

LIST OF ATTACHMENTS

	Attachment	Date	Description
	Project Narrative	April 30, 2019	Description of the project site, work to be completed, and mitigating measures to be deployed to protect resource areas in Townsend.
	Wetland Resource Area Plan	February 1, 2019	Set of 10 GIS maps developed by Ducharme & Dillis Civil Design Group, Inc. that delineate the resource areas and identify the location of erosion control barriers for resource area protection along the railroad easement.
	Parking Lot and Riverbank Erosion Plan	April 3, 2019	Plan developed by Ducharme & Dillis Civil Design Group, Inc. for upgrading the "fisherman's" parking lot on Route 119 in Townsend Harbor. The plan addresses improvements to the lot surface and roadway access, stormwater control, resource area protection, and restoration of an eroded portion of trail along the riverbank.
	Bank Stabilization, Slope Stabilization, and Typical Cross-Section	April 17, 2018	Cross-sectional drawings of plans for stabilizing the trail surface and buffer areas along sides of trail.
	Environmental Notification Form (ENF) Certificate from Executive Office of Energy and Environmental Affairs (EOEEA)	August 10, 2018	Determination received from EOEEA Secretary Matthew Beaton pursuant to Squannacook Greenways' Massachusetts Environmental Policy Act (MEPA) application stating that the project does not require an Environmental Impact Report. (EEA #15876)
	"No take" letter from Natural Heritage & Endangered Species program	June 1, 2018	Letter stipulating that the project is not a "Take" under the NHESP program and requiring that the construction period shall be between November 7–March 15 to avoid impacts to Blanding's Turtle. (NHESP file #03-13131)
	Order of Conditions (OOC) from Groton Conservation Commission	September 26, 2018	OOC received from the Groton Conservation Commission and filed with the Middlesex Registry of Deeds on October 15, 2018 (Book 71747 Page 202).
	Letter from office of Senator Pam Resor	May 9, 2006	Letter providing the legislative background for the extension of Chapter 21E provisions to former MBTA rights-of-way to be used as rail trails.

	Attachment	Date	Description
	Department of Environmental Protection (DEP) Best Management Practices (BMPs)		BMPs created to manage construction risks associated with development of former railroad rights-of-way into rail trails and promulgated by DEP after the revisions to Chapter 21E. These BMPs are used by DCR in all of their rail trail projects and by MassDOT in trail projects for which they are responsible.
	Section 6.2 Remediation Obligation of the Lessee		Section of the lease agreement between the MBTA and Squannacook Greenways, Inc. (SGI) that stipulates that SGI shall follow the BMPs detailed in Attachment I.

ATTACHMENT A - PROJECT NARRATIVE

Pursuant to our Request for Determination of Applicability (TWB#2018-147) hearing with the Townsend Conservation Commission on October 24, 2018, Squannacook Greenways submits a Notice of Intent (WPA Form 3) for the Squannacook River Rail Trail. This narrative describes the project location, work to be completed, and mitigating measures to be deployed to protect resource areas along the length of the trail in Townsend.

The construction of a public access trail on the Peterborough and Shirley Railroad right-of-way meets three of the important goals in listed in the Townsend Open Space and Recreation Plan from 2012. In Section 1, the report lists seven critical needs, three of which are:

1. To improve access to protected lands and to communicate the opportunities for passive recreation in these areas to the residents.
2. To provide links specifically for pedestrians and bicycles but also for strategic purchases of land to complete green connections.
3. To improve the quality, quantity and diversity of locations for recreation facilities.

The Squannacook River Rail Trail will provide better public access to the state conservation lands immediately south of the trail by allowing the public to travel along the rail trail then jump off to access to these parcels. Previously, the MBTA property was posted as No Trespassing, which precluding the public from using the property. With the MBTA lease and its requirement that Squannacook Greenways, Inc build a public access trail, the public will be able to use it to access other important conservation land in Townsend. The trail will be open to pedestrians, equestrians, and bicyclists but not motorized vehicles, as required by the MBTA lease. By the nature of their unique geometry, railroad properties create connections between not only Townsend's recreational activities but also between homes and businesses and schools.

In the Goals section of the Plan, Goal F(2) is "Improve Safe Walking and Biking Around Town." Action Item b is "Encourage development of MBTA rail for a trail at no cost to the town." Clearly, the development of the Squannacook River Rail Trail meets the needs and goals of Townsend as expressed in its 2012 Open Space and Recreation Plan.

Project Location

Construction of the Squannacook River Rail Trail will take place on land owned by the Massachusetts Bay Transportation Authority (MBTA) and leased by Squannacook Greenways, Inc., a Massachusetts registered nonprofit corporation. The Townsend portion of the project is located on a number of Massachusetts Bay Transportation Authority (MBTA) parcels located south of Route 119, starting at Depot Street near Townsend Center and ending at the Townsend-Groton town line.

The project starts on parcel 136 on Townsend Assessor's Map No. 51. It continues on a parcel labeled "Boston & Maine Railroad" on Townsend Assessor's Map 26 from Parcel 51-136 to Meetinghouse Road. No parcel number is shown for this parcel. The project continues on a parcel labeled "Boston & Maine Railroad" on Townsend Assessor's Map 34 from Old Meeting House Road toward South Street.

At a point opposite Parcel 4 on Townsend Assessor's Map No. 34, the project turns north eastward along an easement to the sidewalk along Route 119. The project continues along the frontage on Route 119 until it joins the railroad parcel again just beyond the vacant Harbor Church building west of South Street. The railroad parcel just beyond (south east of) South Street is shown Townsend Assessor's Map No. 33, but does not have a parcel number. The same parcel is labeled as "Boston & Maine Railroad" on Townsend Assessor's Map No. 41 and ends at the Townsend-Groton town line.

Work to be Completed

The work proposed is to construct a 3.7-mile long multi-use path, beginning at Depot Street in Townsend Center and ending at the Bertozzi Wildlife Management Area in Groton. About 2.8 of those miles will be in Townsend and 0.9 miles in Groton.

Except for a short segment near South Street and Harbor Pond, as described above, the proposed rail trail will be constructed on the former Peterborough and Shirley Railroad right-of-way. The rails and ties will be removed and a graded surface consisting of 3/8-inch minus compacted aggregate will be laid upon the old track ballast. Most of the 80-foot wide right of way will remain undisturbed. The aggregate surface will be 10 feet wide. Five foot buffers will be cleared of high vegetation adjacent to the aggregate surface.

The rails will be separated at the rail joints into 50-foot lengths, which will be dragged over the existing ties to the rail staging areas. Next, the ties will be removed and taken off site. The bed will be graded and compacted in preparation for installation of the stone trail surface. Finally a layer of 3/8-inch minus aggregate will be installed and compacted to produce the trail surface. Attachment D shows the proposed plan for stabilizing the trail surface.

By laying the trail directly on top of the old rail bed, we avoid creating any new disturbed surface. Placing the trail in any other location within the approximately 80-foot wide right-of-way would create new additional disturbed surface. The original rail bed was built with crushed stone to provide drainage and to support the weight of trains passing over it. Use of this engineered sub-surface avoids the need for additional engineering and materials to achieve the desired trail structure. From a disturbance perspective, building directly on top of the existing rail bed produces the minimum disturbance in the buffer zones, riverfront areas, and everywhere else along the trail.

For the section near Harbor Pond, the trail leaves the rail road right of way east of South Street and follows the Route 119 right-of-way west to the Harbor Church building west of South Street. The trail crosses the parking area west of the church, following an easement owned by Squannacook Greenways across the Townsend Historical Society's Harbor Church parcel (Parcel 4 on Townsend Assessor's Map No. 34). This alignment of the trail honors a request by the Townsend Historical Society to leave a section of the rails in place and the rail bed undisturbed behind and near the Reed Homestead building. This re-route also reduces the work that otherwise would have been done within the pond's 100-foot buffer zone. No construction is proposed in the Route 119 right-of-way as part of this filing.

The following is the proposed sequence for construction of the rail trail after receipt of all required permits:

1. Install DEP signs.

2. Hold on-site pre-construction meeting with contractor, Squannacook Greenways, and the Conservation Commission.
3. Install erosion controls.
4. Remove brush in right-of-way to a normal width of 20 feet.
5. Separate rails at joints and drag section along ties to staging areas. Staging areas will be outside wetlands buffer zones.
6. Remove ties to staging areas then ship to disposal facility. Ties will be stored on and under protective material as they await shipment.
7. Grade track ballast level.
8. Install trail surface material (3/8 minus compacted aggregate).
9. Re-construct and stabilize the trail adjacent to the "fisherman's" parking area. Improve the parking area.
10. Perform maintenance on side swales.
11. Install trail signage.
12. Remove erosion controls when site is stabilized.

Mitigating Measures

Much of the trail construction work in Townsend will be within the 100-foot wetland buffer zone and the 200-foot riverfront area and, therefore, is addressed in this Notice of Intent to ensure that these areas are protected during trail construction. Attachment B is a series of 10 GIS maps delineating the resource areas along the rail corridor in Townsend.

Our WPA Form 3 Notice of Intent indicates a total of 25,182 square feet of proposed alteration of the riverfront area. This calculation is based on clearing brush and trees for a 20-foot wide corridor. The actual square feet of proposed alteration is likely to be lower, as the corridor will be narrower than 20 feet in some areas, such as along steep slopes where we will restore vegetation or leave the existing vegetation undisturbed. The actual stone dust surface will be 10 feet wide.

It is important to note that Squannacook Greenways will be improving, not altering, any land in the 100-foot wetland buffer zone and the 200-foot riverfront area. With the exception of re-setting one culvert headwall stone, no work will be done within the wetland resource itself and no new disturbance will be created, so the threat to the resource and buffer zones will be minimal. All equipment and material staging areas will be outside the buffer zone. All equipment re-fueling will be performed outside of the buffer zone. Construction will be performed from November 7 to March 15 to avoid potential for harming turtles during their period of active movement.

Squannacook Greenways will adhere to the "Best Management Practices for Controlling Exposure to Soil during the Development of Rail Trails," published in March 2004 by Massachusetts DEP to manage and mitigate risks associated with constructing rail trails. Adherence to these BMPs is a requirement of the lease we signed with the MBTA in March 2015.

We will contract the firm of Ducharme & Dillis to complete a Stormwater Pollution Prevention Plan to ensure that this project complies with Massachusetts DEP Stormwater Management Standards. We do not anticipate any appreciable change in stormwater runoff as a result of the project.

Erosion Controls

At the RDA hearing on October 24, 2018, the Townsend Conservation Commission advised us to engage the services of a professional wetland scientist to delineate the resource areas. Squannacook Greenways contracted the Ducharme & Dillis Civil Design Group to complete a Wetland Resource Area Plan for the railroad easement in Townsend. Ducharme & Dillis completed the delineation in December 2018 using vegetative, soil, and hydrological wetland flagging in conformance with DEP criteria.

Attachment B contains the GIS maps developed by Ducharme & Dillis. Sheet 1 is an overview of the entire rail trail in Townsend. Sheets 2–10 detail individual sections, showing wetland flag locations and delineating the 200' riverfront, 100' buffer, 50' no build, and 35' no touch zones. Yellow dashed lines indicate the proposed placement of erosion control barriers.



Members of Squannacook Greenways review the wetland flagging project with Stan Dillis of Ducharme & Dillis Civil Design Group on January 7, 2019.

Squannacook Greenways proposes to use 9-inch diameter straw wattles as the erosion control method to be installed between the work area and the wetland. Attachments B and C include plans for wattle installation. The wattles will be overlapped and staked at 5-foot intervals with 1-inch x 2-foot wooden stakes. We consider fabric silt fence to be a less desirable alternative, due to the additional disturbance required to toe-in the bottom of the fence and potential deleterious effects on turtle migration.

Erosion controls will be inspected daily and sedimentation removed. In addition to hiring a construction site inspection professional, members of the Squannacook Greenways board of directors will inspect and oversee erosion controls, hazmat, and Stormwater Pollution Prevention (SWPP) activities.

Staging Areas

Three staging areas are planned in Townsend for equipment, rails, and other materials during construction. Two of the staging areas, along Depot Road and behind the Harbor Village shopping

center, are outside the 100-foot wetland buffer zones and 200-foot river front areas, thus are not within the jurisdictional areas.

A third staging area, planned for the east side of Meetinghouse Road, is primarily outside of the 100' foot buffer zone, but we will extend the erosion control barriers beyond the buffer to protect the resource area from any construction vehicles using Meetinghouse Road.



Yellow shading shows the location of the proposed staging area on the east side of Meetinghouse Road.

Parking Areas

Squannacook Greenways proposes to construct two parking lots on Townsend, one at the existing "fisherman's" parking lot on Route 119 just east of South Street and the other at Depot Road. The trailhead parking lot planned for Depot Street in Townsend Center is not within the riverfront or wetland buffer areas, thus not within the jurisdictional areas.

We plan to restore and upgrade the fisherman's parking area, which currently has a badly eroded dirt surface, poor drainage, erosion along the riverbank, and a deteriorated roadway cut. Attachment C is the proposed plan prepared by Ducharme & Dillis for fisherman's parking area improvements. We will protect the resource area during construction, repair the roadway access, control surface runoff, grade and resurface the parking lot, and restore the eroded portion of trail along the riverbank. By using an area that is already disturbed, we will minimize any new surface disturbance that would be caused by constructing a parking lot elsewhere along the trail.

The lot will be graded with a gravel surface. Erosion and runoff controls will be installed as shown in the plan. The erosion controls are configured to protect not only the river, but the wetland resources

between the river and Route 119. We will request a driveway / curb cut permit from Mass Highway for access to the parking area from Route 119.

The riverbank adjacent to the fisherman's parking lot is badly eroded. We plan to stabilize the bank by replacing the washed-out ballast with new stone, constructing a retaining wall, and adding stabilization plantings.



Red shading shows the location of the proposed parking area off Route 119 in Townsend Harbor.

Overall Improvements to the Rail Corridor

Squannacook Greenways considered numerous alternatives before arriving at the proposed plan for rail trail construction. We believe that the plan described in this Notice of Intent presents the best alternative for smoothing out the existing surface with negligible alteration of existing topography and minimal disturbance to resource area and habitat, while improving and repairing a rail corridor and parking area that have already been disturbed.

The proposed plan does not create any new impervious surfaces. By removing the existing steel rail and wooden ties along the entire length of the proposed project, we will reduce as much as 60,000 square feet of impervious surface. By laying the new trail surface directly over the underlying crushed stone track ballast, we will avoid creating any new disturbed surface. The combination of crushed stone ballast and 3/8 minus compacted aggregate will create a pervious surface approximately 10 feet wide, with a slight camber to direct any surface water off that path to either side and into the side swales.

Additional work will be done track-side to clean out some of the man-made drainage swales. Squannacook Greenways considers this to be normal maintenance and, therefore, under the Wetlands Protection Act does not require a permit. Still, care will be taken to ensure that this work will not adversely impact the surrounding wetland buffers. We will stabilize the washed-out section of riverbank just east of Shepherd's near the fisherman's parking lot.

Proposed improvements to the rail corridor include stabilizing the eroded riverbank adjacent to the fisherman's parking lot by



On the west side Old Meetinghouse Road, a stone from the old culvert headwall has fallen. The stone will be lifted and restored to its original position using a backhoe, which will be parked on the rail bed and extended down to reach this single stone.

Long-term operation and maintenance of the trail will involve patching any deteriorated areas with additional aggregate. This will typically be a wheelbarrow-and-shovel operation performed with hand tools. In the unlikely event of a major washout requiring heavy equipment, access would only be along the rail trail. Pruning/removal of vegetation from the narrower rail trail corridor will also be performed. Signage or fencing to prevent off-trail usage will be installed as needed.