as well as Trail Banks, Water Trail Connections, 2.2 miles of Regional Trail connections ("Connectors"), and ancillary components such as parking areas, restroom buildings, and a maintenance facility (the "Proposed Action")[2]. Trail components would include the following (and are shown on **Figures S-2a to S-2c**):

- **Main Trail** – the main shared pedestrian and bikeable course of the Fjord Trail between Beacon and Cold Spring, which would weave through distinct landscapes that define the Hudson Highlands region; the Main Trail would be 10 to 14 feet wide, gently sloped, and would be designed to provide recreational opportunities for everyone regardless of differences in ability (hereafter referred to as "Accessible").
- **Trail Meanders** – narrower (4 to 8 feet wide), pedestrian-only spur and loop trails that would be short, quick departures from the Main Trail to see a view or access the shoreline, or longer, rambling walks that create new ways to traverse the landscape.
- **Trail Banks** –small pull-offs from the Main Trail for visitors to rest or enjoy views, while establishing boundaries to protect sensitive resources.
- **Water Trail Connections** –trail sections that would connect the Main Trail to existing or proposed kayak launches, shoreline platforms, and stopping points (some of which would be Accessible) along the Hudson River.
- **Connectors** –spur trails that would connect the Main Trail with existing trails in HHSPP and to existing and proposed parking areas.

Ancillary components would include:

- **Parking** – Two new parking areas and one expanded parking area would be included with the Proposed Action:
  - The Notch: New 80-space lot in an undeveloped forested area referred to as The Notch in HHSPP, owned by OPRHP, in the Town of Fishkill
  - Wade's Hill Lot: New 90-space lot in an undeveloped forested area in HHSPP, owned by OPRHP, in the Town of Fishkill
  - Washburn Lot Expansion: Expansion of existing lot in HHSPP, owned by OPRHP, from 48 spaces to about 96 spaces at the Washburn Trailhead in the Town of Philipstown
- **Restroom Buildings** – Two small restroom buildings would be provided at each of the main entry points to the proposed Fjord Trail, including Long Dock Park, Denning's Point, The Notch, Little Stony Point, and Dockside Park.
- **Maintenance Facility** – A new 4,500-to-6,000-square-foot prefabricated steel building with an outdoor storage space (up to about 10,000 square feet), a workshop space, limited office space, up to 20 parking spaces would be constructed at the site of the Beacon Transfer Station at 90 Dennings Avenue owned by the City of Beacon.

[2] The Positive Declaration and Final Scoping Document for the Project indicate the Proposed Action is the adoption of the Master Plan. Upon further consideration, OPRHP has determined that the Proposed Action is the development of the core elements of the Hudson Highlands Fjord Trail described herein.

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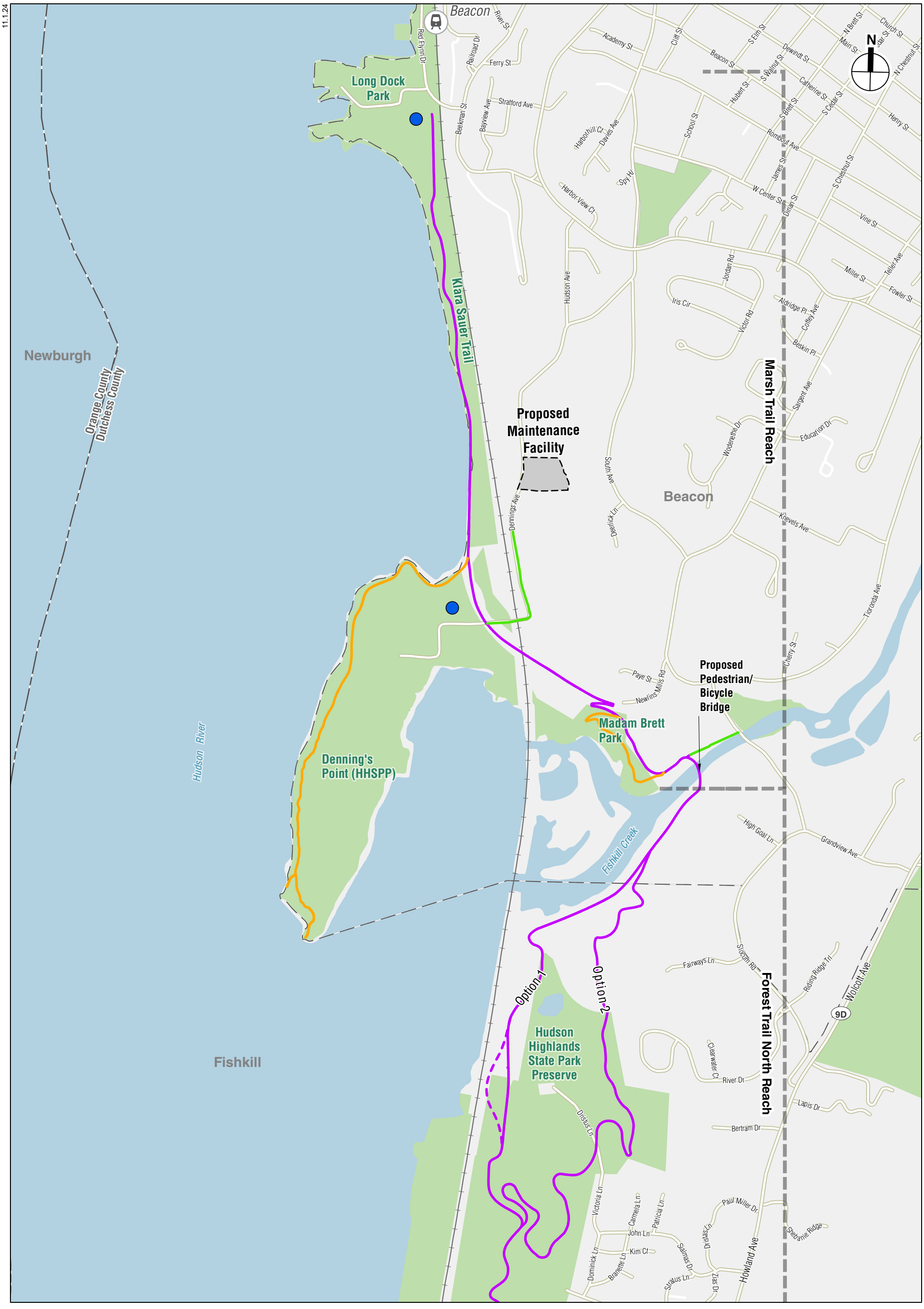
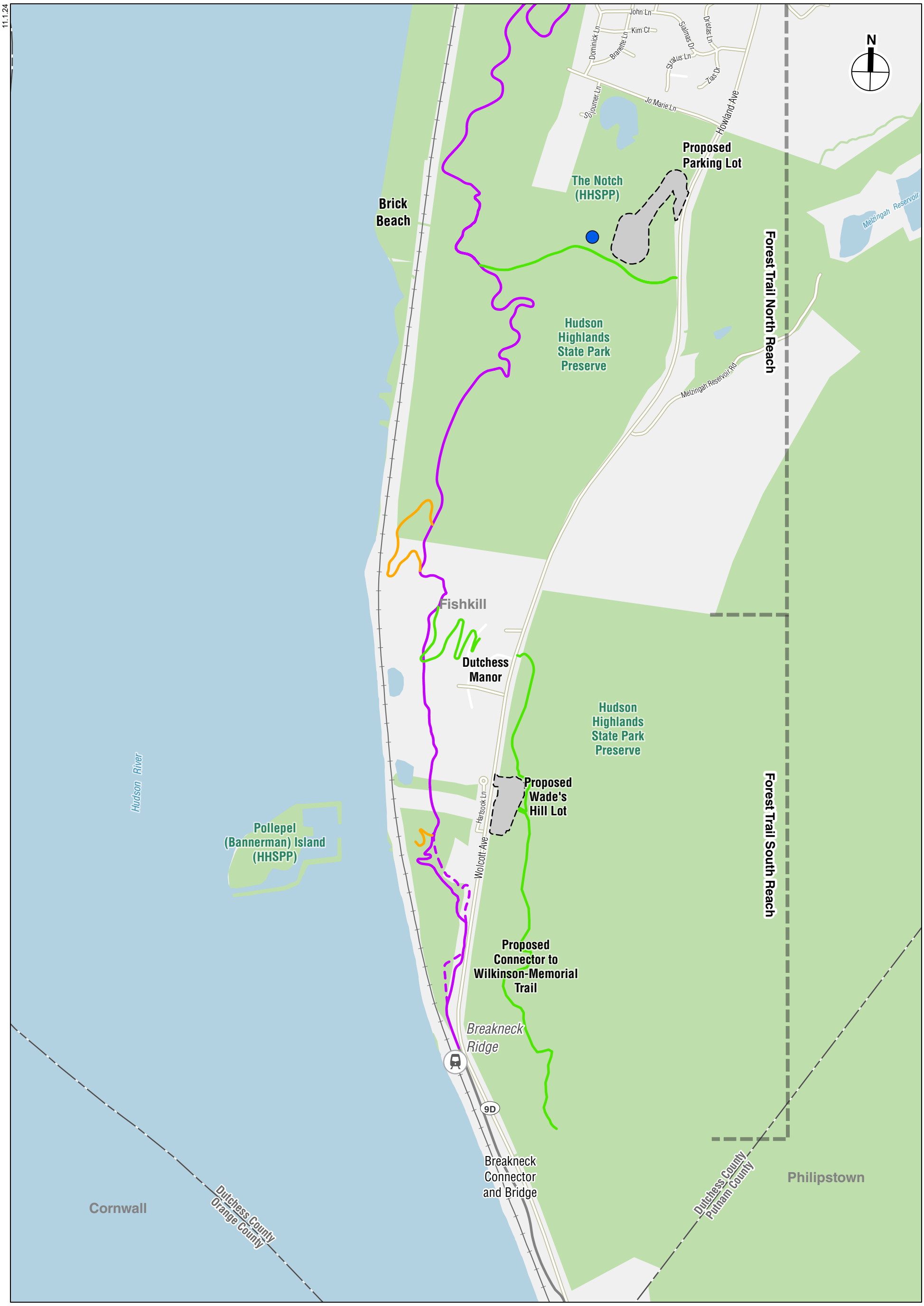


Proposed Fjord Trail North and Ancillary Components

HUDSON HIGHLANDS FJORD TRAIL

Figure S-2a

11.1.24

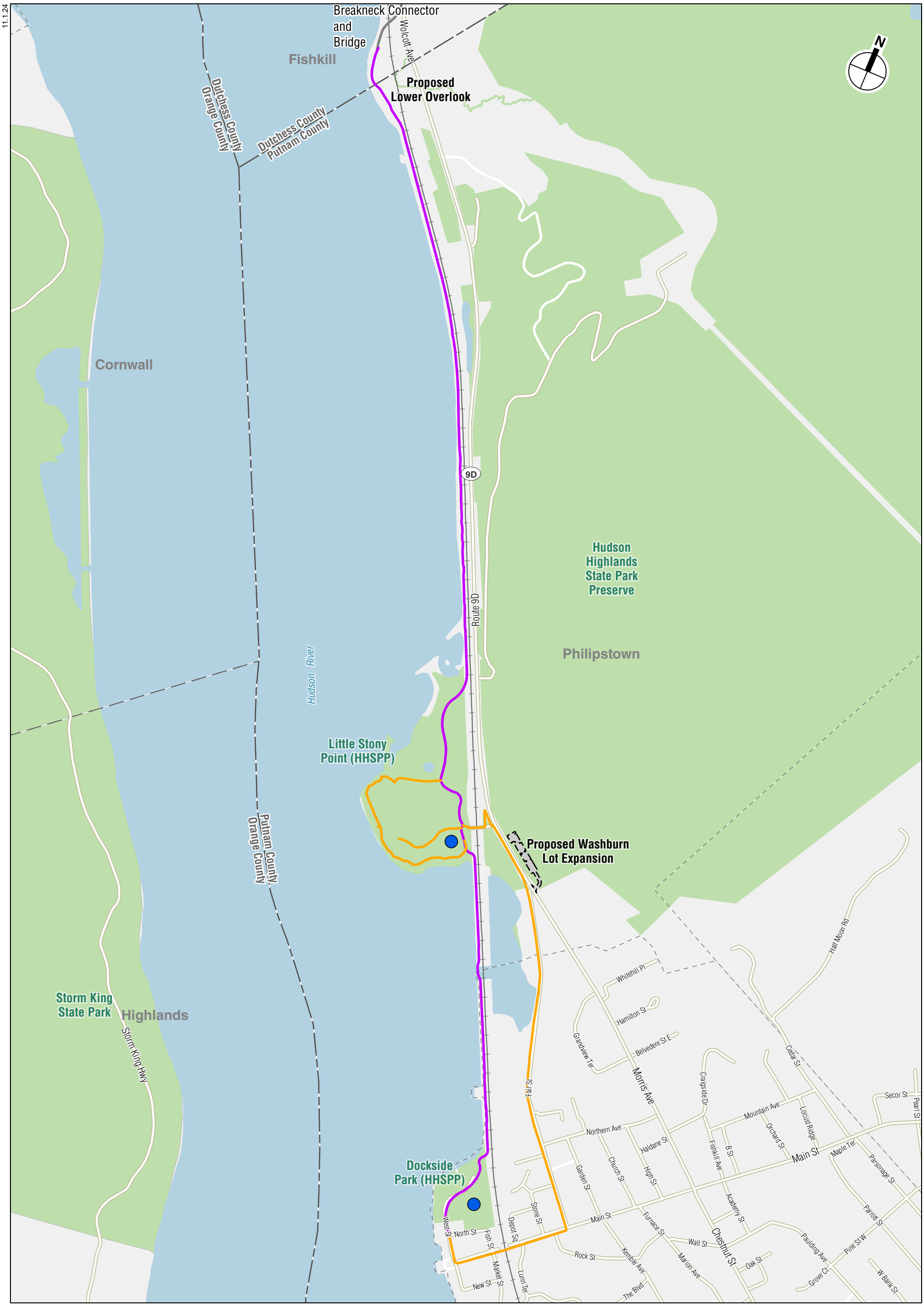


Proposed Fjord Trail North and Ancillary Components

HUDSON HIGHLANDS FJORD TRAIL

Figure S-2b

11.1.24



Proposed Fjord Trail South and Ancillary Components

HUDSON HIGHLANDS FJORD TRAIL

Figure S-2c

FJORD TRAIL NORTH

The proposed Fjord Trail North section would extend about 5.5 miles from Long Dock Park in Beacon to the BNCB. The trail would connect a number of existing recreational resources, including Long Dock Park, the Klara Sauer Trail, Denning's Point (HHSPP), Madam Brett Park, The Notch (HHSPP), and Bannerman Island (HHSPP) (see **Figures S-2a and S-2b**).

Heading south from the trailhead in Long Dock Park, Fjord Trail North would travel along and incorporate the existing Klara Sauer Trail, portions of which would be elevated on a berm to address future sea level rise, to connect to Denning's Point. The trail is then proposed to travel along MNR's railbanked (inactive) Beacon Line elevated railbed, where MNR currently stores materials and equipment, between Denning's Point and Madam Brett Park. Fjord Trail North is proposed to continue along and incorporate an existing trail in Madam Brett Park. From Madam Brett Park, Fjord Trail North would cross Fishkill Creek on a new proposed pedestrian and bicycle bridge. Fjord Trail North would continue west along an existing power line clearing on the south shore of Fishkill Creek that travels across privately owned properties.

Beyond this point, HHFT, Inc. is contemplating two options for the Main Trail alignment: Option 1 would continue west along the south shore of Fishkill Creek, then continue south generally parallel to the MNR tracks and the Hudson River; Option 2 would veer inland, potentially following or paralleling the existing power line corridor that heads south, and remain upslope from the Hudson River (see **Figure S-2a**). Both options would travel across Town of Fishkill-owned property and OPRHP-owned (HHSPP) land. Both options have been studied in this DGEIS, but only one option would be constructed, pending further design analysis and coordination with OPRHP, other property owners, and all applicable regulatory agencies.

Fjord Trail North would continue south through HHSPP land, including an area referred to as The Notch, and then traverse wooded areas on the rear portions of several private properties and the site of Dutchess Manor, owned by HHFT, Inc., ending at the BNCB.

As shown on **Figures S-2a and S-2b**, Meanders and Connectors are proposed at several places along Fjord Trail North. The proposed Meander in Denning's Point would incorporate an existing trail along the west side of Denning's Point, which would be upgraded, as needed, to be Accessible, to the extent feasible. Connectors are proposed between the Main Trail at Denning's Point and the existing parking area on the east side of the MNR tracks (using the existing Dennings Avenue that travels on a bridge over the MNR tracks), between the Main Trail and the proposed Notch parking area, between the Main Trail and the Dutchess Manor site, between the Dutchess Manor site and the proposed Wade's Hill Lot, and between the proposed Wade's Hill Lot and the existing Wilkinson-Memorial Trail in HHSPP.

The proposed Notch parking area and Wade's Hill Lot would also be located along Fjord Trail North. Restroom buildings would be located along Fjord Trail North at Long Dock Park, Denning's Point, and the Notch (see **Figures S-2a and S-2b**).

The total disturbance area for the Fjord Trail North Corridor is estimated to be about 39 acres with Main Trail Option 1 (or about 45 acres with Main Trail Option 2), including Main Trail, Meanders, Connectors, and ancillary components. Of that, about 30 acres would be within undeveloped areas with Main Trail Option 1 (or about 35 acres with Main Trail Option 2), and about 9 acres would incorporate existing trails or developed areas, which would require limited tree clearing.

See Chapter II, "Project Description," for further details.

FJORD TRAIL SOUTH

The proposed Fjord Trail South section would extend about two miles from the southern end of the BNCB to Dockside Park in the Village of Cold Spring. Fjord Trail South would connect to existing recreational resources, including Breakneck Ridge and trails in HHSPP (within the Town of Fishkill) via the BNCB[3], Little Stony Point, the Washburn Trail, and the Cornish Trail, and Dockside Park (see **Figure S-2c**).

At its northern end near the junction with the BNCB, Fjord Trail South would include an area referred to as the proposed Lower Overlook. The Lower Overlook would be at the base of Breakneck Ridge along the Hudson River with seating steps along the river's edge. Between the proposed Lower Overlook and Little Stony Point, Fjord Trail South would travel on the west side of the MNR tracks along the Hudson River shoreline, with the first approximately half-mile on an elevated pile-supported structure and the remaining approximately half-mile at-grade on a narrow strip of land between the tracks and shoreline.

Fjord Trail South would continue through Little Stony Point on a boardwalk and at-grade roughly parallel to the MNR tracks and would, to the greatest extent possible, follow existing trails that would be upgraded and widened. Fjord Trail South would continue south from Little Stony Point to Dockside Park on the west side of the existing MNR causeway and would again be elevated on a pile-supported structure along the Hudson River shoreline. In Dockside Park, Fjord Trail South would incorporate an existing at-grade path.

As shown on **Figure S-2c**, existing paths in Little Stony Point and Dockside Park would be incorporated as Meanders along Fjord Trail South. Additionally, HHFT, Inc. is considering a Meander that would travel from Dockside Park along Main Street and Fair Street to the Little Stony Point entrance and Washburn Lot on NYS Route 9D. This Meander would follow existing sidewalks along these streets and could potentially consist of new sidewalks on the portion of Fair Street where none currently exist, pending further analysis and coordination with the Village of Cold Spring, Putnam County, and the New York State Department of Transportation (NYSDOT), as appropriate.

The proposed Washburn Lot expansion would also be located along Fjord Trail South. Restroom buildings are proposed at Little Stony Point and Dockside Park (see **Figure S-2c**).

The total disturbance area for the Fjord Trail South Corridor is estimated to be about 8 acres, including Main Trail, Meanders, Connectors, and ancillary components. Of that, about 5.8 acres would be within undeveloped or overwater areas and about 2.2 acres would incorporate existing trails or developed areas with limited tree clearing.

See Chapter II, "Project Description," for further details.

CONSTRUCTION

The Fjord Trail is proposed to be constructed in four phases and in a manner that, to the extent possible, avoids and minimizes nighttime construction and impacts to MNR operations. As design advances, construction phasing will be confirmed and further evaluated, if needed. While sections of Fjord Trail North and Fjord Trail South would be constructed simultaneously, some portions would be completed before others and the trail would open incrementally, with completion of all

[3] Within HHSPP, the Breakneck Ridge Trail connects with Undercliff Trail, Breakneck Bypass, Notch Trail, Wilkinson Memorial Trail, Nimham Trail, and Casino Trail.

phases anticipated by 2031, as described further below. Construction activities are proposed to occur during weekday hours from 7 AM to 4 PM and would also be subject to time-of-year restrictions for in-water work and tree clearing to avoid impacts to protected species.

Construction of the proposed Fjord Trail North is proposed to be completed in three phases, each about 24 to 36 months, and would begin with tree clearing and grubbing along the proposed trail alignment followed by trail installation, including grading, installation of stormwater management features (as needed), paving, hardscape improvements, and landscaping.

Construction of Fjord Trail South is proposed to occur in one phase and is proposed to use three different construction methods:

- **Waterside construction** facilitated from barges for the northern portion that would be on an elevated structure along the Hudson River shoreline from the Lower Overlook to about midway to Little Stony Point;
- **On-grade construction** from that midpoint south to Little Stony Point and within Little Stony Point, as well as the proposed Lower Overlook; and
- **Top-down construction**, for the southern section that would be on an elevated structure along the Hudson River shoreline between Little Stony Point and Dockside Park, where construction would occur from the elevated on-structure trail itself as it is built.

These are general construction means and methods proposed for Fjord Trail South. The construction means and methods will be refined based on further evaluation and coordination.

Approximately 1.5 miles of the proposed Fjord Trail South would be on lands owned or controlled by the Metropolitan Transportation Authority/ Metro-North Railroad (referred to herein as "MNR right-of-way"). As such, HHFT, Inc. will continue to coordinate with MNR as design advances to achieve MNR's requirements and stated objectives to ultimately obtain MNR approval to construct and operate the trail on its land. Some of MNR's requirements and stated objectives are (i) the design for the proposed Fjord Trail South provides a minimum 25-foot horizontal offset from the centerline of MNR tracks to the edge of the proposed trail, (ii) review and approval of construction work plans, (iii) future ability to perform maintenance including but not limited to track work and rip rap replacement, and (iv) future ability to respond to climate change using best practices including but not limited to raising track and associated infrastructure.

While final construction phasing would be determined during final design, the anticipated phasing plan for construction of the proposed Fjord Trail is summarized in **Table S-1** and shown on **Figures S-3a to S-3c** (see Chapter II, "Project Description," for further details).

11.1.24

Phase 1 (2025-2026)

Phase 3 (2027-2029)

0 2,000 FEET

Construction Phasing (Fjord Trail North)

HUDSON HIGHLANDS FJORD TRAIL

Figure S-3a

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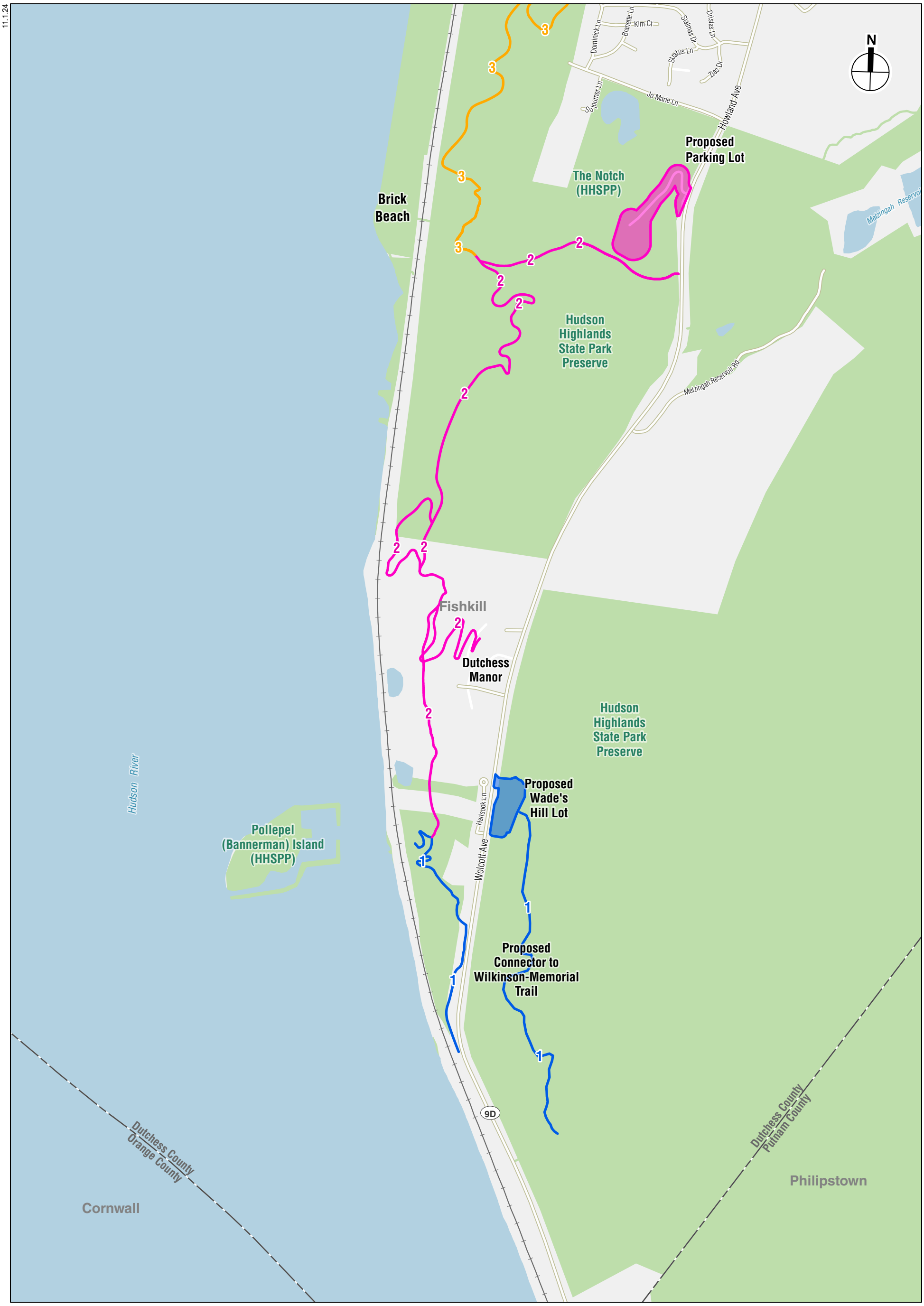


Phase 1 (2025-2026)

Phase 2 (2026-2029)

Phase 3 (2027-2029)

0 2,000 FEET

Construction Phasing (Fjord Trail North)

HUDSON HIGHLANDS FJORD TRAIL

Figure S-3b

11.1.24

Fishkill
Cornwall
Philipstown
Highlands
Dutchess County
Orange County
Putnam County
Orange County
Dutchess County
Putnam County
Wolcott Ave
Proposed
Lower Overlook
Route 9D
9D
Hudson River
Hudson
Highlands
State Park
Preserve
Little Stony
Point (HHSPP)
Proposed Washburn
Lot Expansion
Storm King
State Park
Storm King Hwy
Dockside
Park (HHSPP)
Whitehill Pl
Half Moon Rd
Hamilton St
Belvedere St E
Grandview Ter
Morris Ave
Craigside Dr
Cedar St
Secor St
Mountain Ave
Locust Ridge
Orchard St
Northern Ave
Haldane St
Fishkill Ave
B St
Main St
Maple Ter
Parsonage St
Garden St
Church St
High St
Academy St
Parrott St
Stone St
Depot Sq
Furnace St
Chestnut St
Paulding Ave
Pine St W
Wall St
Rock St
Kemble Ave
Marion Ave
Oak St
Grove Ct
W Bank St
West St
North St
Fish St
Market St
New St
Lunn Ter
S Jfrs
4

Phase 4 (2026-2031)

0 2,000 FEET

Construction Phasing (Fjord Trail South)

HUDSON HIGHLANDS FJORD TRAIL

Figure S-3c

Table S-1
Construction Phasing

Construction Phase	Components	Anticipated Timeline (approx.)
Fjord Trail North		
PHASE 1	• Main Trail from BNCB to Bannerman Island Overlook • Meander to Bannerman Island Overlook • Wade's Hill Lot • Connector from Wade's Hill Lot to existing Wilkinson Memorial Trail • Maintenance Facility	2025 to 2026
PHASE 2	• Main Trail from Bannerman Island Overlook to Notch Entry • Connector to Dutchess Manor • Connector to Notch Entry • Parking Area and Restroom Buildings at Notch	2026 to 2029
PHASE 3	• Main Trail Notch Entry to Long Dock Park, including Pedestrian/Bicycle Bridge over Fishkill Creek • Meanders at Denning's Point and Madam Brett Park • Restroom Buildings at Long Dock Park and Denning's Point	2027 to 2029
Fjord Trail South		
PHASE 4	• Main Trail (elevated on structure) from BNCB to Little Stony Point • Main Trail (on boardwalk and on-grade) in Little Stony Point • Main Trail (elevated on structure) from Little Stony Point to Dockside Park • Lower Overlook • Meanders in Little Stony Point • Restroom Buildings at Little Stony Point • Washburn Lot expansion	2026 to 2031*
Note: * Construction would not be continuous during this timeframe due to in-water work restrictions from March to June.		

C. PROJECT BACKGROUND

SEQRA OVERVIEW

Portions of the proposed Fjord Trail would be located on state lands owned by OPRHP or on lands that will be open to the public following proposed acquisition of a future OPRHP easement or lease, and HHFT, Inc. would operate and maintain the Fjord Trail as a continuous public trail. It is expected that lands under OPRHP control (whether by a fee interest, an easement, or a lease) would be operated and maintained by HHFT, Inc. under a cooperative management agreement. As such, OPRHP is serving as Lead Agency for the environmental review of the Proposed Action.

On August 18, 2015, OPRHP commenced a coordinated review and circulated a Lead Agency Notice pursuant to SEQRA for the proposed Fjord Trail. On October 7, 2015, OPRHP declared its intent to serve as Lead Agency for the Proposed Action and issued a Positive Declaration of environmental significance, requiring the preparation of a Generic Environmental Impact Statement (GEIS).

OPRHP published a draft Scoping Document dated July 6, 2016, and held a public GEIS Scoping Session in November 2016. Written comments on the GEIS Draft Scoping Document were accepted through November 18, 2016. On March 21, 2017, OPRHP adopted the Final Scoping Document for the proposed Fjord Trail. A copy of the Final Scoping Document and other relevant SEQRA documentation can be found in **Appendices I-1 to I-3**.

This DGEIS has been prepared pursuant to the requirements of SEQRA (Article 8 of the Environmental Conservation Law and its implementing regulations at 6 NYCRR 617). The Lead Agency determined a GEIS to be appropriate for the proposed Fjord Trail due to its conceptual design, the need to broadly analyze the cumulative impacts of a series of actions (phased development of the Fjord Trail), and the regional extent of the Fjord Trail. In comparison to the evaluation of the northern section of the Fjord Trail, this DGEIS includes a more detailed review of the southern section of the Fjord Trail (i.e., Fjord Trail South) informed by surveys, engineering feasibility studies, and constructability assessments. This is due to the complexities associated with Fjord Trail South, largely on lands within MNR right-of-way, and proposed to be located within a very constricted section of land between the Hudson River and both NYS Route 9D and the MNR tracks (see Chapter II, "Project Description," for further details). Potential impacts along the Fjord Trail North Corridor are presented in Chapters III.A through III.P and potential impacts along the Fjord Trail South Corridor are presented in Chapters IV.A through IV.P of this DGEIS.

In accordance with SEQRA, the DGEIS has been made available for public and involved/interested agency review and comment for a 60-day period through February 2, 2025. Comments may be provided to the Lead Agency in writing during the comment period. Two virtual public hearings have been scheduled for January 14, 2025 to receive verbal comments on the DGEIS. Following the close of the public comment period, the Lead Agency, in conjunction with the Applicant, will produce a Final Generic Environmental Impact Statement (FGEIS). Following acceptance of the FGEIS and issuance of written findings, aspects of the Proposed Action which are consistent with the FGEIS may proceed to construction provided that the necessary property acquisitions and arrangements have been completed and final approved design and construction plans conform to the trail alignment, designs, and conditions established in the FGEIS and written findings. As design of the Proposed Action advances further and the permitting process proceeds, HHFT, Inc. will continue to consult with OPRHP (the Lead Agency) including submitting design drawings of trail reaches or trail sections at regular intervals (e.g., 30 percent, 50 percent, 80 percent) for OPRHP's review. A decision regarding construction of Main Trail Option 1 or Option 2 for Fjord Trail North will be made after further design analysis and coordination with OPRHP, property owners, and all applicable regulatory agencies.

OPRHP would determine whether any changes to the Proposed Action would warrant supplemental environmental review, such as a substantial change in the trail alignment or the footprint of the trail or its ancillary components beyond those areas studied in the FGEIS or the addition of project components that are not included in the Proposed Action. Another circumstance requiring supplemental review would be newly discovered information or changed circumstances not considered in the FGEIS, such as the identification of newly protected species.

In the event of these various circumstances that may require supplemental environmental review, i.e., "project modifications," HHFT, Inc. will submit to OPRHP technical memoranda and/or updated design drawings with sufficient information to allow OPRHP, as Lead Agency, to consider whether the project modifications will have significant adverse environmental impacts that are not addressed, or inadequately addressed, in the FGEIS.

If OPRHP determines the project modification is consistent with the FGEIS's conditions and findings, it will issue a consistency determination. Alternatively, if OPRHP determines the project modification may result in significant adverse environmental impacts that have not been addressed, or adequately addressed, in the FGEIS or SEQRA findings, OPRHP may undertake supplemental environmental review. This supplemental review may include completion of supplemental environmental assessment forms, supplemental significance determinations,

supplemental environmental impact statements, or amended or supplemental findings, as necessary.

PROJECT DEVELOPMENT

The Hudson Highlands region of New York is among the State's top outdoor regions due to its popular hiking, biking, cross country skiing trails and historic and cultural destinations, with visitors arriving from the Hudson Valley, the New York City metropolitan region, across the country and around the world. Visitation to this area has produced many economic and community benefits, but also created traffic and pedestrian safety, quality of life, and maintenance/up-keep issues in and around HHSPP and within the surrounding municipalities of the City of Beacon, Town of Fishkill, Town of Philipstown, and Village of Cold Spring. To foster the continued draw to the region's rich scenic, natural, and cultural resources and to enhance access to the Hudson River, while considering the local concerns noted above, HHFT, Inc. developed a Draft Master Plan[4] to conceptualize a trail that would extend through the Hudson Highlands between Beacon and Cold Spring and provide a more cohesive connection among the existing network of trails and parks.

PURPOSE AND NEED

The proposed Fjord Trail project was initiated based upon the need to address increasing visitation to HHSPP and surrounding communities (i.e., the City of Beacon and the Village of Cold Spring) and related public safety, quality of life, and maintenance concerns arising from such increased visitation. The existing trail network lacks sufficient amenities, such as parking and restroom facilities, for the level of visitation that the area has experienced in the past decade or more, and unsafe parking conditions have resulted along NYS Route 9D. There is also a need to provide more cohesive, organized, and safer access to the extensive trail network that exists in the corridor between the City of Beacon and the Village of Cold Spring. Trailheads are interspersed along NYS Route 9D in this corridor, and visitors arriving by rail must travel along roadways with limited safe trail access for pedestrians. In addition, many of the area's existing trails are on rugged terrain and not Accessible.

The multi-use, non-motorized recreational Fjord Trail would connect the Village of Cold Spring and the City of Beacon, providing access to the Hudson River waterfront, and offering connections to other existing regional trails. Benefits of the Proposed Action would include expanded access to the area's highly valued scenic, recreational, and cultural resources, including provision of an Accessible trail; expanded parking accommodations and trail access, including a proposed shuttle service along the Trail Corridor (see Chapter III.L, "Traffic and Transportation – Fjord Trail"), which would enhance access, safety and mobility; off-road access to the trail network for users arriving by transit (i.e., MNR), including a more direct route from the MNR Cold Spring station to area trails for days when the MNR Breakneck Ridge station does not have service (weekdays); and a new off-road alternative transportation route between Beacon and Cold Spring as a public amenity. The Fjord Trail would also be consistent with local and regional plans that advocate for expanded hiking and biking amenities, including the Dutchess County and Putnam County Greenway Compacts. The Fjord Trail can provide a critical link in the Hudson River Valley Greenway Trail, the development of which was established as a State priority by the Greenway Act of 1991, and further identified as a priority in the 2016 New York State Open Space Plan

[4] https://parks.ny.gov/inside-our-agency/public-documents.aspx

(which notes that the Fjord Trail could serve to link other trails[5]) and the Statewide Comprehensive Outdoor Recreation Plan (2019).

The project goals were developed through the Preliminary Draft Master Plan (PDMP) for the Fjord Trail and the 2020 Draft Master Plan planning processes and augmented with the input of the Project Steering Committee, community engagement initiatives, and priorities expressed by the public during various workshops and outreach events. The design of the proposed Fjord Trail has been informed by the following goals:

1. Express Reverence for the Regional Landscape.
2. Cultivate the Ecological Sublime.
3. Reunite with the River's Edge.
4. Connect with the Greater Region.
5. Choreograph Visitation and Stewardship.
6. Inspire and Implement.

D. SUMMARY OF APPROVALS REQUIRED

Coordination is ongoing through the SEQRA process and through future reviews, approvals and permits. The Proposed Action would require approvals and/or permits from a number of agencies, referred to as "involved agencies." The anticipated approvals required for the Proposed Action and related involved agencies are listed in **Table S-2**. Other interested agencies or parties/groups that do not have a jurisdictional approval for, but have an interest in, the Proposed Action are listed after the table.

[5] *2016 Open Space Conservation Plan*. https://www.dec.ny.gov/nature/open-space/2016-open-space-conservation-plan (accessed February 21, 2024).

Table S-2
Involved Agencies and Potential Permits and Approvals

Involved Agency	Potential Permits and Approvals
New York State	
NYS Department of Environmental Conservation	• Article 15, Title 5, Protection of Waters-Stream Disturbance, Excavation/Fill in Navigable Waters, Docks, Moorings, Platform, as applicable; • Article 24, Freshwater Wetlands; • State Pollutant Discharge Elimination System (SPDES) for stormwater discharge from construction; • Water Quality Certification pursuant to Section 401 of the Clean Water Act; • Article 11, Title 5 Endangered & Threatened Species Incidental Take permit
NYS Office of Parks, Recreation, and Historic Preservation	• Parks, Recreation and Historic Preservation Law Section 14.09 Review; • Cooperative agreements including an operation and maintenance agreement
NYS Department of State	• Local Waterfront Revitalization Program Consistency Review; • Coastal Zone Management Approval and Federal Consistency Determination
NYS Department of Transportation	• Highway Work Permits
NYS Office of General Services	• Easement for State-Owned Lands Under Water
Local/Regional	
Metropolitan Transportation Authority (MTA) – Metro-North Railroad (MNR)	• Property and maintenance agreements, and entry permits for construction
Dutchess County	• Department of Health review of restroom buildings, as required; potential land use approvals for improvements on municipal or private properties
Putnam County	• Potential approval for possible sidewalk improvements; Department of Health review of restroom buildings, as required; potential land use approvals for improvements on municipal or private properties
City of Beacon	• Property lease and potential land use approvals for proposed maintenance facility • Potential review and approval of Stormwater Pollution Prevention Plan (SWPPP) under Municipal Separate Stormwater Sewer Systems (MS4) program
Town of Fishkill	• Property agreement • Potential land use approvals • Potential review and approval of SWPPP under MS4 program
Village of Cold Spring	• Potential approval for possible sidewalk improvements
Town of Philipstown	• Potential approval for possible sidewalk improvements • Potential review and approval of SWPPP under MS4 program
New York City Department of Environmental Protection	• Property agreement
Federal	
US Army Corps of Engineers	• Section 404 Clean Water Act and Section 10 Rivers and Harbors Act
US Fish and Wildlife Service	• ESA Section 7 Consultation
National Marine Fisheries Service	• ESA Section 7 Consultation; Magnuson-Stevens Act – Essential Fish Habitat Consultation

INTERESTED AGENCIES

- Village of Nelsonville

INTERESTED PARTIES/GROUPS

- Scenic Hudson
- Riverkeeper
- Hudson River Fisherman's Association
- Hudson River Foundation
- National Audubon Society, Audubon New York
- Hudson River Environmental Society
- Hudson Highlands Land Trust
- New York-New Jersey Trail Conference
- Little Stony Point Citizens Association
- Friends of Fahnestock and Hudson Highlands State Parks
- The Lenape Center
- Open Space Institute
- The Bannerman Castle Trust

E. SUMMARY OF POTENTIAL IMPACTS

FJORD TRAIL NORTH

The potential impacts along the Fjord Trail North Corridor are evaluated and presented in Chapters III.A through III.P of this DGEIS. The Fjord Trail North Corridor extends approximately 5.5 miles from Long Dock Park in Beacon to just south of Dutchess Manor in the Town of Fishkill. A summary of potential impacts for each subject area is provided in the following sections.

LAND USE AND ZONING

Land Use

The Fjord Trail proposes to expand the existing trail network in Putnam and Dutchess Counties, in the City of Beacon, the Towns of Fishkill and Philipstown, and the Village of Cold Spring. Fjord Trail North would be within the City of Beacon and Town of Fishkill in Dutchess County and would connect and incorporate existing trails and recreational resources, including Long Dock Park, the Klara Sauer Trail, Denning's Point, and Madam Brett Park. South of Fishkill Creek, Fjord Trail North would travel through undeveloped wooded areas, much of which would be within the Hudson Highlands State Park Preserve (HHSPP), including an area referred to as The Notch. Fjord Trail North would also traverse some residential properties that contain single family residences, with the houses located primarily in the eastern portions of the properties and the proposed Fjord Trail North alignment in wooded areas in the western portion of the properties, providing separation between the proposed trail and the residences. Fjord Trail North would be consistent with the recreational uses and extensive trail network of the HHSPP and would be compatible with surrounding residential land uses.

A maintenance facility for the Fjord Trail would be constructed at the site of the Beacon Transfer Station on Dennings Avenue in the City of Beacon. The facility would be compatible with existing industrial uses in the area associated with the Transfer Station and the Beacon Wastewater Treatment Facility. Two new parking areas along NYS Route 9D in the Town of Fishkill are proposed at The Notch (80 spaces) and near Hartsook Lane (referred to as the Wade's Hill Lot)

with 90 spaces. These parking areas would be in areas of low development density and accessed from NYS Route 9D.

Based on what is known at this time, Fjord Trail North is not anticipated to result in any significant adverse land use impacts. See Chapter III.A, "Land Use and Zoning – Fjord Trail North," for further discussion.

Zoning

Zoning along the Fjord Trail North Corridor in the City of Beacon includes Waterfront Park (WP), Light Industrial (LI), and the Fishkill Creek Development (FCD) zoning districts. These districts generally aim to preserve and enhance waterfront activities and accessibility to them and expand recreational opportunities. Within the Town of Fishkill, zoning along the Fjord Trail North Corridor is primarily for medium and low-density residential uses. Fjord Trail North would be compatible with these zoning districts. Additionally, there are no proposed or required changes to existing zoning along the proposed Fjord Trail North, and the Proposed Action would not result in any adverse zoning impacts. See Chapter III.A, "Land Use and Zoning – Fjord Trail North," for further discussion.

Public Policy

Local and regional public policies govern portions of the Fjord Trail North Corridor. As discussed in Chapter III.A, "Land Use and Zoning – Fjord Trail North," a common theme throughout the public policies assessed for this DGEIS is the importance of protecting open space resources, augmenting recreational hiking and biking amenities, and protecting rare and vulnerable plant and animal species.

The *City of Beacon Comprehensive Plan Update* (2017) and the *City of Beacon Local Waterfront Revitalization Program (LWRP)* (Amended 2011) focus on redeveloping the City's waterfront and enhancing recreational opportunities along the waterfront. The *Town of Fishkill Comprehensive Plan Update* (2023) also includes goals related to expanding recreational opportunities and trails in the Town. Fjord Trail North would be consistent with and help these communities achieves these visions.

The *Clarence Fahnestock Memorial and Hudson Highlands State Park Preserve Final Master Plan* (2010) has an overall goal to "achieve a balance between recreation and the protection of natural and cultural resources of these two parks." The *Final Master Plan* designated the entirety of Hudson Highlands State Park as a Park Preserve. The Park Preserve Law (Article 20 of the Parks, Recreation, and Historic Preservation Law) provides for designation of park land containing wildlife, flora, scenic, historical and archeological sites that are unique and rare in New York State. Designating the park as a preserve provides legal protection to all of the park's resources—natural, historic, and archeological. Fjord trail North would be consistent with the goals of the *Final Master Plan* by expanding hiking and bicycling opportunities and amenities (e.g., restrooms and parking) within and near HHSPP while being designed to limit its footprint and disturbance area to the extent possible, Fjord Trail North is being designed in consideration of the goals and legal protections identified in Article 20 of Parks, Recreation and Historic Preservation Law (PRHPL), which applies to environmentally sensitive parkland that is additionally designated as "park preserve." Efforts were made to incorporate the vision and management goals identified in the *Final Master Plan* for providing opportunities for passive recreation and connection with the Hudson River while protecting native plants and animals.

The Dutchess County Greenway Compact has been adopted by communities along the Fjord Trail North Corridor and aims to improve public access to the Hudson River through the establishment of a linear trail along the waterfront. Fjord Trail North would support this goal.

Additionally, Fjord Trail North would be consistent with policies aimed at improving and ensuring pedestrian and bicyclist safety. Fjord Trail North would facilitate improved pedestrian and bicycle movement along the NYS Route 9D corridor, consistent with safety recommendations and guidelines of Dutchess County's long-range transportation plan, *Moving Dutchess Forward* (2020), Dutchess County's *Walk Bike Dutchess: The Pedestrian & Bicycle Plan for Dutchess County, New York* (2014), the Federal Railroad Administration's (FRA's) and Federal Highway Administration's (FHWA's) *Rails with Trails: Best Practices and Lessons Learned* (2021), and the Rails-to-Trails Conservancy's *America's Rails-with-Trails* (2013).

LAND OWNERSHIP, MANAGEMENT, AND MAINTENANCE

Ownership

As discussed in Chapter III.B, "Land Ownership, Management, and Maintenance – Fjord Trail North," landowners along the Fjord Trail North Corridor include OPRHP (HHSPP land), the Metropolitan Transportation Authority (MTA) and Metro-North Railroad (MNR commuter rail line and the railbanked Beacon Line), NYSDOT (NYS Route 9D), City of Beacon, Town of Fishkill, Scenic Hudson (Long Dock Park and Madam Brett Park), HHFT, Inc. (Dutchess Manor and an adjacent parcel), and 12 private landowners.

About one third (1.6 miles) of the Main Trail of Fjord Trail North, and about 50 percent of all trail types (Main Trail, Meanders, and Connectors), would be within HHSPP land owned by OPRHP. The proposed Notch and Wade's Hill parking areas would also be in HHSPP. It is likely that lands under OPRHP control (whether by a fee interest, an easement, or a lease) along Fjord Trail North would be licensed to HHFT, Inc. under a cooperative management agreement. Fjord Trail North would also cross land currently owned by Scenic Hudson (Long Dock Park and Madam Brett Park) and HHFT, Inc. (Dutchess Manor and adjacent parcel).

Fjord Trail North is proposed to travel along the railbanked (inactive) Beacon Line railbed, where MNR currently stores equipment and material, and is proposed to operate on MNR right-of-way under a future trail easement or lease agreement between OPRHP and MNR. It is contemplated that this segment would ultimately be managed and maintained by HHFT, Inc. under a cooperative management agreement between OPRHP and HHFT, Inc. Just south of Fishkill Creek, Fjord Trail North would traverse land owned by the Town of Fishkill. HHFT, Inc. would seek an agreement with the Town to operate the trail on its land. Where the Trail would cross private properties, HHFT, Inc. would coordinate with the property owners directly to seek easements or purchase agreements.

The proposed maintenance facility is proposed to be located at the site of the Beacon Transfer Station, which is owned by the City of Beacon. HHFT, Inc. would seek an agreement with the City to operate the maintenance facility on the property.

The proposed parking areas would be along NYS Route 9D and would require NYSDOT permits to establish entrances to the parking areas. Further evaluation in coordination with NYSDOT will be conducted to determine if signalization is warranted at the proposed new parking entrances. However, no changes in NYSDOT ownership are anticipated.

Management and Maintenance

HHFT, Inc. proposes to manage and fund construction and maintenance of the Fjord Trail North, regardless of property ownership. HHFT, Inc. intends to seek agreements with each respective property owner to conduct maintenance activities, including repairs, trash removal, maintenance of restroom buildings, and maintenance of security features (potential cameras, fences, etc.). Per the cooperative management agreement between HHFT, Inc. and OPRHP and a proposed OPRHP agreement with MNR, maintenance and repair of all capital improvements to Fjord Trail North would be the responsibility of HHFT, Inc.

LAND

Surficial Geology and Soils

As described in Chapter III.C, "Land – Fjord Trail North," components of the proposed Fjord Trail North that would have the potential to affect geology, soils, or topography include construction activities associated with earthwork, cut and fill, and alteration of steep slopes, and any potential for erosion from the completed trail. Fjord Trail North would include "rolling grades" which allow for stormwater to flow across the trail as recommended by the United States Forest Service. This minimizes erosion and maintains a sustainable natural surface. The potential for soil erosion during construction would be minimized through the implementation of erosion and sediment control measures in accordance with a Stormwater Pollution Prevention Plan (SWPPP) prepared for each trail section for review and approval in accordance with the requirements of the NYSDEC SPDES General Permit for Stormwater Discharges from Construction Activities. No more than five acres would be disturbed at any one time, in accordance with Part II General Requirement D.3 of the NYSDEC SPDES General Permit for Stormwater Discharges from Construction Activities (GP-0-20-0001).

Based on the current conceptual design, Fjord Trail North would result in an estimated overall increase in impervious surfaces of approximately 20 acres with Main Trail Option 1 or 21 acres with Main Trail Option 2. This would include approximately 8 acres of crushed stone path with limited permeability for Main Trail Option 1 and 9 acres for Main Trail Option 2, approximately five acres of impervious area for parking and trail entry at the Notch, approximately 2.5 acres of impervious area for parking at the new Wade's Hill Lot, approximately one acre of impervious surface for the proposed maintenance facility along Dennings Avenue in Beacon, and approximately 3.5 acres of impervious areas within Trail Banks to provide Accessibility. As design advances and is refined, there may be opportunities to reduce impervious surface coverage (e.g., minimizing paved areas, incorporating landscaping). The increase in impervious surface is not expected to result in adverse impacts to surficial geology or soils given the narrow linear nature of the trail and its distribution over the entire length of the Fjord Trail North alignment.

Bedrock Geology

Fjord Trail North intersects with two inactive fault lines, and design would follow natural contours along the corridor. Fjord Trail North would not require blasting, and thus would not affect bedrock geology or interact with the fault lines it intersects.

Topography

Much of Fjord Trail North would be constructed on slopes below 15 percent, with a few portions on steeper slopes such as the areas surrounding Dutchess Manor, the Notch, and Fishkill Creek. Within the 39-acre disturbance area for Fjord Trail North with Main Trail Option 1, the steeper areas comprise approximately 0.61 acres with slopes between 15 and 25 percent and

approximately 0.35 acres with slopes greater than 25 percent. Within the 44-acre disturbance area for Fjord Trail North with Main Trail Option 2, the steeper areas comprise approximately 0.77 acres with slopes between 15 and 25 percent and approximately 0.39 acres with slopes greater than 25 percent. As the design of Fjord Trail North is advanced, the alignment and limit of disturbance will be modified to avoid steep slopes to the extent possible. Where steep slopes cannot be avoided, elevated trail sections may be constructed. Fjord Trail North would be designed using flood resilient structural and pathway materials and stabilization of the trail with vegetation.

WATER RESOURCES

Groundwater

Fjord Trail North would not affect any sources of recharge for surrounding aquifers. Wells may be used at the proposed restroom buildings along Fjord Trail North, which would have estimated water usage of less than 20 gallons per day.

Floodplains

Some sections of Fjord Trail North would be located within the 1 and 0.2 percent annual chance floodplains. In accordance with NYSDEC's Community Risk and Resiliency Act (CRRA), Fjord Trail North would be designed with consideration of 10-year, 50-year, and 100-year storm return periods with flood resilience measures incorporated to reduce the risk of damage during flood events. Because the floodplain within and adjacent to the proposed Fjord Trail North is affected by coastal flooding rather than fluvial flooding, the project's presence in the floodplain would not be expected to result in adverse impacts with respect to flooding. Construction of Fjord Trail North would result in minimal occupation of the floodplain and would not exacerbate flooding conditions in adjacent areas.

Wetlands

Fjord Trail North is expected to result in temporary impacts to wetlands during construction because of ground disturbance. Erosion and sedimentation control measures would be implemented to minimize potential impacts and these areas would be restored to existing conditions through grading and planting native wetland species, if necessary. The proposed wetlands boardwalk crossing south of Fishkill Creek under Main Trail Option 1 of the Forest Trail North would result in some permanent impacts to NYSDEC and NWI freshwater wetlands. The Applicant would seek a permit from the appropriate regulatory agencies for activities affecting wetlands and, if required, appropriate compensatory mitigation to offset any permanent loss of wetland habitat would be determined in coordination with the agencies. See Chapter III.D, "Water Resources – Fjord Trail North," for further discussion.

Surface Waters

Portions of Fjord Trail North where construction would have the potential to impact surface waters would include the crossings over Fishkill Creek, Gordons Brook, and Wades Brook, where a bridge or boardwalk would be required. The bridge over Fishkill Creek would result in a minimal footprint on the Creek bottom from the supporting piles. The crossings over the two brooks would be further investigated as Fjord Trail North design advances and impacts to these resources would be avoided to the extent possible. Erosion and sedimentation control measures would be implemented to minimize potential impacts during construction activities within and adjacent to surface waters. Ultimately, Fjord Trail North would be designed to avoid or minimize impacts to waterbodies to the extent possible, including minimizing in-water pile footprints, limiting over-water components to areas where the trail must avoid existing infrastructure or steep slopes, or to

maintain the Main Trail grade for Accessibility purposes. See Chapter III.D, "Water Resources – Fjord Trail North," for further discussion.

Stormwater

Fjord Trail North would not introduce any new point source discharges; the design would incorporate best management practices to capture runoff. At-grade sections of the trail would use crushed stone in construction, and steeper parts of the trail would include swales along the shoulder. Swales would also be incorporated into other parts of the trail to minimize the need for storm sewers. See Chapter III.D, "Water Resources – Fjord Trail North," for further discussion.

BIOLOGICAL RESOURCES

Ecological Communities

Construction of Fjord Trail North would result in the clearing of vegetation within multiple terrestrial ecological communities. Existing trails and old roadbeds would be incorporated into the design as feasible to reduce the amount of vegetation removal. Best management practices would be implemented to protect existing vegetation to the extent practicable and to minimize the spread of invasive species. Based on the current assumptions of trail widths and locations of ancillary features, Fjord Trail North would result in the loss of approximately 45.4 acres of ecological communities. Operation of the proposed Fjord Trail North may indirectly impact ecological communities by increasing and introducing new recreational activity, human disturbance, and invasive species into previously isolated habitats. Native species would be planted where possible and vegetation management plans would be developed to ensure survival and stabilization.

Plants

Existing trails and old roadbeds would be incorporated into the design, as feasible, to minimize tree and vegetation clearing. Tree protection measures would be implemented during construction to avoid disturbance to selected mature trees within the Fjord Trail North Corridor. Tree replanting, educational signage, the removal of invasive plant species, and the development of a vegetation management plan would be implemented as strategies to avoid, minimize, and mitigate project-related impacts. Design elements (e.g., boulders, logs, small fencing) would be incorporated to prevent people from leaving the trails and entering sensitive natural areas to minimize impacts on plants. Vegetation management plans would be developed for the native plantings to assure survival and stabilization.

The only documented submerged aquatic vegetation (SAV) within the Fjord Trail North Corridor trail alignment is where the Trail would cross Fishkill Creek with a new pedestrian/bicycle bridge. Prior to construction activities within Fishkill Creek, a survey for species of SAV would be conducted in cooperation with NYSDEC. Erosion and sediment control measures would be implemented during construction to prevent the discharge of materials into potential SAV habitat. The exact pile footprint and overwater coverage of the bridge would be determined as design progresses, and in coordination with NYSDEC, to minimize the impacts to SAV.

Animals

Potential impacts to wildlife due to construction of Fjord Trail North include habitat loss, construction noise, and visual disturbances, all of which could result in displacement and physiological stress to animals. The degree of impact would be dependent on the location along the trail, with the more isolated areas that may contain more sensitive species experiencing a greater impact. The fitness and survivorship of some individuals unable to relocate to alternate

habitat nearby would likely be reduced, but without significant adverse impacts expected at the population level.

Potential permanent impacts of Fjord Trail North to wildlife include the direct effects of habitat loss and fragmentation caused by the new trail, and the indirect effects of human disturbance caused by the construction and subsequent recreational usage of the trails. Some human-adapted species such as the American robin, blue jay, gray squirrel, white-footed mouse, and eastern cottontail are more tolerant of habitat fragmentation while other species in the corridor such as veery, ovenbird, scarlet tanager, and the great horned owl are not. Lighting and wayfinding can also impact wildlife species, in particular bats that are light-averse such as the little brown bat and big brown bat in favor of those who are more light tolerant such as the eastern red bat and hoary bat. Fjord Trail North is not expected to have significant adverse impacts on aquatic biota, essential fish habitat, or Significant Coastal Fish and Wildlife Habitats (SCFWHs) in the area.

To facilitate animal movement through their habitats, wildlife crossings would be included at points along Meanders and the Main Trail to allow safe passage for animals. These may include elevated trail sections and wildlife culverts under the trail. In ecologically sensitive areas, the design may include vegetative buffers to keep users on the Main Trail and out of the landscape. Designs will ensure any buffers are porous and contain breaks, to not impede wildlife passage. There are several rare, threatened, and endangered wildlife species known to occur along or near the Fjord Trail North Corridor that include the Indiana bat, northern long-eared bat, tri-colored bat, monarch butterfly, shortnose and Atlantic sturgeon, bald eagle, pied-billed grebe, least bittern, peregrine falcon, osprey, cerulean warbler, New England cottontail, timber rattlesnake, eastern fence lizard, eastern wormsnake, eastern hognose snake, eastern box turtle, and spotted turtle.

To avoid potential impacts to bats, all tree clearing (3-inch diameter at breast height [dbh] or larger) to construct Fjord Trail North would be limited to the winter hibernation period from November 1 to March 31. The Applicant would consult with OPRHP, NYSDEC, and USFWS, as appropriate, to discuss any additional measures required to minimize or mitigate potential construction impacts to bats. The monarch butterfly is tolerant of high levels of human activity and is not expected to be adversely impacted by trail construction.

Shortnose and Atlantic sturgeon would not be significantly affected by construction of Fjord Trail North because the in-water work associated with the new bicycle and pedestrian bridge is not within their preferred habitat. Erosion and sediment control measures would be implemented over Fishkill Creek to prevent discharge of materials into the waterbodies that could affect sturgeon downstream.

There are four active bald eagle nests in the Fjord Trail North project area. Federal guidelines suggest a 330-foot buffer to avoid disturbance to bald eagles, and construction would have to occur during the non-breeding period from October to December when the nests would be inactive. Parts of Fjord Trail North expected to pass by a bald eagle nest would be aligned in keeping with the guideline of 330 feet of distance between the trail and the nest. Bald eagles have been found to show generational adaptation to human disturbance; however, Denning's Point, a significant congregational area for bald eagles, would continue to be closed from December 15 to March 15 to avoid potential disturbance to wintering eagles from recreational activity in this area.

There are several marshes/wetlands that represent potential breeding habitat for pied-billed grebes along Fjord Trail North. Construction of the Fjord Trail North in the vicinity of these marshes/wetlands would generate significant noise and visual disturbances to potential breeding areas of pied-billed grebe. To minimize potential adverse impacts to nesting pied-billed grebes,

construction would be scheduled outside of the summer breeding period. After construction, the recreational usage of Fjord Trail North would be expected to greatly reduce the potential for the marshes in their vicinity to provide suitable nesting habitat. Further design refinements could incorporate direct in and out trails with fences and wildlife blinds in place of meanders that fully border the marsh areas (e.g. Madam Brett Park) to maintain adequate riparian buffers and reduce the impact of human disturbance from trail usage.

There is an historic record of least bittern breeding in the Fishkill Creek area near the proposed Fjord Trail North. Construction would occur outside of the summer breeding period (May – July) to minimize impacts to nesting least bitterns. Following construction, recreational use of Fjord Trail North may not reduce the current suitability of these marshes as potential breeding habitats for least bitterns given their high tolerance of human activity.

No portion of the proposed Fjord Trail North alignment would be constructed in high-elevation areas that are known or potential nesting sites for peregrine falcons. Due to the distance and intervening landscape, project construction would not be expected to impact nesting peregrine falcons which are already exposed to noise and movement due to motor vehicle, commuter rail activity, and recreational use of the existing trails in the area. The tops of any tall construction equipment would be marked with flagging to prevent peregrine falcons from landing on them. Neither construction nor operation of Fjord Trail North is expected to impact peregrine falcons.

Construction may temporarily displace osprey from nearshore portions along Fjord Trail North, but an abundance of comparable open water foraging habitat would remain available during construction. Because osprey are known for a high tolerance of human disturbance and, even during nesting, habituate easily to human activity, recreational use of Fjord Trail North during operation is not expected to have an impact on osprey.

Cerulean warblers are area-sensitive and intolerant of high degrees of forest fragmentation. Impacts to cerulean warblers from Fjord Trail North would therefore potentially result from habitat loss and fragmentation. Future surveys to ascertain the presence of cerulean warblers and other breeding birds may include a breeding bird survey, flora survey, biodiversity assessment, and an assessment looking at height, dbh, tree species, and determining habitat suitability for canopy nesting warblers and other avian species. Surveys would be conducted at appropriate times of the year in these various areas to help document nesting pairs, identify resources, assess potential impacts, guide design details, and help to develop a management plan for the area. At that time, additional avoidance, minimization and mitigation measures would be determined. These may include changes in design and trail alignment to reduce loss of habitat, new forest edges and fragmentation.

The New England cottontail has been documented throughout much of the woodland near the Forest Trail North Reach and the Notch. Construction of Fjord Trail North has the potential for fragmentation and isolation of certain New England cottontail habitat around the Notch area in particular. Trail and facility design, especially in the Notch, will continue to be advanced in consultation with OPRHP, NYSDEC, NYNHP, and others as appropriate, to minimize impacts to the New England cottontail and its habitat.

Timber rattlesnakes in the immediate vicinity of construction activities would be displaced, although the impact would be temporary and not all sections of the trail would be under construction simultaneously. Protection 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, if required. Future consultation with NYSDEC is required to determine appropriate mitigation measures. Because timber rattlesnakes persist in other areas of HHSPP where there is extensive recreational activity on existing trails, operational usage of Fjord Trail North would be unlikely to displace timber rattlesnakes from potentially foraging in the Trail's vicinity. Overall, construction and recreational use of the Fjord Trail North would not be expected to result in a significant adverse impact to the local population of timber rattlesnakes in HHSPP.

The eastern fence lizard has been documented in HHSPP in the general area of the proposed Fjord Trail North Corridor. Surveys for eastern fence lizard habitat would be conducted as design advances, where warranted. If appropriate habitat is found, avoidance and minimization measures would be incorporated, to the extent feasible, to limit impact to the habitat. Measures implemented to reduce potential impacts from construction are the same as the measures listed for timber rattlesnake above.

Eastern wormsnakes occur in woodland habitats and have been documented in the Fjord Trail North corridor. Eastern hognose snakes inhabit a wide variety of habitat types and have the potential to occur within the Fjord Trail North Corridor. Similar protection measures as described above for timber rattlesnake and eastern fence lizard would be implemented to reduce potential impacts to these snake species.

Suitable habitat for eastern box turtles is present in the woodlands surrounding Fjord Trail North. Spotted turtles have potential to occur in freshwater wetlands, however none of the wetlands in the vicinity of the Fjord Trail North corridor provide optimal habitat for spotted turtles, and they have not been documented in these areas. To reduce potential impacts to turtle species during construction, protective fencing may be installed around construction areas to prevent turtles from passing through and getting injured. Similar to timber rattlesnakes and eastern fence lizards, protection measures would include using an on-site NYSDEC-licensed monitor during construction activities if during the active season and developing and implementing an Education and Encounter Plan. Increased human activity in these areas during operation of Fjord Trail North could increase collection pressure on these turtle species potentially present in the area. Interpretive signage and educational information would be placed along Fjord Trail North regarding protected species in general to dissuade collection.

In consideration of Article 20, "New York State Park Preserve System," Section 20.02 that indicates the OPRHP Commissioner shall protect designated park preserves, and given the number of areas along the Trail Corridor with designations related to biological resources, including the HHSPP Bird Conservation Area, HHSPP Natural Heritage Area, Hudson River Estuary Area of Biological Concern, Significant Coastal Fish and Wildlife Habitats, Essential Fish Habitat, and Winter Waterfowl Concentration Area, the Applicant acknowledges the creation of the Trail would increase human presence in some otherwise relatively undisturbed areas. The Applicant will work closely with OPRHP staff to make additional resources available towards mitigation in the form of providing personnel trained in natural sciences, establishing environmental education classes for the public, and developing a written stewardship plan for HHSPP.

Refer to **Table S-3** of this chapter and Chapter III.E, "Biological Resources – Fjord Trail North," for further details related to proposed mitigation measures.

HISTORIC AND ARCHAEOLOGICAL RESOURCES

The analysis of historic and archaeological resources was conducted in accordance with Section 14.09 of the New York State Historic Preservation Act (SHPA), the State counterpart to Section 106 of the National Historic Preservation Act of 1966. The assessment of potential impacts to architectural and archaeological resources is presented below.

Archaeological Resources

Fjord Trail North would traverse several areas of archaeological sensitivity. Ground disturbance from construction of Fjord Trail North would result in potential adverse impacts to archaeological resources at Madam Brett Park, the Camp Nitgedaiget Historic Site, the Bannerman Precontact Site, and Bannerman Companion Precontact Site. Additional archaeological investigations will be conducted as design advances to fully delineate the boundaries of archaeological sites. If archaeological sites cannot be avoided and adverse impacts would occur, additional consultation with the State Historic Preservation Office (SHPO) and participating Indigenous Nations would be conducted to identify and implement mitigation measures, including Phase 3 data recovery. Measures to further evaluate potential effects or mitigate adverse effects, as needed, on archaeological resources would be stipulated in a Letter of Resolution (LOR), implemented in consultation with SHPO and Native Nations and/or Consulting Parties, as appropriate. See Chapter III.F, "Historic and Archaeological Resources – Fjord Trail North," for further details.

Architectural Resources

Known architectural resources that are listed or eligible for listing on the State and National Registers of Historic Places (S/NR) along the Fjord Trail North Corridor include Denning's Point Road Bridge, Dutchess Manor, and Bannerman's Island. A potential architectural resource includes a 19-century home at 17 Newlins Mill Road in the City of Beacon. No physical modifications to these resources, or substantial changes to the setting of the resources, would occur from the Proposed Action. Therefore, the proposed Fjord Trail North is not anticipated to result in adverse effects on historic architectural resources.

SCENIC RESOURCES

Fjord Trail North would be largely within forested areas and most of the trail would not be visible from surrounding areas. Construction activities along existing trails (i.e., raising the Klara Sauer Trail on a berm and accessibility improvements along trails in Denning's Point and Madam Brett Park) would be visible to trail users and may temporarily diminish views during the construction period, but this would be temporary. The proposed pedestrian/bicycle bridge across Fishkill Creek may be visible from the Hudson River and points west, but it would have limited visibility due to distance from the western shoreline (about one mile away) and the intervening existing MNR causeway at the mouth of Fishkill Creek. Additionally, materials used to construct the Fjord Trail North would be chosen to complement the natural landscape and existing MNR and roadway infrastructure, and to blend into the environs of the Trail Corridor. As such, Fjord Trail North would not be anticipated to result in a significant adverse visual impact, nor would it interfere with or conflict with the public's enjoyment of the Hudson Highlands Scenic Area of Statewide Significance (SASS) designation. Rather, Fjord Trail North would enhance access to scenic views along the Trail Corridor. See Chapter III.G, "Scenic Resources – Fjord Trail North," for further details.

NOISE AND AIR QUALITY

Construction of Fjord Trail North would require mowing tractors, chain saws, crawlers, and hydraulic backhoes for the initial clearing of trees and shrubs. After the clearing, trail installation would include paving and landscaping which would require concrete mixers and dump trucks as well as vibratory compacters, water cisterns, forklifts, tandem axle trailers, and air compressors. Fjord Trail North would be constructed in two phases beginning with the southern section over an anticipated timeframe of 24 to 36 months and ending with the northern section over an anticipated timeframe of 36 months. Staging areas and access points for construction would be confirmed as design of Fjord Trail North progresses.

Noise

Construction of Fjord Trail North would generate noise through use of construction equipment and vehicles. Elevated noise levels typically occur adjacent to the construction activities and may reach as high as 90 A-weighted decibels (dBA) under worst-case conditions. The closest residential areas would be 100 feet or more away from proposed construction sites, decreasing noise levels by 6 to 7.5 dBA. Given the linear nature of the Fjord Trail, construction would be transient and would not remain in one place for the duration of construction. Temporary increases in noise may affect visitors to existing recreational areas where construction would take place, such as Long Dock Park, the Klara Sauer Trail, Denning's Point, and Madam Brett Park, but some of these areas may be closed during construction for public safety. Weekday construction hours would be limited to 7:00 AM to 4:00 PM. Upon completion, noise sources associated with operation of Fjord Trail North would include vehicular traffic accessing the trailheads and human use of the trail. The human use of Fjord Trail North would not appreciably contribute to total noise levels in the area. The Proposed Action would not generate sufficient traffic to create a significant adverse noise impact. Additionally, the proposed maintenance facility would include storage, office, maintenance uses, and would be consistent with current surrounding land uses. Therefore, the Proposed Action would not result in a significant adverse noise impact. See Chapter III.H, "Noise and Air Quality – Fjord Trail North," for further discussion.

Air Quality

Construction of Fjord Trail North has the potential to temporarily affect air quality due to dust and emissions from vehicles and equipment; however, these impacts would be temporary. Measures would be implemented to reduce emissions, such as minimizing the area of soil that is disturbed at one time, using drainage diversion methods (e.g., silt fences) to avoid soil erosion during grading, limiting travel speeds of on-site construction vehicle to 5 mph, and using Ultra Low Sulfur Diesel (ULSD) fuel. Other measures would include watering exposed areas of soil during dry periods and using truck covers to keep dust from being expelled from the truck.

Once construction is completed, potential effects to air quality would be related to vehicles accessing the trailheads. Fjord Trail North is expected to increase visitors and traffic in the area, but increases in traffic volumes would be below the volume threshold for significantly affecting air quality based on guidance in NYSDOT's Transportation Environmental Manual (TEM). See Chapter III.H, "Noise and Air Quality – Fjord Trail North," for further discussion.

RECREATIONAL AND OPEN SPACE RESOURCES, ACCESSIBILITY

The proposed Fjord Trail North would be a new recreational resource and would link existing recreational resources within HHSPP and local municipalities. Existing recreational resources along the proposed Fjord Trail North alignment include Long Dock Park, Klara Sauer Trail, Denning's Point (HHSPP), Madam Brett Park, and the Notch (HHSPP). Fjord Trail North would

connect to the BNCB, which would link to other trails within HHSPP, including the Breakneck Ridge Trail and the Wilkinson-Memorial Trail. Restroom buildings would be provided at Long Dock Park, Denning's Point, and the Notch as part of the Proposed Action, enhancing amenities at these recreational resources.

As discussed in Chapter III.I, "Recreational and Open Space Resources, Accessibility – Fjord Trail North," Fjord Trail North would enhance recreational and open space resources by providing a new trail for pedestrians and bicyclists, by creating more cohesive and safer connections between existing parks and trails, and by expanding access to the Hudson River waterfront and scenic vistas in the Trail Corridor. The proposed Fjord Trail North would be Accessible where feasible. The Main Trail would be designed to provide recreational opportunities for everyone regardless of differences in ability. The designs for buildings would follow ADA Accessibility Guidelines. New parking areas would provide additional and safer options for people to access the extensive existing trail network in HHSPP, as well as Fjord Trail North. A proposed shuttle would be available to transport visitors between parking areas and trailheads to further enhance safe access to recreational resources in the area. Additionally, rail access to Fjord Trail North would be available daily from the MNR Beacon station and the MNR Breakneck Ridge station on weekends. As such, Fjord Trail North would provide a benefit with respect to recreational resources and accessibility, and is not expected to result in adverse impacts to recreational and open space resources.

GROWTH AND COMMUNITY CHARACTER

Fjord Trail North would be a new recreational resource and would be expected to increase visitation along the Fjord Trail Corridor. However, it would become a component of an already extensive trail network and would be consistent in scale and character with existing land uses in the surrounding area. The Trail would be designed to blend with the surrounding natural and built landscape, and would not affect the historic or scenic character of the area. Given that extensive trails and recreational resources exist in the area, the Fjord Trail is not anticipated to result in population growth or substantial new development, and would not be expected to substantially change population and housing characteristics in the City of Beacon and the Town of Fishkill.

Increased visitation would increase traffic, but it would not have a significant adverse impact on traffic conditions in the City of Beacon or Town of Fishkill (see "Traffic and Transportation" section below). Increased visitation would potentially increase demand on emergency service providers, but overall would not result in substantial change to the demand for police, fire, and medical response providers that serve the area. HHFT, Inc. will continue to coordinate with emergency service providers to identify and address the potential need for additional resources as design advances (see the "Emergency and Public Services" section below).

The Fjord Trail is not anticipated to have a significant adverse impact on the character of the local municipalities along the Fjord Trail North Corridor during construction or operation. See Chapter III.J, "Growth and Community Character – Fjord Trail North," for further discussion.

SOCIOECONOMICS

Construction of Fjord Trail North would generate local construction jobs and visitors to the Fjord Trail are expected to spend money at local businesses in the surrounding municipalities. Additional spending at local businesses would be beneficial to the local economy and would generate additional sales tax revenue for the City of Beacon, the Town of Fishkill, and Dutchess County. The Fjord Trail would be maintained by HHFT, Inc. and would not result in expenditures

to local municipalities. As discussed in Chapter III.K, "Socioeconomics – Fjord Trail North," no significant adverse socioeconomic or fiscal impacts are anticipated.

TRAFFIC AND TRANSPORTATION

Traffic and Access

As discussed in Chapter III.L, "Traffic and Transportation – Fjord Trail," because traffic and transportation impacts are regional, the potential impacts from implementation of Fjord Trail North and Fjord Trail South (collectively the Fjord Trail) are discussed together in that chapter. The Fjord Trail is anticipated to increase visitation to the Fjord Trail Corridor by an estimated 268,700 annual visitors. This would result in approximately 1,710 new daily visitors on a design day (i.e., a typical busy weekend day).

Increased visitation would increase traffic on area roadways. No potential significant adverse traffic impacts were identified within the City of Beacon or Town of Fishkill, but there would be significant adverse traffic impacts at three intersections in or near the Village of Cold Spring:

- Main Street and NYS Route 9D in Cold Spring—the westbound Main Street approach delay would deteriorate within LOS F, experiencing an increase in delay in excess of 10 percent during the Saturday peak hour (an increase of 30.0 seconds). The northbound NYS Route 9D approach delay would deteriorate within LOS F, experiencing an increase in delay in excess of 10 percent, during the Saturday and Sunday peak hours (an increase of 34.9 seconds and 54.7 seconds for the Saturday and Sunday peak hours, respectively). The southbound NYS Route 9D approach would deteriorate from LOS D to LOS E during the Saturday peak hour.
- Fair Street/Washburn Lot Entrance and NYS Route 9D near Cold Spring—the northbound Fair Street approach would decline from LOS E to LOS F during the Saturday peak hour.
- Main Street and Fair Street in Cold Spring—the southbound Fair Street approach would deteriorate within LOS F, experiencing an increase in delay in excess of 10 percent, during the Saturday peak hour (an increase of 6.5 seconds).

Measures to address adverse impacts at Main Street and NYS Route 9D could include removal of parking on the eastbound and westbound Main Street approaches and restriping the eastbound approaches to provide an exclusive left-turn lane and a shared through-right turn lane; and signal retimings. Measures to address adverse impacts at the Fair Street/Washburn Lot Entrance and NYS Route 9D could include redesign of the intersection to provide a roundabout with yield control at each of the approaches. Measures to address adverse impacts at Main Street and Fair Street could include potential designation of Fair Street as a one-way northbound street between Main Street and Northern Avenue on Saturdays, as is currently done on Sundays. These measures would require approvals from NYSDOT, Putnam County, and the Village of Cold Spring, as appropriate. See Table S-3 of this chapter and see Chapter III.L, "Traffic and Transportation – Fjord Trail," for further details.

Additionally, to manage increased visitation, measures would include provision of new parking areas, the introduction of smart parking tools (including e-signage and smart parking apps to direct visitors to available parking), the proposed shuttle service, better signage, improved connectivity of local trails and recreational amenities, and physical improvements added to existing recreational resources, including the addition of Accessible trails and features.

To address periods where the peak hourly visitation exceeds the design day and to potentially reduce the peak hour visitation demand during design days, potential management demand strategies could be deployed. These strategies could include dynamic parking prices that offer

lower parking rates during off-peak times, parking reservations, incentivized carpooling, incentivized transit use, time entries, off-peak visitation campaigns, and roadside variable message signs to advise visitors to avoid the Main Street area in Cold Spring due to heavy congestion.

Pedestrians

While visitation to the area is expected to increase due to the Fjord Trail, providing access to the Fjord Trail and amenities via Dockside Park would divert existing and future hiker trips that arrive by train from using Main Street and Fair Street to access the hiking trails to the Dockside Park Fjord Trail entrance. This diversion would result in reducing the pedestrian demand on Main Street. In addition, to further minimize the number of hikers traveling along Main Street, a number of Visitor Demand Management Strategies could be deployed (see the "Summary of Mitigation Measures" section below).

Transit

It is anticipated that there would be an increase of approximately 256 people in weekend daily visitation arriving by MNR under 2033 With Action conditions, which would equate to 512 daily trips (combined number of inbound and outbound trips). It is the practice of the transit agencies (MNR, Dutchess County Public Transit, and Putnam Area Rapid Transit) to adjust their operating schedules to reflect demand as needed.

Parking

The Proposed Action includes two new parking areas (the Notch parking area with 80 spaces and the Wade's Hill parking area with 90 spaces) and an expanded existing parking area (Washburn Lot with an additional 48 spaces). The proposed new and expanded parking areas would increase the parking supply in the study area to accommodate the anticipated increased use and demand of the Fjord Trail. The availability of these new parking areas would provide more formalized parking in the area. Smart parking system technology (such as e-signage and smart parking apps to direct visitors to available parking) would assist in providing drivers with real-time information on parking availability, allowing drivers to locate parking more efficiently.

INFRASTRUCTURE

Water Supply, Wastewater, and Sewerage

Water and wastewater services would be required for the proposed restroom buildings and the proposed maintenance facility. Each restroom building is anticipated to have six to eight toilets. Further investigation will be conducted as design advances to determine availability of water and sewer services for restroom buildings. At this time, it is expected that the Long Dock Park restroom buildings and the maintenance facility could potentially connect to municipal water supply and sanitary sewers in the City of Beacon, pending coordination with the City. Where public sewer and water connections for restroom buildings is deemed infeasible, or if HHFT, Inc. identifies a preference, the restroom buildings would utilize composting toilets with hand sanitizer dispensers.

Potential water demand for restroom buildings connected to municipal services is estimated at 3,479 gallons per day (GPD) and about 410 GPD for the maintenance facility. Water for composting toilets would be supplied by wells and would be expected to have water demand of less than 20 gallons per day. Wastewater for composting toilets would be stored in liquid end tanks that would be pumped out by a service company. Use of restrooms would be highest on weekends when visitation is highest, and would be much less on typical weekdays. Sufficient supply and capacity of water and wastewater services is anticipated to be available.

Electricity and Lighting

Electricity would be required to power restroom buildings and the proposed maintenance facility and may be required at parking lots and Main Trail entry points. In general, overhead service lines are available along NYS Route 9D and side roads at each proposed entry location to Fjord Trail North. It is anticipated that electric connections would be pulled from the overhead wires at each location with underground conduits running beneath the proposed trail bed, as needed, to service electrical equipment. Sufficient capacity is anticipated to be available to supply the restroom buildings, maintenance facility, and, as needed, parking lots and Main Trail entry points. Additional coordination with the local electric service provider for each connection would be required as part of the final design of the Fjord Trail North. Where connection to a local electric system is infeasible, solar powered light fixtures could be explored. Any new lighting associated with Fjord Trail North would be dark sky compliant.

Roads, Rail, and Bridges

The proposed Fjord Trail North would not require any substantial modifications or improvements to existing roads or bridges. New access points would be required along NYS Route 9D for the entrances to the proposed Notch parking area and the proposed Wade's Hill Lot. The need for traffic signals at these entrances would be determined as design advances, in coordination with NYSDOT. Additionally, Fjord Trail North would include installation of a new pedestrian and bicycle bridge across Fishkill Creek. Coordination with all appropriate parties would be undertaken as design advances.

Fjord Trail North would be located at least 50 feet from the MNR right-of-way of the active Hudson Line tracks, except where it is proposed to travel over the Hudson Line tracks via MNR's existing railbanked (inactive) Beacon Line between Denning's Point and Madam Brett Park. A portion of the Beacon Line railbed is currently used by MNR for storage and staging of materials and equipment. Use of the Beacon Line railbed for Fjord Trail North would require approval from MNR and potentially other relevant parties, pending the results of an ongoing rail trail feasibility study being conducted by the Dutchess County Transportation Council (DCTC) for the Beacon Line. HHFT, Inc. will coordinate with MNR and any other relevant parties as design advances. Fjord Trail North is not anticipated to affect MNR infrastructure along the active Hudson Line tracks.

EMERGENCY SERVICES

Increased visitation would potentially increase demand on emergency service providers, but overall would not result in substantial change to the demand for police, fire, and medical response providers that already serve the area and respond to safety issues as a matter of course. At the same time, Fjord Trail North would be designed to alleviate existing safety issues experienced by visitors to the area, including unsafe means of access to and between existing trails and trailheads and insufficient parking for visitors. Fjord Trail North would also be designed to be Accessible and provide multiple points of access that could be used by emergency responders to promote safe usage of the Trail. Incremental cost increases to emergency service providers along the Fjord Trail North Corridor would potentially be at least partially offset by anticipated tax revenue due to increased tourism/visitation to the area. In addition, HHFT, Inc. will continue to coordinate with state, county, and local emergency service providers as design progresses to identify and address potential needs to ensure the proposed Fjord Trail can be adequately serviced. See Chapter III.N, "Emergency and Public Services – Fjord Trail North," for further discussion.

OTHER PLANNING – VISITOR USE MANAGEMENT PLAN

As discussed in Chapter III.O, "Other Planning Effort – Fjord Trail North," OPRHP is in the process of developing a Visitor Use Management Plan (VUMP) for the Breakneck Ridge Trail Area within HHSPP. The VUMP seeks to address the challenges and impacts occurring in this area resulting from the anticipated increased number of visitors owing to the Fjord Trail. The VUMP planning process is ongoing and is primarily focused on issues associated with the visitor use in the Breakneck Ridge Trail Area. The VUMP is expected to indicate strategies to achieve the noted goals and identify action steps and priorities for implementing the VUMP.

HAZARDOUS MATERIALS

Fjord Trail North may require ground disturbance and excavation in potential areas of concern adjacent to former industrial uses (some with documented subsurface contamination) and/or historic railroad operations including the railbanked (inactive) Beacon Line railbed between Denning's Point and Madam Brett Park. To the extent subsurface disturbance would disturb materials containing asbestos or PCBs (e.g., associated with railroad components) or covered with lead-based paint (LBP) (e.g., within potential historic fill materials) and/or unknown petroleum contamination from historic industrial operations, the potential for impacts would be avoided by licensed environmental professionals conducting these construction activities in compliance with existing regulatory requirements and best practices. These materials, if encountered, would then be managed and disposed of as required by law prior to the start of construction. A Soil and Materials Management Plan (SMMP) would be implemented that would describe applicable regulatory provisions and contingency measures to address potential unforeseen contamination that would be included in construction specifications to ensure contractors are aware that required protocol and procedures are followed. Following construction associated with Fjord Trail North, there would be no further potential for significant adverse impacts. See Chapter III.P, "Hazardous Materials Assessment – Fjord Trail North," for further discussion.

FJORD TRAIL SOUTH

The potential impacts along the proposed Fjord Trail South Corridor are evaluated and presented in Chapters IV.A through IV.P of this DGEIS. The Fjord Trail South Corridor is proposed to extend approximately two miles from the Town of Philipstown (Putnam County)/Town of Fishkill (Dutchess County) border to Dockside Park in the Village of Cold Spring (Putnam County). A summary of potential impacts for each subject area is provided in the following sections.

LAND USE AND ZONING

Land Use

As described in Chapter IV.A, "Land Use and Zoning – Fjord Trail South," Fjord Trail South is envisioned to be primarily located within HHSPP land (Little Stony Point and Dockside Park) and along the Hudson River shoreline and the MNR right-of-way. The Trail would be consistent with the recreational use of other trails within HHSPP. Fjord Trail South would incorporate existing paths at Little Stony Point and Dockside Park for the Main Trail and Meanders. The proposed restroom buildings at Little Stony Point and Dockside Park would also enhance amenities and services at these recreational resources. The Washburn Lot would be expanded southward closer to a private residential property, but a wooded buffer would remain between the parking lot and the residence. Fjord Trail South is not anticipated to result in any adverse land use impacts.

Zoning

Zoning along the Fjord Trail South Corridor in the Town of Philipstown includes the Rural Conservation (RC) zoning district which promotes land conservation, agriculture, forestry, recreation, and preservation of open spaces. Within the Village of Cold Spring, much of Fjord Trail South would be within the Transportation (T) District, which encompasses the MNR right-of-way, or the Parks and Recreation (PR) District, which encompasses Dockside Park. This PR District intends to provide opportunities for recreation and enjoyment of the natural environment. At the southern terminus of the alignment is a Newer Residential Neighborhoods (R-N) District. The entire Village of Cold Spring is within a Scenic Viewshed Overlay which is intended to protect scenic beauty of the Village. Fjord Trail South would be compatible with these zoning districts. Additionally, there are no proposed or required changes to the existing zoning along the proposed Fjord Trail South, and the Proposed Action would not result in any adverse zoning impacts.

Public Policy

Local and regional public policies govern portions of the Fjord Trail South Corridor. Both the *Town of Philipstown 2030 Comprehensive Plan* (2021) and *Village of Cold Spring Comprehensive Plan* (2012) identify the need to expand recreational development and enhance access to the waterfront. Cold Spring prepared a Draft *Local Waterfront Revitalization Program (LWRP)* (2014), and while it has not been adopted, it also calls for improvements in the public accessibility to these recreational facilities and better connections between them along the Fjord Trail South alignment.

The Clarence Fahnestock Memorial and Hudson Highlands State Park Preserve Final Master Plan (2010) has an overall goal to "achieve a balance between recreation and the protection of natural and cultural resources of these two parks." The *Final Master Plan* designated the entirety of Hudson Highlands State Park as a Park Preserve. The Park Preserve Law (Article 20 of the Parks, Recreation, and Historic Preservation Law) provides for designation of park land containing wildlife, flora, scenic, historical and archeological sites that are unique and rare in New York State. Designating the park as a preserve provides legal protection to all of the park's resources—natural, historic, and archeological. Fjord trail South would be consistent with the goals of the *Final Master Plan* by expanding hiking and bicycling opportunities and amenities (e.g., restrooms and parking) within and near HHSPP while being designed to limit its footprint and disturbance area to the extent possible, Fjord Trail South is being designed in consideration of the goals and legal protections identified in Article 20 of Parks, Recreation and Historic Preservation Law (PRHPL), which applies to environmentally sensitive parkland that is additionally designated as "park preserve." Efforts were made to incorporate the vision and management goals identified in the *Final Master Plan* for providing opportunities for passive recreation and connection with the Hudson River while protecting native plants and animals.

The Putnam County Greenway Compact has been adopted by communities along the Fjord Trail South Corridor, which promotes public access to the Hudson River through riverside parks and developing the Hudson River Valley Greenway Trail System. The Compact also identifies waterfront access and enhancement as a tool for economic development, by drawing tourists and revitalizing communities.

Additionally, Fjord Trail South would be consistent with policies aimed at improving and ensuring pedestrian and bicyclist safety. Fjord Trail South would facilitate improved pedestrian and bicycle movement along the NYS Route 9D corridor, consistent with safety recommendations and

guidelines of FRA's and FHWA's *Rails with Trails: Best Practices and Lessons Learned* (2021), and the Rails-to-Trails Conservancy's *America's Rails-with-Trails* (2013).

LAND OWNERSHIP, MANAGEMENT, AND MAINTENANCE

Ownership

As discussed in Chapter IV.B, "Land Ownership, Management, and Maintenance – Fjord Trail South," Landowners along the Fjord Trail South Corridor include OPRHP (HHSPP land), MTA (MNR commuter rail operator), NYSDOT (NYS Route 9D), Putnam County (portion of Fair Street), Village of Cold Spring (local streets), NYCDEP, and one private landowner. OPRHP has an existing easement over the privately owned property to provide access to Dockside Park, which is expected to continue with implementation of Fjord Trail South.

Approximately one-half mile (25 percent) of the Main Trail of Fjord Trail South, as well as several Meanders, would be within HHSPP at Little Stony Point and Dockside Park. Lands on which the Fjord Trail South section is proposed under OPRHP control (whether by a fee interest, an easement, or a lease) would be licensed to HHFT, Inc. under a proposed cooperative management agreement.

About 1.5 miles (75 percent) of the Main Trail of Fjord Trail South is anticipated to be located within MTA-controlled lands along the MNR active railroad right-of-way. A long-term agreement between OPRHP and MTA would need to be established for the use of MTA's property for Fjord Trail South. No other change in the ownership of MTA-controlled properties is expected as a result of Fjord Trail South.

No change in the ownership of NYSDOT property is anticipated into the future. Modifications along NYS Route 9D would result from a proposed new entrance for the expanded Washburn Lot, as well as potential traffic mitigation measures (e.g., restriping, signal retimings) at the NYS Route 9D/Main Street intersection in the Village of Cold Spring, discussed under the "Summary of Mitigation Measures" section below.

No change in ownership of Putnam County and Village of Cold Spring property is anticipated. The potential Fair Street Meander along local streets, with potential new sidewalks where none currently exist, would travel within Putnam County and Village of Cold Spring right-of-way, requiring coordination with these entities.

No change in ownership of NYCDEP property is anticipated. Fjord Trail South would cross NYCDEP property under an agreement between NYCDEP and OPRHP.

Management and Maintenance

HHFT, Inc. would manage and fund construction as well as operating and capital maintenance of Fjord Trail South regardless of property ownership. Per the cooperative management agreement between HHFT, Inc. and OPRHP and proposed OPRHP agreements with MNR and NYCDEP, separately, maintenance and repair of all capital improvements to Fjord Trail South would be the responsibility of HHFT, Inc.

LAND

Surficial Soil and Geology

As described in Chapter IV.C, "Land – Fjord Trail South," components of Fjord Trail South that have the potential to affect geology, soils, or topography include construction activities associated with earthwork, cut and fill, and alteration of steep slopes, and any potential for erosion from the

completed trail. Earthwork would mainly occur for at-grade portions of the trail within and just north of Little Stony Point and within Dockside Park. The remainder of Fjord Trail South is proposed to be constructed on previously disturbed land or over the shoreline along the MNR tracks, with limited potential to affect geology and soils. The potential for soil erosion during construction would be minimized through the implementation of erosion and sediment control measures in accordance with a SWPPP prepared for each trail section for review and approval in accordance with the requirements of the NYSDEC SPDES General Permit for Stormwater Discharges from Construction Activities. Disturbance to surficial soils would be remediated through various proposed shoreline stabilization measures, including rebuilding of riprap, planting of native tree/vegetation species, and construction of planted shelves, as needed.

Fjord Trail South would result in an increase in impervious surfaces of approximately 1.5 acres, which includes approximately 0.75 acres of crushed stone path with limited permeability and approximately 0.75 acres of impervious surface with the Washburn Lot expansion. The path widths would be minimized to the extent possible to limit the increase in impervious surface while meeting Accessibility needs. Elevated trail sections are considered pervious because they would be elevated above the ground or water surface, allowing water to run through the gaps in the material and infiltrate into the ground or water below. This increase in impervious surface is not expected to result in significant adverse impacts to surficial geology or soils given the narrow linear nature of the trail and its distribution over the length of the Fjord Trail South alignment.

Bedrock Geology

Fjord Trail South intersects one inactive fault line. Fjord Trail South has been designed to utilize a combination of elevated structures and at-grade sections and blasting is not anticipated to be necessary. As such, Fjord Trail South would not affect bedrock geology or interact with the fault line.

Topography

Fjord Trail South would be primarily constructed on slopes below 25 percent, except for a small portion at Little Stony Point, Dockside Park, and Breakneck Ridge. Within the 8-acre limit of disturbance for Fjord Trail South, there are approximately 0.13 acres with slopes between 15 and 25 percent and approximately 0.04 acres with slopes greater than 25 percent. As the design of Fjord Trail South is advanced, areas of steep slopes would be avoided to the extent possible. Where steep slopes cannot be avoided, elevated trail sections may be constructed. Fjord Trail South would be designed with consideration for flooding, and include flood resilient structural and pathway materials and stabilization of the Trail with vegetation.

WATER RESOURCES

Groundwater

The proposed restroom buildings at Little Stony Point and Dockside Park may use wells for composting toilets. The estimated water demand per composting toilet would be less than 20 gallons per day, which would be a minimal withdrawal and would not adversely affect the quantity or quality of groundwater resources.

Floodplains

Fjord Trail South would be located within the 1 percent and 0.2 percent annual chance floodplains. Because the floodplain within and adjacent to the proposed Fjord Trail South is affected by coastal flooding rather than fluvial flooding, the project's presence in the floodplain would not be expected to result in adverse impacts with respect to flooding. Construction of Fjord Trail South

would require minimal grading primarily within previously disturbed areas and would not exacerbate flooding conditions in adjacent areas. Fjord Trail South would result in minimal occupation of the floodplain and would not exacerbate flooding conditions in adjacent areas.

In accordance with NYSDEC's Community Risk and Resiliency Act (CRRA), Fjord Trail South has been designed with consideration of 10-year, 50-year, and 100-year storm return periods with flood resilience measures incorporated to reduce the risk of damage during flood events. In addition to flooding during storm events, portions of the trail would be subject to growing sunny day high tide flooding due to sea level rise, as the Hudson River is tidally influenced. The proposed minimum elevation of the on-grade trail is designed to exceed the present-day spring tide plus 50 inches of sea level rise projected for 2100, thereby minimizing the potential effects of sunny day tidal flooding on the trail. The on-grade trail has been designed to exceed the 100-year storm elevation projected for 2060, and it shall be reassessed and rehabilitated as needed in 2060. The proposed minimum elevation of the on-structure trail has been designed to exceed 100-year storm elevations projected for 2100 to further extend the expected useful life of the trail that is on-structure.

Wetlands

Any disturbance to wetlands would occur at the edges of the limit of disturbance of Fjord Trail South due to access or staging along the Fjord Trail South. Fjord Trail South would be designed to avoid wetlands to the extent possible to limit the potential for permanent impacts to wetlands. HHFT, Inc. would seek a permit from the appropriate regulatory agency(ies) for any activities affecting wetlands, and if required, appropriate compensatory mitigation to offset any permanent loss of wetland habitat would be determined in coordination with NYSDEC and/or USACE.

Surface Waters

About one mile of the proposed Fjord Trail South's two-mile extent would be elevated over the Hudson River shoreline, with piles installed within the water. This includes an approximately one-half mile section southward from Breakneck Ridge and the half-mile section between Little Stony Point and Dockside Park. There would be no in-water construction within Breakneck Brook, since the brook is conveyed to the Hudson River through an existing culvert that would not be altered.

In-water construction activities would have the potential to result in temporary impacts in the Hudson River from sediment resuspension during pile installation and movement of construction vessels, but these impacts would be temporary and would not result in long-term effects on water quality.

Fjord Trail South has been designed to minimize in-water impacts along the Hudson River, limiting the placement of structural elements below MHHW to specific areas where the trail must avoid upland utilities or infrastructure. If required, compensatory mitigation for unavoidable impacts to surface waters resulting from the project would be determined in coordination with NYSDEC and/or USACE.

Stormwater

Fjord Trail South would result in an approximately 1.5-acre increase in impervious surface from the materials used to develop the at-grade portions of the trail (e.g., crushed stone with limited permeability) and the Washburn Lot expansion. Where appropriate, the project design would incorporate best management practices such as vegetated dry swales and infiltration trenches to capture runoff and promote infiltration. It would also use pervious trail materials (e.g., grasscrete pavers, pervious concrete) throughout the at-grade portion of the alignment, where feasible, to

reduce the potential impact of stormwater runoff, and the elevated portions of the Trail would include slats to allow stormwater drainage to pervious surfaces beneath the Trail.

BIOLOGICAL RESOURCES

Ecological Communities

Fjord Trail South would result in the permanent loss of about 8.4 acres of the existing terrestrial ecological communities within the Corridor that were identified. To help reduce the impact and mitigate the loss of these terrestrial natural communities, large trees would be protected to the extent feasible and native plantings will be incorporated into the design of the trail and facilities. Vegetation management plans would be developed for the native plantings to assure survival and stabilization. The Applicant would consult with OPRHP with respect to invasive plant species management and on proposed native species plant lists that follow OPRHP's Native Plant Policy.

Plants

Existing trails would be incorporated into the design to the extent possible. Tree clearing and other vegetation removal would be minimized to the extent needed for installation of the Trail, with additional clearing as needed for invasive species management. Impacts to vegetation on steep slopes would also be minimized. The majority of trees to be removed are within the proposed at-grade portion of Fjord Trail South and not occupying the immediate sloped shoreline. In addition, by rebuilding riprap in areas that are currently oversteepened or where failures/erosion have already occurred and by planting vegetation across the embankment face, the Project would improve the stability of the shoreline edge. Trail and facility design would keep limits of disturbance as narrow as possible while meeting Accessibility needs and meeting other design requirements such as maintaining the required setbacks from the MNR rails and utility infrastructure. Vegetation management plans would be developed for the native plantings to assure survival and stabilization. The Applicant would consult with NYSDEC and OPRHP with respect to invasive plant species management and with OPRHP on native species plant lists.

Construction of in-water and shoreline components would have the potential to result in temporary impacts to SAV resulting from movement of construction barges and vessels along the shoreline, which could temporarily block sunlight from reaching SAV beds and potentially result in sediment resuspension. Temporary shading and increases in suspended sediment resulting from the use of barges would be minor, temporary, localized, and sediment resuspended would dissipate upon cessation of sediment disturbing activities and would not have the potential to adversely affect SAV beds in the long-term. Erosion and sediment control measures would be implemented on land during construction to prevent the discharge of materials into adjacent SAV habitat. As the design for the Fjord Trail South advances, SAV survey results for the Hudson River within the Fjord Trail South Corridor will be finalized in coordination with OPRHP and the NYSDEC to avoid and minimize impacts to these beds to the extent possible through construction means and methods and elevated trail design. In consultation with the NYSDEC, OPRHP, and National Marine Fisheries Service (NMFS), SAV restoration opportunities would be explored, focusing on native species such as water celery (Vallisneria americana) in areas along the shoreline identified as having the appropriate conditions. SAV restoration and creation and selective control of invasive water chestnut in these areas would be conducted in consultation with OPRHP and NYSDEC.

Animals

Potential impacts to wildlife due to construction of Fjord Trail South include habitat loss, construction noise, and visual disturbances, all of which could result in displacement and

physiological stress to animals. The degree of impact would be dependent on the location along the trail, with the more isolated areas that may contain more sensitive species experiencing a greater impact. The fitness and survivorship of some individuals unable to relocate to alternate habitat nearby would likely be reduced, but without significant adverse impacts at the population level. Measures that would be implemented to reduce potential impacts to sensitive wildlife 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, as required.

Within Little Stony Point and the expansion of Washburn Lot, Fjord Trail South would not result in the permanent loss of quality habitat for sensitive species or specialists. However, it could increase nest predation and parasitism, and introduce other negative effects associated with edges into the more interior portions of forest. The altered conditions combined with the existing disturbance from ongoing recreational usage of the existing trails would benefit disturbance-tolerant, generalist wildlife like blue jay, brown-headed cowbird, and gray squirrel, while disfavoring more sensitive species that currently have the potential to occur on Little Stony Point, such as wood thrush and red-eyed vireo. Impacts from operation of Fjord Trail South elsewhere along the alignment would be minimal because these areas are already developed (e.g., MNR tracks, NYS Route 9D, residential properties in Cold Spring).

Construction activities along the shoreline or within the Hudson River could impact fish and other aquatic biota, waterfowl, and turtles. In-water construction activities would not occur from March through June to minimize impacts to migrating anadromous fish species. Piles would be drilled into the mudline and filled with concrete to support the elevated sections of Fjord Trail South. All piles would be drilled rather than installed with a vibratory or impact hammer, as drilling produces significantly less underwater noise. Increases in underwater noise and shading from the construction barges could lead to temporary habitat avoidance by fish and some macroinvertebrates. All vessels would be shallow draft and would maintain low speeds when moving within the area.

Fjord Trail South would result in approximately 0.5 acres of overwater coverage along the Hudson River shoreline and an in-water footprint of approximately 365 square feet from the piles supporting the elevated sections of the Trail. The loss of 365 square feet of bottom habitat would be minimal compared with the habitat available along the shoreline of, and throughout, the Hudson River. Shoreline stabilization beneath the elevated trail would result in a minimal footprint (0.06 acres below mean high water) within the Hudson River.

As discussed above, SAV surveys will be finalized in coordination with OPRHP and the NYSDEC to avoid and minimize impacts to SAV beds to the extent possible through construction means and methods and elevated trail design. In consultation with the NYSDEC, OPRHP, and NMFS, SAV restoration opportunities would be explored in subtidal regions viable for SAV restoration to support fish and other species.

There are several rare, threatened, and endangered wildlife species with potential to be found along Fjord Trail South including Indiana bat, northern long-eared bat, tri-colored bat, monarch butterfly, shortnose sturgeon, Atlantic sturgeon, bald eagle, peregrine falcon, osprey, cerulean warbler, red-shouldered hawk, timber rattlesnake, eastern fence lizard, eastern wormsnake, eastern hognose snake, and eastern box turtle.

To avoid potential impacts to bats, all tree clearing (3-inch diameter at breast height [dbh] or larger) to construct Fjord Trail South would be limited to the winter hibernation period from November 1 to March 31. The Applicant would consult with OPRHP, NYSDEC, and USFWS, as appropriate, to discuss any additional measures required during construction to minimize or mitigate potential impacts to bats. During construction, shortnose sturgeon and Atlantic sturgeon would be expected to avoid the area in favor of available shallow water habitat elsewhere along the Hudson River shoreline. The loss of approximately 365 square feet of bottom habitat in the footprint of the piles and modification of 0.06 acres below MHW along the shoreline represents a de minimis loss of potential foraging habitat for shortnose and Atlantic sturgeon when compared to the amount of similar habitat in the Hudson River. Additionally, restoration of SAV beds that would be implemented as part of the project would enhance foraging habitat for sturgeon to mitigate some of that loss. During the permitting process, the Applicant would initiate consultation with NMFS under Section 7 of the ESA and with the NYSDEC under Article 11 of the New York State Environmental Conservation Law with respect to the potential impacts to shortnose and Atlantic sturgeon from construction and operation of Fjord Trail South within the Hudson River.

Construction and subsequent use of Fjord Trail South would not cause significant or long-term displacement of bald eagles from foraging habitat on the Hudson River. It would also not have the potential to impact nesting eagles, the closest nest sites of which are on the opposite side of the river. For precautionary measures, the tops of cranes and any other tall construction equipment would be marked with flagging to prevent bald eagles and other raptors from landing on them.

Peregrine falcons nest on exposed ledges of HHSPP, overlooking the Hudson River. No part of the Fjord Trail South alignment would be constructed in high-elevation areas that are known or potential nesting sites for peregrine falcons, and these raptors are highly adapted to human-dominated landscapes. A noise impact assessment for construction activities may be required by NYSDEC, and any need for work to be performed during the restricted period (Feb 1 through July 31) would be undertaken only after consultation with NYSDEC. The tops of cranes and any other tall construction equipment would be marked with flagging to prevent peregrine falcons and other raptors from landing on them. Construction of Fjord Trail South would have the potential to temporarily displace ospreys from nearshore areas, but an abundance of comparable open-water foraging habitat would remain available and unaffected elsewhere in the area. Similar to peregrine falcons, ospreys also have a high tolerance to human disturbance. Recreational use of Fjord Trail South would not be expected to elevate levels of human disturbance above existing conditions to the extent that ospreys would experience a significant reduction in the amount of undisturbed open-water foraging habitat available to them in the area. All tree clearing (3-inch dbh or larger) would be limited to November 1 – March 31, to avoid potential impacts to breeding cerulean warblers, and large trees would be avoided to the extent practicable. Existing trails and roadways would be incorporated into the design as feasible to reduce the amount of required vegetation removal, thereby reducing the amount of habitat loss, loss of canopy, creation of new forest edges, and potential fragmentation. Recreational usage of Fjord Trail South is not likely to impact cerulean warblers breeding in the vicinity given the existing development (e.g., MNR tracks, NYS Route 9D, residential properties in Cold Spring) along the Corridor.

The red-shouldered hawk is likely to occur in HHSPP based on habitat availability but are unlikely to be present along most of the Fjord Trail South Corridor because of the existing development and human disturbance. Existing trails on Little Stony Point would be incorporated into the design as feasible to reduce the amount of required vegetation removal, thereby reducing the amount of potential habitat loss, creation of new forest edges, and potential fragmentation. Trees would be removed outside of the red-shouldered hawk breeding season. The tops of cranes and any other

tall construction equipment would be marked with flagging to prevent red-shouldered hawks and other raptors from landing on them.

Although NYNHP has records of timber rattlesnakes in the vicinity of the northern portion of Fjord Trail South, the Corridor lacks the species' preferred habitat with the exception of the areas east of NYS Route 9D, including the proposed Washburn parking lot expansion area. Protection measures would be implemented to reduce potential impacts to timber rattlesnakes during construction, including 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, as required. Future consultation with NYSDEC is required to determine appropriate mitigation measures for the different sections of the Fjord Trail South.

Eastern fence lizard, eastern wormsnake, eastern hognose snake, and eastern box turtle have all been documented in HHSPP in or near the general area of Fjord Trail South. Similar protection measures as described above for timber rattlesnakes would be implemented during construction to minimize potential impacts to these species. There would potentially be an increase in eastern box turtle collection pressure due to the increased number of visitors. Interpretive signage and educational information would be installed regarding protected species in general to dissuade collection.

In consideration of Article 20, "New York State Park Preserve System," Section 20.02 that indicates the OPRHP Commissioner shall protect designated park preserves, and given the number of areas along the Trail Corridor with designations related to biological resources, including the HHSPP Bird Conservation Area, HHSPP Natural Heritage Area, Hudson River Estuary Area of Biological Concern, Significant Coastal Fish and Wildlife Habitats, Essential Fish Habitat, and Winter Waterfowl Concentration Area, the Applicant acknowledges the creation of the Trail would increase human presence in some otherwise relatively undisturbed areas. The Applicant will work closely with OPRHP staff to make additional resources available towards mitigation in the form of providing personnel trained in natural sciences, establishing environmental education classes for the public, and developing a written stewardship plan for HHSPP.

Refer to **Table S-4** of this chapter and Chapter IV.E, "Biological Resources – Fjord Trail South," for further details related to proposed mitigation measures.

HISTORIC AND ARCHAEOLOGICAL RESOURCES

Archaeological Resources

As discussed in Chapter IV.F, "Historic and Archaeological Resources – Fjord Trail South," no areas of archaeological sensitivity were identified within the Area of Potential Effect (APE) for Fjord Trail South and no further investigation was recommended.

Architectural Resources

Fjord Trail South has two known architectural resources in the APE: the New York City Department of Environmental Protection (NYCDEP) Hudson River Drainage Chamber (HRDC) (S/NR-eligible) and the Cold Spring Historic District (S/NR-listed).

A potential architectural resource includes a 19th-century home at 117 Fair Street in the Village of Cold Spring. No physical modifications to these resources, or substantial changes to the setting of the resources, would occur from the Proposed Action. Therefore, the proposed Fjord Trail South is not anticipated to result in adverse effects on historic architectural resources.

SCENIC RESOURCES

A portion of Fjord Trail South would be constructed using barges along the Hudson River shoreline, which would be visible from the Hudson River and surrounding shorelines. Construction of the elevated sections of Fjord Trail South along the Hudson River shoreline would take approximately five years, but in-water work would be restricted to the six-month period between July 1 to December 31 to protect aquatic species. The shoreline work would be temporary and not expected to create adverse impacts.

The completed Fjord Trail South along the Hudson River shoreline would be visible from the Hudson River and the river's western shoreline. Because much of Fjord Trail South would be in the MNR right-of-way, it would not be perceived as a distinct new element. The elevated portion of Fjord Trail South would be visible from Donahue Memorial Park, but it would be a compatible horizontal feature in the landscape. There are some points where elevated parts of Fjord Trail South would introduce a new visual element, particularly at NYS Route 218 and Mayor's Park at Fair Street. In both cases, the viewshed is not expected to be detrimentally impacted. Fjord Trail South is among typical recreational uses in the Corridor. Additionally, materials used to construct the Fjord Trail South would be chosen to complement the natural landscape and existing MNR and roadway infrastructure, and to blend into the environs of the Trail Corridor. Further, Fjord Trail South would not interfere with or conflict with the public's enjoyment of the Hudson Highlands SASS designation. Rather, Fjord Trail South would enhance access to scenic views along the Trail Corridor. See Chapter IV.G, "Scenic Resources – Fjord Trail South," for further discussion.

NOISE AND AIR QUALITY

HHFT, Inc. is proposing to construct Fjord Trail South using three types of construction methods: (1) waterside construction for the elevated structure at its northern end; (2) on-grade construction for the middle section within and just north of Little Stony Point, as well as the Lower Overlook and within Dockside Park; and (3) top-down construction between Little Stony Point and Dockside Park. Construction would begin with deployment of a construction barge for the waterside construction, establishing land access points, and clearing land using mowing tractors, chain saws, crawlers, hydraulic backhoes, and excavators.

Equipment associated with waterside construction is proposed to include an auger drill to pre-drill pile locations and displace any boulders; a crane with a diesel or hydraulic hammer for pile installation; and a boom concrete pump truck on the barge for cast-in-place concrete. Pile installation is estimated to be completed in a total of about six months, with the rest of the structure being installed during six-month windows (July 1 to December 31) due to in-water work restrictions over the five-year construction period.

For the on-grade construction for the middle section of Fjord Trail South, delivery trucks would access the construction work zone via Little Stony Point. Other equipment and vehicles required for construction of the Trail would include a drill rig, tampers, water cistern, forklifts, a tandem axle tractor, and dump trucks. Other than the forklifts and the delivery vehicles, all equipment would be diesel powered.

Top-down construction would be facilitated using a multi-tool excavator and crane, which would use a rock breaker, an auger drill attachment, a vibratory hammer attachment, and an open-ended diesel hammer attachment to drive piles. Piles would require welded splices, which would require compressors and/or generators. Installation of the superstructure, deck panels, fencing, and

handrails may require pneumatic drills, which would generate intermittent noise. Truck access would be provided at Little Stony Point and Dockside Park.

Construction vehicles traveling to and from the construction work areas would range from one to two truck trips per day up to 10 to 15 trucks per day, depending on the specific stage of construction. Construction vehicles would be distributed between the Little Stony Point access and Dockside Park access, with more trucks generally directed toward Little Stony Point off NYS Route 9D. Truck traffic would vary during the construction period and would be less intense during the restricted in-water work periods.

These are general construction means and methods proposed for Fjord Trail South. The construction means and methods will be refined based on further evaluation and coordination.

Noise

Construction activities associated with Fjord Trail South would produce noise at nearby noise receptors from construction equipment and construction vehicles traveling to and from construction sites. Noise levels caused by construction activities would vary widely, depending on the phase of construction, equipment in use, and the specific task being undertaken. Elevated noise levels adjacent to construction activities may reach as high as 90 dBA under worst-case conditions (i.e., during pile installation). The level of noise exposure at local receptors would depend on the construction activities involved, the noise emission of the involved equipment, the location of the equipment, the distance from the receptor, and the hours of operation.

Much of Fjord Trail South is not in proximity to residences, which would limit potential temporary construction impacts, with the exception of the southern portion of Fjord Trail South where some residences are about 200 feet from the anticipated work zone. While construction activities would be noisy, noise levels would decrease with distance at a rate of 6–7.5 dBA per doubling of distance, such that noise levels at 200 feet away (i.e., two doublings) would be reduced by 12–15 dBA. Pile driving activities for the top-down construction at the southern end of the Fjord Trail South alignment would occur outside the six-month restricted in-water work windows. During these periods, pile-driving would be conducted as an early step for each span, repeated every eight to nine days, and therefore would not be continuous. Construction noise in proximity to any specific residence, restaurant, park, or other noise-sensitive use would be temporary and transient. In addition, construction would not occur at night when residents would be most sensitive to noise.

All construction work that would occur within MNR right-of-way would be performed in accordance with requirements of MNR, including review/approval of contractor work plans prior to construction. Construction equipment and means and methods, including pile driving equipment, would be selected to meet MNR vibration limits. Vibration monitoring of existing MNR infrastructure would be conducted during construction. Monitoring would be installed at key locations and used during construction to ensure vibration limits do not exceed MNR allowable limits and to monitor ground movements (if any). The instrumentation and monitoring specification and plan would be developed as part of the next phase of design and would incorporate MNR limits. A vibration impact assessment would also be completed as part of the next phase of design and would be used to inform the selection of construction equipment.

Upon completion, noise sources associated with operation of Fjord Trail South would include vehicular traffic accessing the trailheads and human use of the trail. The human use of Fjord Trail South would not appreciably contribute to total noise levels in the area. The Proposed Action would not generate sufficient traffic to create a significant adverse noise impact. Therefore, Fjord

Trail South would not result in a significant adverse noise impact. See Chapter IV.H, "Noise and Air Quality – Fjord Trail South," for further discussion.

Air Quality

Construction of Fjord Trail South has the potential to temporarily affect air quality due to dust and emissions from vehicles and equipment; however, these impacts would be temporary. Measures would be implemented to reduce emissions, such as minimizing the area of soil that is disturbed at one time, using drainage diversion methods (e.g., silt fences) to avoid soil erosion during grading, limiting travel speeds of on-site construction vehicle to 5 mph, and using ULSD fuel. Other measures would include watering exposed areas of soil during dry periods and using truck covers to keep dust from being expelled from the truck.

Once construction is completed, potential effects to air quality would be related to vehicles accessing the trailheads. The Fjord Trail is expected to increase visitors and traffic in the area, but increases in traffic volume would be below the volume threshold for significantly affecting air quality based on guidance in NYSDOT's TEM. See Chapter IV.H, "Noise and Air Quality – Fjord Trail South," for further discussion. Additionally, transit access to the proposed Fjord Trail with proximity to the MNR Beacon, Breakneck Ridge, and Cold Spring stations and the proposed shuttle serve along the Trail Corridor, would encourage visitors to arrive by transit and reduce reliance on private automobiles, thereby providing a benefit with respect to air quality.

RECREATIONAL AND OPEN SPACE RESOURCES, ACCESSIBILITY

The proposed Fjord Trail South would be a new recreational resource and would link existing recreational resources within HHSPP and local municipalities. Existing recreational resources along the proposed Fjord Trail South alignment include Little Stony Point (HHSPP) and Dockside (HHSPP). Fjord Trail South would connect to the BNCB, which would link to other trails within HHSPP, including the Breakneck Ridge Trail, Washburn and Cornish Trails, and the Wilkinson-Memorial Trail. Restroom buildings would be provided at Little Stony Point and Dockside Park as part of the Proposed Action, enhancing amenities at these recreational resources.

As discussed in Chapter IV.I, "Recreational and Open Space Resources, Accessibility – Fjord Trail South," Fjord Trail South would enhance recreational and open space resources by providing a new trail for pedestrians and bicyclists, by creating more cohesive and safer connections between existing parks and trails, and by expanding access to the Hudson River waterfront and scenic vistas in the Trail Corridor. The proposed Fjord Trail South would be Accessible, with the Main Trail designed to provide recreational opportunities for everyone regardless of differences in ability. The designs for buildings would follow ADA Accessibility Guidelines.

New parking areas would provide additional and safer options for people to access the extensive existing trail network in HHSPP, as well as Fjord Trail South. A proposed shuttle would be available to transport visitors between parking areas and trailheads to further enhance safe access to recreational resources in the area. Additionally, rail access to Fjord Trail South would be available daily from the MNR Cold Spring station and the MNR Breakneck Ridge station on weekends. As such, Fjord Trail South would provide a benefit with respect to recreational resources and accessibility, and is not expected to result in adverse impacts to recreational and open space resources.

GROWTH AND COMMUNITY CHARACTER

Fjord Trail South would be a new recreational resource and would be expected to increase visitation along the Fjord Trail Corridor. However, it would become a component of an already

extensive trail network and would be consistent in scale and character with existing land uses in the surrounding area. The Trail would be designed to blend with the surrounding natural and built landscape, and would not affect the historic or scenic character of the area. Given that extensive trails and recreational resources exist in the area, the Fjord Trail is not anticipated to result in population growth or substantial new development, and would not be expected to substantially change population and housing characteristics in the Town of Philipstown and the Village of Cold Spring.

Increased visitation would increase traffic, resulting in adverse impacts at three intersections in the Village of Cold Spring that are currently congested during peak periods—Main Street at NYS Route 9D, Fair Street at the proposed Washburn Lot entrance at NYS Route 9D, and Main Street at Fair Street. As discussed further in the Fjord Trail North "Traffic and Transportation" section above, these impacts could be mitigated with signal retiming, lane restriping, a potential roundabout, and removal of on-street parking, pending coordination with NYSDOT, the Village of Cold Spring, and Putnam County, as appropriate. Increased visitation would also potentially increase demand on emergency service providers, but overall would not result in substantial change to the demand for police, fire, and medical response providers that serve the area. At the same time, the Fjord Trail would provide a more cohesive and safer connection between recreational resources and improve safety in Fjord Trail South Corridor.

Visitors to the Fjord Trail would likely patronize local restaurants and businesses, particularly in downtown Cold Spring, generating pedestrian activity, but the proposed alignment of Fjord Trail South would provide more direct and mostly off-road pedestrian and bicycle access from the MNR Cold Spring train station to Little Stony Point and trails within HHSPP, allowing Fjord Trail visitors, and visitors destined for other recreational resources to the north, to bypass much of downtown Cold Spring. This diversion would result in reducing the pedestrian demand on Main Street. To manage increased vehicle and pedestrian activity, a number of management demand strategies would be considered, as described in the "Summary of Mitigation Measures" section below.

The Fjord Trail would not be anticipated to result in a significant adverse impact on growth or community character to the Town of Philipstown and Village of Cold Spring during construction or operation. See Chapter IV.J, "Growth and Community Character – Fjord Trail South," for further discussion.

SOCIOECONOMICS

Construction of Fjord Trail South would generate local construction jobs. The expected economic benefits of the construction and operations of the proposed Fjord Trail were estimated using the IMPLAN (IMpact analysis for PLANning) input-output modeling system. The model estimates both the direct (on-site) economic benefits and the indirect and induced benefits to the region.

Construction costs for Fjord Trail South are currently being developed, but to provide an understanding of potential impacts, the economic benefits that could be expected to be realized per $10 million of investment was assessed. As detailed in Chapter IV.K, "Socioeconomics – Fjord Trail South," construction would create 74 person-years of direct, indirect, and induced employment in Putnam and Dutchess Counties. For every $10 million of investment, construction of Fjord Trail South would generate $4.09 million in direct labor income in Putnam County, $0.79 million in labor income from indirect employment in Putnam and Dutchess Counties, and $5.41 million in labor income from induced employment in Putnam and Dutchess Counties. Per $10 million invested, the direct economic output of the construction of Fjord Trail South would

generate $2.64 million in indirect economic output for both counties and $1.75 million in induced economic output in both counties. Total direct, indirect, and induced economic output would be $13.78 million in Putnam County and $0.60 million in Dutchess County, for a total of $14.38 million per $10 million of investment.

Visitors to the Fjord Trail are expected to spend money at local businesses in the surrounding municipalities, which would be beneficial to the local economy. Putnam County does not share sales tax revenue with its municipalities, but local businesses would benefit from the additional patronage. The Fjord Trail would be maintained by HHFT, Inc. and would not result in substantial expenditures to local municipalities. The Village of Cold Spring currently conducts maintenance at Dockside Park, and some costs (e.g., lawn maintenance costs and electricity from the restroom buildings) might increase with additional visitors to Dockside Park, but these costs are low and would not be expected to increase substantially. No significant adverse socioeconomic or fiscal impacts are anticipated.

TRAFFIC AND TRANSPORTATION

See the "Traffic and Transportation" section under "Fjord Trail North" above.

INFRASTRUCTURE

Water Supply, Wastewater, and Sewerage

Water and wastewater services would be required for the proposed restroom buildings along Fjord Trail South. Each restroom building is anticipated to have eight to ten toilets. Further investigation will be conducted as design advances to determine availability of water and sewer services for restroom buildings. At this time, it is expected that the Dockside Park restroom buildings could potentially connect to municipal water supply and sanitary sewers in the Village of Cold Spring, pending coordination with the Village. Where public sewer and water connections for restroom buildings is deemed infeasible, or if HHFT, Inc. identifies a preference, the restroom buildings would utilize composting toilets with hand sanitizer dispensers.

Potential water demand for restroom buildings connected to municipal services is estimated at 3,479 gallons per day (GPD). Water for composting toilets would be supplied by wells and would be expected to have water demand of less than 20 gallons per day. Wastewater for composting toilets would be stored in liquid end tanks that would be pumped out by a service company. Use of restrooms would be highest on weekends when visitation is highest, and would be much less on typical weekdays. Sufficient supply and capacity of water and wastewater services is anticipated to be available.

Electricity and Lighting

Electricity would be required to power restroom buildings and may be required at the expanded Washburn Lot and Main Trail entry points. In general, overhead service lines are available along NYS Route 9D and local streets in Fjord Trail South Corridor. It is anticipated that electric connections would be pulled from the overhead wires, which would be coordinated with local electric service providers. Sufficient capacity is anticipated to be available to supply the restroom buildings, Washburn Lot, and Main Trail entry points. Solar powered light fixtures may also be explored. Any new lighting associated with Fjord Trail South would be dark sky compliant.

Roads, Rail, and Bridges

A new curb cut would be required along NYS Route 9D for the proposed new entrance to the expanded Washburn Lot. Further, in coordination with NYSDOT, a roundabout is being

considered at the intersection of the new Washburn Lot entrance with Fair Street and NYS Route 9D. The roundabout would be intended to improve traffic flow along NYS Route 9D.

Fjord Trail South would travel parallel to the MNR tracks, but a minimum distance of 25 feet between construction activities and the centerline of the tracks would be maintained, in accordance with MNR requirements. Any proposed modifications to existing MNR infrastructure, such as extension of existing culverts where they cross the proposed on-grade portion of Fjord Trail South, will continue to be coordinated with MNR as design advances and during construction. No adverse impacts to existing MNR infrastructure are anticipated.

EMERGENCY SERVICES

Increased visitation would potentially increase demand on emergency service providers, but overall would not result in substantial change to the demand for police, fire, and medical response providers that already serve the area and respond to safety issues as a matter of course. At the same time, Fjord Trail South would be designed to alleviate existing safety issues experienced by visitors to the area, including unsafe means of access to and between existing trails and trailheads and insufficient parking for visitors. Fjord Trail South would also be designed to be Accessible and provide multiple points of access that could be used by emergency responders to promote safe usage of the Trail. HHFT, Inc. will continue to coordinate with state, county, and local emergency service providers as design progresses to identify and address potential needs to ensure the proposed Fjord Trail can be adequately serviced. See Chapter IV.N, "Emergency and Public Services – Fjord Trail South," for further discussion.

OTHER PLANNING EFFORTS

As discussed in Chapter IV.O, "Other Planning Effort – Fjord Trail South," OPRHP is in the process of developing a Visitor Use Management Plan (VUMP) for the Breakneck Ridge Trail Area within HHSPP. The VUMP seeks to address the challenges and impacts occurring in this area resulting from the anticipated increased number of visitors owing to the Fjord Trail. The VUMP planning process is ongoing and is primarily focused on issues associated with the visitor use in the Breakneck Ridge Trail Area. The VUMP is expected to indicate strategies to achieve the noted goals and identify action steps and priorities for implementing the VUMP.

HAZARDOUS MATERIALS

Fjord Trail South would require ground disturbance and excavation in potential areas of concern adjacent to former industrial uses (some with documented subsurface contamination) and/or historic or current railroad operations. Specifically, this would include the proposed installation of piles along the Hudson River shoreline and along the existing MNR tracks, as well as surface disturbance to at-grade portions of the trail. To the extent subsurface disturbance would disturb materials containing asbestos or PCBs (e.g., associated with railroad components and the Hudson River) or covered with LBP (e.g., within potential historic fill materials) and/or unknown petroleum contamination from historic industrial operations, the potential for impacts will be avoided by licensed environmental professionals conducting these construction activities in compliance with existing regulatory requirements and best practices. These materials would then be managed and disposed of as required by law prior to the start of construction. A Soil and Materials Management Plan (SMMP) would be implemented that would describe applicable regulatory provisions that would be included in construction specifications to ensure contractors are aware that required protocol and procedures are followed. Following construction associated with Fjord Trail South, there would be no further potential for significant adverse impacts. See Chapter IV.P, "Hazardous Materials Assessment – Fjord Trail South," for further discussion.

F. SUMMARY OF MITIGATION MEASURES

Due to the complexities of the location of Fjord Trail South, this DGEIS includes a more detailed review of the southern section of the Fjord Trail (i.e., Fjord Trail South) informed by surveys, engineering feasibility studies, and constructability assessments. Measures that would be implemented to avoid, minimize, or mitigate adverse impacts, as identified in the technical analyses discussed above, are summarized for Fjord Trail North and Fjord Trail South in **Tables S-3 and S-4**, respectively.

Table S-3

Measures to Avoid, Minimize, or Mitigate Adverse Impacts – Fjord Trail North

Environmental Category	Measures to Avoid, Minimize, or Mitigate Adverse Impacts
Land Use and Zoning	• No mitigation required.
Land Ownership, Management, and Maintenance	• No Mitigation required.
Land	• A SWPPP would be prepared for each trail section for review and approval in accordance with the requirements of the NYSDEC SPDES General Permit for Stormwater Discharges from Construction Activities (GP-0-20-0001) that would include an Erosion and Sediment Control Plan with measures developed in accordance with the New York State Stormwater Management Design Manual (NYSSMDM). • Temporary erosion and sediment control measures during construction would include a water tank to spray exposed soil, truck tracking pad and wheel washing stations, a soil management plan, filter stone, silt fence, stabilized construction access, temporary mulches, and straw bales. • No more than five acres would be disturbed at any one time. • Limits of site clearing and grading would be established prior to site clearing operations to protect adjacent soils and vegetation. In accordance with the SWPPPs, erosion and sediment control measures would minimize erosion and soil movement, and construction would not result in any unplanned changes to plant species composition or coverage in adjacent areas. Vegetation and tree removal will be performed in a manner not to impact soil stability and measures will be taken to avoid inundation of MNR right-of-way. • Topsoil removed from areas of land disturbance would be stockpiled and reused as planting medium, as appropriate. • A soil management plan and disposal protocol would be prepared to ensure that all soil handling and disposal is conducted in accordance with regulations and proper disposal facilities. • Elevated trail structures and grading would be used in areas where steep slopes cannot be avoided. • Fjord Trail North would be sited above the projected MHHW elevation for the 2100 High Scenario and would use resilient materials and design practices to minimize impacts from sea level rise.
Water Resources	• All construction activities for Fjord Trail North would be conducted in accordance with permit conditions issued by NYSDEC and/or USACE to avoid, minimize or mitigate potential construction impacts to water resources. • Any wetland areas temporarily disturbed during construction would be restored to existing conditions through grading to existing surface grades and planting of

Table S-3
Measures to Avoid, Minimize, or Mitigate Adverse Impacts – Fjord Trail North

Environmental Category	Measures to Avoid, Minimize, or Mitigate Adverse Impacts
	native vegetation, in accordance with permit conditions issued by the NYSDEC and USACE. • Design measures such as narrowing or elevating the trail, installing a boardwalk, or incorporating culverts would be considered to minimize potential permanent impacts to wetlands and surface waters where crossings cannot be avoided. • Coordination with MTA/MNR required on design measures such as culverts that may impact hydrology up or downstream of the Proposed Project. • Fjord Trail North would use pervious materials (e.g., grasscrete pavers, pervious concrete) to the extent possible, minimizing the increase in impervious surface area resulting from the project. • If required, compensatory mitigation for unavoidable impacts to surface waters or wetlands resulting from the project would be determined in coordination with NYSDEC and/or USACE. Mitigation may comprise restoration or enhancement of similar surface water or wetland habitats in the area, but specific requirements would be determined in coordination with the regulatory agencies.
Biological Resources	• Avoidance, minimization, and mitigation strategies for ecological communities and plants would be proposed and coordinated with OPRHP and NYNHP, and may include tree protection measures during construction, native tree, shrub and herbaceous replanting, control or removal of invasive species, development of a vegetation management plan, educational and interpretive signage, restoration of SAV, or a combination of these methods as appropriate. • Any proposed management of vegetation to be conducted as mitigation on OPRHP owned or leased property would be assessed in accordance with OPRHP's Policy on Management of Trees and Other Vegetation and OPRHP's Policy on Native Plants in State Parks and Historic Sites. An Invasive Species Management Plan would also be prepared. • Parking areas would be designed to be as close to NYS Route 9D as feasible to reduce impacts to more interior forest. • The Applicant would consult with NMFS, USFWS, and NYSDEC, as appropriate, with respect to aquatic and terrestrial species protected in designated Essential Fish Habitat, under the Endangered Species Act, and under Article 11 of the Environmental Conservation Law. • Sediment and erosion control measures would be implemented to prevent discharges of sediment from upland construction from entering waterways. • The trail surface near or in water resources, to the degree possible, will be elevated to minimize impacts to aquatic communities including the use of helical piles or micropiles to support boardwalk structures to maintain existing drainage patterns. • To protect a number of rare, threatened, or endangered species, all tree clearing for Fjord Trail North would be limited to the bat winter hibernation period (November 1–March 31). • The tops of cranes and any other tall construction equipment would be marked with flagging to prevent bald eagles, peregrine falcons, osprey, and red-shouldered hawks from landing on them. • During construction, protective fencing may be installed around construction areas to prevent snakes and turtles from passing through and getting injured. • An Invasive Species Management Plan would be developed in consultation OPRHP and NYSDEC for both construction and operation, and best management practices to prevent the transport of invasive species entering or existing a work site during construction. • If impacts to threatened and endangered species cannot be fully addressed, then mitigation and net conservation benefit to the species will be required through the Incidental Take Permit process. Mitigation measures may include,

Table S-3
Measures to Avoid, Minimize, or Mitigate Adverse Impacts – Fjord Trail North

Environmental Category	Measures to Avoid, Minimize, or Mitigate Adverse Impacts
	among others: aligning the Trail away from sensitive habitat areas; design considerations including incorporating direct in and out trails with fences and wildlife blinds; adjusting the timing and phasing of construction to minimize impacts on wildlife, especially during critical periods of higher biological activity, such as breeding seasons; seasonal Trail section closures; and considerations in siting locations of staging areas. On-going monitoring of sensitive species may be required as well. • In consideration of Article 20, "New York State Park Preserve System," Section 20.02 that indicates the OPRHP Commissioner shall protect designated park preserves, and given the number of areas along the Trail Corridor with designations related to biological resources, including the HHSPP Bird Conservation Area, HHSPP Natural Heritage Area, Hudson River Estuary Area of Biological Concern, Significant Coastal Fish and Wildlife Habitats, Essential Fish Habitat, and Winter Waterfowl Concentration Area, the Applicant acknowledges the creation of the Trail would increase human presence in some otherwise relatively undisturbed areas. The Applicant will work closely with OPRHP staff to make additional resources available towards mitigation in the form of providing personnel trained in natural sciences, establishing environmental education classes for the public, and developing a written stewardship plan for HHSPP.
Historic and Archaeological Resources	*Architectural Resources:* • No mitigation required. *Archaeological Resources:* • Supplemental archaeological studies will be conducted, as needed, to fully evaluate the boundaries and significance of the identified archaeological sites and to explore avoidance alternatives. • As the design progresses, adjustments in the alignment would be made to avoid significant archaeological resources where possible. If significant archaeological sites in the APE cannot be avoided, measures to minimize and/or mitigate any adverse effects to archaeological resources would be identified and implemented in consultation with SHPO and any participating Native Nations and/or Consulting Parties. • Measures to further evaluate potential effects or mitigate adverse effects, as needed, on archaeological resources will be stipulated in a Letter of Resolution (LOR), implemented in consultation with SHPO and Native Nations and/or Consulting Parties, as appropriate.

Table S-3
Measures to Avoid, Minimize, or Mitigate Adverse Impacts – Fjord Trail North

Environmental Category	Measures to Avoid, Minimize, or Mitigate Adverse Impacts
Scenic Resources	• Materials used to construct Fjord Trail North would be chosen to complement the natural landscape and to blend into the environs of the Trail Corridor. • In areas where trees and other vegetation would be removed, including potential removal of invasive species, native plantings would take their place.
Noise and Air Quality	*Noise:* • Weekday construction hours are proposed to be limited to 7:00 AM to 4:00 PM. • Construction is not expected to occur during night-time hours. Construction means and methods will be refined based on further evaluation. • All construction work that would occur within the MNR right-of-way would be performed in accordance with MNR's requirements, including review/approval of contractor work plans prior to construction to minimize potential impacts to MNR infrastructure and operations including, but not limited to, vibration impacts during trail construction. *Air Quality:* • The area of soil that is disturbed at any one time would be minimized. • The amount of time during which soils are exposed would be minimized. • Truck mats or anti-tracking pads would be installed at egress points to clean the trucks' tires prior to leaving the construction site. • Exposed areas would be watered during dry periods to reduce dust. • Drainage diversion methods (e.g., silt fences) would be used to avoid soil erosion during grading. • Stored materials would be covered with a tarp to reduce windborne dust. • On-site construction vehicle speed would be limited to five mph. • Truck covers/tarp rollers would be used that cover fully loaded trucks and keep debris and dust from being expelled from the truck along its haul route. • Equipment would be properly maintained. • Construction equipment would use Ultra Low Sulfur Diesel (ULSD) fuel where required. • Idling would be limited to five minutes for all on-site equipment and vehicles that are not operating a loading, unloading, or processing device (e.g., concrete mixing trucks) based on New York State requirements described in the New York Codes, Rules, and Regulations (6 NYCRR Part 248 and 6 NYCRR Subpart 217-3, respectively).
Recreational and Open Space Resources, Accessibility	• To manage increased visitation, see measures under "Traffic and Transportation." • The Proposed Action would include new HHFT, Inc. staff, a maintenance and operation plan, and funding meant to manage the resource and distribute visitors across the Fjord Trail and other nearby recreational opportunities.
Growth and Community Character	• To manage increased visitation, see measures under "Traffic and Transportation." • To address potential increase in demand on emergency service providers, see "Emergency and Public Services."
Socioeconomics	• No mitigation required.

Table S-3
Measures to Avoid, Minimize, or Mitigate Adverse Impacts – Fjord Trail North

Environmental Category	Measures to Avoid, Minimize, or Mitigate Adverse Impacts
Traffic and Transportation	• Measures to address adverse impacts at Main Street and NYS Route 9D in the Village of Cold Spring could include: – Removal of parking on the eastbound and westbound Main Street approaches and restriping the eastbound approaches to provide an exclusive left-turn lane and a shared through-right turn lane. – Reallocation of six seconds of green time from the eastbound/westbound phase to the northbound/southbound phase (Saturday peak hour only). – These measures would require approval form NYSDOT and the Village of Cold Spring. • Measures to address adverse impacts at Fair Street/Washburn Lot Entrance and NYS Route 9D near the Village of Cold Spring could include: – Redesign of this intersection to provide a roundabout with yield control at each of the approaches. This would require approval from NYSDOT. • Measures to address adverse impacts at Main Street and Fair Street in the Village of Cold Spring could include: – Potential designation of Fair Street as a one-way northbound street between Main Street and Northern Avenue on Saturdays, as is currently done on Sundays. This would require approvals from the Village of Cold Spring and Putnam County. • To manage increased visitation, measures would include provision of new parking areas, the introduction of smart parking tools (including e-signage and smart parking apps to direct visitors to available parking), the proposed shuttle service, better signage, improved connectivity of local trails and recreational amenities, and physical improvements added to existing recreational resources, including the addition of Accessible trails and features. • To address periods where the peak hourly visitation exceeds the design day and to potentially reduce the peak hour visitation demand during design days, potential management demand strategies could be deployed, including: – Dynamic Parking Prices that offer lower parking rates during off-peak times – Parking Reservations – Incentivize Carpooling – Incentivize Transit Use – Time Entries – Off-Peak Visitation Campaigns – Roadside Variable Message Signs to advise visitors to avoid the Main Street area in Cold Spring due to heavy congestion.
Infrastructure	• No mitigation required. Coordination with all appropriate parties would be undertaken as design advances.
Emergency and Public Services	• HHFT, Inc. will continue to coordinate with emergency service providers as design progresses to identify and address potential needs.
Hazardous Materials	• The potential for significant adverse impacts would be minimized or avoided through compliance with existing regulatory requirements, and incorporating best practices and the following protocols into construction: – Any proposed disturbance on or adjacent to facilities regulated by NYSDEC (e.g., former municipal landfill sites, former MGP facilities and those subject to remedial oversight by NYSDEC) would require coordination with the agency prior to any subsurface disturbance to ensure the work would be conducted in accordance with applicable regulatory requirements. – For construction areas where soil disturbance/excavation is planned, a site-specific Soil and Materials Management Plan (SMMP) would be prepared for implementation during construction. The SMMP would be based on the proposed construction plan and address requirements for items such as: soil stockpiling, soil disposal and transportation; dust control; quality assurance; and

Table S-3
Measures to Avoid, Minimize, or Mitigate Adverse Impacts – Fjord Trail North

Environmental Category	Measures to Avoid, Minimize, or Mitigate Adverse Impacts
	contingency measures should petroleum storage tanks or contamination be unexpectedly encountered. The SMMP would include measures for worker and community protection, including personal protective equipment and dust control/suppression. The requirement for SMMP will be included in contract documents, including contractor specifications. – Soil disturbance conducted within the inactive Beacon Line railbed would be subject to site-specific sediment and erosion control plans, including protocols for dust suppression, to prevent the migration of associated contaminants into the subsurface groundwater and surrounding community/environment. – Per regulations, any materials intended for off-site disposal, including potentially contaminated soil associated with the inactive Beacon Line railbed, would be reviewed and coordinated with MNR, as applicable, and tested in accordance with the requirements of the receiving facility. Transportation of these materials would be in accordance with federal, state, and local requirements covering licensing of haulers and trucks, placarding, truck routes, manifesting, etc. – If evidence of contaminated soil/sand (e.g., stains or odors) is encountered, these materials (and all other materials requiring off-site disposal) would be segregated and disposed of in accordance with applicable federal, state, and local regulations. If any underground storage tanks (USTs) are encountered, they would be properly assessed, closed, and removed in accordance with state and local regulatory requirements (including NYSDEC tank registration and spill reporting requirements, as warranted). Any materials intended for off-site disposal, including contaminated soil associated with the inactive Beacon Line railbed, would be tested in accordance with the requirements of the receiving facility. Transportation of these materials would be in accordance with federal, state, and local requirements covering licensing of haulers and trucks, placarding, truck routes, manifesting, etc. – If dewatering is needed, testing would be performed to ensure compliance with proper regulatory discharge requirements including local requirements and NYSDEC requirements for discharges to surface water either directly or via an outfall and/or SPDES Permit Program. If required by the regulatory permit/ approval process, pre-treatment would be conducted prior to the discharge. – Fill materials containing ACM, LBP and/or PCBs and creosote-treated wood could be encountered during excavation, especially where there were previously structures or railroad uses. Any such materials would be properly characterized, managed, and disposed of in accordance with applicable regulations. – Construction activities occurring within 200 feet of MNR right-of-way must file their plans with the MTA to protect and preserve their infrastructure. Additionally, MNR health and safety requirements/protocols for contractors will be followed when conducting construction activities on their property. • Where required, construction activities and protocols would be implemented and overseen by licensed environmental professionals in compliance with existing regulatory requirements and best practices. Contaminated materials would be managed and disposed of as required by law prior to the start of construction, as needed. Applicable provisions would be included in construction specifications to ensure contractors are aware that required protocol and procedures are followed.

Table S-4
Measures to Avoid, Minimize, or Mitigate Adverse Impacts – Fjord Trail South

Environmental Category	Measures to Avoid, Minimize, or Mitigate Adverse Impacts
Land Use and Zoning	• No mitigation required.
Land Ownership, Management, and Maintenance	• No Mitigation required.
Land	• A SWPPP would be prepared for each trail section for review and approval in accordance with the requirements of the NYSDEC SPDES General Permit for Stormwater Discharges from Construction Activities (GP-0-20-0001) that would include an Erosion and Sediment Control Plan with measures developed in accordance with the NYSSMDM. • Temporary erosion and sediment control measures during construction would include a water tank to spray exposed soil, truck tracking pad and wheel washing stations, a soil management plan, filter stone, silt fence, stabilized construction access, temporary mulches, and straw bales. Erosion and sediment control specifications would be developed to incorporate MNR requirements in coordination with MNR, as applicable. Vegetation and tree removal will be performed in a manner not to impact soil stability and measures will be taken to avoid inundation of MNR right-of-way. • Limits of site clearing and grading would be established prior to site clearing operations to protect adjacent soils and vegetation. In accordance with the SWPPPs, erosion and sediment control measures would minimize erosion and soil movement, and construction would not result in any unplanned changes to plant species composition or coverage in adjacent areas. • Topsoil removed from areas of land disturbance would be stockpiled and reused as planting medium, as appropriate. • A soil management plan and disposal protocol would be prepared to ensure that all soil handling and disposal is conducted in accordance with regulations and proper disposal facilities. • Elevated trail structures would be used in areas where steep slopes cannot be avoided. • Fjord Trail South would be sited above the projected MHHW elevation for the 2100 High Scenario and would use resilient materials and design practices to minimize impacts from sea level rise. • Materials used for the pathway would be designed to be floodable and easily repaired when the flood water recedes. • At-grade sections would be supported by stabilizing vegetation and boulder edges along the river side to minimize potential damage to the trail resulting from flood waters or associated shoreline erosion.

Table S-4

Measures to Avoid, Minimize, or Mitigate Adverse Impacts – Fjord Trail South

Environmental Category	Measures to Avoid, Minimize, or Mitigate Adverse Impacts
Water Resources	• All construction activities for Fjord Trail South would be conducted in accordance with permit conditions implemented by NYSDEC and/or USACE to avoid or minimize potential construction impacts to water resources. • Any wetland areas temporarily disturbed during construction would be restored to existing conditions through grading to existing surface grades and planting of native vegetation. • Fjord Trail South would be designed to avoid wetlands and regulated adjacent areas, thereby preventing permanent impacts to these wetlands. • The proposed Meanders in Little Stony Point would improve existing trails and would be designed to avoid the delineated wetland at Little Stony Point, avoiding any potential impacts to that wetland. • Fjord Trail South has been designed to limit the placement of structural elements below MHHW to specific areas where the trail must avoid upland utilities or infrastructure to minimize in-water impacts in the Hudson River. • Fjord Trail South would use pervious materials (e.g., grasscrete pavers, pervious concrete) to the extent possible, minimizing the increase in impervious surface area resulting from the project. • Coordination with MTA/MNR required on design measures such as culverts that may impact hydrology up or downstream of the Proposed Project. • If required, compensatory mitigation for unavoidable impacts to surface waters or wetlands resulting from the project would be determined in coordination with NYSDEC and/or USACE. Mitigation may comprise restoration or enhancement of similar surface water or wetland habitats in the area, as applicable based on the Fjord Trail South alignment, but specific requirements would be determined in coordination with the regulatory agencies during the permitting process.
Biological Resources	• Avoidance, minimization, and mitigation strategies for ecological communities and plants would be proposed and coordinated with OPRHP and NYNHP, and may include tree protection measures during construction, native tree, shrub and herbaceous replanting, control or removal of invasive species, development of a vegetation management plan, educational and interpretive signage, restoration of SAV, or a combination of these methods as appropriate. • Any proposed management of vegetation to be conducted as mitigation on OPRHP owned or leased property would be assessed in accordance with OPRHP's Policy on Management of Trees and Other Vegetation and OPRHP's Policy on Native Plants in State Parks and Historic Sites. An Invasive Species Management Plan would also be prepared. • The Washburn parking lot expansion would be designed to be as close to NYS Route 9D as feasible to reduce impacts to more interior forest. • The Applicant would consult with NMFS, USFWS, and NYSDEC, as appropriate, with respect to aquatic and terrestrial species protected in designated Essential Fish Habitat, under the Endangered Species Act, and under Article 11 of the Environmental Conservation Law. • Vessels used for construction activities within the Hudson River would be required to be shallow draft and maintain low speeds. A vacuum extraction process would be used during sediment withdrawal when drilling in-water piles, and the Applicant would follow construction windows for the protection of anadromous species migration (March 1–June 30). • Sediment and erosion control measures would be implemented to prevent discharges of sediment from upland construction from entering waterways. • The trail surface near or in water resources, to the degree possible, will be elevated to minimize impacts to aquatic communities including the use of helical piles or micropiles to support boardwalk structures to maintain existing drainage patterns.

Table S-4
Measures to Avoid, Minimize, or Mitigate Adverse Impacts – Fjord Trail South

Environmental Category	Measures to Avoid, Minimize, or Mitigate Adverse Impacts
	• To protect a number of rare, threatened, or endangered species, all tree clearing for Fjord Trail North would be limited to the bat winter hibernation period (November 1–March 31). • The tops of cranes and any other tall construction equipment would be marked with flagging to prevent bald eagles, peregrine falcons, osprey, and red-shouldered hawks from landing on them. • During construction, protective fencing may be installed around construction areas to prevent snakes and turtles from passing through and getting injured. • An Invasive Species Management Plan would be developed in consultation with OPRHP and NYSDEC for both construction and operation, and best management practices to prevent the transport of invasive species entering or existing a work site during construction. • If impacts to threatened and endangered species cannot be fully addressed, then mitigation and net conservation benefit to the species will be required through the Incidental Take Permit process. Mitigation measures may include, among others: aligning the Trail away from sensitive habitat areas; design considerations including incorporating direct in and out trails with fences and wildlife blinds; adjusting the timing and phasing of construction to minimize impacts on wildlife, especially during critical periods of higher biological activity, such as breeding seasons; seasonal Trail section closures; and considerations in siting locations of staging areas. On-going monitoring of sensitive species may be required as well. • In consideration of Article 20, "New York State Park Preserve System," Section 20.02 that indicates the OPRHP Commissioner shall protect designated park preserves, and given the number of areas along the Trail Corridor with designations related to biological resources, including the HHSPP Bird Conservation Area, HHSPP Natural Heritage Area, Hudson River Estuary Area of Biological Concern, Significant Coastal Fish and Wildlife Habitats, Essential Fish Habitat, and Winter Waterfowl Concentration Area, the Applicant acknowledges the creation of the Trail would increase human presence in some otherwise relatively undisturbed areas. The Applicant will work closely with OPRHP staff to make additional resources available towards mitigation in the form of providing personnel trained in natural sciences, establishing environmental education classes for the public, and developing a written stewardship plan for HHSPP.
Historic and Archaeological Resources	*Architectural Resources:* • No mitigation required. *Archaeological Resources:* • No mitigation required.
Scenic Resources	• Materials used to construct Fjord Trail South would be chosen to complement the natural landscape and existing MNR and roadway infrastructure and to blend into the environs of the Trail Corridor. • The proposed alignment was selected to weave in and out of areas where vegetation exists and preserve mature trees where possible. • Boulders are proposed at certain locations to both protect the elevated trail structure and to enhance the aesthetics of the trail, in keeping with the existing condition. • In areas where trees and other vegetation would be removed, including potential removal of invasive species, native plantings would be added where possible.

Table S-4
Measures to Avoid, Minimize, or Mitigate Adverse Impacts – Fjord Trail South

Environmental Category	Measures to Avoid, Minimize, or Mitigate Adverse Impacts
Noise and Air Quality	*Noise:* • Weekday construction hours are proposed to be 7:00 AM to 4:00 PM. • Construction is not expected to occur during night-time hours. Construction means and methods will be refined based on further evaluation. • All construction work that would occur within the MNR right-of-way would be performed in accordance with MNR's requirements, including review/approval of contractor work plans prior to construction to minimize potential impacts to MNR infrastructure and operations including, but not limited to, vibration impacts during trail construction. *Air Quality:* • The area of soil that is disturbed at any one time would be minimized. • The amount of time during which soils are exposed would be minimized. • Truck mats or anti-tracking pads would be installed at egress points to clean the trucks' tires prior to leaving the construction site. • Exposed areas would be watered during dry periods to reduce dust. • Drainage diversion methods (e.g., silt fences) would be used to avoid soil erosion during grading. • Stored materials would be covered with a tarp to reduce windborne dust. • On-site construction vehicle speed would be limited to five mph. • Truck covers/tarp rollers would be used that cover fully loaded trucks and keep debris and dust from being expelled from the truck along its haul route. • Equipment would be properly maintained. • Construction equipment would use Ultra Low Sulfur Diesel (ULSD) fuel where required. • Idling would be limited to five minutes for all on-site equipment and vehicles that are not operating a loading, unloading, or processing device (e.g., concrete mixing trucks) based on New York State requirements described in the New York Codes, Rules, and Regulations (6 NYCRR Part 248 and 6 NYCRR Subpart 217-3, respectively).
Recreational and Open Space Resources, Accessibility	• To manage increased visitation, see measures under "Traffic and Transportation" in **Table S-3**. • The Proposed Action would include new HHFT, Inc. staff, a maintenance and operation plan, and funding meant to manage the resource and distribute visitors across the Fjord Trail and other nearby recreational opportunities.
Growth and Community Character	• To manage increased visitation, see measures under "Traffic and Transportation" in **Table S-3**. • To address potential increase in demand on emergency service providers, see "Emergency and Public Services."
Socioeconomics	• No mitigation required.
Traffic and Transportation	• See discussion under "Traffic and Transportation" in **Table S-3**.
Infrastructure	• No mitigation required. Coordination with all appropriate parties would be undertaken as design advances.
Emergency and Public Services	• HHFT, Inc. will continue to coordinate with emergency service providers as design progresses to identify and address potential needs.

Hazardous Materials	• The potential for significant adverse impacts would be minimized or avoided through compliance with existing regulatory requirements, and incorporating best practices and the following protocols into construction: – Any proposed disturbance on or adjacent to facilities regulated by NYSDEC (e.g., former municipal landfill sites, former MGP facilities and those subject to remedial oversight by NYSDEC) would require coordination with the agency prior to any subsurface disturbance to ensure the work would be conducted in accordance with applicable regulatory requirements. – For construction areas where soil disturbance/excavation is planned, a site-specific Soil and Materials Management Plan (SMMP) would be prepared for implementation during construction. The SMMP would be based on the proposed construction plan and address requirements for items such as: soil stockpiling, soil disposal and transportation; dust control; quality assurance; and contingency measures should petroleum storage tanks or contamination be unexpectedly encountered. The SMMP would include measures for worker and community protection, including personal protective equipment and dust control/suppression. The requirement for SMMP will be included in contract documents, including contractor specifications. – Per regulations, any materials intended for off-site disposal would be tested in accordance with the requirements of the receiving facility. Transportation of these materials would be in accordance with federal, state, and local requirements covering licensing of haulers and trucks, placarding, truck routes, manifesting, etc. – If evidence of contaminated soil/sand (e.g., stains or odors) is encountered, these materials (and all other materials requiring off-site disposal) would be segregated and disposed of in accordance with applicable federal, state, and local regulations. If any underground storage tanks (USTs) are encountered, they would be properly assessed, closed, and removed in accordance with state and local regulatory requirements (including NYSDEC tank registration and spill reporting requirements, as warranted). – If dewatering is needed, testing would be performed to ensure compliance with proper regulatory discharge requirements including local requirements and NYSDEC requirements for discharges to surface water either directly or via an outfall and/or SPDES Permit Program. If required by the regulatory permit/approval process, pre-treatment would be conducted prior to the discharge. – Fill materials containing ACM, LBP and/or PCBs and creosote-treated wood could be encountered during excavation, especially where there were previously structures or railroad uses. The Hudson River is also known to be contaminated by PCBs released from upgradient electrical capacitor manufacturing plants in the mid-1900s. Any such materials would be properly characterized, managed, and disposed of in accordance with applicable regulations. – Construction activities occurring within 200 feet of MNR right-of-way must file their plans with the MTA to protect and preserve their infrastructure. Additionally, MNR health and safety requirements/protocols for contractors will be followed when conducting construction activities on their property. • Where required, construction activities and protocols would be implemented and overseen by licensed environmental professionals in compliance with existing regulatory requirements and best practices. Contaminated materials would be managed and disposed of as required by law prior to the start of construction, as needed. Applicable provisions would be included in construction specifications to ensure contractors are aware that required protocol and procedures are followed.

G. CUMULATIVE IMPACTS

The potential cumulative impacts of the Proposed Action with other independent actions that are planned or reasonably foreseeable by the Proposed Action's build year (2031) were evaluated and are presented in Chapter VI, "Cumulative Impacts." Notable projects within the Fjord Trail's build year (2031) include the Breakneck Connector and Bridge Project (BNCB) and planned improvements to Dutchess Manor.

The BNCB is located between the Fjord Trail North and Fjord Trail South sections of the Fjord Trail and will include a new half-mile shared-use trail, as well as improved and new parking areas along NYS Route 9D, two restroom buildings, upgrades to the MNR Breakneck Ridge station and platforms, relocation of power lines from the western side of NYS Route 9D to the eastern side, installation of a trail steward station, and upgrades to the Upper Overlook area along the Breakneck Ridge Trail. The BNCB also includes a new pedestrian/bicycle bridge over the MNR tracks to connect to the future Fjord Trail South, which will also provide limited vehicle access for NYCDEP personnel to the NYCDEP's existing Hudson River Drainage Chamber (HRDC). The BNCB was the subject of a prior SEQRA review for which a Negative Declaration was issued in December 2022 and construction of the project has begun.

The planned Dutchess Manor improvements include adaptive reuse of the Dutchess Manor site. HHFT, Inc. currently owns the Dutchess Manor property along NYS Route 9D and intends to repurpose the site to be used for offices and a small visitor center, which will include removing the 20th century additions to the building and restoring the building to emphasize the period in which it served as an estate. HHFT, Inc. also plans to include restroom buildings and improve the existing parking area (which is currently closed to the public) with up to approximately 180 spaces, inclusive of a grassy overflow parking area, to serve current visitors to the existing recreational resources in the area (including the Breakneck Ridge Trail). These Dutchess Manor improvements are the subject of land use applications to the Town of Fishkill Town Board and Planning Board, which is undertaking a SEQR review of the Dutchess Manor restoration project. The repurposing of the site is not before OPRHP, as OPRHP does not have approval authority of the construction planned at Dutchess Manor. Upon construction of the Fjord Trail, Dutchess Manor will also offer an entry and services for future trail users.

As discussed in Chapter VI, "Cumulative Impacts," the Proposed Action, in combination with the BNCB and Dutchess Manor improvements, would cumulatively result in habitat disturbance along the Fjord Trail Corridor. However, the vast majority (53.9 acres of the total 55.6 acres) of this habitat disturbance would occur as part of the Fjord Trail. The small incremental habitat disturbance associated with the BNCB and Dutchess Manor improvements would not result in substantial cumulative impacts to those evaluated in this DGEIS. Additionally, the BNCB and Dutchess Manor improvements are not expected to result in substantial increases in visitation on their own, as they would accommodate existing trail users in the area. The traffic and transportation analysis for the Fjord Trail incorporates the BNCB and Dutchess Manor improvements into its background conditions. Therefore, the cumulative traffic and transportation impacts of all of these projects has been accounted for in the analysis.

H. UNAVOIDABLE ADVERSE IMPACTS

A significant adverse impact is considered "unavoidable" if there are no reasonably practicable mitigation measures to eliminate the impact, or if there are no reasonable alternatives to the proposed action that would meet the purpose and need of the action, eliminate the impact, and not

cause other similar significant adverse impacts. The following potential unavoidable adverse impacts have been identified for the Proposed Action:

- Construction (Short-Term):
  - Temporary impacts to land due to grading and possible excavation of soil, including along steep slopes.
  - Potential temporary impacts to wetlands, generally along their outer edges or at the edges of the limit of disturbance.
  - Potential temporary sediment resuspension from in-water construction activities in Fishkill Creek and along the Hudson River shoreline.
  - Potential temporary impacts to SAV, which would result in a temporary loss of habitat for aquatic biota (including endangered species such as the shortnose sturgeon and Atlantic sturgeon).
  - Construction activities would potentially displace, stress, or otherwise temporarily affect terrestrial wildlife.
  - Potential temporary noise disruption in areas near construction work zones.
- Operation (Long-Term, Permanent)
  - New impervious surfaces of about 22 to 23 acres (Main Trail Option 1 and Option 2, respectively), which would include approximately 9 to 10 acres of crushed stone path with limited permeability (Main Trail Option 1 and 2, respectively).
  - Potential permanent impacts to state and federally regulated wetlands due to a boardwalk crossing south of Fishkill Creek in Main Trail Option 1.
  - Potential permanent placement of in-water elements, such as piles for the pedestrian/bicycle bridge over Fishkill Creek and the elevated Fjord Trail South along the Hudson River shoreline.
  - Potential permanent disturbance of 53.8 acres of habitat, some of which are classified as significant natural communities by NYNHP, and include habitat for rare, threatened, and endangered species.
  - Potential indirect impacts to wildlife from recreational activity, human disturbance, and invasive species into previously isolated habitats (referred to as a zone of influence), which would potentially displace the more sensitive wildlife species.
  - Potential permanent impacts to SAV habitat.
  - Potential impacts to archaeological sites at the Notch, Madam Brett Park, and the southern portion of Forest Trail Reach, to be confirmed as design advances.
  - Potential impacts at three intersections in the Village of Cold Spring and Town of Philipstown due to increased traffic, including Main Street at NYS Route 9D, Fair Street/Washburn Lot entrance at NYS Route 9D, and Main Street at Street Fair Street.

As described in Section F, "Summary of Mitigation Measures," of this chapter, a number of measures would be implemented to minimize potential adverse impacts, and measures would be developed in accordance with applicable agencies, as appropriate, such as NMFS, USFWS, USACE, NYSDEC, NYSDOT, and SHPO.

I. IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES

Construction and operation of the proposed Fjord Trail would involve the irreversible and irretrievable commitment of certain resources including land, building materials, energy, and human effort. Along the Trail Corridor, various tracts of land would be developed and therefore unavailable for other uses while the Fjord Trail is in place. Resources associated with building materials to be used in construction and energy consumed during construction, as well as resources committed to the long-term management and operation of the Fjord Trail would be irreversible and irretrievable. These impacts are not considered to be significant.

J. SUPPLEMENTAL ENVIRONMENTAL REVIEW

This DGEIS has been prepared in accordance with the New York State Environmental Quality Review Act (SEQRA). OPRHP determined that a DGEIS would be appropriate for the environmental review of the proposed Fjord Trail given the conceptual design of most of the proposed Fjord Trail at the time, the need to broadly analyze the cumulative impacts of a series of actions (phased development of the trail), and the regional extent of the proposed project area. To be clear, this DGEIS solely evaluates the Proposed Action as defined in Chapter II, "Project Description" and does not include additional project elements that appear in the Hudson Highlands Fjord Trail Draft Master Plan (2020) but are not currently included in the Proposed Action, including the 'Destination' elements. If these additional project elements become active proposals in the future, supplemental environmental review would be required.

The DGEIS evaluates potential impacts and describes certain conditions that should be followed during any subsequent construction phase of the Proposed Action to ensure continued compliance with SEQRA. As design advances, HHFT, Inc. will continue to consult with OPRHP including submitting design drawings of trail reaches or trail sections at regular intervals (e.g., 30 percent, 50 percent, 80 percent) for OPRHP's review. OPRHP would determine whether any design modifications would warrant supplemental environmental review, such as a substantial change in the trail alignment or the footprint of the trail or its ancillary components beyond those areas studied in the FGEIS or the addition of project components that are not included in the Proposed Action.

In the event of these circumstances, HHFT, Inc. will submit to the Lead Agency (OPRHP), technical memoranda and/or updated design drawings with sufficient information to allow OPRHP to consider whether the project modifications will have significant adverse environmental impacts that are not addressed, or inadequately addressed, in the FGEIS. If OPRHP determines the project modification is consistent with the FGEIS's conditions and findings, it will issue a consistency determination. Alternatively, if OPRHP determines the project modification may result in significant adverse environmental impacts that have not been addressed, or adequately addressed, in the FGEIS or SEQRA findings, OPRHP may undertake supplemental environmental review. This supplemental review may include completion of supplemental environmental assessment forms, supplemental significance determinations, supplemental environmental impact statements, or amended or supplemental findings, as necessary. See Chapter IX, "Supplemental Environmental Review," for further discussion.

K. COASTAL ZONE MANAGEMENT PROGRAM CONSISTENCY

The Proposed Action would be within the regulated coastal zone for New York State as designated by the New York State Waterfront Revitalization of Coastal Areas and Inland Waterways Act.

This act implements New York State's Coastal Management Program (CMP), which consists of 44 policies addressing various potential effects of projects in the coastal zone including: land use and coastal character, fish and wildlife, flooding and erosion, general safeguards, public access, recreation, historic resources and visual quality, agricultural lands, energy and ice management, water and air quality, and wetlands. The CMP also provides for local implementation when a municipality adopts a local waterfront revitalization program (LWRP), as is the case in the City of Beacon for the Proposed Action. A number of CMP and LWRP policies would not apply to the Proposed Action because it would not involve lands or activities that are stipulated in these policies. The Proposed Action would be consistent with the CMP and LWRP to the extent practicable and would include measures to reduce or minimize potential impacts on resources identified in the applicable policies, such as water quality, air quality, terrestrial habitat, wildlife, wetlands, floodplains and flood resiliency, historic and scenic resources, recreational uses, and public access.

L. CLIMATE LEADERSHIP AND COMMUNITY PROTECTION ACT

Section 7(3) of the New York State Climate Leadership and Community Protection Act (CLCPA) requires state agencies to consider impacts to disadvantaged communities in agency administrative decisions, including but not limited to, issuing permits, licenses and the execution of grants, loans, and contracts. CLCPA Section 7(3) provides that agency administrative decisions:

- Shall not disproportionately burden disadvantaged communities, and
- Shall prioritize reductions of greenhouse gas emissions and co-pollutants in disadvantaged communities.

Two census tracts in the Fjord Trail North Corridor (within the City of Beacon and the Town of Fishkill) have been identified as disadvantaged communities and encompass almost the entire Fjord Trail North trail alignment. No disadvantaged communities are present in the Fjord Trail South Corridor. As discussed in Chapter XI, "Climate Leadership and Community Protection Act," impacts of the Proposed Action would occur both in areas identified as disadvantaged communities and areas that are not identified as disadvantaged communities. Therefore, the Proposed Action would not disproportionately burden disadvantaged communities. Further, the Proposed Action would provide an Accessible shared-use trail for pedestrians and bicyclists that would connect to an existing network of trails and parks in the Fjord Trail Corridor. While construction would result in temporary greenhouse gas emissions associated with construction vehicles and equipment and the manufacturing of construction materials, the proposed Fjord Trail would enhance and encourage non-motorized travel within the Fjord Trail Corridor, which would not result in long-term increases in greenhouse gas emissions. As such, the Proposed Action would be consistent with the CLCPA.

M. DESCRIPTION OF ALTERNATIVES

SEQRA requires a description and evaluation of a range of reasonable alternatives to the Proposed Action that are feasible considering the objectives and capabilities of the project sponsor and that may avoid or reduce identified impacts of the Proposed Action. The Applicant developed and evaluated numerous potential alignments and design variations to come up with options that best achieve project goals. After extensive review, various alternative alignments for each section of the overall Fjord Trail Corridor were selected for evaluation (see **Appendix V-1**).

Chapter V, "Alternatives," describes and analyzes the potential environmental impacts of the alternatives to the proposed Fjord Trail that were identified in the Final Scoping Document and

compares them with those of the proposed Fjord Trail (the Preferred Alternative). The following alternatives are evaluated:

- Alternative 1—No Action Alternative
- Alternative 2—Alternative Alignment

Potential environmental impacts from the alternatives were assessed to a level of detail to allow reasonable comparison with the proposed Fjord Trail alignment of the Proposed Action (i.e., the Preferred Alternative). The alternatives were assessed in the context of each applicable DGEIS subject area and the potential impacts of each alternative are compared to the potential impacts of the proposed Fjord Trail alignment.

Subsequent to the alternatives assessment presented in **Appendix V-1**, in response to ongoing public outreach, an additional alignment (Alignment 9) was developed for Reach 1 as presented in **Appendix V-2**. Alignment 9 would start at the MNR Cold Spring station, travel north adjacent to the west side of the MNR tracks past Dockside Park, where it would then connect to the Preferred Alternative alignment and continue along the west side of the MNR causeway to Little Stony Point. This is a newly identified alignment and is not included in Alternative 2. Further study must be conducted to determine whether this is a feasible alternative.

ALTERNATIVE 1: NO ACTION ALTERNATIVE

SEQRA requires an assessment of the No Action Alternative, which is defined as "the likely circumstances at the project site if the project does not proceed." The No Action Alternative (Alternative 1) assumes that the Proposed Action, including the Fjord Trail between Cold Spring and Beacon and ancillary components (parking areas and restroom buildings) would not be developed. Under the No Action Alternative, the goal of the Proposed Action to transform the character of NYS Route 9D in the vicinity of the proposed Fjord Trail from that of a dangerous high-speed thoroughfare into a multi-modal recreational corridor that acknowledges the diverse needs of the motorists, pedestrians, and cyclists using it would not be reached. The No Action Alternative would also not meet the goals of the Proposed Action to address traffic safety concerns along NYS Route 9D or to provide a continuous off-road, multi-use trail that provides visual and physical connection to the Hudson River and surrounding streams and woodlands. The No Action Alternative also would not serve to encourage non-motorized travel between Cold Spring and Beacon and its associated tourism. This alternative also would not provide connections between existing recreational and open space resources in the corridor. The proposed Trail Corridor would remain as-is.

The No Action Alternative would avoid ground disturbance, habitat removal, and construction activities associated with the Preferred Alternative, but it would not achieve the safety improvements along the proposed Fjord Trail Corridor or improved connectivity between recreational resources, as noted above. The No Action Alternative was not chosen as it would not achieve the goals of the Proposed Action.

ALTERNATIVE 2: ALTERNATIVE ALIGNMENT

Alternative 2 considers and evaluates alternative alignments to the Preferred Alternative alignment (Main Trail) for the Fjord Trail in three reaches (Reach 1, 2 and 4): Reach 1 includes the section from Dockside Park to Little Stony Point; Reach 2 includes the section from Little Stony Point to

the southern end of the BNBC[6]; and Reach 4 includes the section from the northern end of the BNCB to Beacon (Long Dock Park) (see **Figures S-4 to S-6**). Reach 1 considered five alignments (Alignments 1 to 5) (see **Figure S-4**), Reach 2 considered two alignments (Alignments 6 and 7) (see **Figure S-5**), and Reach 4 considered one alignment (Alignment 8, with four route options that would provide connectivity between Alignment 8 and the Preferred Alternative alignment) (see **Figure S-6**).

Based on the detailed evaluation provided in **Appendix V-1**, this assessment summarizes the highest scoring alternative alignment within each reach, which includes Reach 1–Alignment 1, Reach 2–Alignment 7, and Reach 4–Alignment 8. Combined, these alignments within each reach form Alternative 2: Alternative Alignment that is summarized below, and detailed in Chapter V, "Alternatives."

Reach 1–Alignment 1 would include a new pedestrian bridge within Dockside Park over the MNR tracks and then continue north along the east side of the tracks (instead of the west side, as with the Preferred Alternative) to Little Stony Point (see **Figure S-4**). Reach 2–Alignment 7 would continue north along the east side of the MNR tracks instead of the west. At the northern end of Reach 2–Alignment 7, an additional new pedestrian bridge would need to be constructed over the MNR tracks, then the trail would traverse the rock face of Breakneck Ridge via a new cantilevered section of trail to connect to the BNCB (see **Figure S-5**). Reach 4–Alignment 8 would parallel the proposed Preferred Alternative alignment until just south of Hartsook Lane, at which point Reach 4–Alignment 8 would continue to run parallel to NYS Route 9D into Beacon and then turn west, running parallel to Grandview Avenue and South Avenue. Reach 4–Alignment 8 would cross Fishkill Creek by renovating the existing remnants of the Tioronda Bridge. Reach 4–Alignment 8 would utilize existing trails in Madam Brett Park before rejoining the proposed Preferred Alternative alignment just west of the former Tioronda Hat Works Factory (see **Figure S-6**).

The detailed evaluation in **Appendix V-1** also contemplated four Optional Routes within Reach 4 (BNCB to Beacon) that would provide connectivity between the Preferred Alternative alignment and Alignment 8, thus allowing Reach 4–Alignment 8 to diverge from following NYS Route 9D (see **Figure S-6**). Route Option #3, which would divert to the west just south of Fishkill Creek, crossing the mouth of Fishkill Creek along the MNR causeway to connect to Denning's Point, was deemed infeasible due to lack of support for use of the MNR causeway within its alignment. Route Option #4, which would continue east along the utility easement to reach South Avenue, was deemed infeasible due to potential impacts to private property owners within its alignment. The remaining two Optional Routes were deemed feasible for providing options for Alignment 8 to diverge from following NYS Route 9D. However, due to the overall length of the trail, area of disturbance within steep grades, and private property impacts, these route options were not considered prudent alternative alignments. As these Optional Routes are not fully connected alignments, they are not summarized further.

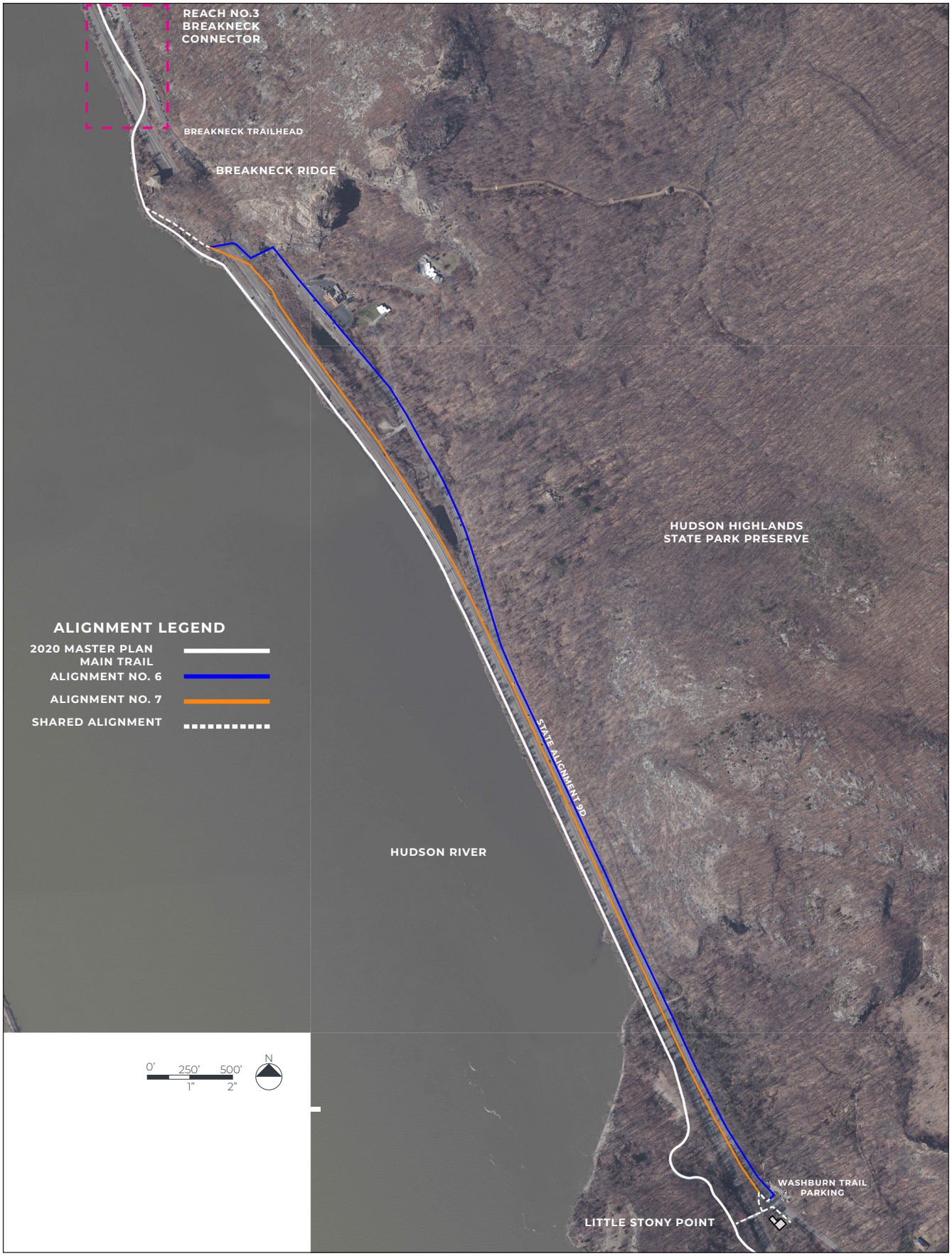
Alternative 2 (incorporating Reach 1–Alignment 1, Reach 2–Alignment 7, and Reach 4–Alignment 8) would not meet certain aspects of the Project's goals. When compared to the proposed Preferred Alternative, Alternative 2 would not provide the same level of increased safety for pedestrians, hikers, and cyclists given the length of trail that would be located along NYS Route 9D and the number of driveway and intersection crossings required. The alignment of

[6] BNCB, while identified as Reach 3, is the Breakneck Connector and Bridge Project. While it is identified on the **Figures S-5 and S-6**, it is a separate SEQRA action and not part of this DGEIS. One purpose of evaluating these alternative alignments is the connection to BNCB, which is already underway.

Source: SLR 2021

Reach 1 Alternative Alignments:
Dockside Park to Little Stony Point

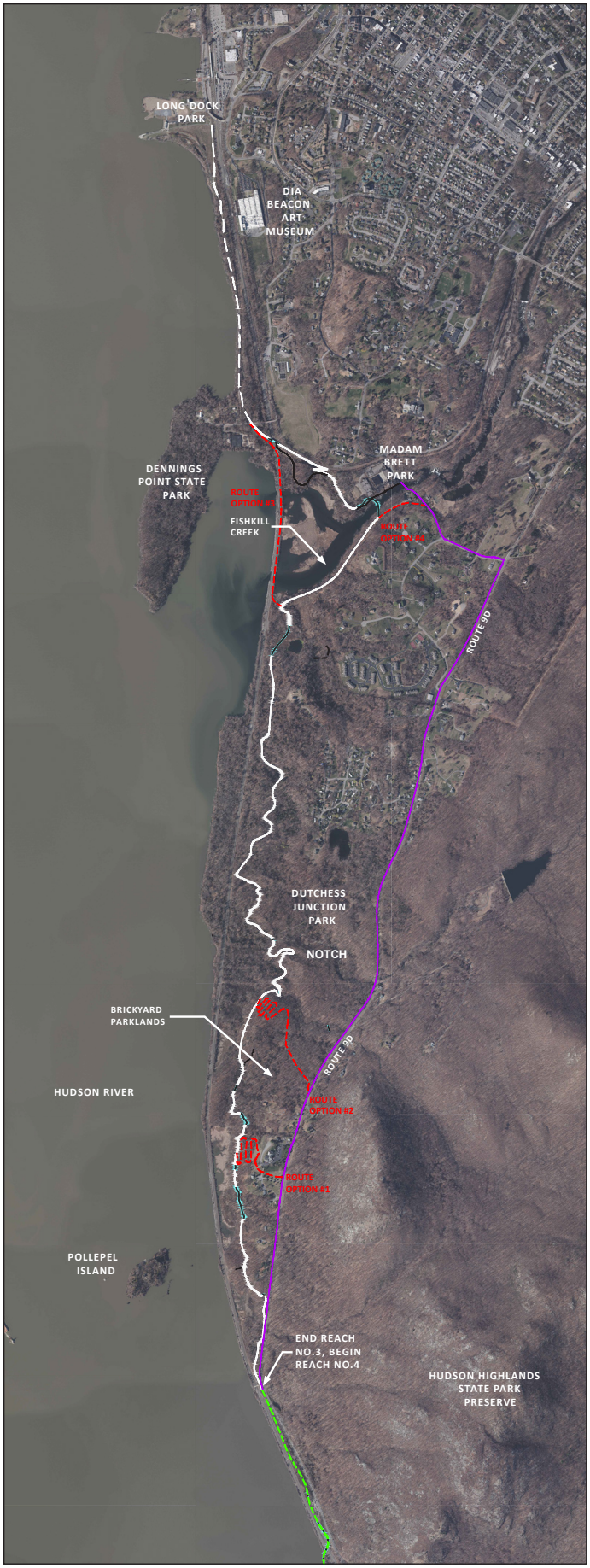
Figure S-4



Source: SLR 2021

Reach 2 Alternative Alignments:
Little Stony Point to Breakneck

11.1.24



ALIGNMENT LEGEND

- FJORD TRAIL NORTH
- ALIGNMENT NO. 8
- ROUTE OPTION
- SHARED ALIGNMENT
- REACH NO. 3 - BREAKNECK CONNECTOR

0' 800' 1600'
1" 2"
N

Source: SLR 2021

Reach 4 Alternative Alignments: Breakneck Connector to Beacon

Figure S-6

Alternative 2 on the eastern side of the railroad tracks for nearly the entire stretch south of Breakneck Ridge and along NYS Route 9D for certain sections would limit the Alternative's ability to highlight the natural beauty of the Hudson River shoreline. As detailed in Chapter V, "Alternatives," overall, Alternative 2 would be less compatible with Accessibility goals; would require a new pedestrian bridge within Dockside Park over the MNR tracks and an additional bridge over the MNR tracks near Breakneck Ridge; and certain sections of Alternative 2 would require construction on steeper slopes (with some up to 7.5 or 8 percent) and narrower trail widths, at times less than 10 feet.

Ultimately, Alternative 2 was not chosen as it would not fully achieve the goals of the Proposed Action as discussed above. ✷