

Town of Brewster Sea Camps Pond Parcel Discovery Analysis

March 29, 2023

REED-HILDERBRAND

WXY



LEC

HISTORY

These places were part of the ancestral homelands of the Aquinnah Wampanoag and the Mashpee Wampanoag peoples for thousands of years prior to European occupation. The Wampanoag tribes sustainably managed and cared for the Cape's coastal and pond ecosystems which in turn sustained them.



HISTORY

Thomas Prence and William Bradford, on behalf of Plymouth and its partners, purchase most of present-day Brewster from Sachems Wano and his son Sachemas. Brewster was first settled as a northeastern parish of the town of Harwich.

Following European settlement it is unknown what the sites were used for. However, much of Cape Cod was cleared for lumber and the resulting clearings were used for sheep pasture.

Brewster was incorporated as a municipality.

The main house is built.

The Delahanty and Dodd families founded a boy's camp called Camp Monomoy located on a six-acre property in West Harwich.

Camp Monomoy moved to Brewster to an area that is now part of Nickerson State Park.

The Delahanty family opened Camp Wono, a girls' overnight camp, on the Bay Parcel. Most of the cabins are built in the 1940s.

A day camp was added.

Camp Monomoy and Camp Wono are merged into one co-ed camp.

The Boathouse and Arts Building are built.

The Cape Cod Sea Camps ceased operations and were listed for sale.

Brewster residents vote for the town to acquire the two parcels.

1653

1803

1912

1922

1925

1938

1965

1975

2006-2008

2020

2021

WAMPANOAG LANDS

10,000+ YEARS

Present-day Route 6A was an ancient Native foot path.

POND PARCEL

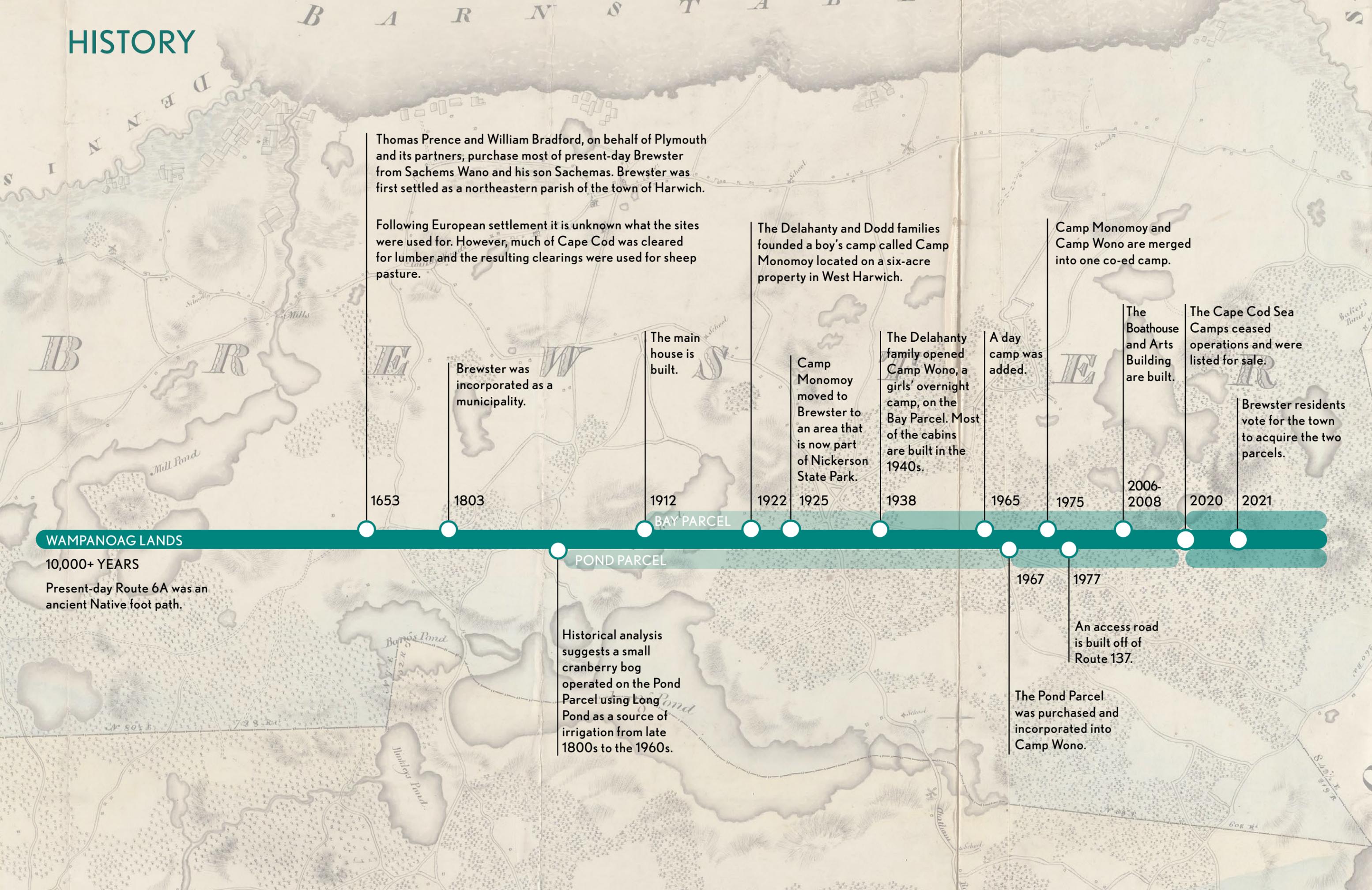
Historical analysis suggests a small cranberry bog operated on the Pond Parcel using Long Pond as a source of irrigation from late 1800s to the 1960s.

1967

1977

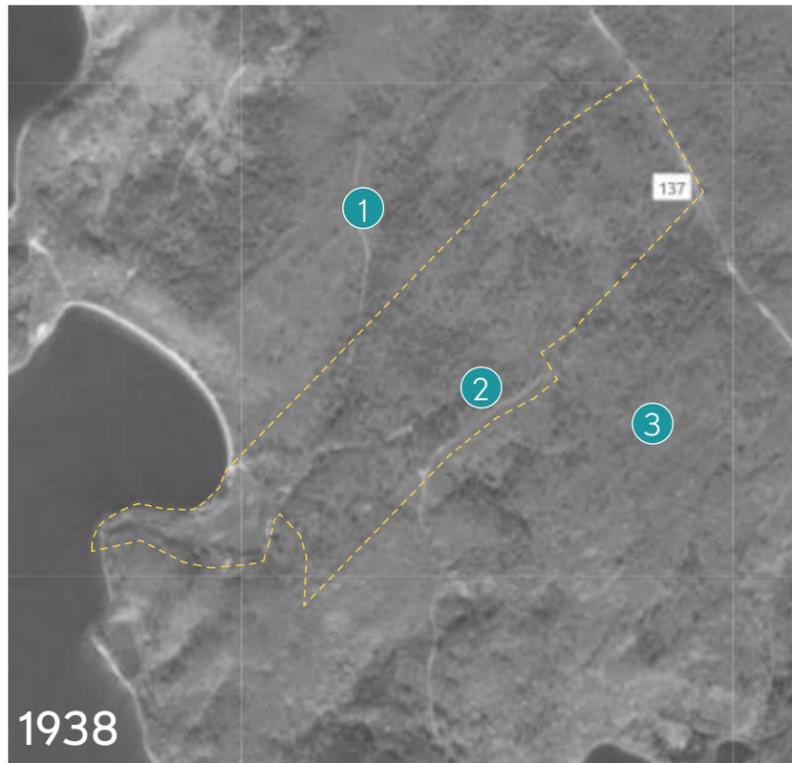
An access road is built off of Route 137.

The Pond Parcel was purchased and incorporated into Camp Wono.



HISTORIC SITE EVOLUTION

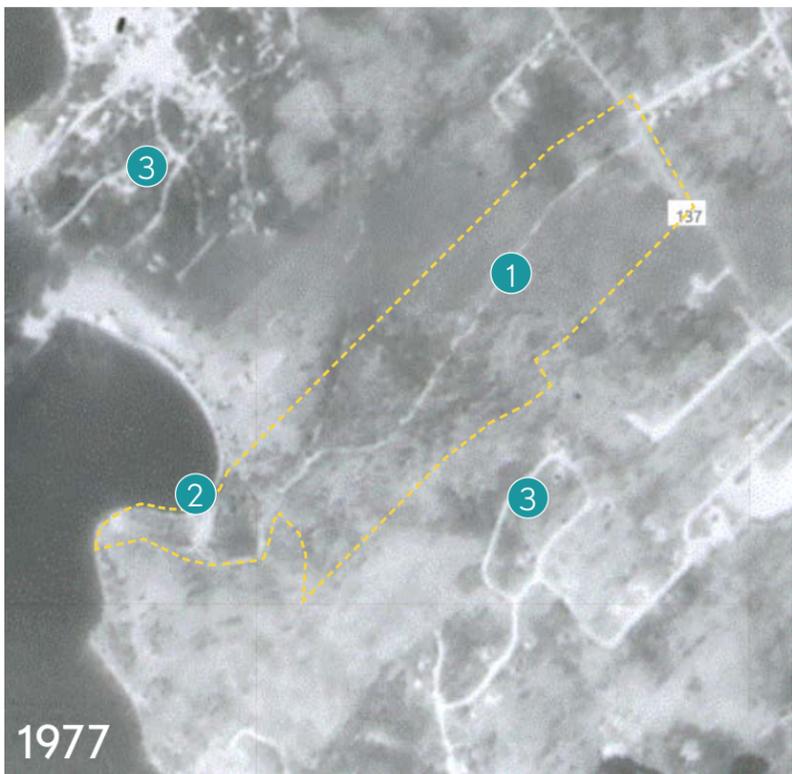
Long Pond Parcel



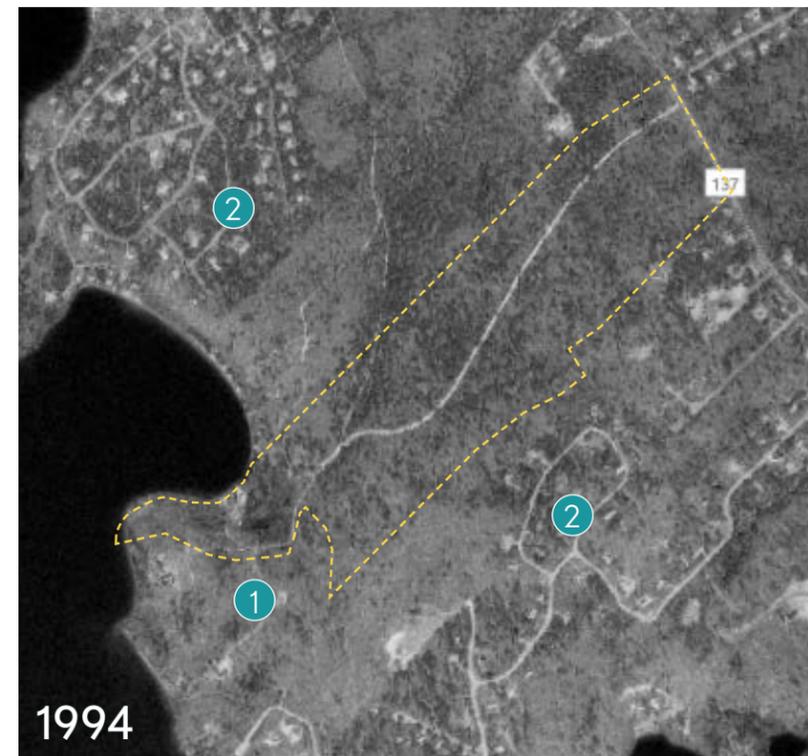
- 1 The only road access to the parcel is via Besse Cartway, not directly off of Route 137.
- 2 A road exists along the central-southern edge of the parcel.
- 3 The parcel is surrounded by contiguous woodland.



- 1 Roadways are added northwest of the parcel off of Besse Cartway.
- 2 The road along the central-southern edge of the parcel has been reforested.



- 1 The access road off of Route 137 is added for use by the Sea Camps.
- 2 Vegetation around the pond beach area is removed, creating a larger clearing. Small cabins and boat storage are built by the pond clearings.
- 3 Roadways to neighboring residential areas are developed.



- 1 At the southwest area of the site, residential houses are built south of the property line and accessed through Besse Cartway.
- 2 Neighboring residential areas become denser.

CONTEXT

Set Within an Open Space Network

The Bay and Pond Parcels have the potential to contribute to Brewster's vibrant network of open spaces and leverage connections to adjacent conserved areas including Spruce Hill and the Long Pond Woodlands.



CONTEXT

Access

The Bay Parcel is located on Route 6A. The upcoming Millstone Improvement Project will enhance bike and pedestrian connection to both parcels by providing sidewalks on the 3.1 mile long Millstone Rd. The rail trail is in close proximity to the entrance of the Bay Parcel.

The Pond Parcel is located on Route 137. There are some access limitations since there are no sidewalks on Route 137.



CONTEXT

Relationship to Town Amenities

Both parcels present opportunities to expand Brewster's town amenities by providing space for new activities and the potential relocation of existing amenities in need of upgrading.



KEY QUESTIONS GUIDING OUR SITE ANALYSIS

1. How will program, access and parking needs be balanced with conservation goals, environmental regulations, and topographic challenges?
2. What area or areas are best suited to meet the majority (at least 50%) conservation restriction?
3. Where may there be opportunities for building on site (housing, parking, municipal uses, active recreation, or other)? What is the process for evaluating building in the Zone 2 area?
4. If housing is a desired use, what density would be appropriate and how will that density be determined by the Town?

TOPOGRAPHY AND HYDROLOGY

Elevation

The pond parcel's dramatic topography, descending over 75 feet from a high point at Route 137 to a low point at the pond beach, is characterized by steep slopes on both sides of the road and a distinct upland wooded zone with sunken kettle landforms throughout.



SLOPED ACCESS OFF OF DRIVEWAY



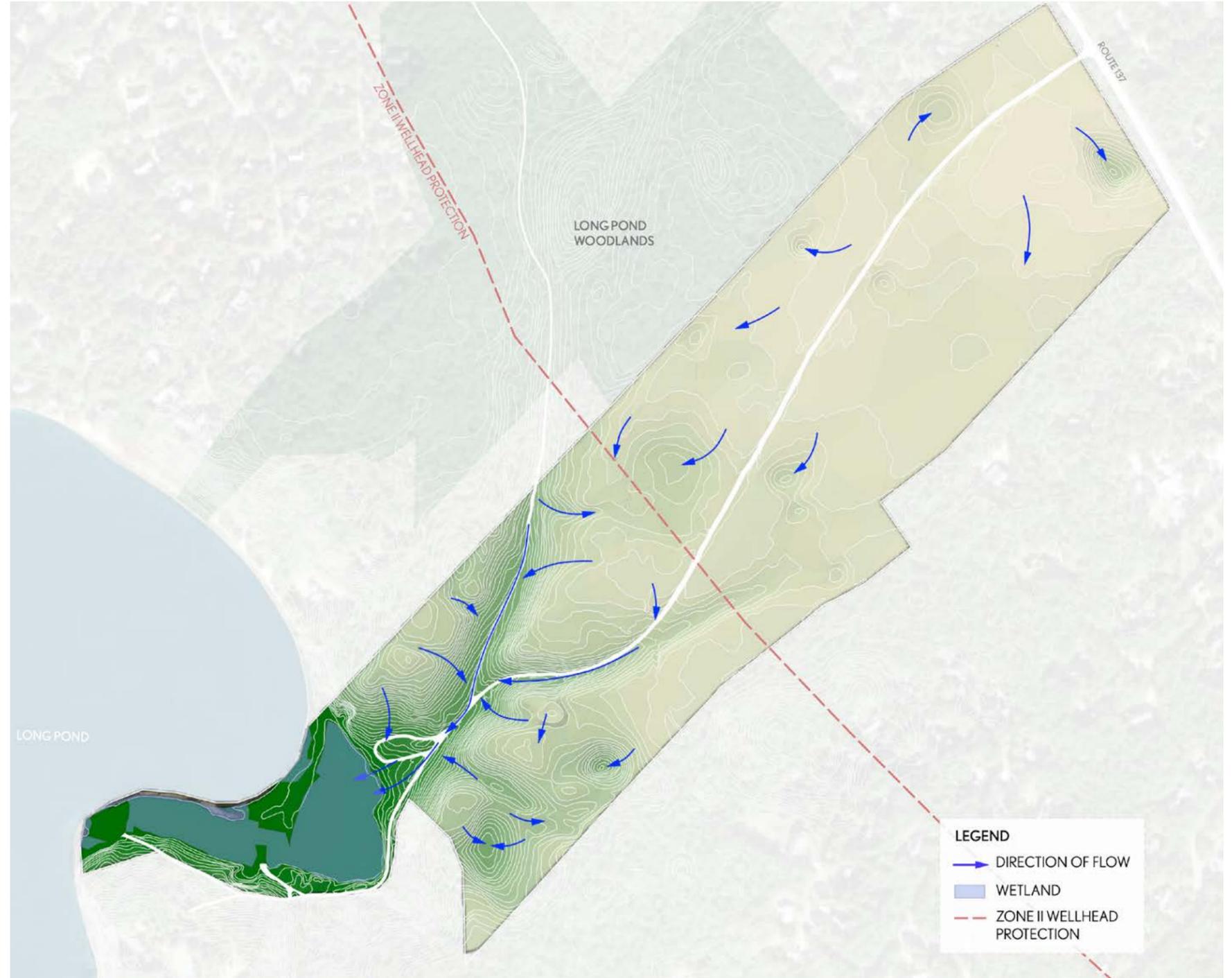
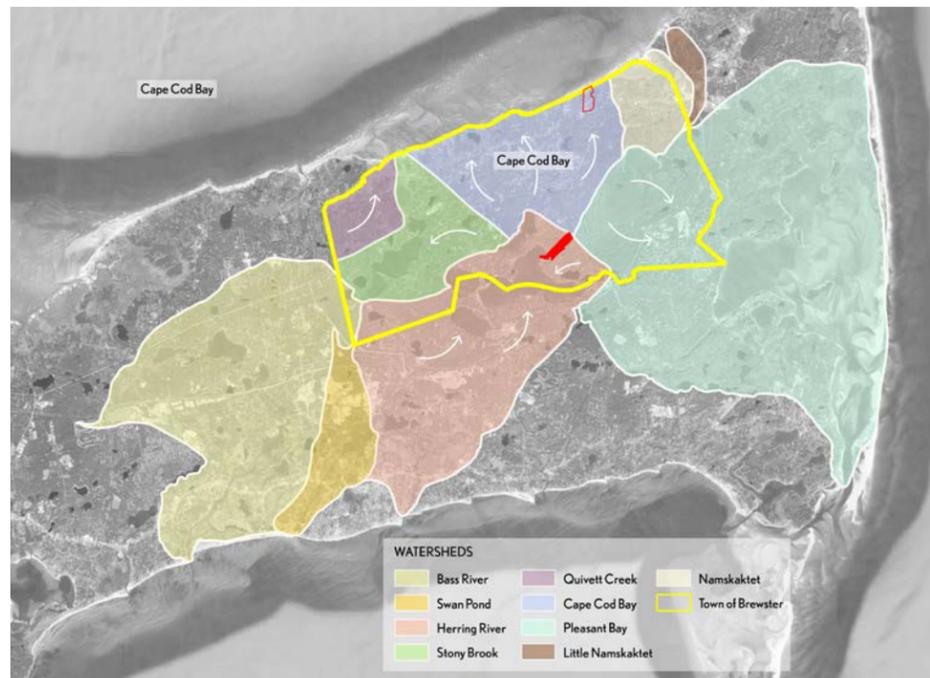
CHARACTER OF ROADS SURROUNDED BY UPLAND WOODS



TOPOGRAPHY AND HYDROLOGY

Hydrology

The Pond Parcel is situated in the Herring River watershed. Localized water primarily flows from Route 137 towards the Pond. Because the roads are sunken, water flows from the surrounding steep slopes of the upland areas into the existing roads. The pond edge is characterized by wetlands and existing cranberry bogs.



TOPOGRAPHY AND HYDROLOGY

Slope

The wetlands and open grassy areas by the pond are surrounded by steep slopes. Steep slopes also characterize the middle portion of the parcel while area under 2% slope is located closer to Route 137.



OPEN AREA BY POND SURROUNDED BY UPLAND FOREST



SLOPED TOPOGRAPHY



LEGEND	
	<2% SLOPE
	<8% SLOPE
	<12% SLOPE
	>12% SLOPE
	ZONE II WELLHEAD PROTECTION

ECOLOGY

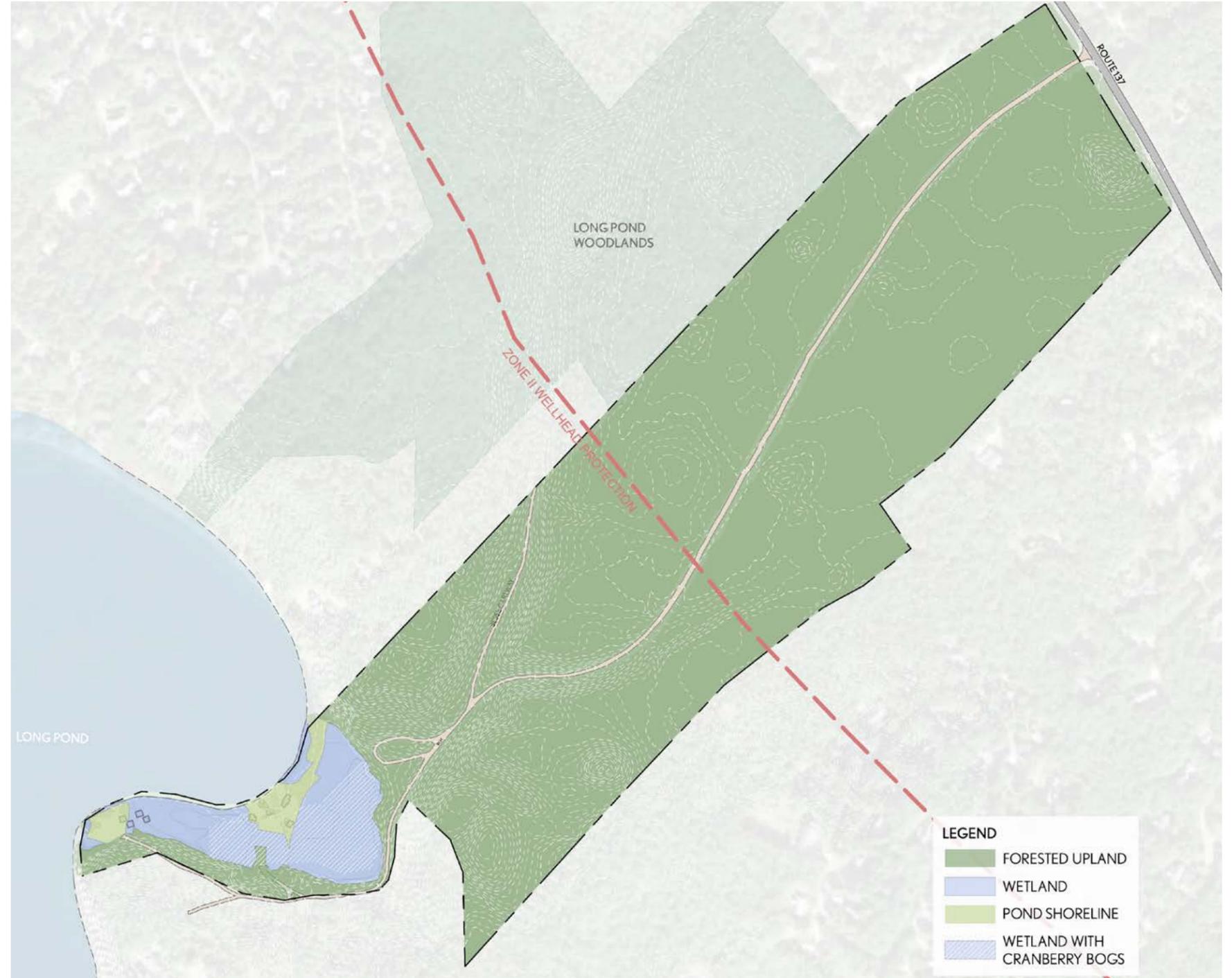
Plant communities

The parcel is composed of upland woodland, wetlands and pond shoreline.

UPLAND WOODLAND



WETLAND AND POND



ECOLOGY

Wildlife

Vernal pool habitat may be present within the interior of the wetland providing important habitat for many vertebrate and invertebrate species.

Long Pond provides habitat for a multitude of waterfowl, including migrant and wintering waterfowl.

The property is located within the Brewster Ponds and Woodlands Important Bird Area. MassAudubon surveys indicate significant breeding populations of five regional high conservation priority species, and the presence of the Northern Parula, a state threatened species.



White-tailed deer



Big Brown Bat



Gray squirrel



Eastern chipmunk



Northern Parula



Eastern towhee



Black-capped chickadee



Chipping sparrow



Song sparrow



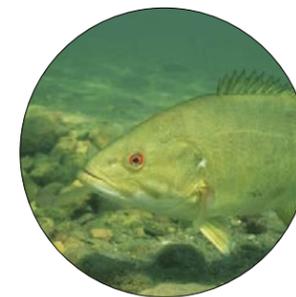
Red-bellied woodpecker



Eastern red-backed salamander



American toad



Smallmouth Bass



Largemouth Bass



Yellow Perch

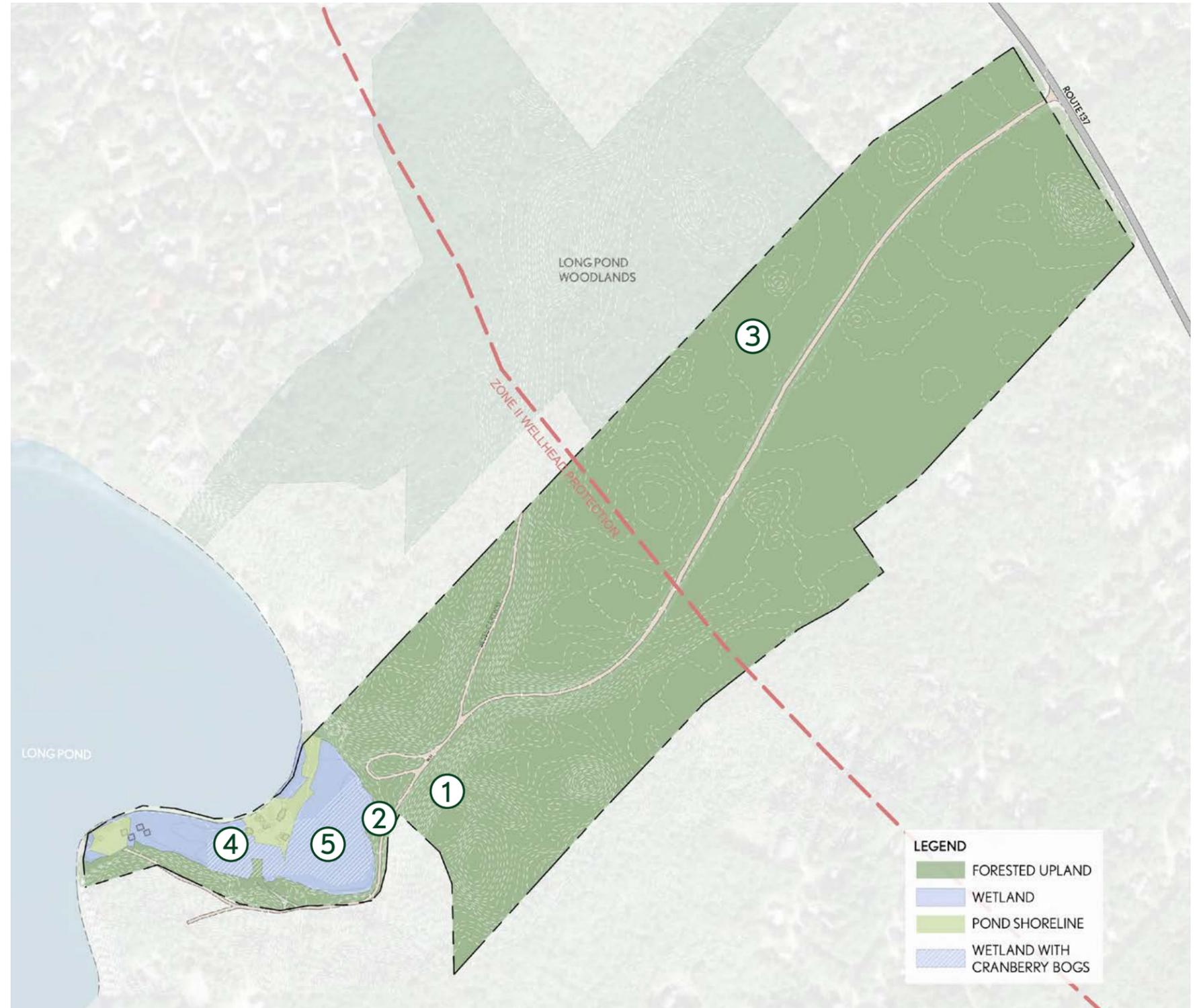


Pumpkinseed

ECOLOGY

Recommendations

- ① Address the erosion/sedimentation along sections of Besse Cartway into the adjacent border vegetated wetland. This may involve remediation measures to collect runoff and slope stabilization; additional analysis is warranted on what measures can be implemented.
- ② Perform a Vernal Pool Assessment(s) within the abandoned cranberry bog in spring (March-April) to provide baseline information.
- ③ Protect contiguous forest.
- ④ Protect wetland ecosystems and critical habitat areas.
- ⑤ Verify wetland resources and buffer zones through regulatory filing with the Brewster Conservation Commission.



CIRCULATION

Vehicular and pedestrian circulation in the pond parcel is limited. Roads are narrow, steep and rugged. Historically, Besse Cartway was used to access the site before the driveway access was added. The site roads are used for abutter access to private properties by Long Pond and access via Besse Cartway circulates through a residential neighborhood. Walking trails tie into the Long Pond Woodlands.



TRAIL ALONG POND EDGE

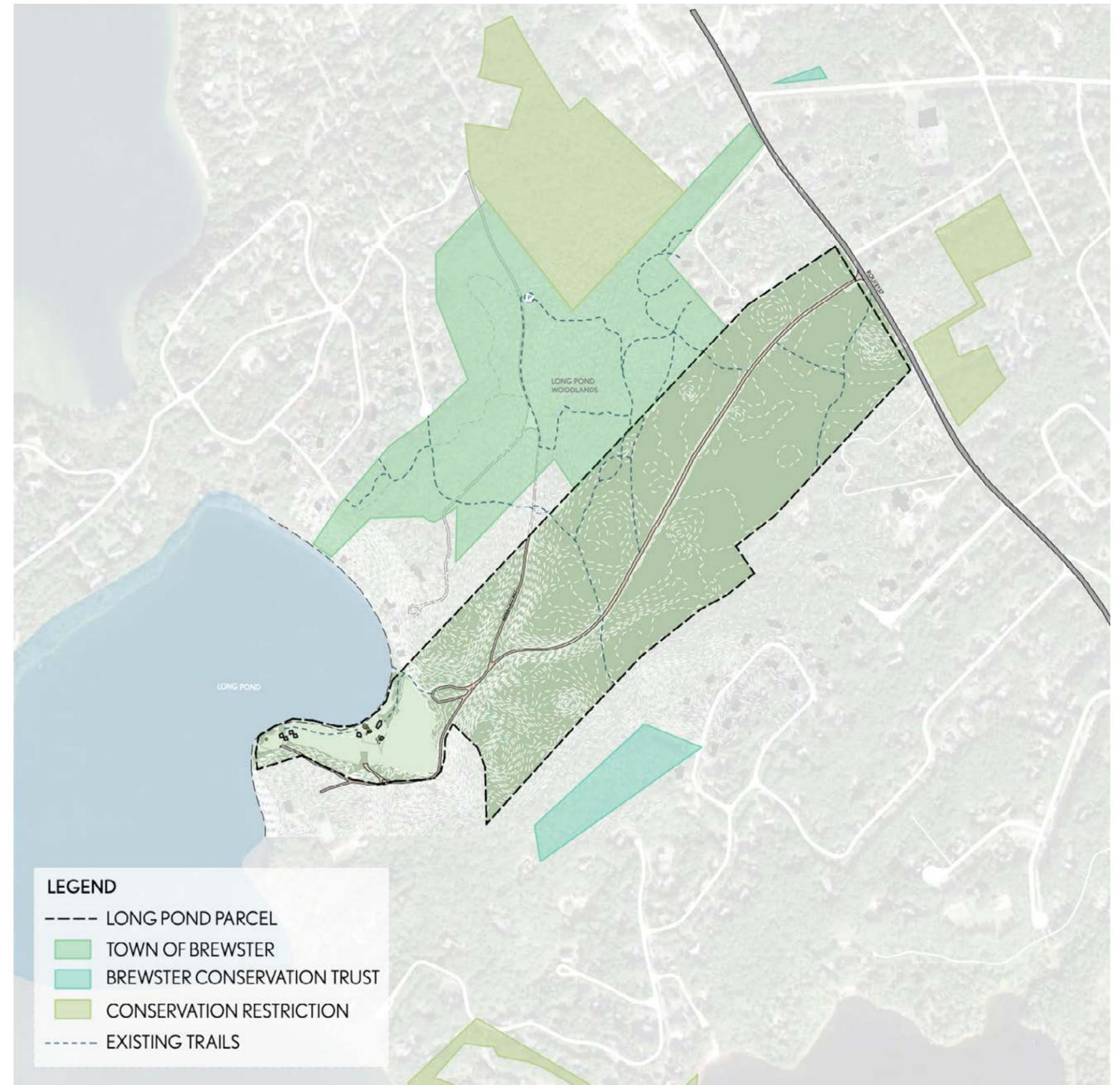


PRIMARY ROAD PROVIDES ABUTTER ACCESS



OPEN SPACE

There is potential to leverage the parcel's proximity to Long Pond Woodlands by enhancing trail connections and preserving contiguous woodland between the two parcels.



LANDSCAPE CHARACTER



POND OUTLOOK



WETLAND



GRASSY CLEARING



PROTECTED BEACH COVE



POND EDGE VEGETATION



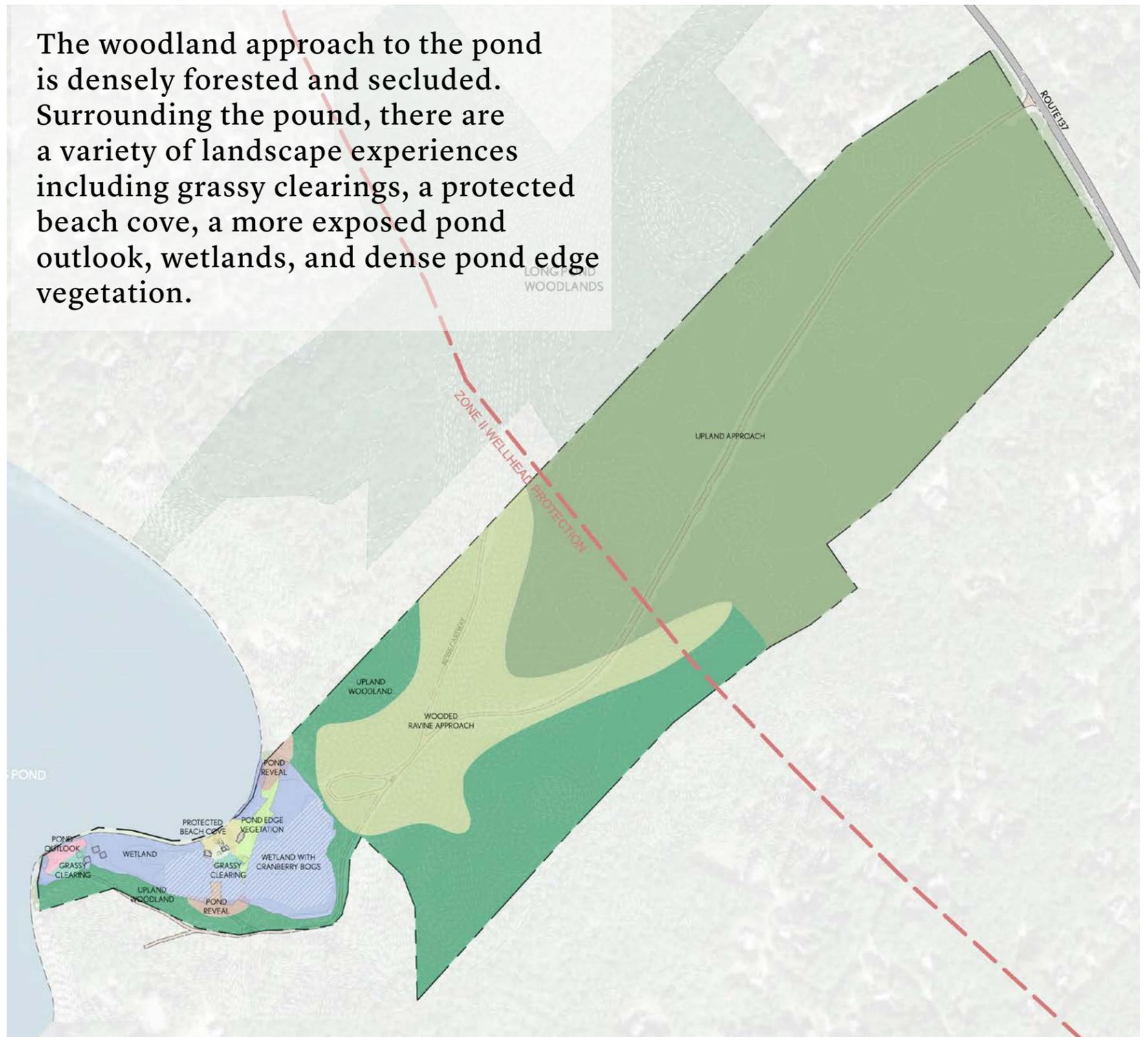
UPLAND WOODLAND



WOODED RAVINE APPROACH



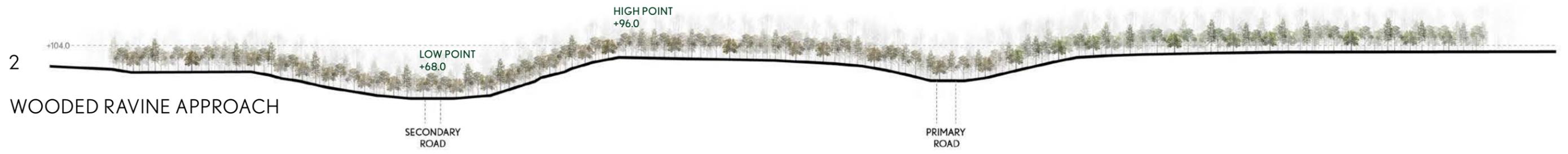
WETLAND WITH CRANBERRY BOG



LANDSCAPE CHARACTER



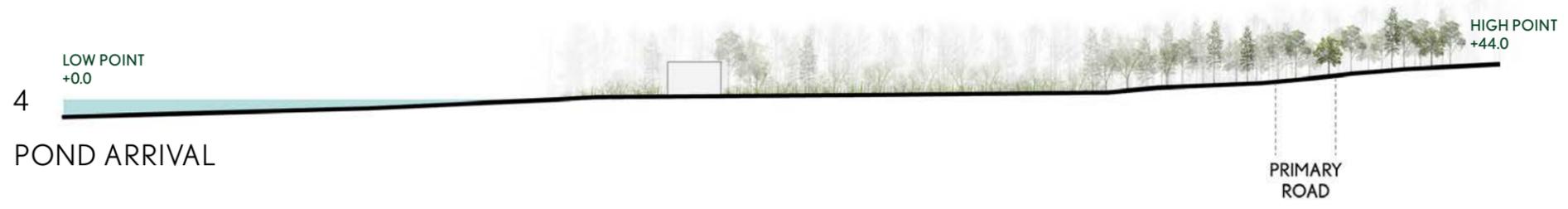
UPLAND APPROACH



WOODED RAVINE APPROACH



WOODED RAVINE APPROACH



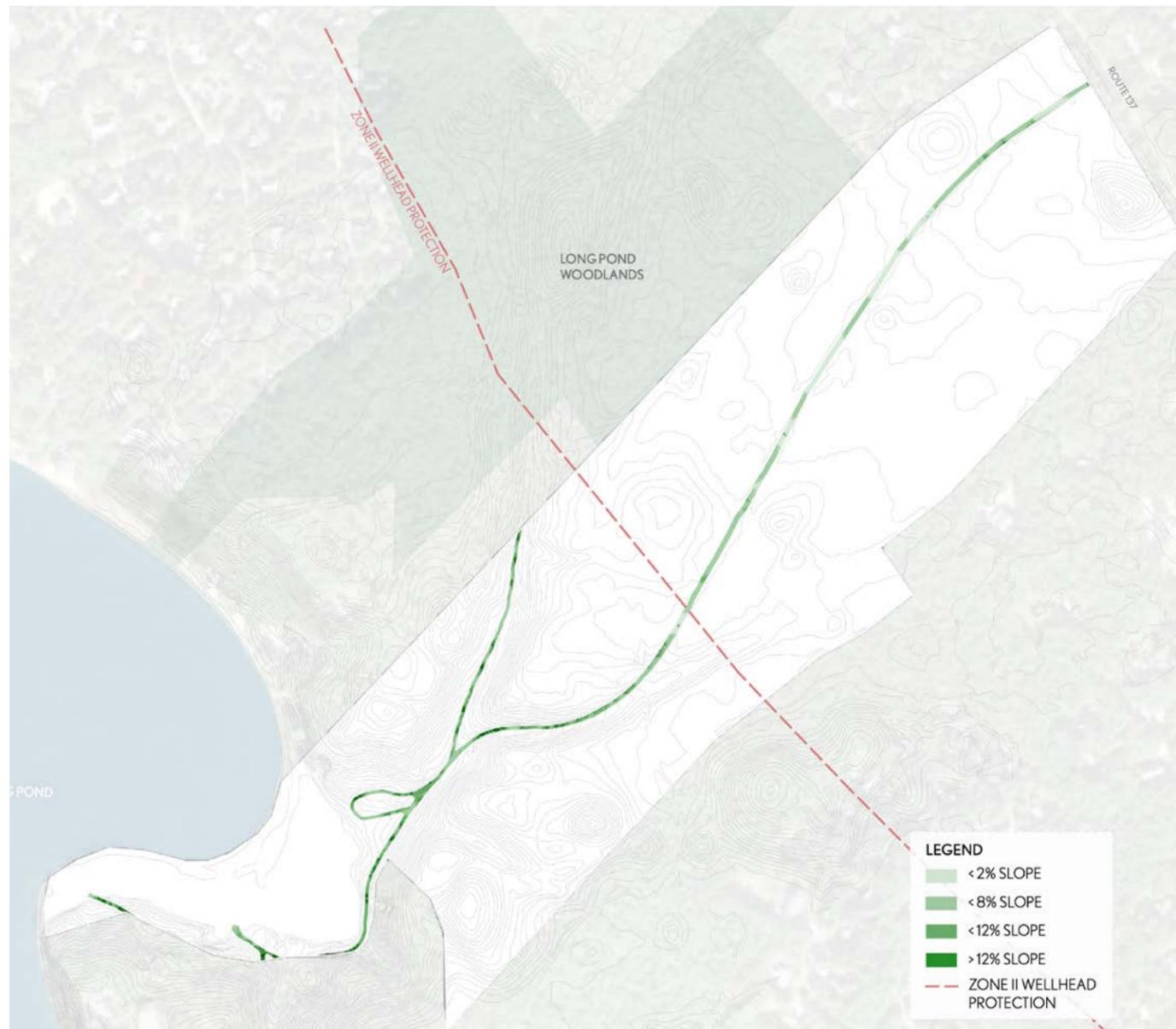
POND ARRIVAL



OPPORTUNITIES AND CONSTRAINTS

Topography

Vehicular circulation is characterized by steep slopes. The majority of the topography under 4% slope is located in the Zone II closer to Route 6A.



PATH SLOPE



AREAS UNDER 4% SLOPE

OPPORTUNITIES AND CONSTRAINTS

Current Zoning Regulations

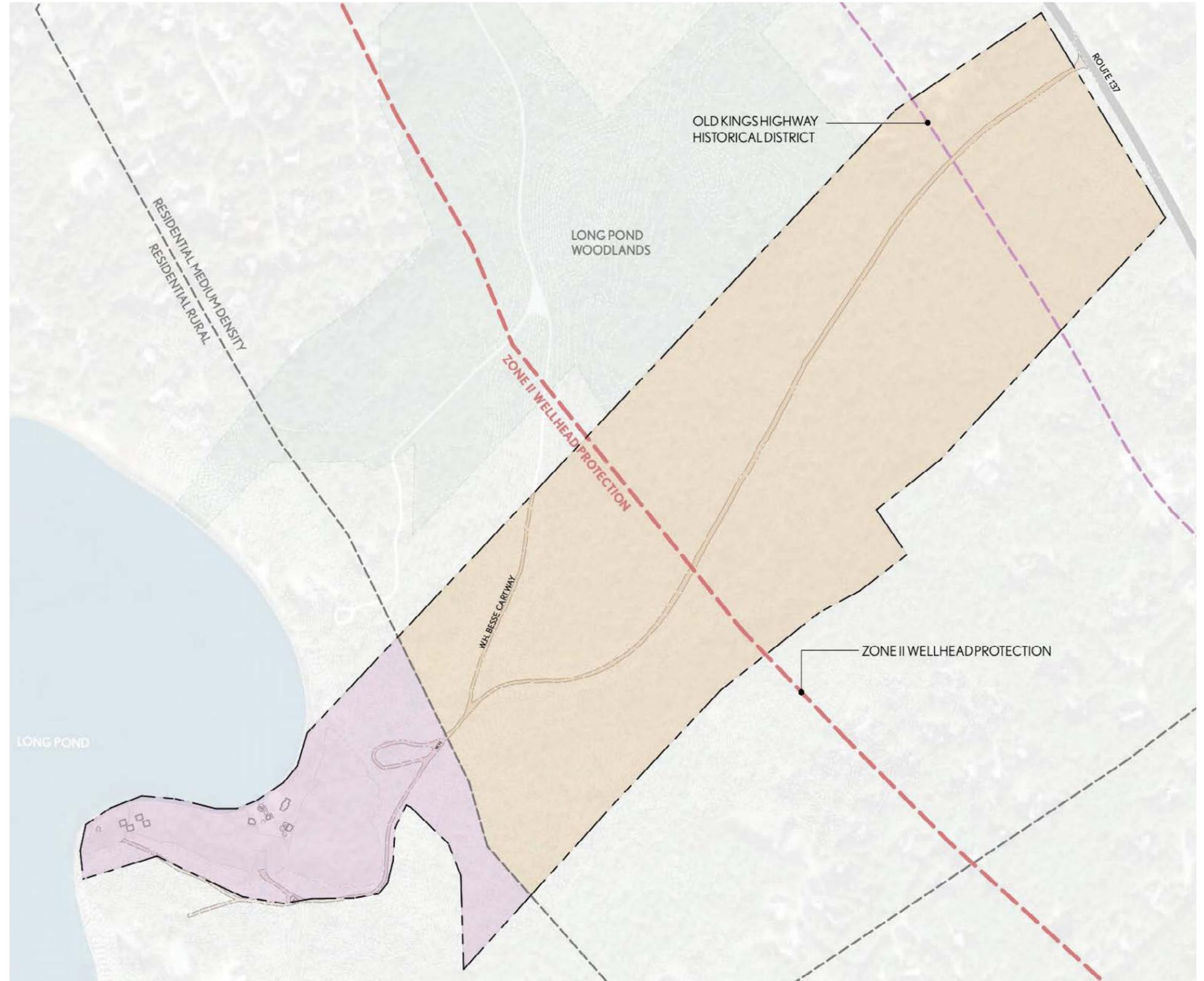
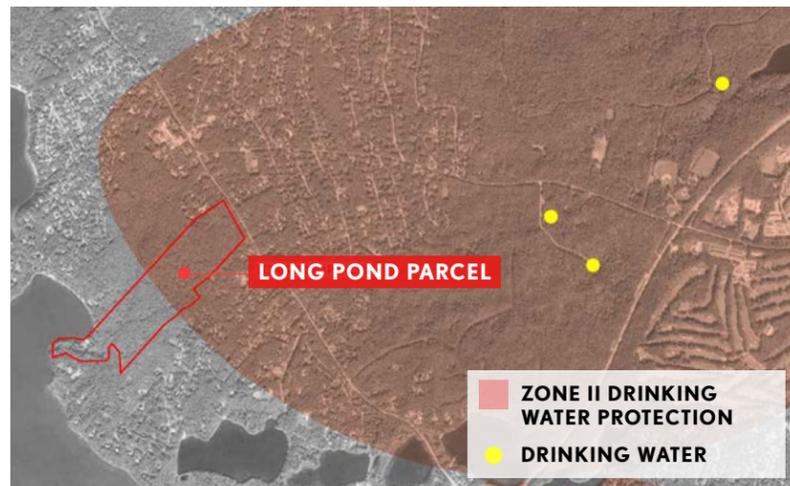
ZONE II WELLHEAD PROTECTION

Zone II is the land surface area that contributes water to a public well. Protecting undeveloped open space around the Town's wells minimizes the potential for contaminants to impact drinking water quality. DEP recommends communities restrict certain high risk land uses from the Zone II.

The Town's Water Quality Review Bylaw prohibits hazardous materials use, or storage at volumes above those typically used in a household, in the Zone II areas. Zone II areas must be protected to maintain Town water nitrogen levels under 10mg/L, and PFAS below 20 parts per trillion.

OLD KINGS HIGHWAY HISTORIC DISTRICT

New buildings and modifications to existing buildings are reviewed by the Historic District Committee to ensure any changes are appropriate to maintaining the aesthetic tradition of Brewster as a member of the Old King's Highway Regional Historic District.



OPPORTUNITIES AND CONSTRAINTS

Natural Buffer Zones

WETLANDS

50'/100' BUFFER ZONE

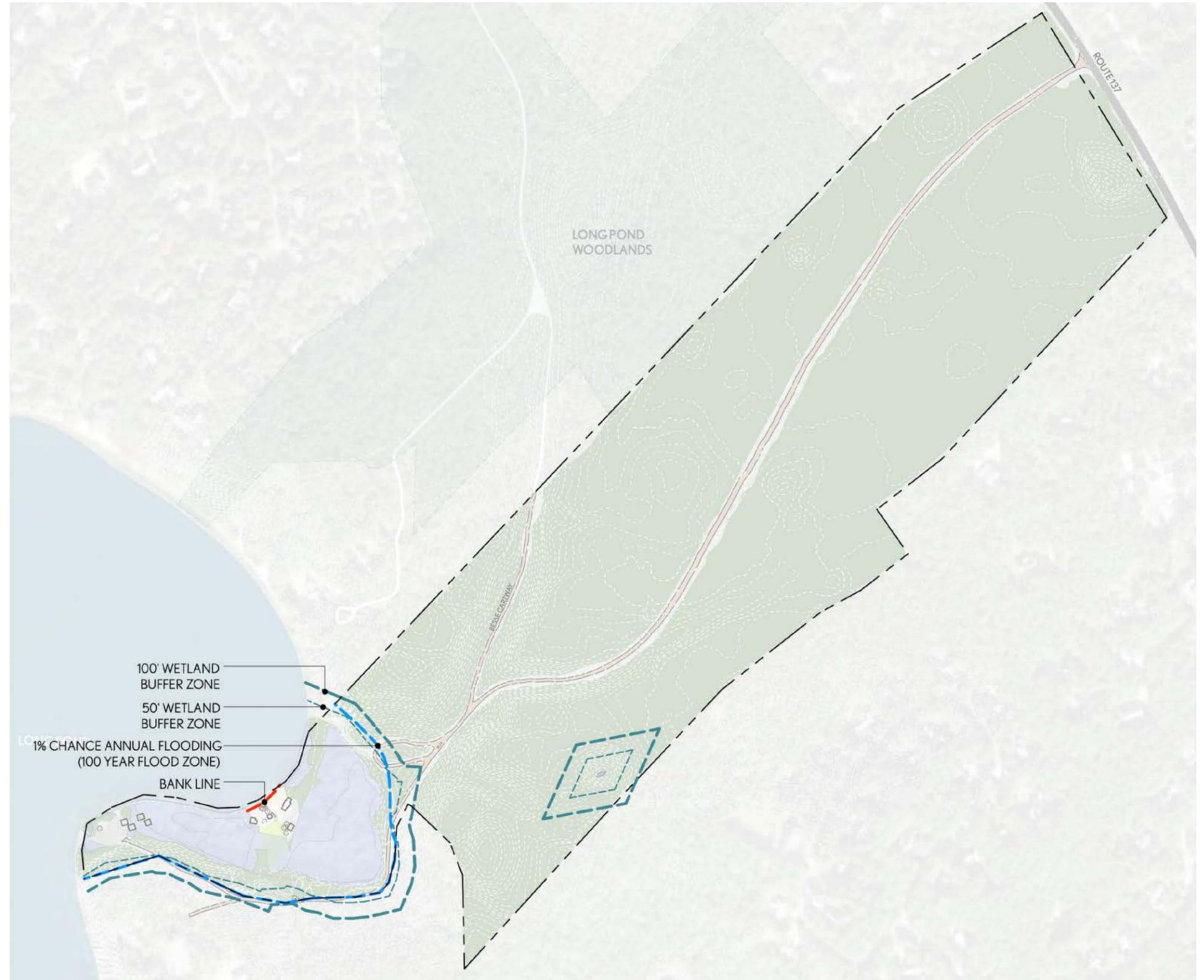
Activity within this zone must not impair the wetland's ability to perform. Building within or altering a vegetated wetland is prohibited unless a variance is granted, which can occur if there is an overriding public interest and the proposed activity does not impair the wetland functioning. Maintenance of an already existing structure is permitted.

1% CHANCE ANNUAL FLOODING (100 YEAR FLOOD ZONE)

BORDERING LAND SUBJECT TO FLOODING (BLSF)
This area is susceptible to annual flooding.

LEGEND

- WETLANDS
- BEACH
- 100' WETLAND BUFFER ZONE
- 50' WETLAND BUFFER ZONE
- 1% CHANCE ANNUAL FLOODING (100 YEAR FLOOD ZONE)
- BANK LINE



OPPORTUNITIES AND CONSTRAINTS

Biomap Critical Landscapes and Habitats

Sensitive areas will structure development opportunities on site.

CORE HABITAT AND CRITICAL NATURAL LANDSCAPE

CORE HABITAT

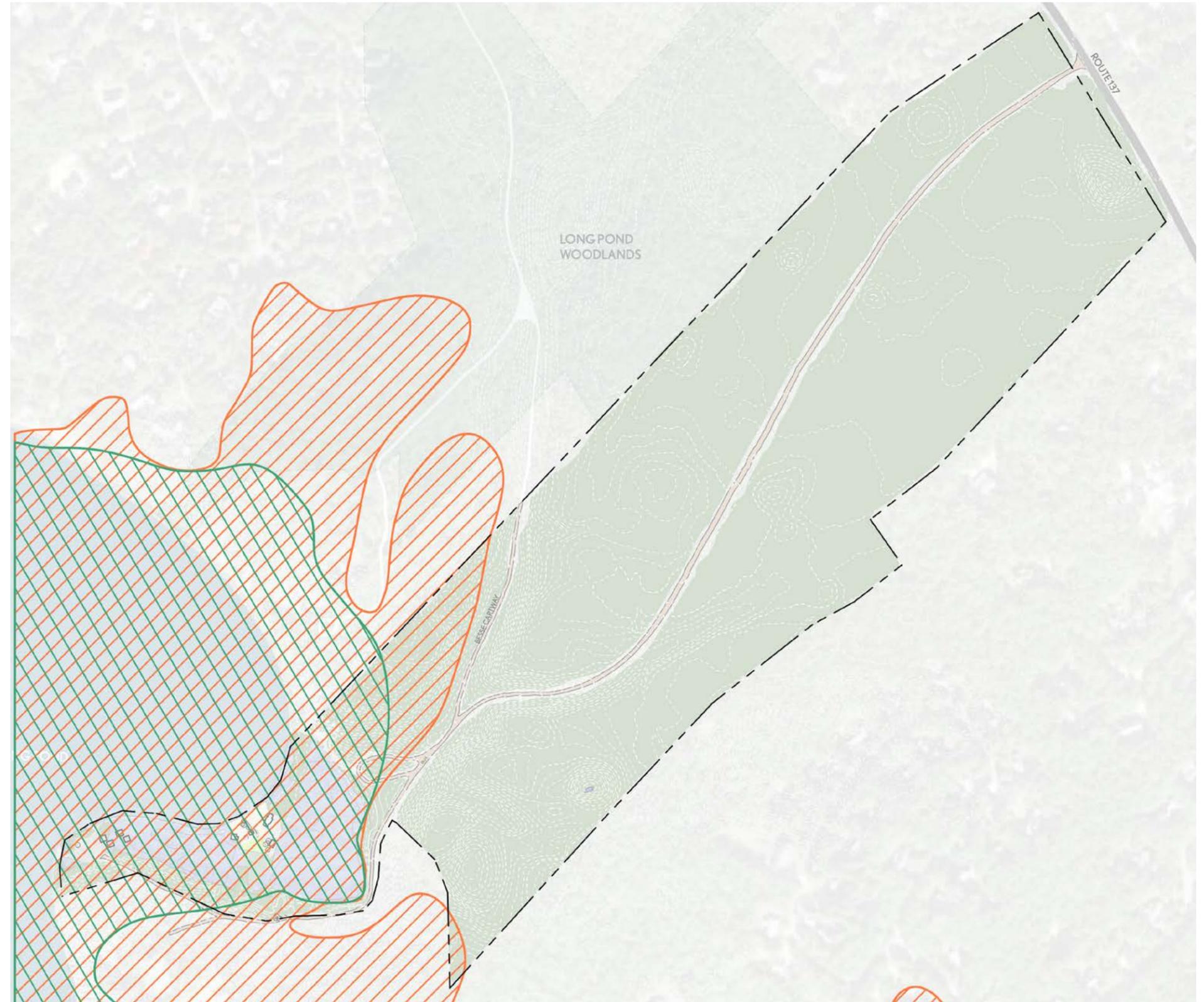
This area is critical for the long-term persistence of a rare species, exemplary communities, and resilient ecosystems.

CRITICAL NATURAL LANDSCAPE

This area is minimally impacted by development and enhances connectivity and resilience of core habitats.

LEGEND

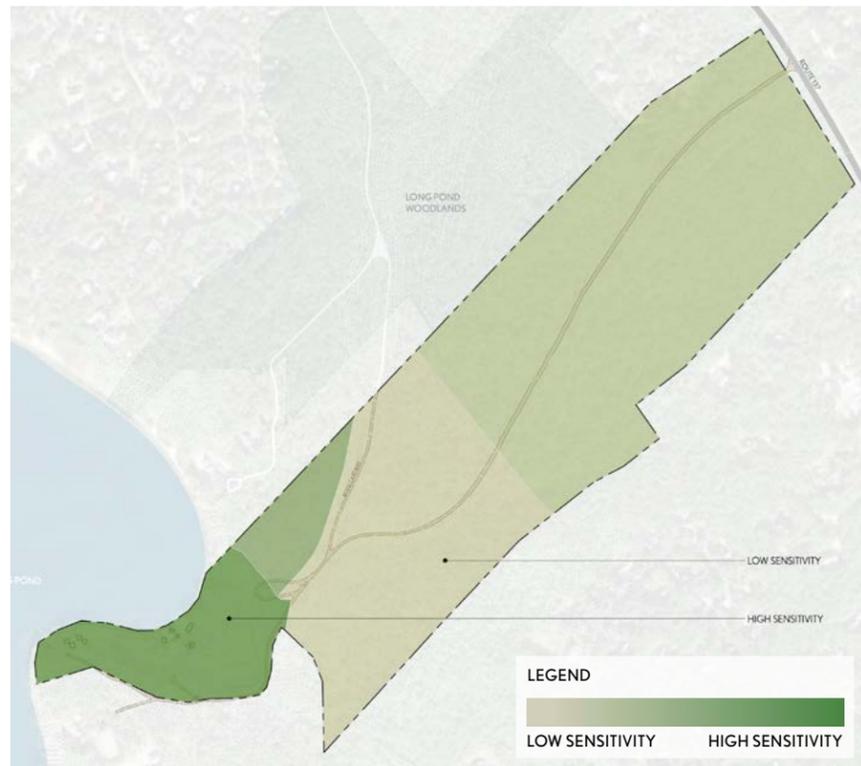
-  BIOMAP CRITICAL NATURAL LANDSCAPE
-  BIOMAP CORE HABITAT



OPPORTUNITIES AND CONSTRAINTS

Development Feasibility

SENSITIVE AREAS



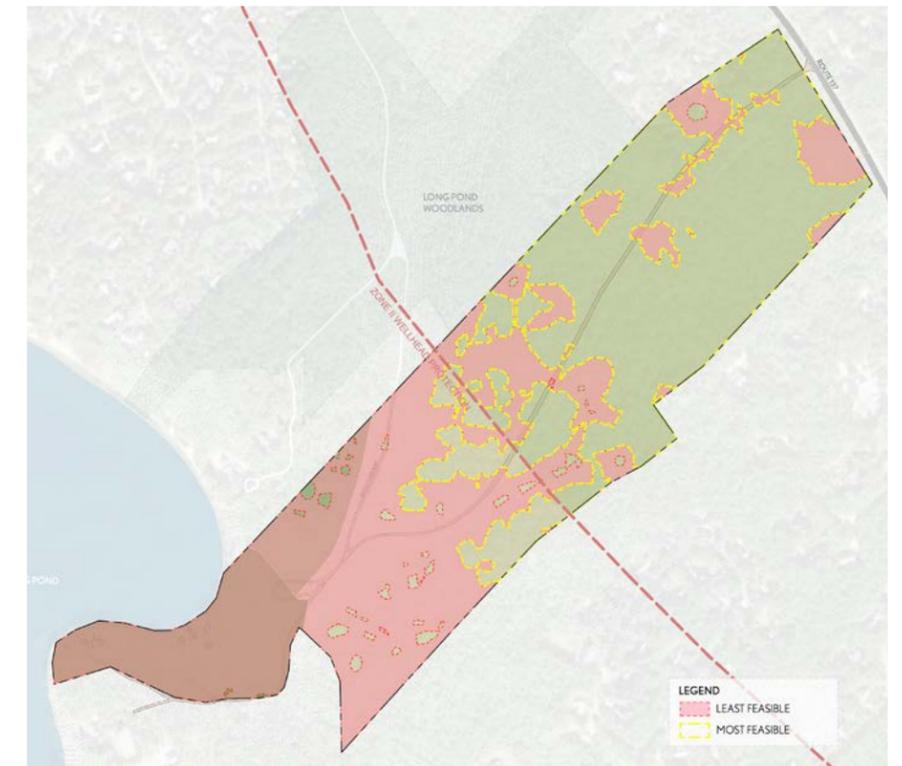
+

AREAS UNDER 4% SLOPE



=

DEVELOPMENT FEASIBILITY



A photograph of a small, light-colored wooden building with a gabled roof, situated on a sandy beach. The building is partially obscured by several large, mature trees with thick trunks and sparse foliage. In the foreground, there are several wooden benches arranged on the sand. To the right, a calm body of water, likely a lake or bay, is visible under a clear sky. The entire image is overlaid with a semi-transparent teal color.

Building Analysis

POND PARCEL - KEY QUESTIONS

1. What are the desired programs for the Pond Parcel and what are the access needs and requirements (parking, etc.) for those programs?
2. Where may there be opportunities for new housing or building on site? What is the process for evaluating building in the Zone 2 area?
3. If housing is a desired use for the site, what density would be appropriate and how will that density be determined by the Town?

POND PARCEL

Issues

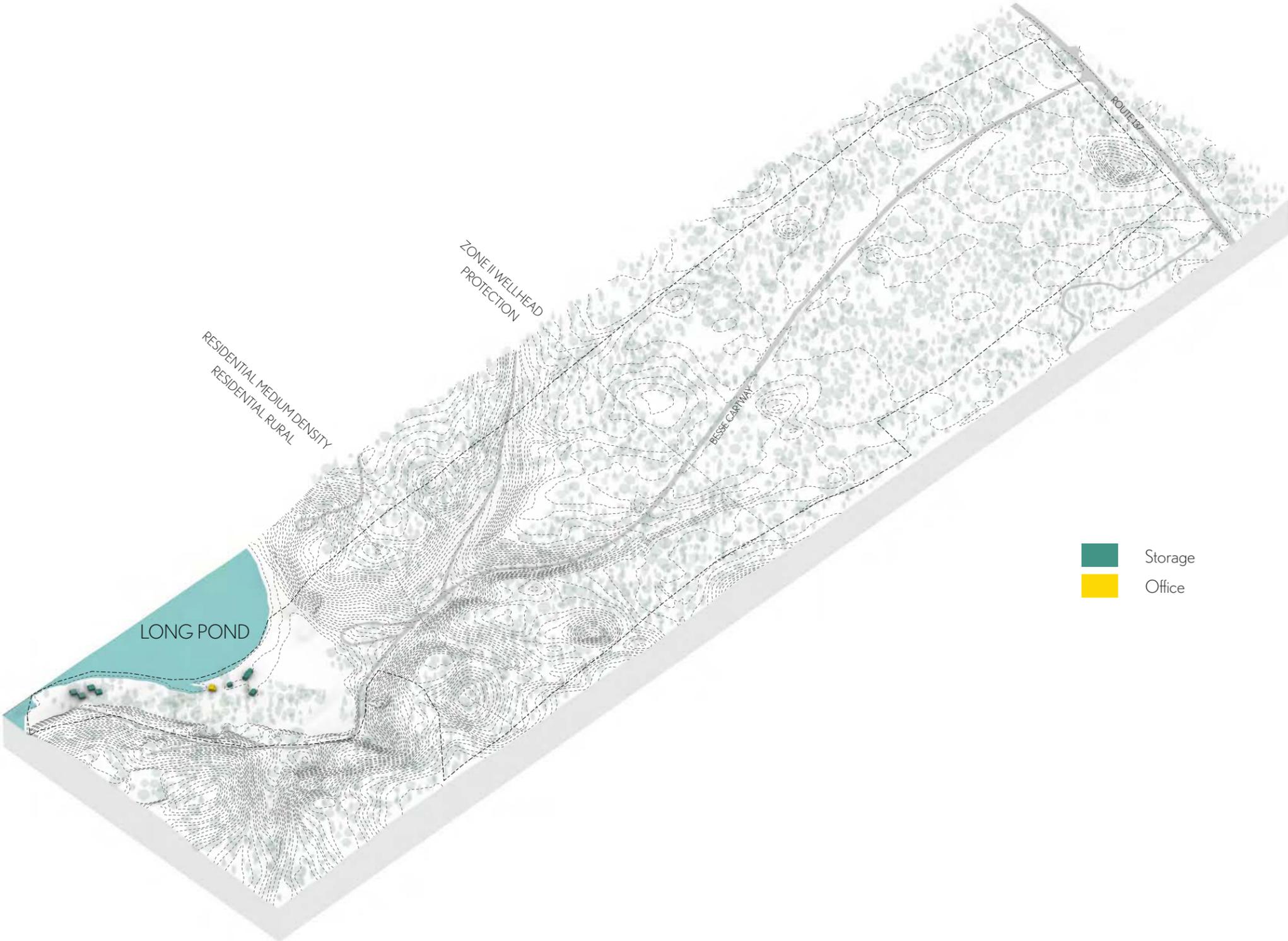
Structures at the Pond Parcel are primarily located near the Pond at a low elevation. Structures are primarily small structures with some storage and amenity buildings. One building is an open air structure.



POND PARCEL - BUILDING TYPE

Site Analysis

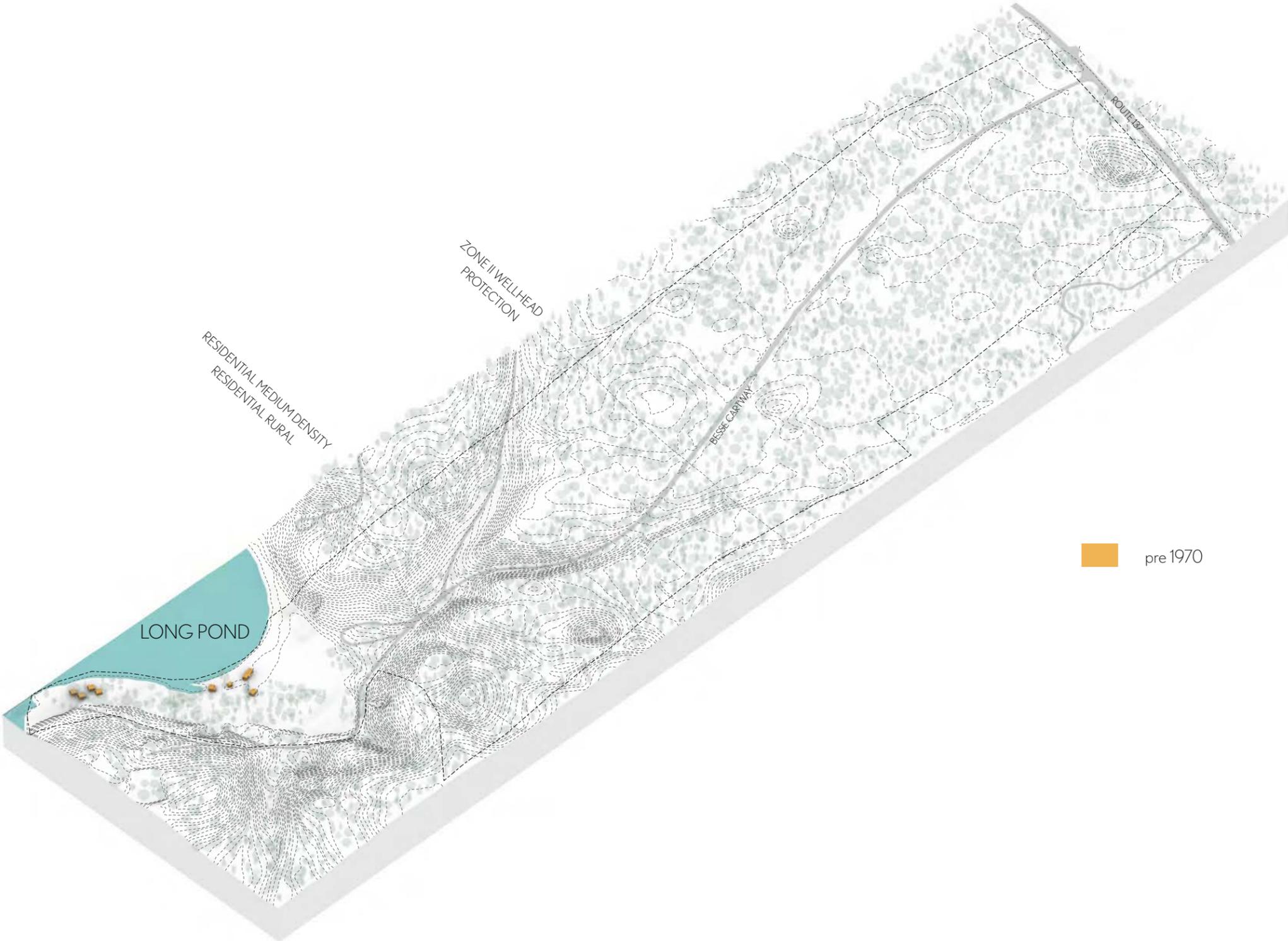
Most of the buildings on the pond parcel are for storage with one building used as an office.



POND PARCEL - BUILDING AGE

Site Analysis

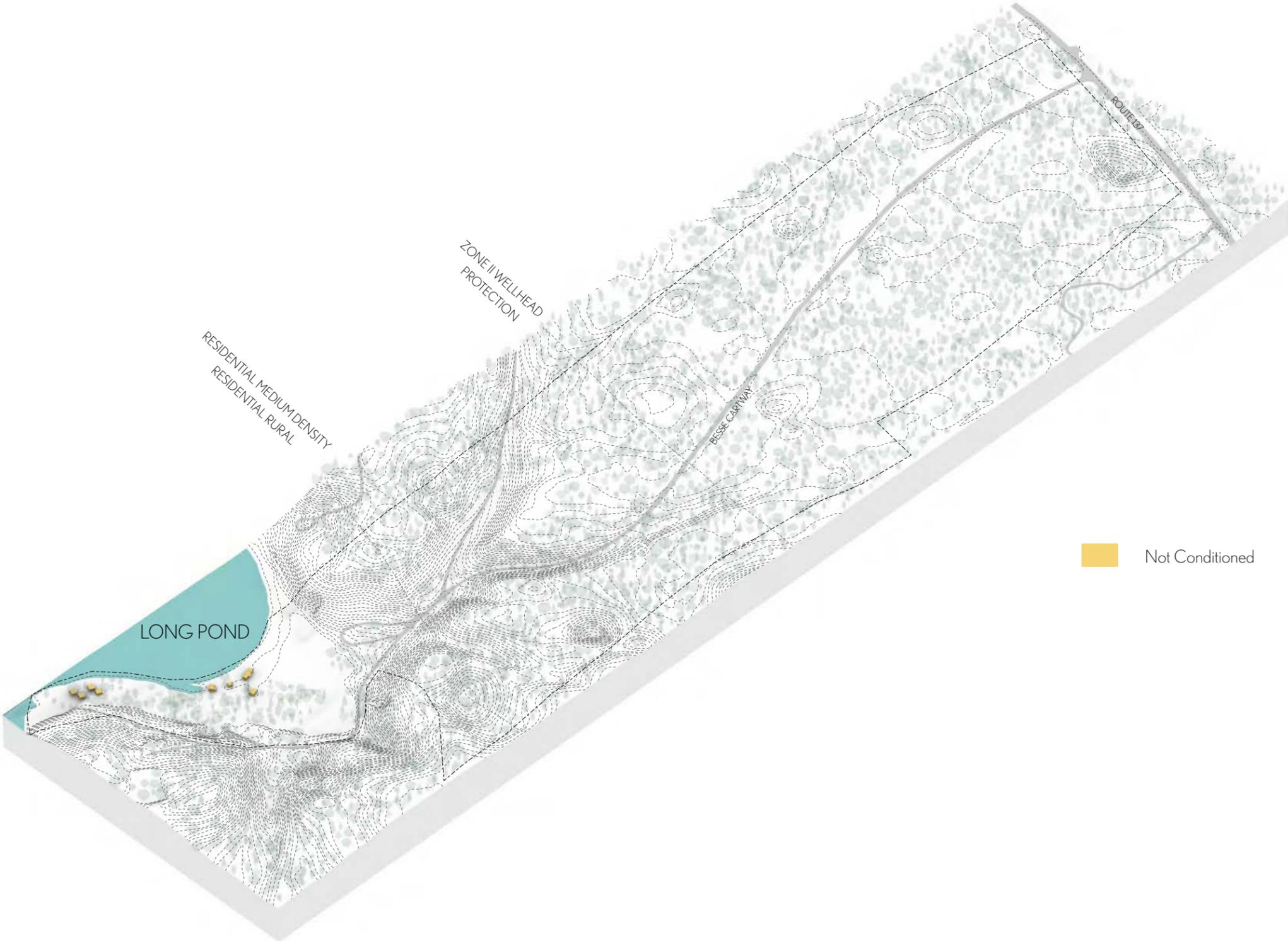
All of the buildings on the pond parcel were in their current location prior to 1970.



POND PARCEL - WINTERIZED

Site Analysis

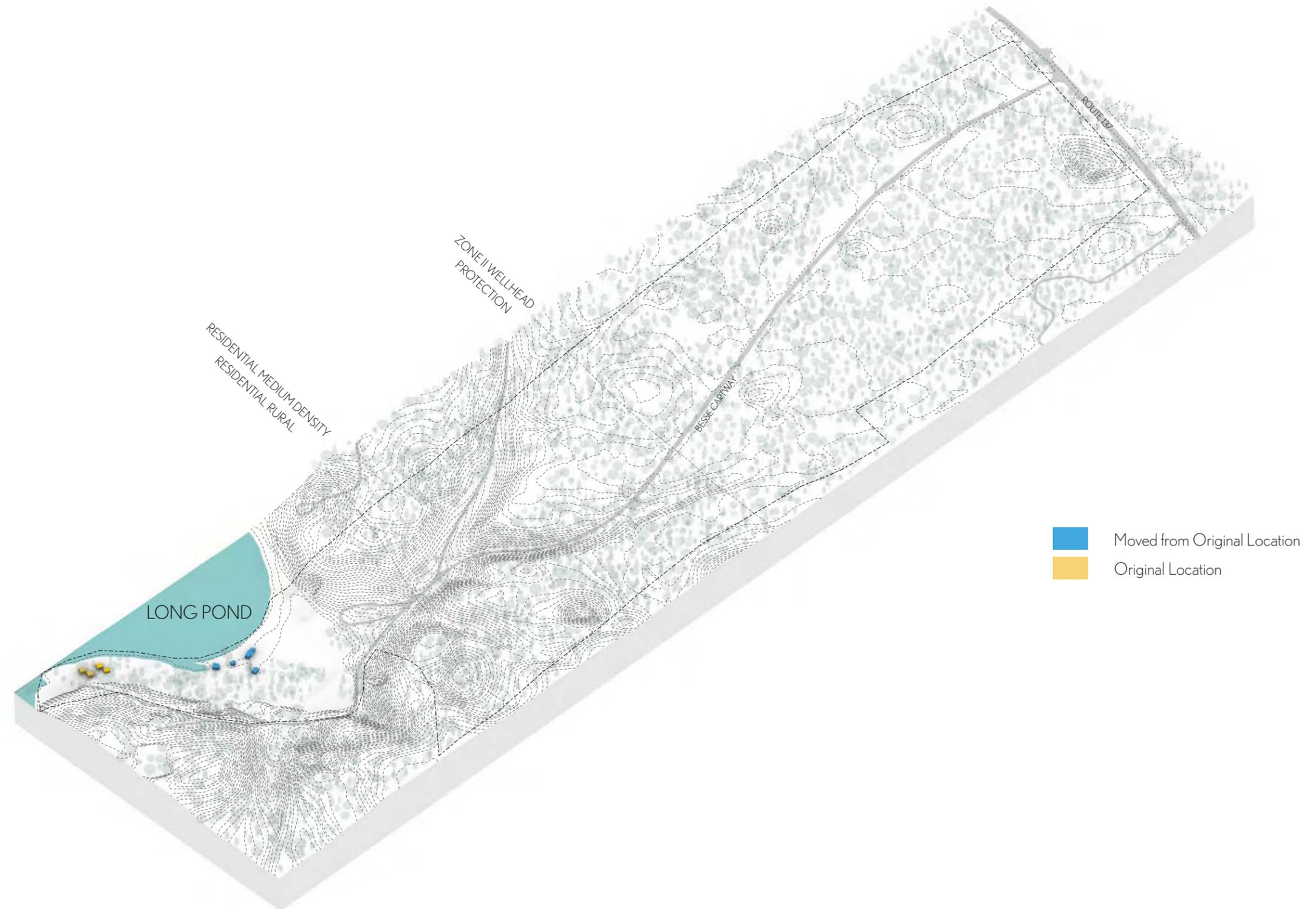
None of the buildings on the pond parcel are winterized or conditioned.



POND PARCEL - MOVED/ORIGINAL LOCATION

Site Analysis

All buildings on section 1.1 of the pond parcel have been moved to their current location.

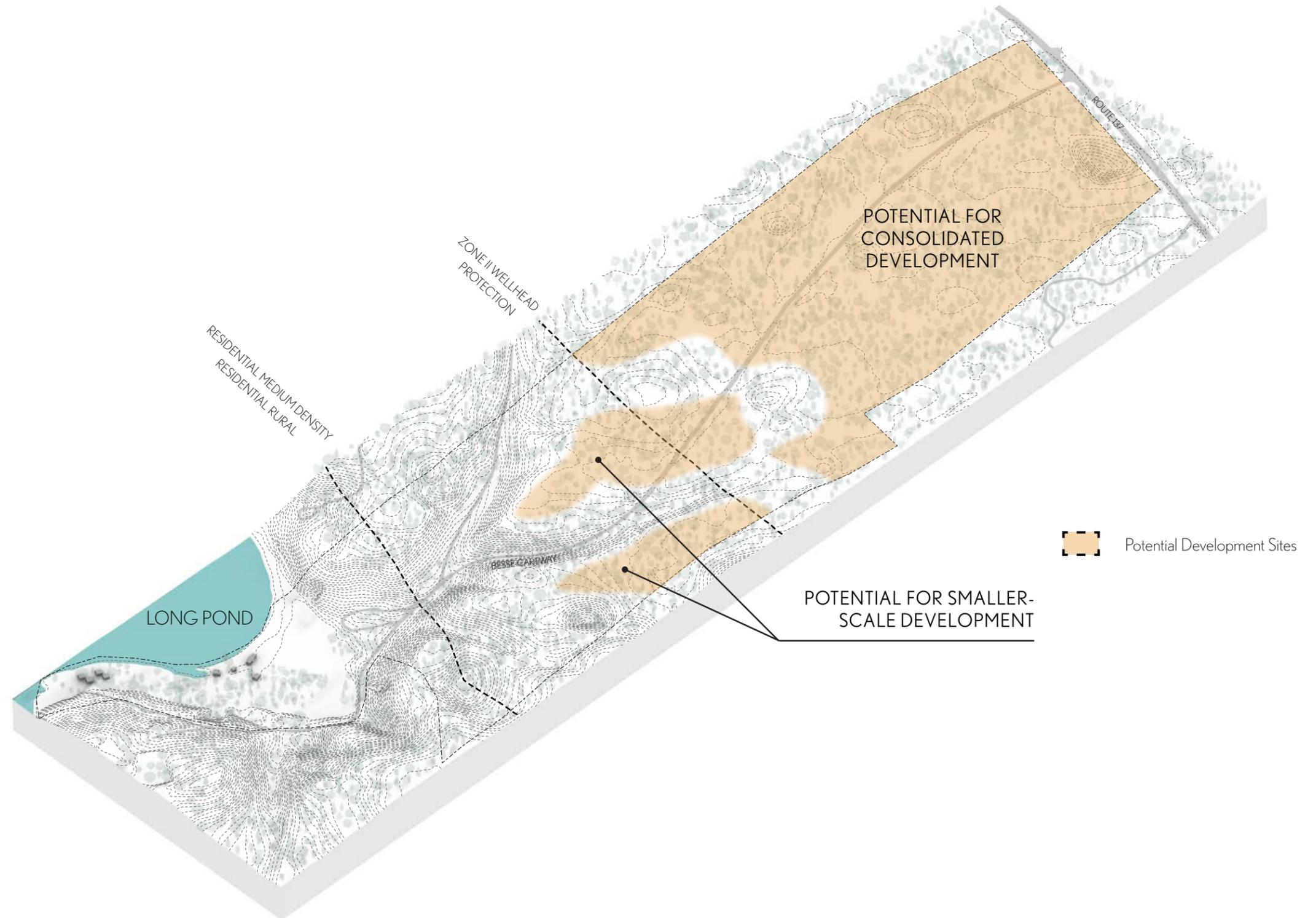


POND PARCEL - POTENTIAL DEVELOPMENT

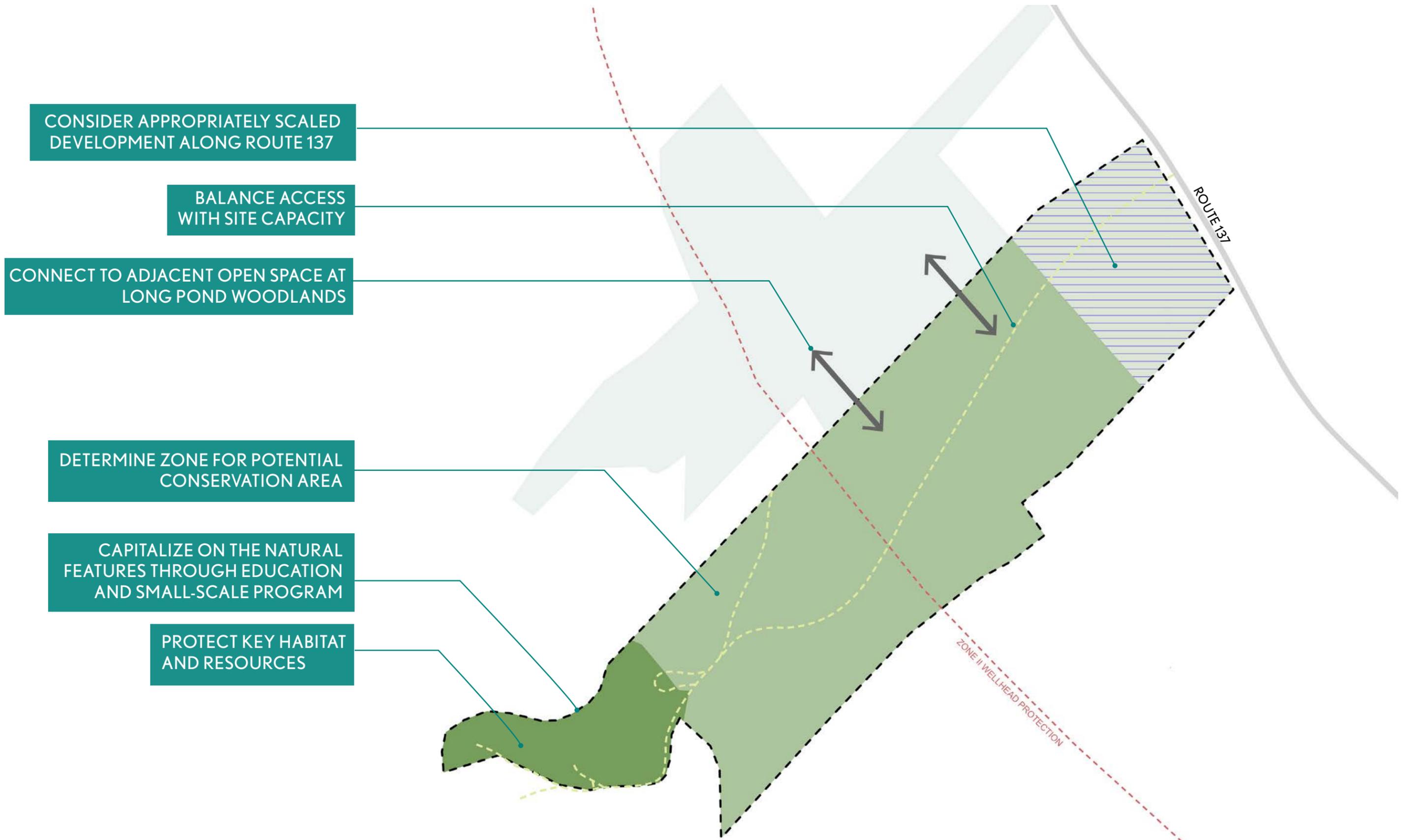
Site Analysis

The Pond Parcel has significant topographical variation and limited paved access ways.

The flattest portions of the site also fall into the Zone 2 area, making residential construction more challenging, but still feasible and surrounded by residential areas.



KEY OPPORTUNITIES





Thank You