

4 Affected Environment, Environmental Consequences, and Mitigation

4.17 Public Parks, Recreational Facilities, and Open Space

4.17.1 Introduction

This section assesses the No Build and Build Alternative for construction-period effects and potential future operational effects to public parks, recreational facilities, and open space within the Study Area (defined in [Section 4.17.1.2](#)). Where potential adverse effects to surrounding public park, recreational facilities, and open space are identified, this section also discusses mitigation measures that will be undertaken to minimize and compensate for these effects.

Other recreational resources are discussed elsewhere in **Section 4.4, Maritime Transportation, Traffic, and Safety**, addresses the effects of the No Build and Build Alternative on public boat launches and docks. **Section 4.3, Pedestrian and Bicycle Facilities**, addresses the effects of the No Build and Build Alternative upon existing public pedestrian and bicycle facilities, including the Canal Service Roads.

4.17.1.1 Regulatory Context

Rules and Regulations Governing Public Use of Water Resources Development Projects Administered by the Chief of Engineers

According to the regulations governing public use of U.S. Army Corps of Engineers (USACE) water resource development projects,¹ [36 CFR 327](#), it is the policy of the Secretary of the Army, acting through the Chief of Engineers, to manage the natural, cultural, and developed resources of each project in the public interest by providing recreational opportunities while also protecting and enhancing the civil works projects. Since 1963, USACE has actively managed recreational uses within the Cape Cod Federal Navigation Project (FNP), either through directly operating parks and recreational facilities or leasing portions of its property to public entities that provide parks and recreational facilities, as long as those uses are compatible with the FNP's primary mission of navigation. USACE's Master Plan for the Development of Recreational Resources² [identifies the long-term plans for park and recreation areas within](#) the FNP, while the Federal Navigation Regulations ([33 CFR 207.20](#)) provide the regulations [governing](#) recreational use of the FNP [including permitted and prohibited activities](#).

¹ U.S. Army Corps of Engineers. 2000. [Title 36 CFR Part 327: Rules and Regulations Governing Public Use of Water Resources Development Projects Administered by the Chief of Engineers](#). February 11 (amended May 5). <https://www.swf-wc.usace.army.mil/canyon/title36.pdf>.

² Department of the Army, New England Division, Corps of Engineers. 1975 [Cape Cod Canal, Massachusetts: Master Plan for the Development of the Recreational Resources](#). October. <https://apps.dtic.mil/sti/tr/pdf/ADA099242.pdf>

Section 4(f) of the U.S. Department of Transportation Act of 1966

For transportation projects funded by the Federal Highway Administration (FHWA), publicly owned parks and recreational areas are protected under Section 4(f) of the Department of Transportation Act of 1966 [Section 4(f)],³ and FHWA's implementing Section 4(f) regulations.⁴ Massachusetts Department of Transportation (MassDOT) verifies Section 4(f) applicability through consultation with FHWA via a Presence/Absence Determination, with concurrence from the Official with Jurisdiction. The Official with Jurisdiction is the legal representative of the agency or agencies that own or administer the property. **Chapter 5, Final Section 4(f) Evaluation**, provides the Section 4(f) evaluations for the proposed use of Section 4(f)-protected properties.

Section 6(f) of the U.S. Land and Water Conservation Act

Section 6(f) of the U.S. Land and Water Conservation Fund Act⁵ provides protections for public parks and recreational areas that were established or improved with grants from the National Park Service through the act. According to the Trust for Public Land and information updates, no Section 6(f) properties are located within the Study Area; accordingly, Section 6(f) protections are not discussed further.^{6, 7}

Article 97 Land Disposition Policy

As indicated in **Section 4.6, Land Use, Zoning, and Community Cohesion**, Article 97 of the Amendments to the Constitution of the Commonwealth protects public land, including state-owned and municipal lands, that were acquired for conservation or recreational purposes. Article 97 does not apply to federal land. Under the Massachusetts Executive Office of Energy and Environmental Affairs' (MA EEA) Article 97 Land Disposition Policy,⁸ the MA EEA and its agencies are prohibited from selling, transferring, leasing, relinquishing, or changing the control or use of any Article 97 land unless

³ [Title 49 U.S. Code 303 \(as amended\), Policy on lands, wildlife and waterfowl refuges, and historic sites.](https://uscode.house.gov/view.xhtml?req=granuleid:USC-2012-title49-section303&num=0&edition=2012) <https://uscode.house.gov/view.xhtml?req=granuleid:USC-2012-title49-section303&num=0&edition=2012>

⁴ [Title 23 Part 774, Parks, Recreation Areas, Wildlife and Waterfowl Refuges, and Historic Sites \(Section 4\(f\)\).](https://www.ecfr.gov/current/title-23/chapter-I/subchapter-H/part-774) <https://www.ecfr.gov/current/title-23/chapter-I/subchapter-H/part-774>

⁵ [Title 36 Part 59, Land and Water Conservation Fund Program of Assistance to States; Post-Completion Compliance Responsibilities.](https://www.ecfr.gov/current/title-36/chapter-I/part-59) <https://www.ecfr.gov/current/title-36/chapter-I/part-59>

⁶ [The Trust for Public Land, Land and Water Conservation Fund Summary Report, Massachusetts; Barnstable County.](https://lwcf.tplgis.org/mappast/) <https://lwcf.tplgis.org/mappast/>. Land and Water Conservation Fund (LWCF)-funded places databases were updated in June 2022.

⁷ Executive Office of Energy and Environmental Affairs. 2023. [Healey-Driscoll Administration Announces Over \\$6 Million in Land and Water Conservation Grants to Support Parks and Open Spaces](https://www.mass.gov/news/healey-driscoll-administration-announces-over-6-million-in-land-and-water-conservation-grants-to-support-parks-and-open-spaces). October 18.

<https://www.mass.gov/news/healey-driscoll-administration-announces-over-6-million-in-land-and-water-conservation-grants-to-support-parks-and-open-spaces>.

Boston Real Estate times. 2024. [Massachusetts Awards Over \\$27 Million for Conservation, open space, and Park Projects. September 24.](https://bostonrealestatetimes.com/massachusetts-awards-over-27-million-for-conservation-open-space-and-park-projects/) <https://bostonrealestatetimes.com/massachusetts-awards-over-27-million-for-conservation-open-space-and-park-projects/>.

Subsequent October 2023 and September 2024 announcements of LWCF grants indicate that no other public park or recreational facilities in the Study Area have received LWCF funding.

⁸ [Executive Office of Environmental Affairs. 1998. Article 97, Land Disposition Policy.](https://www.mass.gov/files/dcsarticle97.pdf) February. <https://www.mass.gov/files/dcsarticle97.pdf>

exceptional circumstances exist, and specific conditions are met. It also provides that land or easements subject to Article 97 shall not be used for other purposes or disposed of without a two-thirds roll call vote of the Legislature. The Public Lands Preservation Act (PLPA; MGL c.3 § 5A) codified the policy of “no net loss” of public land and established a formal process for submitting petitions to the Legislature to permanently change the use or disposition of Article 97 land.^{9, 10} The PLPA applies to the MA EEA and other state agencies, municipalities, boards and commissions, quasi-public agencies, and other public instrumentalities and subdivisions of the Commonwealth. The Article 97 Land Disposition Policy, including compliance with the PLPA, stipulates that applicants are to:

- Notify the public and the Secretary of MA EEA of the impacts.
- Prepare an alternatives analysis demonstrating that all options to avoid or minimize the use have been applied and no feasible alternative exists.
- Provide replacement land with comparable or greater recreational or natural resource value, acreage, and monetary value.
- Draft legislation and authorization for filing the bill to the Massachusetts legislature and obtain a two-thirds roll call vote of approval by the legislature.

In limited circumstances, the PLPA provides that the replacement land requirements may be waived or modified, or funding may be provided to the municipality or public entity that holds the Article 97 land in lieu of replacement land. In the latter circumstance, the municipality or public entity must use the funds to purchase replacement land within three years.

4.17.1.2 Methodology and Study Area

MassDOT obtained information on public parks, recreational facilities, and open space in the Study Area from the MassMapper GIS database, the Town of Bourne Open Space & Recreation Plan,¹¹ and through coordination with USACE and the Bourne Recreation Authority. Additional parcel information was obtained through the Town of Bourne, MA GIS Viewer, and Assessor’s database. MassDOT obtained information on applicable federal, state, and local protection mechanisms through coordination with FHWA, review of the Town of Bourne Open Space & Recreation Plan, and MassMapper.¹²

⁹ An Article 97 land disposition is defined as a) any transfer or conveyance of ownership or other interests; b) any change in physical or legal control; and c) any change in use, in and to Article 97 land or interests in Article 97 land owned or held by the Commonwealth or its political subdivisions, whether by deed, easement, lease or any other instrument effectuating such transfer, conveyance or change.

¹⁰ [Massachusetts General Law, Chapter 3, Section 5A: Change in the use or disposition of land by public entity; alternatives analysis; replacement land or funding; petition](https://malegislature.gov/Laws/GeneralLaws/PartI/TitleI/Chapter3/Section5A). <https://malegislature.gov/Laws/GeneralLaws/PartI/TitleI/Chapter3/Section5A>

¹¹ Bourne Open Space Committee. 2018. [Town of Bourne Open Space & Recreation Plan](https://www.townofbourne.com/sites/g/files/vyhlif12841/f/uploads/open_space_plan_fina_2018.pdf). February 8. https://www.townofbourne.com/sites/g/files/vyhlif12841/f/uploads/open_space_plan_fina_2018.pdf

¹² <https://www.mass.gov/info-details/massgis-data-protected-and-recreational-openspace>

The Study Area for this assessment encompasses 0.125-mile buffer areas from the construction limits at the Sagamore Bridge and Bourne Bridge Project Limits (refer to [Section 4.17.2](#)). MassDOT established these Study Area buffers to identify public parks, recreational resources, and open space that could be potentially affected by the Build Alternative.

4.17.2 Affected Environment

[Figure 4.17-1 through Figure 4.17-4](#) present public parks, recreational facilities, and open space and applicable levels of protection within the Sagamore North and South quadrants and Bourne North and South quadrants.

The public uses Cape Cod Canal and the Canal Service Roads within the four Study Area quadrants extensively for recreation. The Cape Cod Canal is designated for motorized recreational boating only; per 33 CFR 207(q)(3)-(5), the following recreational activities are considered obstructions to navigation and are prohibited in the canal:

- Swimming
- Diving
- Snorkeling
- Scuba diving
- Personal watercraft, such as kayaks, canoes, wind surfers, or other nonmotorized watercraft

Fishing or lobstering by boat within the land cut of the canal or in the confines of the approach channels of the canal is also prohibited. Fishing from the banks of the canal is allowed, except where expressly prohibited by USACE. The public uses the Canal Service Roads for walking, bicycling, and other non-motorized recreational activities, as discussed in [Section 4.3, Pedestrian and Bicycle Facilities](#).

4.17.2.1 Parks, Recreational Facilities, and Open Space Study Area (Sagamore North Quadrant)

Table 4.17-1 lists public parks, recreational facilities, and open space (and applicable levels of protection) in the Sagamore North quadrant (**Figure 4.17-1**).

Table 4.17-1. Public Parks, Recreational Facilities, and Open Space (Sagamore North Quadrant)

Facility	Owner/Operator	Description	Protection
North Sagamore Water District Parcel	Town of Bourne, North Sagamore Water District	- Four water-supply protection parcels (104 acres) - Limited or no public access and no recreation development	Limited to water-supply protection under Article 97 ^[a]
Wasque RT Purchase Parcels	Town of Bourne	- Three land bank parcels (134.16 acres) acquired for open space^[b] - No recreational development	Article 97 ^[c]
Sagamore Recreation Area ^[d]	U.S. Army Corps of Engineers	- Two acres within the Federal Navigation Project supporting recreational use of north side of canal - Provides an accessible seasonal comfort station with the following: - Potable water and sanitary facilities with a 3,500-gallon septic tank - Park benches - Picnic tables - Interpretive signage - Paved and unpaved parking One access gate to the North Canal Service Road	Section 4(f) ^[e]

^[a] Protection identified in Town of Bourne Open Space & Recreation Plan.

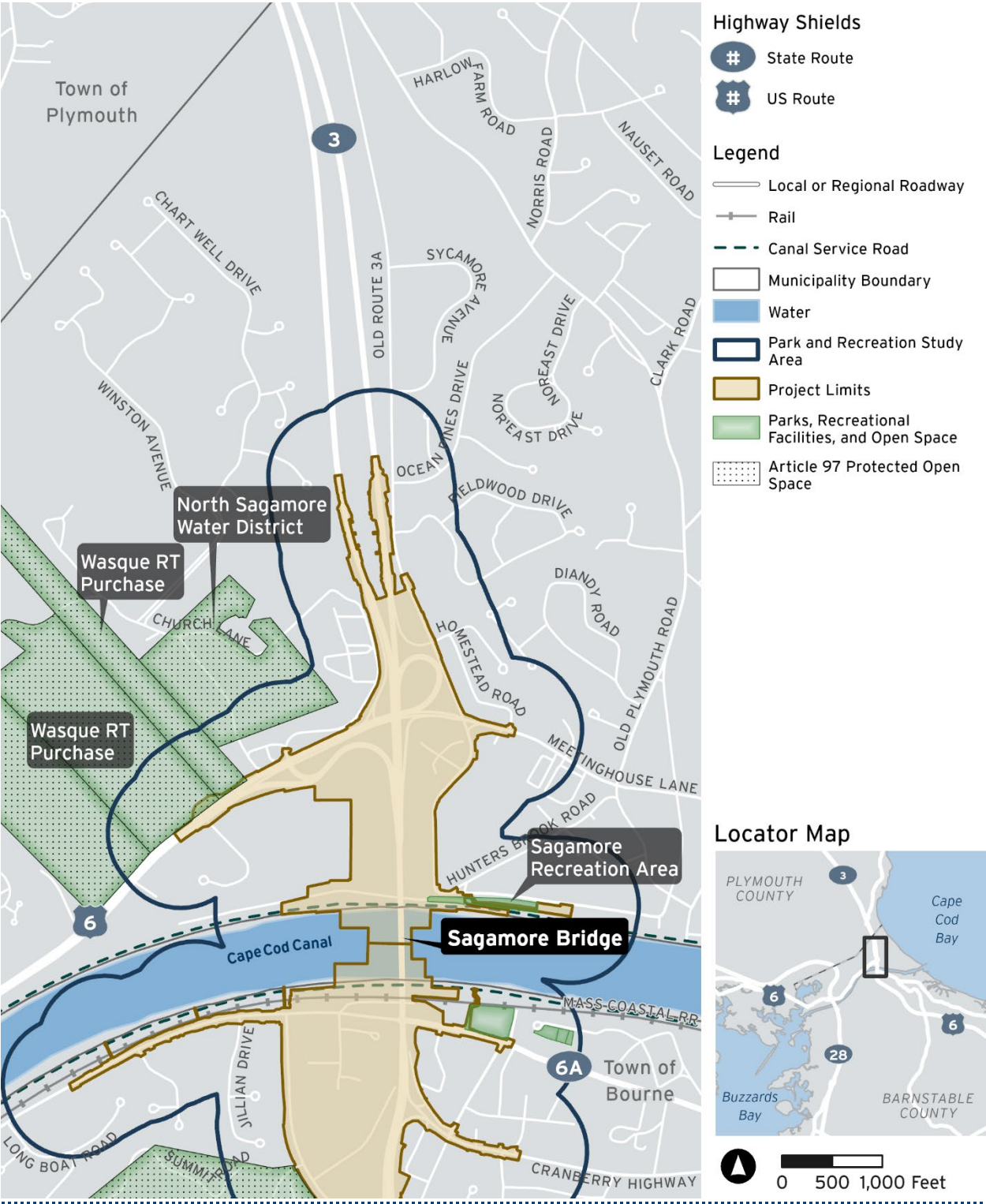
^[b] Land bank acquisitions by the Town of Bourne using Commonwealth of Massachusetts funds.

^[c] [MassGIS Data: Protected and Recreational Open Space](https://www.mass.gov/info-details/massgis-data-protected-and-recreational-openspace). <https://www.mass.gov/info-details/massgis-data-protected-and-recreational-openspace>

^[d] Acreage calculated from U.S. Army Corps of Engineers GIS shapefile.

^[e] Protection determined by John Simkins, U.S. Department of Transportation, Federal Highway Administration. Email to Craig Martin, U.S. Army Corps of Engineers, "Cape Cod Canal Bridges – Section 4(f) Concurrence letter – USACE Official with Jurisdiction," August 22, 2024.

Figure 4.17-1. Public Parks, Recreational Facilities, and Open Space Study Area (Sagamore North Quadrant)



Source: Massachusetts Department of Transportation, 2025

4.17.2.2 Public Parks, Recreational Facilities, and Open Space Study Area (Sagamore South Quadrant)

Table 4.17-2 lists public parks, recreational facilities, and open space (and applicable levels of protection), in the Sagamore South quadrant (**Figure 4.17-2**).

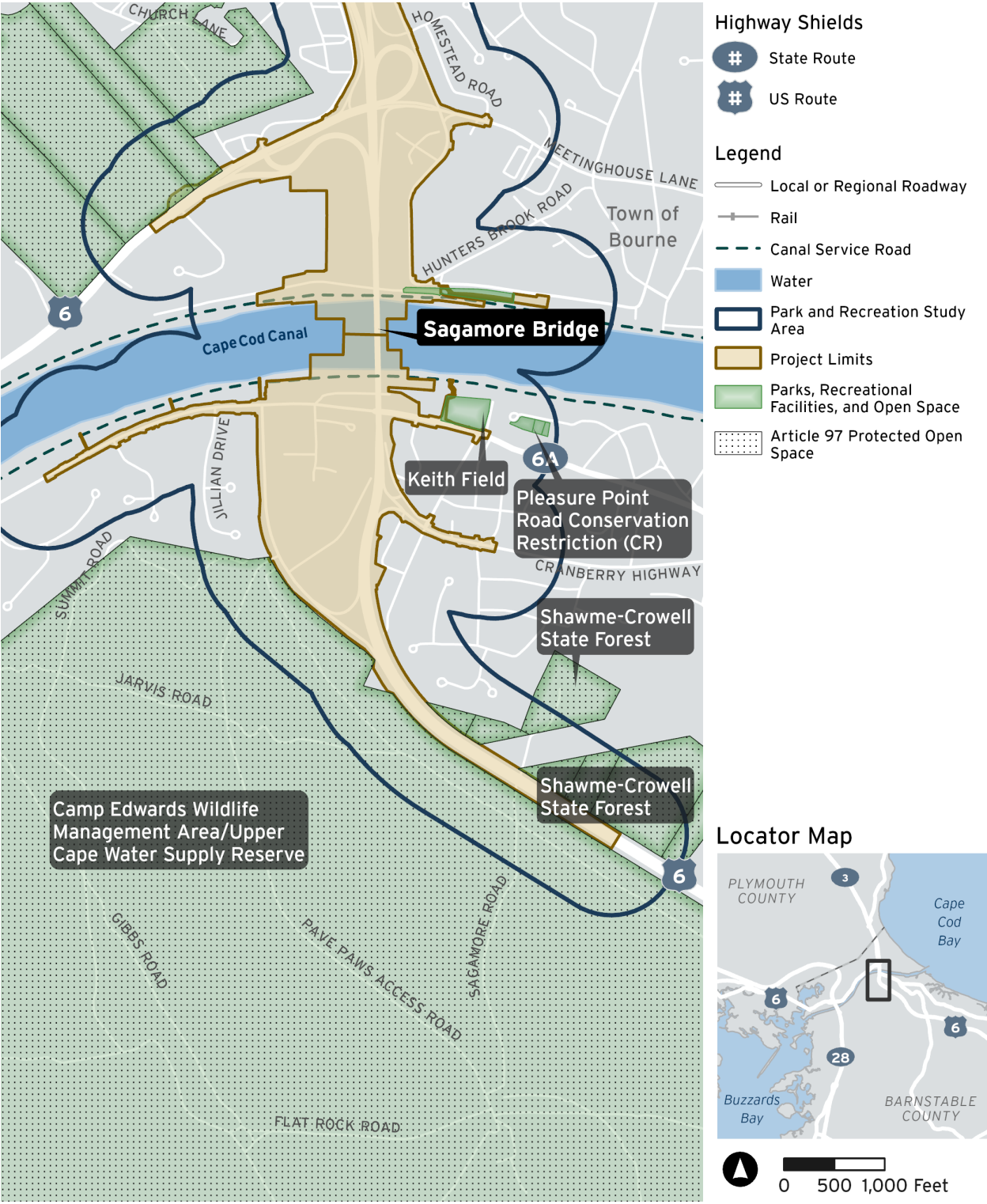
Table 4.17-2. Public Parks, Recreational Facilities, and Open Space (Sagamore South Quadrant)

Facility	Owner/Operator	Description	Protection
Keith Field Recreation Area	Town of Bourne	2.88-acre parcel consisting of a Babe Ruth baseball field and a hard surface tennis court	Section 4(f)
Camp Edwards Wildlife Management Area/Upper Cape Water Supply Reserve	Massachusetts Department of Fisheries, Wildlife, and Environmental Law Enforcement, Division of Fisheries and Wildlife	15,000 acres consisting of the coterminous boundaries of the following: - Camp Edwards Wildlife Management Area (on the Massachusetts Military Reservation/Camp Edwards Training Area on Joint Base Cape Cod) - A remnant of the North Atlantic coastal pine barrens ecosystem - The Upper Cape Water Supply Reserve (atop the sole-source Cape Cod Aquifer) - Restricted public access - Portions open to the public for seasonal hunting	Article 97 ^[b]
Shawme Crowell State Forest	Massachusetts Department of Conservation and Recreation	700-acre parcel accessible to the public for camping and hiking - Provides active and passive recreation facilities	Article 97 ^[b] , Section 4(f)
Pleasure Point Road Conservation Restriction	Private Ownership	Undeveloped open space No recreational development	Conservation Restriction

^[a] Protection identified in Town of Bourne Open Space & Recreation Plan.

^[b] [MassGIS Data: Protected and Recreational Open Space](https://www.mass.gov/info-details/massgis-data-protected-and-recreational-openspace). <https://www.mass.gov/info-details/massgis-data-protected-and-recreational-openspace>

Figure 4.17-2. Public Parks, Recreational Facilities, and Open Space Study Area (Sagamore South Quadrant)



Source: Massachusetts Department of Transportation, 2025

4.17.2.3 Public Parks, Recreational Facilities, and Open Space Study Area (Bourne North Quadrant)

Table 4.17-3 lists public parks, recreational facilities, and open space (and applicable levels of protection) in the Bourne North quadrant (**Figure 4.17-3**).

Table 4.17-3. Public Parks, Recreational Facilities, and Open Space (Bourne North Quadrant)

Facility	Owner/Operator	Description	Protection
Buzzards Bay Water District Parcels	Town of Bourne, Buzzards Bay Water District	11-acre water-supply protection parcels - Limited or no public access and no recreational development	Limited to water-supply protection under Article 97 ^[a]
Cape Cod Land Bank Acquisition Parcels ^[b]	Town of Bourne	- Two land bank parcels (77.11 acres) acquired for open space - No recreational development	Article 97 ^[c]
Nightingale Pond Conservation Area	Town of Bourne Conservation Commission	23-acre conservation parcel - Recreation potential for trails	Section 4(f)
Bourne Scenic Park	Bourne Recreation Authority (Owner) (6.5-acre parcel)	80.2-acre Bourne Scenic Park provides seasonal, weekly, and daily camping during its in-season (mid-June through the end of August) and off-season periods (end of March through mid-June and end of August through end of October) - Amenities include the following: - Electric service for recreational vehicles - A designated non-electric tent camping area - Water hookups - Wi-Fi - Restroom and shower facilities - Passive and active recreation amenities - Direct access to the North Canal Service Road through at-grade access and five stairways from individual camping areas	Section 4(f) ^[d] Article 97 ^[e]
	U.S. Army Corps of Engineers (Owner) ^[e] /Bourne Recreation Authority (Operator) (73.7 acres within the Federal Navigation Project)		Section 4(f) ^[f]

^[a] Protection identified in Town of Bourne Open Space & Recreation Plan.

^[b] Land bank acquisitions by the Town of Bourne using Commonwealth of Massachusetts funds.

^[c] [MassGIS Data: Protected and Recreational Open Space](https://www.mass.gov/info-details/massgis-data-protected-and-recreational-openspace). <https://www.mass.gov/info-details/massgis-data-protected-and-recreational-openspace>

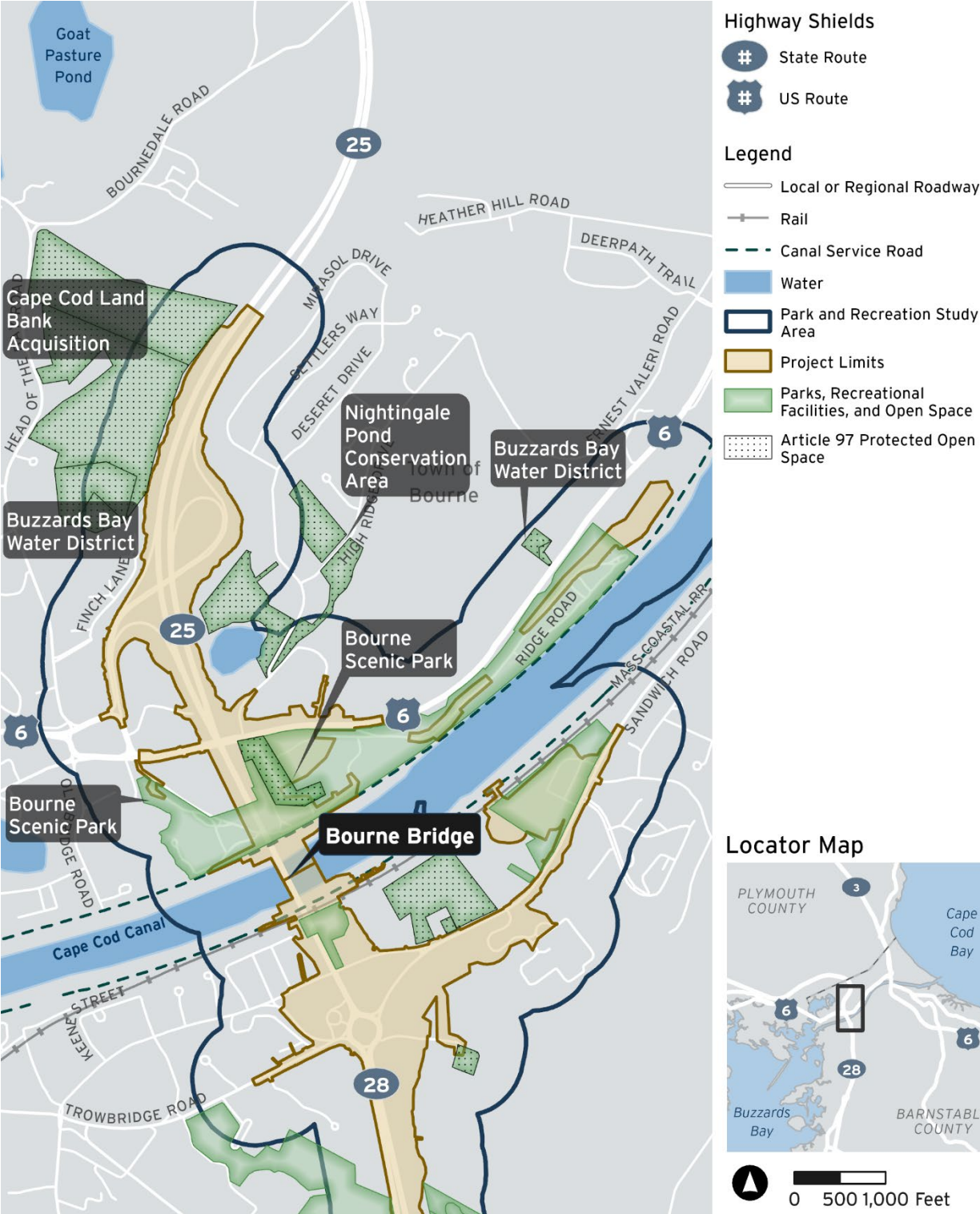
^[d] Section 4(f) protection to be confirmed by Town of Bourne as the Official with Jurisdiction, pursuant to 23 CFR 774.

^[e] Massachusetts Department of Transportation, Right of Way Bureau. Title report: Bourne Recreation Authority, 370 Scenic Highway, Bourne, MA. Conducted for Bourne Median Installation on Route 6 (MassDOT Project No. 606082), January 30, 2024.

^[f] Protection determined by John Simkins, U.S. Department of Transportation, Federal Highway Administration. Email to Craig Martin, U.S. Army Corps of Engineers, "Cape Cod Canal Bridges – Section 4(f) Concurrence letter – USACE Official with Jurisdiction," August 22, 2024.

^[g] [The Cape Cod Federal Navigation Project and its land is owned by the United States. USACE administers the project lands on behalf of the United States. For ease of reference, these lands are referred to as USACE owned.](#)

Figure 4.17-3. Public Parks, Recreational Facilities, and Open Space Study Area (Bourne North Quadrant)



Source: Massachusetts Department of Transportation, [2025](#)

4.17.2.4 Public Parks, Recreational Facilities, and Open Space Study Area (Bourne South Quadrant)

Table 4.17-4 lists public parks, recreational facilities, and open space, and applicable levels of protection in the Bourne South quadrant (**Figure 4.17-4**).

Table 4.17-4. Public Parks, Recreational Facilities, and Open Space (Bourne South Quadrant)

Facility	Owner/Operator	Description	Protection
Bourne Water District Parcel	Town of Bourne, Bourne Water District	1.46-acre water-supply protection parcel - Limited or no public access and no recreational development	Limited to water-supply protection under Article 97 ^[a]
Sandwich Road Conservation Area	Town of Bourne Conservation Commission	15.11-acre conservation parcel with no recreational development	Article 97 ^[b]
Gallo Ice Arena	U.S. Army Corps of Engineers/ Bourne Recreation Authority	Indoor public ice-skating rink and parking area on 18.8 acres within the Federal Navigation Project	Section 4(f) ^[c]
Vacant Parcel	Bourne Recreation Authority	0.5-acre vacant parcel	Limited ^[a]
Bourne Recreation Area ^[d]	U.S. Army Corps of Engineers	4.1 acres within the Federal Navigation Project supporting recreational use of south side of canal - Provides an accessible seasonal comfort station with the following: - Potable water and sanitary facilities with a 3,500-gallon septic tank - Park benches - Picnic tables - Interpretive signage - Paved and unpaved parking - Access to the South Canal Service Road	Section 4(f) ^[c]
MacArthur Boulevard Protected Area	Town of Bourne	12.5-acre open space parcel - Publicly accessible with no recreational development	Article 97 ^[b]

Facility	Owner/Operator	Description	Protection
Great Pond Conservation Area	Bourne Conservation Trust	- Four privately owned conservation parcels (37.92 acres) - Publicly accessible with no recreational development	In perpetuity ^[a]
Coady Field	Town of Bourne	5.14-acre baseball field - Accessible to the public	Limited ^[a]
Bourne High School Recreational Fields	Town of Bourne	48.66 acres of recreational fields - Accessible to the public	Limited ^[a]

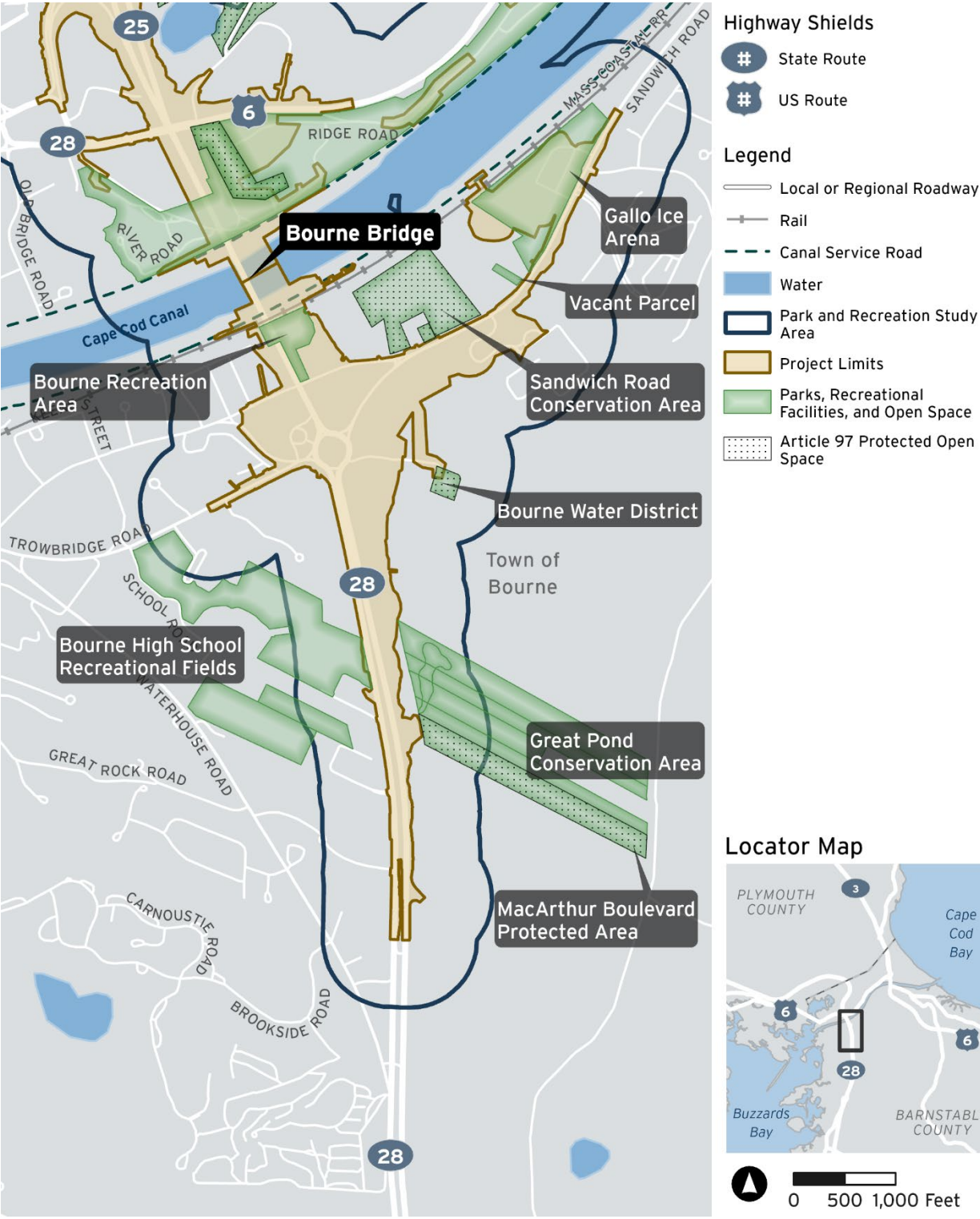
^[a] Protection identified in Town of Bourne Open Space & Recreation Plan.

^[b] [MassGIS Data: Protected and Recreational Open Space](https://www.mass.gov/info-details/massgis-data-protected-and-recreational-openspace). <https://www.mass.gov/info-details/massgis-data-protected-and-recreational-openspace>

^[c] Protection determined by John Simkins, U.S. Department of Transportation, FHWA. Email to Craig Martin, USACE, “Cape Cod Canal Bridges – Section 4(f) Concurrence letter – USACE Official with Jurisdiction,” August 22, 2024.

^[d] Acreage calculated from USACE GIS shapefile.

Figure 4.17-4. Public Parks, Recreational Facilities, and Open Space Study Area (Bourne South Quadrant)



Source: Massachusetts Department of Transportation, 2025

4.17.3 No Build Alternative

As indicated in **Chapter 3, Proposed Action and Alternatives**, in the No Build Alternative, the [United States](#) would continue to own [and USACE would continue to](#) maintain the existing Sagamore and Bourne Bridges. Due to their locations under or immediately adjacent to the bridges, the USACE-operated Sagamore Recreation Area and Bourne Recreation Area, and the USACE-leased Bourne Scenic Park could experience temporary construction-related effects associated with USACE’s routine and/or emergency repairs. Additionally, routine and/or emergency repairs in the No Build Alternative could require temporary closures of the Canal Service Roads for recreational use. Section 4(f) and Article 97 do not apply to the No Build Alternative if undertaken solely by USACE with no participation from FHWA or MassDOT.

Except for these parks and facilities immediately adjacent to the bridges, the No Build Alternative would not affect additional parks, recreational facilities, or open space area in the Study Area.

4.17.4 Build Alternative

Table 4.17-5 lists anticipated approximate temporary and permanent effects to public park, recreational facilities, and open space in the Study Area due to the construction and operation of the Build Alternative. Through the preliminary design process, MassDOT has minimized temporary and permanent easement requirements to the maximum extent practicable.

While MassDOT anticipates requiring a temporary easement of approximately 0.20-acre on the Bourne High School parcel, the temporary easement would be located on the southeastern limits of the parcel immediately adjacent to State Route 28, outside the boundaries of the recreational fields. The temporary easement would not directly or indirectly affect the school’s recreational fields.

Table 4.17-5. Approximate Anticipated Effects to Public Parks, Recreational Facilities, and Open Space

Program Quadrant (Figure #)	Resource	Owner/Operator	Approximate Physical Effects ^[a]	Regulatory Effects and Other Requirements
Sagamore North (Figure 4.17-1)	Sagamore Recreation Area	U.S. Army Corps of Engineers	Use of approximately 1.37 acres, consisting of an 0.88-acre temporary easement for construction of replacement Sagamore Bridge and a 0.49-acre long-term access agreement for operations and maintenance of replacement bridge, representing 50% of park acreage.	Section 4(f) Review

Program Quadrant (Figure #)	Resource	Owner/Operator	Approximate Physical Effects ^[a]	Regulatory Effects and Other Requirements
Sagamore South (Figure 4.17-2)	Keith Field Recreation Area	Town of Bourne	- Use of approximately 0.21 acre, consisting of <u>permanent</u> easement of 0.12 acre for <u>permanent</u> shared use path. Total easements would represent approximately 4% of parcel acreage. <u>Temporary use (easement) of 0.09 acre to construct shared use path.</u>	Section 4(f) Review
Bourne North (Figure 4.17-3)	Bourne Scenic Park	Bourne Recreation Authority	- Temporary use (easement) of approximately 5.1 acres for construction of replacement Bourne Bridge. - Approximately 0.9 acre <u>for</u> a permanent easement for operations and maintenance of replacement bridge, representing 13% of parcel acreage.	Section 4(f) Review Article 97 Land Disposition
		U.S. Army Corps of Engineers	- Use of approximately 23.4 acres, for construction of replacement Bourne Bridge. - Approximately 5.4 acres <u>for a long-term access agreement</u> for maintenance of replacement bridge, representing 7% of park acreage.	Section 4(f) Review

Program Quadrant (Figure #)	Resource	Owner/Operator	Approximate Physical Effects ^[a]	Regulatory Effects and Other Requirements
Bourne South (Figure 4.17-4)	Bourne Recreation Area	U.S. Army Corps of Engineers	Use of approximately 4.1 acres, consisting of a temporary easement for construction of replacement Bourne Bridge and long-term access agreement for maintenance of replacement bridge, representing 100% of park acreage.	Section 4(f) Review
	Gallo Ice Arena	U.S. Army Corps of Engineers/Bourne Recreation Authority	Temporary use (easement) of approximately 2.3 acres to construct a reconfigured site entrance at Sandwich Road Use of approximately 0.69 acres consisting of a long-term access agreement for operation and maintenance of the reconfigured site entrance. Use of approximately 3.14 acres for construction of the relocated Bourne Recreation Area.	Section 4(f) Review
	Sandwich Road Conservation Area	Town of Bourne Conservation Commission	Temporary use (easement) of approximately 0.06 acre for grading associated with Sandwich Road improvements, representing less than 1% of parcel acreage.	Coordination with the Town of Bourne Conservation Commission

^[a] Effects are approximate based only on preliminary design.

4.17.1 Mitigation

As cited in **Section 4.8, Property Acquisition, Displacement, and Relocation**, as design progresses, MassDOT will continue to refine temporary and permanent easements and partial acquisitions. All right-of-way acquisitions will be conducted in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970. In accordance with MassDOT's Standard Specifications, all temporary easements will be restored to pre-existing conditions upon completion of the project.

4.17.1.1 Minimization Strategies and Coordination with Owners

MassDOT has developed strategies to minimize impacts to property owners prior to, during, and following construction. Prior to construction start, MassDOT will coordinate with property owners to identify and implement means and methods for maintaining the current uses of the affected parcels during construction. During construction, MassDOT's standard specifications require contractors to protect and restore property, including maintaining existing drainage systems and preserving roadside growth.¹³ Following construction completion, all land required for temporary easements will be restored to pre-existing conditions.

MassDOT will confirm potential effects to properties, property boundaries, and the status of open space as design advances and property title searches are conducted.

4.17.1.2 Article 97 Land Disposition Authorizations

Due to the permanent impact required on the Bourne Recreation Authority-owned Bourne Scenic Park parcel, MassDOT would be subject to the Article 97 land disposition requirements, including compliance with the PLPA. The PLPA stipulates that applicants are to:

- Notify the public and the Secretary of EEA of the impacts.
- Prepare an alternatives analysis demonstrating that all options to avoid or minimize the use have been applied and no feasible alternative exists.
- Provide replacement land with comparable or greater recreational or natural resource value, acreage, and monetary value.
- Draft legislation and authorization for filing the bill to the Massachusetts legislature.

USACE conducted a conceptual-level screening of alternatives in the USACE MRER/EA, including a high-level evaluation of environmental impacts, which resulted in the recommendation for an in-kind bridge replacement. Subsequent design work at the 5% to 15% level included detailed assessments of the bridge design elements and interchange approach options, which resulted in the Program Preferred Alternative. As discussed in **Chapter 3**, the Preferred Alternative has been selected because it minimizes impacts to protected open space to the maximum extent practicable while best meeting the

¹³ Massachusetts Department of Transportation. 2024. [Commonwealth of Massachusetts Department of Transportation Standard Specifications for Highways and Bridges \(Edition 1\)](https://www.mass.gov/doc/2024-standard-specifications-for-highways-and-bridges-division-i-general-requirements-and-covenants/download). <https://www.mass.gov/doc/2024-standard-specifications-for-highways-and-bridges-division-i-general-requirements-and-covenants/download>

Program’s need. Both interchange options considered for Bourne North—BN-13.1 and BN-14.4B—would result in relatively similar total impacts to Bourne Scenic Park, with BN-14.4B having a slightly greater impact (14.8 acres) compared to BN-13.1 (14.2 acres).¹⁴ However, MassDOT determined that Option BN-14.b would provide more opportunities to meet the Program’s needs than Option BN-13.1, including separating regional and local traffic and geometrically restricting wrong-way driving risk. In particular, Option BN-14.4b rated higher than Option BN-13.1 regarding multimodal accommodations, including providing grade separation over Scenic Highway for pedestrians and bicyclists and meeting the pedestrian and bicycle requirements of MassDOT’s Healthy Transportation Directive. Based on this, MassDOT has determined that no feasible alternative exists that would result in fewer open space impacts while providing more opportunities to meet the Program’s needs. Furthermore, the impact to the Bourne Recreation Authority-owned parcel is necessary to serve a public purpose, specifically to enable construction of replacement bridges and associated interchange approach networks which will improve cross-canal mobility and accessibility between Cape Cod and mainland Massachusetts for all road users and address the increasing maintenance needs and functional obsolescence of the aging Sagamore and Bourne Bridges.

MassDOT will continue coordination with the Bourne Recreation Authority regarding the proposed permanent easement or partial acquisition on their parcel to identify options to meet the replacement land requirements and/or provide in-lieu funding.

4.17.1.3 Section 4(f) Reviews: Minimization and Property Enhancement Opportunities

Potential effects to Section 4(f) protected properties require coordination with Officials with Jurisdiction (OWJ), the legal representative of the agency or agencies that own or administer the property. For the Sagamore Bridge Project, OWJs include USACE, BRA, and the Town of Bourne. For the Bourne Bridge Project, OWJs include USACE and BRA.

MassDOT has coordinated with USACE and BRA to minimize effects and maintain the public’s use of Bourne Scenic Park during construction and to enhance the park’s facilities in the permanent post-construction condition as mitigation for the anticipated construction period effects. Similarly, for the Sagamore and Bourne Recreation Areas within the FNP, MassDOT has coordinated with USACE to relocate temporary uses and provide long-term improvements to these recreational areas.

Additionally, MassDOT has coordinated with USACE and BRA to provide compensatory mitigation for anticipated impacts to Gallo Ice Arena due to the relocation of Bourne Recreation Area. Finally, for temporary and permanent easements on Keith Field Recreation Area, MassDOT has coordinated with the Town of Bourne to obtain concurrence regarding the proposed use and measures to minimize harm to the protected recreational features and attributes.

¹⁴ Note this reflects total impacts to Bourne Scenic Park, which includes the Article 97 Bourne Recreation Authority-owned parcel and non-Article 97 adjacent USACE-owned property. Impacts identified during the preliminary alternatives analysis are based on conceptual through preliminary (up to 15% design) level assessments and are superseded by impacts presented in Chapters 4 and 5, which are based on a more advanced (25%) level of design.

MassDOT's minimal permanent easement [and long-term access agreement](#) requirements [are considered](#) a Section 4(f) *de minimis* use, because the easements [and long-term access agreements](#) would have no adverse effects on the activities or features that qualify the properties for protection as a Section 4(f) resource.¹⁵ [FHWA and MassDOT have obtained written agreement from each Section 4\(f\) property's OWJ\(s\) regarding FHWA's de minimis determination, and the public has been provided with an opportunity to comment as part of the public review of the Draft Environmental Impact Statement.](#)

Chapter 5, [Final Section 4\(f\) Evaluation](#), provides additional information on the Section 4(f) reviews, findings, [and coordination and consultation](#) associated with anticipated temporary and permanent easements [and long-term access agreements](#). As needed, USACE would be responsible for updating its [Master Plan for the Development of Recreational Resources to incorporate revisions to recreational areas within the FNP.](#)

4.17.1.4 [Incorporation of Recreational Amenities in Bridge Design](#)

[As indicated in **Section 4.15, Visual Resources**, MassDOT is proposing to incorporate recreational amenities at each canal crossing, including constructing a scenic overlook at the top of the bridge arch \(one per crossing\) and creating a walkway/viewing platform at the top of bridge pier footings \(two per crossing\).](#)

[Due to the proposed riprap pier protection system around each pier, the bridge pier viewing platforms would not provide favorable conditions for fishing at lower tidal conditions. However, as the designs of the expanded Sagamore Recreation Area, the relocated Bourne Recreation Area, and/or the expanded Bourne Scenic Park are further developed, there may be opportunities for USACE to incorporate dedicated shore-based fishing opportunities at these locations or other locations within the Cape Cod Canal FNP, which would be identified by USACE through its ongoing update of the Master Plan for the Development of Recreational Resources.](#)

¹⁵ [Title 23, Part 774, Section 774.17: Parks, Recreation Areas, Wildlife and Waterfowl Refuges, and Historic Sites \(Section 4\(f\) \(Definitions\)\).](#) <https://www.ecfr.gov/current/title-23/chapter-I/subchapter-H/part-774/section-774.17>