

Baseline Assessment
for the
Russell Street Conservation Land

June 2023



**Prepared by the
Land Stewardship Committee**

**A subcommittee of the
Carlisle Conservation Commission
Carlisle, Massachusetts**

Foreword

This Baseline Assessment has been prepared by the Land Stewardship Committee (LSC), a subcommittee of the Carlisle Conservation Commission. The LSC, which was formed in January 2006, has a number of core tasks. Two key core tasks are to:

1. Prepare Baseline Assessments of Town-owned conservation properties; and
2. Develop a Management Plan for each of these properties.

The Baseline Assessment involves the collection, evaluation and presentation of information on several topics including:

- The acquisition of the property, including reasons for purchase, costs, funding sources, and associated land use restrictions;
- A detailed description of the property (using maps and figures, where appropriate) covering such topics as: boundaries (and abutters), major features (e.g., fields, woods, ponds, wetlands), topography, agricultural use and soil quality, trails, parking, and signs and displays;
- Historic and current uses of the property;
- A description of previous planning documents or other studies of the property;
- Maintenance activities and current condition of the property; and
- A list of issues to be addressed in the formulation of a Management Plan.

If you have any comments on the content of this document, please send them to the author, Warren Lyman, at lymanwj42@hotmail.com.

Land Stewardship Committee (June 2023)

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Cover Note: The photo on the cover, taken at the heron rookery abutting the Russell Street Conservation Land, is by Alan Ankers.

ACKNOWLEDGMENTS

First, the many detailed articles in the *Carlisle Mosquito* published during the course of the creation of Garrison Place and the Russell Conservation Land were invaluable. Valuable information was also provided by Sylvia Willard, Conservation Administrator, Alan Ankers, Judy Asarkof, and Carlisle's Assessors Office. Members of the Land Stewardship Committee provided helpful review comments on drafts of this report.

Three websites were frequently used in the preparation of this document; they are cited by name only. They are listed below with more information and the web addresses.

Google Earth (<https://earth.google.com>) or

Google Earth Pro (<https://www.google.com/earth/versions/>)

“Google Earth is a computer program that renders a 3D representation of Earth based primarily on satellite imagery. The program maps the Earth by superimposing satellite images, aerial photography, and GIS data onto a 3D globe, allowing users to see cities and landscapes from various angles.” [Wikipedia](#)

MassMapper (<https://maps.massgis.digital.mass.gov/MassMapper/MassMapper.html>)

MassMapper is an interactive on-line map for Massachusetts. With MassMapper, users can choose from hundreds of map layers to create a map most relevant for their needs. MassMapper not only displays the map information, but also allows users to query for information about individual features on the map. The user-friendly interface also includes tools for drawing on or adding text to maps. You can save and print PDFs of maps you create.

Middlesex North Registry of Deeds (<https://massrods.com/middlesexnorth/>)

All of the deeds, covenants, and some other legal documents relating to the Russell Land and Garrison Place may be found in this Registry. It's best to search by address: 81 Russell St., Carlisle.

Unless otherwise stated, photos in this report are by Warren Lyman.

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1. INTRODUCTION

The location of the Russell Street Conservation Land, at 81 Russell Street, and the related Garrison Place condominium project it surrounds, is shown (shaded area) in **Figure 1**.

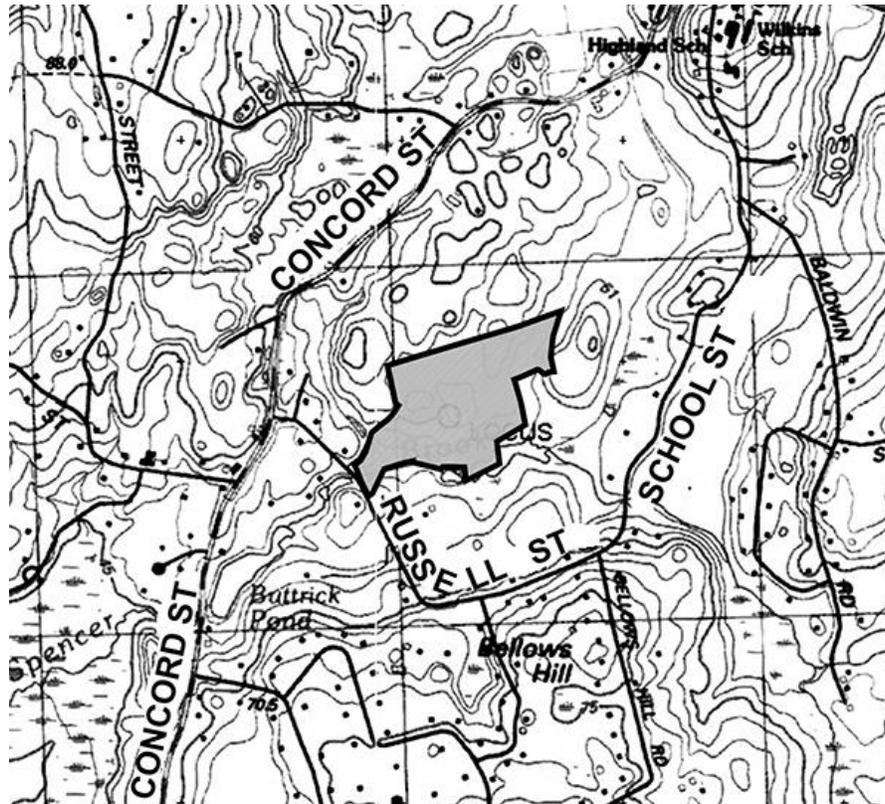


Figure 1. Location of the Russell Land/Garrison Place Complex
Source: *Carlisle Mosquito*, November 22, 2016

The 22-acre Russell Street Conservation Land (hereafter the “Russell Land”) was acquired in 2018 by the Town of Carlisle as part of an agreement with a developer who, following the purchase of a 34-acre parcel on Russell Street, proposed the building of a 16-unit Senior Residential Open Space Community (SROSC) on a 12-acre portion of the site. Such a development, which can include attached dwelling units, is allowed by Section 5.7 of the Town’s Zoning Bylaws. The Bylaw requires that, for every dwelling unit, 1.2 acres of Open Space, for park or open space use, must be conveyed to the Town or other organization. The Bylaw includes many restrictions including: (1) that the entire Senior Residential Open Space Community tract is separated from adjacent property by the intervening Open Space; (2) that at least one resident of each unit be 55 or older and no resident be under age 18; and (3) that a Homeowners’ Association will be formed which will have the legal responsibility for the management and maintenance of the development.

The development, now called Garrison Place, was initially proposed by the developer in 2013 and was followed by several years of planning and Town review. The Town received the deed for the Russell Land in June 2018. Additional details relating to the acquisition of the Russell Land are provided in Section 2 of this document. Additional details on the buildings, infrastructure, and rules of Garrison Place are provided in Section 3.

The Russell Land was named by the Conservation Commission for Benjamin Russell (1643 – 1712) who, according to the *Carlisle Mosquito* (May 3, 2017), was the original settler of the land. Russell came to this area and built his home on what is now Russell Street in 1680. Additional information on Benjamin Russell is provided in **Exhibit A** (next page).

Key features of the Russell Land include areas of field, woods, wetlands, vernal pools, a hiking trail, and a portion of Spencer Brook, a perennial stream. An abutting property contains a heron rookery which is visible from the Russell Land trails. Section 4 of this report provides a detailed description of the physical environment of the property.

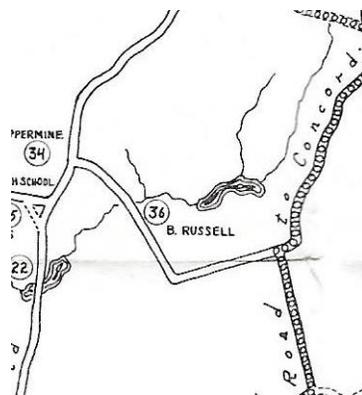
Figure 2, from the Town Assessors maps, shows a plan of the Russell Land (map # 8-16-A) surrounding Garrison Place, the condominium complex (map # 8-16-C). There are currently eleven direct abutters to the Russell Land. **Appendix A** provides a list of the abutters.

Exhibit A
Information on Benjamin Russell (1643 – 1712)

Benjamin Russell was born in Cambridge, MA in 1643, married his wife Rebecca (or Rebeckah) in Cambridge in 1664 (or 1665), and in 1680 moved to Carlisle, then part of Concord, and built a home on what is now called Russell Street. Benjamin and Rebecca had five children - Jason, Joyce, Sarah, Mary & John – born between 1673 and 1686. Benjamin died in January of 1712 (or 1713). Russell’s primary occupation is assumed to have been farming; this is based on archival records in Concord saying he paid rent (“quit rent”) in Indian corn for his rental of land.

The Russell house, whose location (“36”) is shown in the sketch below, was on the south side of Spencer Brook, while the current Russell Land is on the north side. According to the *Carlisle Mosquito* (May 3, 2017), Russell was the first owner of the land which now contains the Garrison Place condominiums and the Russell Land. Russell’s 1680 house had timbers that were 12 inches square and made of solid oak. Bricks were used between the walls as a defense against the Indians. The house was taken down in 1903.

At the time of Russell’s arrival in ‘Concord,’ the path from Concord, now called Concord Street, ended at his house. Also at this time, other than sustenance and shelter, two major concerns were Indians and wolves. The King Philips War with the Indians (1675 – 1678) had only recently ended.



Sources: (1) Ruth Chamberlin Wilkins, “Carlisle – It’s History and Heritage,” The Carlisle Historical Society, Carlisle, MA; (2) Ancestry.com; (3) Massachusetts Vital Records Project; (4) the *Carlisle Mosquito*; and (5) Nate Smith, Concord’s Municipal Archivist.

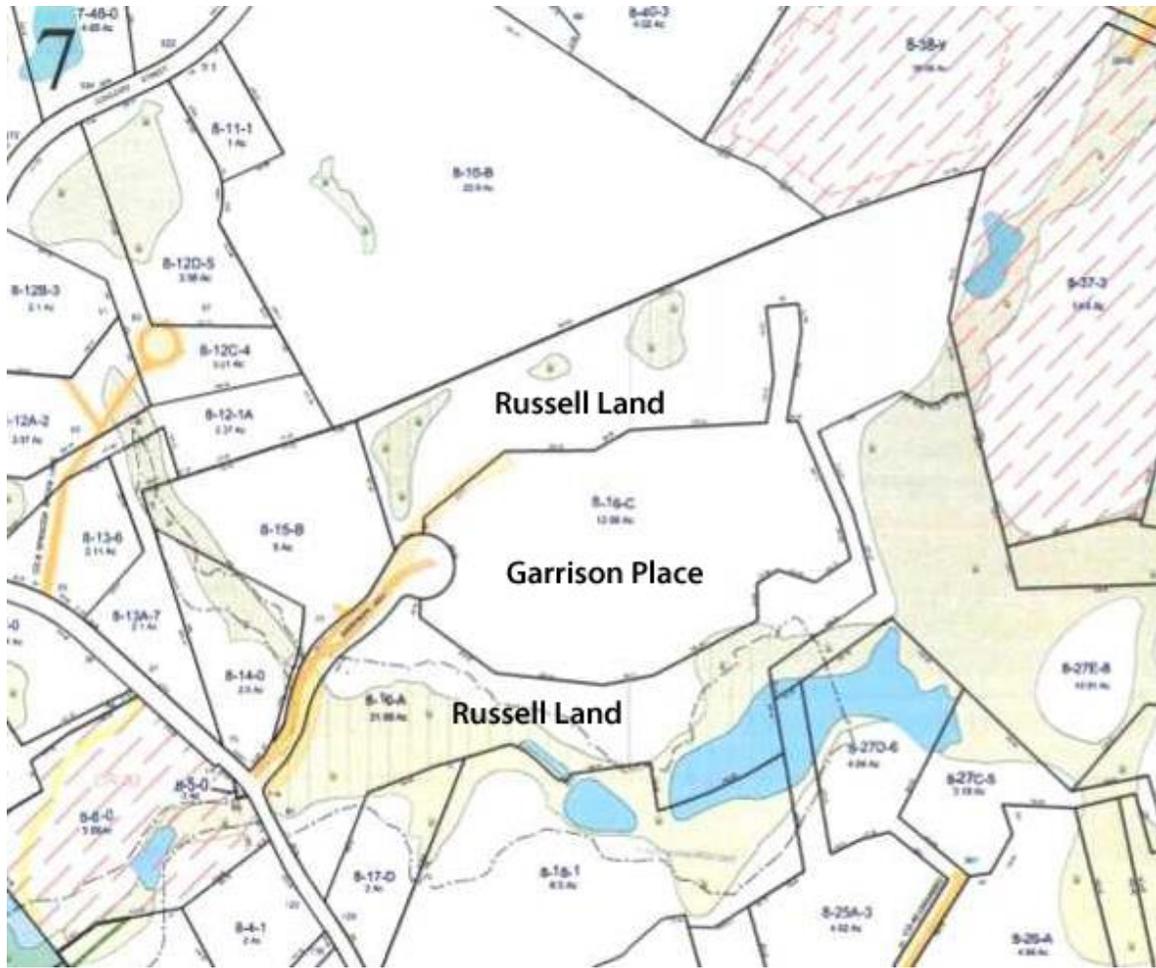


Figure 2. Town Assessors Map Showing the Russell Land and Garrison Place

2. LAND ACQUISITION, PLANNING AND REVIEW

Although separately owned, the Russell Land and Garrison Place are conjoined properties. Not only were they created by the same development project, but they remain interconnected by their close physical proximity, by potential impacts from one parcel on the other, and by legal documents (e.g., deeds, covenants, easements, laws, bylaws, wellhead protection rules) that control or restrict activities on each parcel. This Section 2 is thus presented to provide information on a few issues that arose during the development process deemed important for a Baseline Assessment. Details on the new buildings and related infrastructure are given in Section 3.

Initiation of the Development

In 1986, the Talbot Family Realty Trust sold the land in question (two parcels said to total about 59 acres) to Brendon Properties Garrison Place, LLC (Southborough, MA) for \$2,400,000. At that time, the main property had one residence, a barn, and field and forest land (see **Figure 3**). Spencer Brook is seen in the lower portion of the aerial. The deed excluded four portions from one parcel, thus lowering the effective purchase to 34 acres.



Figure 3. 2015 Aerial by Google Earth

Brendon Properties submitted their initial plans for a Senior Residential Open Space Community (SROSC) in late 2013. This initiated a yearlong process of review by Carlisle's Select Board, Planning Board, Board of Health, and Conservation Commission. Details of this review process are well reported in the *Carlisle Mosquito* and are not repeated here. A few issues are described in the following subsections.

Chapter 61A Land

Approximately 21 acres of the land being sold by the Talbot Trust were classified as forest land under M.G.L. 61A which provided a real estate tax reduction to the Trust. Under State law, if such land is to be sold to a developer, the Town is granted the right of first refusal for the purchase of the 61A land. Given proper notification, the Town has 120 days to exercise the right. In this case, the notification was incomplete, so the period allowed for a decision was extended. In April 2014, the Conservation Commission and the Planning Board recommended that the Town not exercise its right of first refusal (*Carlisle Mosquito*, May 14, 2014). The Select Board agreed to waive the Town's first refusal rights in September 2014 (*Carlisle Mosquito*, September 17, 2014).

Complaints and Legal Action by Abutters

During the Town's review of the proposed development, several concerns and objections were raised by abutters, mostly by one couple living on Russell Street. The issues involved the location and use of the development's common drive, potential flooding, a proposed new culvert under Russell St., increased traffic, stockpiling of construction materials, unauthorized digging,

blasting's impact on water quality, leakage of septic field effluent to Spencer Brook, the allowed age of residents, and others. (For details, see the 11-26-13 and 11-25-14 issues of the *Carlisle Mosquito*.) Following their review of the project, required by the State's Wetlands Protection Act, the Conservation Commission issued an Order of Conditions that contained over 40 conditions designed to protect the wetland resource areas. The abutters appealed, requesting the State's Department of Environmental Protection (DEP) to issue a Superseding Order of Conditions after a review of 19 objections they submitted. DEP's Superseding Order of Conditions affirmed the Conservation Commission's initial Order of Conditions. (*Carlisle Mosquito*, March 18, 2015)

The abutters also appealed, to the Massachusetts Land Court, the Senior Residential Open Space Community Plan Special Permit issued by Carlisle's Planning Board (*Carlisle Mosquito*, September 28, 2016). As a result of the abutters' appeal of the proposed 16-unit Garrison Place senior housing project, Land Court affirmed the common driveway, and parking spaces, can be used by the developer and future residents but ruled that the Carlisle Planning Board cannot grant public use, which was intended to provide access to a proposed 22-acre open space parcel (*Carlisle Mosquito*, November 22, 2016). On November 28, 2016, the Planning Board amended the Special Permit as required by the court.

Regarding the abutter's complaint that blasting had adversely impacted their well water quality, the developer had a water filtration system and well casing installed at their home (*Carlisle Mosquito*, December 13, 2017).

Culvert Replacement for Spencer Brook Passage under Russell Street*

Early in the review of the proposed Garrison Place development, it was made clear to all that water backed up behind the Russell St. culvert with flooding of portions of the project area. Beaver activity was also said to exacerbate the problem. Russell St. was overtopped with flood waters on a few occasions. To solve this problem, the developer's engineers, Stamski and McNary Engineering, proposed to replace the existing 36" culvert with two new 48" culverts, one acting, in concert with a concrete weir, to allow the passage of high flows following a 100-year storm. A regrading of Russell St. at the culvert location was also needed. The Town required the culvert and road repairs to be completed before any occupancy permits would be issued for Garrison Place units. The stipulated work was completed around August 2018.

Covenant for Meadow Maintenance

In June and July of 2018 respectively, the Carlisle Planning Board and Conservation Commission approved a Covenant for Meadow Maintenance prepared by Brendon Properties Garrison Place, LLC. The document is recorded in the Middlesex North Registry of Deeds as Document #31020 in Book/Page 32260/173. In summary, by this covenant, the Garrison Place owners agree to the following:

- Submit a haying plan, for approval and/or modification, to the Conservation Commission at least two weeks before any haying activity.

*Information obtained from the *Carlisle Mosquito* issues of 1/26/13, 1/15/14, 1/29/14, 10/29/14 and 8/29/18.

- Hay the five (5) acres, shown on a Plan as Mowing Area A and Mowing Easements B, C, D and E, no less than two (2) times per year, weather permitting, between the months of April and November.
- Grant the Town the right to enter the property, with prior notice, to inspect the mowing areas before and after the mowing. If the owners fail to carry out the required mowing, then, after proper notification, the Town may conduct the mowing at the cost of the owners.

Indemnification and other legal components of the Covenant are not included in this summary. The mowing areas (A – E) listed in the Covenant are shown in **Figure 4** which constitutes the “Plan” (on page 8) of the Covenant document. Area A is on Garrison Place land, and Easements B – E are on the Russell Land. Because of the small type size in the original figure, the C and E areas shown in Figure 4 may have been interchanged. In addition, bold letters shown in red in the Figure were added by the author of this Baseline Assessment as an aid to the reader.

Final Approvals and Deeds

Quitclaim Deed

A Quitclaim Deed* for the transfer of the Russell Land property to the Town was signed by Brendon Properties Garrison Place, LLC, on June 4, 2018, and by Carlisle’s Board of Selectmen and Conservation Commission on June 19 and 21, respectively. The deed was recorded (book 32260, page 117) in the Middlesex North Registry of Deeds on July 23, 2018. Copies are available in the Conservation Administrator’s office. The grant of land, about 22 acres, was made “...to the Town of Carlisle, ..,acting by and through the Conservation Commission ...for conservation, agriculture and passive recreation purposes only.” The grant also includes a non-exclusive Perpetual Right and Easement for trails, and related kiosks and signs, that are in designated areas of the SROSC.

In the deed, Brendon Properties reserved for itself (Garrison Place) a Perpetual Right and Easement to cover a number of activities including: (a) doing work required by the Planning Board and Conservation Commission; (b) maintaining its water supply system; (c) mowing as required by the Covenant for Meadow Maintenance; and (d) maintenance and repairs of any parts of the Garrison Place infrastructure.

Subsequent portions of the deed list “acts or uses” that are either permitted or prohibited. The complete list is provided in **Appendix B**.

Master Deed of Garrison Place Condominium

On November 26, 2018, Brendon Properties Garrison Place, LLC signed a Master Deed submitting the Garrison Place property to the provisions of Chapter 183A of the General Laws of Massachusetts and creating a condominium named Garrison Place Condominium. The deed was recorded in the Middlesex North Registry of Deeds (book 32592, page 1) on the same date.

*A quitclaim deed is used when a real estate property transfers ownership without being sold. No money is involved in the transaction, no title search is done to verify ownership, and no title insurance is issued.

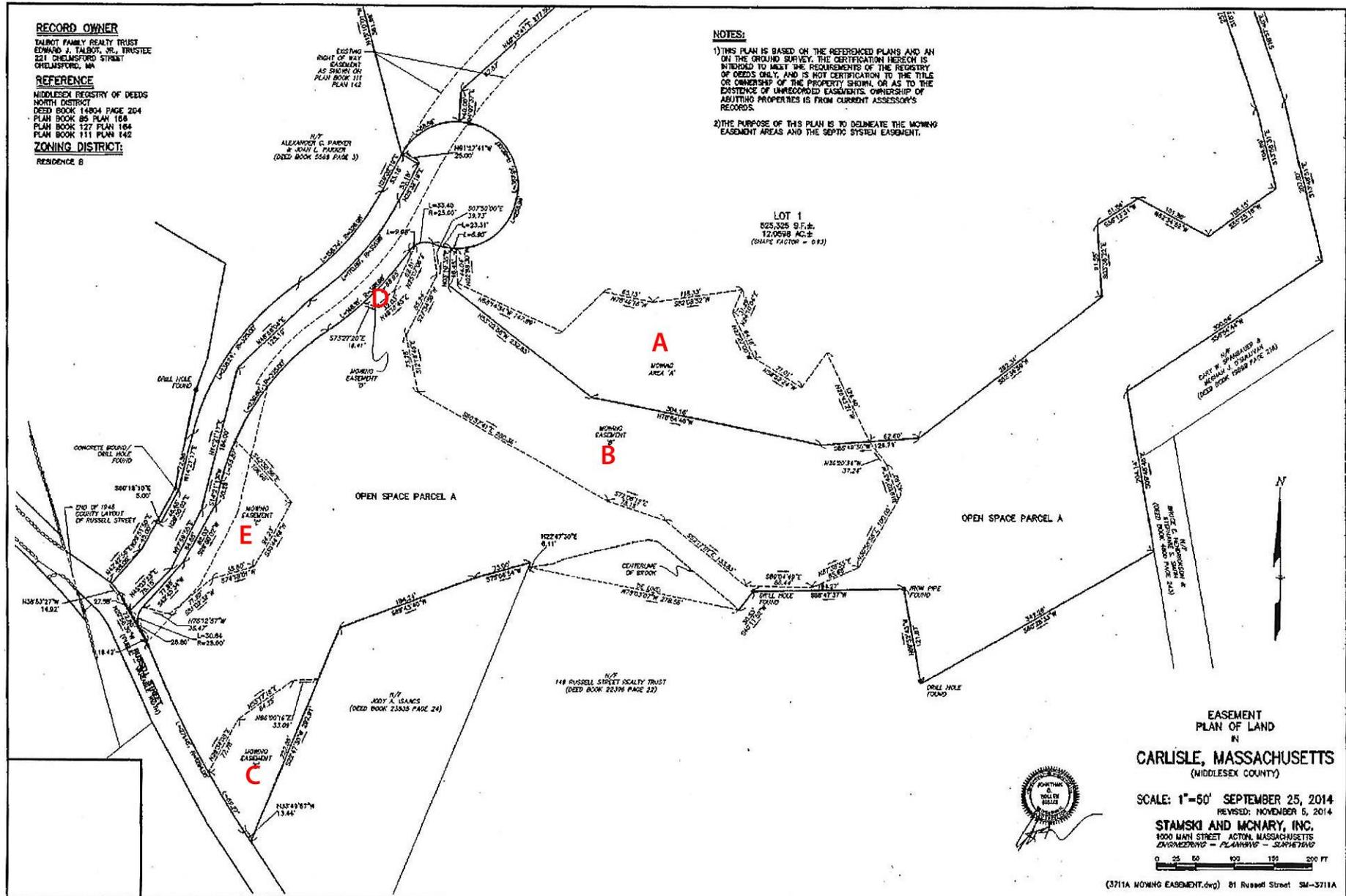


Figure 4. Mowing Areas A – E Specified by the Town’s Covenant for Meadow Maintenance with Garrison Place

A copy of the deed is available in the Conservation Administrator's office. This document: (a) describes the rights, rules, and obligations under which the condominium and its unit owners will operate; (b) provides a description of the land, buildings, units, common areas, and facilities; (c) states the purpose and restrictions of use; and (d) describes several other miscellaneous and legal requirements.

Appended to the Master Deed for Garrison Place is a March 30, 2018, letter from the MA Department of Environmental Protection (DEP) giving approval for the Source Final Report for a bedrock well intended to provide public water supply to the condominium complex. This 10-page letter contains many details about the bedrock well to be used for the supply water; some of these details are provided in Section 3 of this Baseline Assessment. The DEP letter concludes with a list of 21 conditions related to their approval.

3. GARRISON PLACE BUILDINGS AND INFRASTRUCTURE

Introduction

In responding to future issues on the Russell Land, the Town, particularly the Conservation Commission and the Land Stewards, should always include an awareness of buildings, infrastructure, activities, and environmental features and issues on both the Russell Land and Garrison Place as the two properties are conjoined (see Section 2). And in some instances, other abutters may or should be involved in deliberations. To help in such responses, this Section 3 presents a brief description of key components of the Garrison Place development. Except where noted, the information is from various issues of the *Carlisle Mosquito*.

Figures 5 and 6 (next page) show, respectively, a schematic diagram and aerial photo of the Garrison Place condominiums. **Figure 7** (page 11) shows the locations of some of the items described below. Figure 7, dated February 2014, is part of the Master Plan for the Garrison Place development that was approved by Carlisle's Planning Board. The project's As-Built plan, dated June 2020, contains more details on the completed buildings and infrastructure, and is provided in **Appendix C**.

Condominium Buildings

Eight condominium buildings were permitted and constructed; each building contains two condominium units for a total of 16 units. Each unit contains two bedrooms, a limit set by the Special Permit issued by the Planning Board. (The Garrison Place septic system design was based on two-bedroom units.) At least one resident of each unit must be at least 55, and no resident may be under the age of 18.

All units are served by a single common drive, Garrison Way, which connects with Russell St. All units are served by a single, on-site water supply system and a single wastewater treatment/disposal system, also on site; both are described below.

Water Supply System and Initial Water Quality Tests

The Garrison Place water system is a DEP-permitted Community Public Water System. The DEP approval letter of March 30, 2018 (appended to the Garrison Place Master Deed) is the source of the information in this subsection. The water will supply the 16 senior residential units. The water needs of the condos, based on Title 5 design flow estimates, is 2,400 gallons per day (gpd). However, based on pumping tests, the DEP states the well is approvable for 3.92 gallons per minute (gpm), which is equivalent to a daily withdrawal volume of 5,650 gpd.

The location of the single well for the system (see Figure 7) is in the panhandle in the northeast portion of Garrison Place. To protect the groundwater around the well from contamination, the State requires land uses around the wellhead to be restricted; in this case the two restricted areas are referred to as Zone 1 and an Interim Wellhead Protection Area. Figure 7 shows (the circular lines around the well) the well's Zone 1 protective radius (157 ft.) and the Interim Wellhead Protection Area radius (453 ft.). Major portions of both protective areas are on the Russell Land. The DEP-required Zone 1 protective radius is based upon a 2,400 gpd daily withdrawal volume.

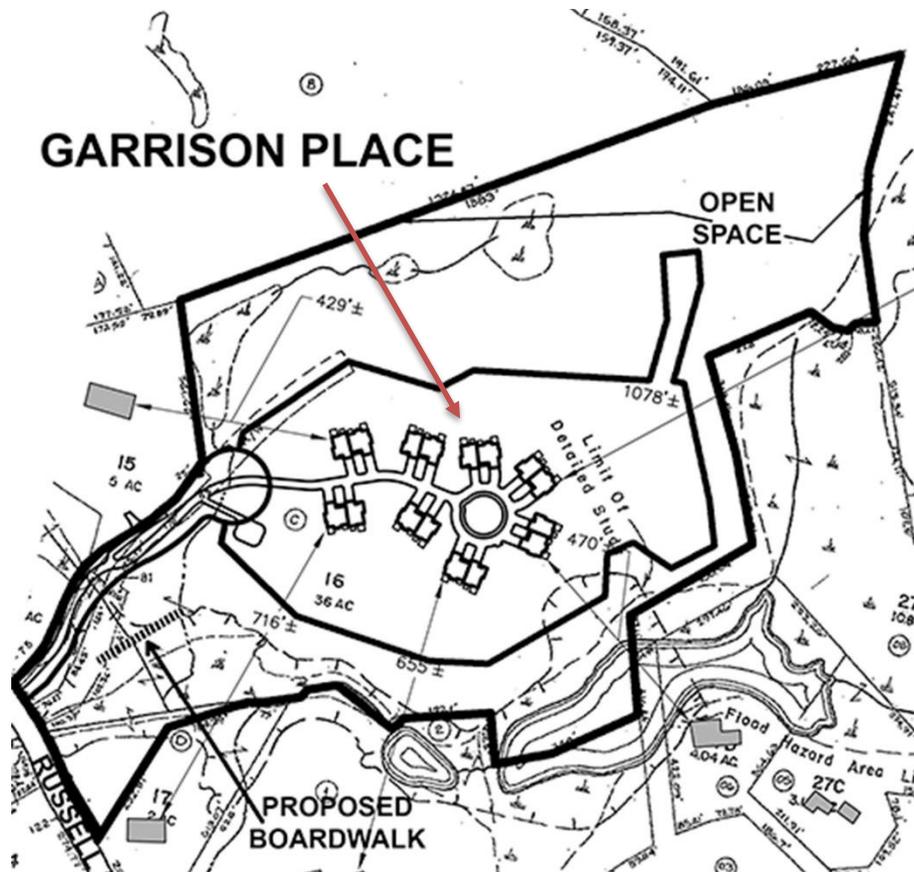


Figure 5. Schematic of Garrison Place Units and Surrounding Russell Land
 Source: Carlisle Mosquio, December 7, 2016.

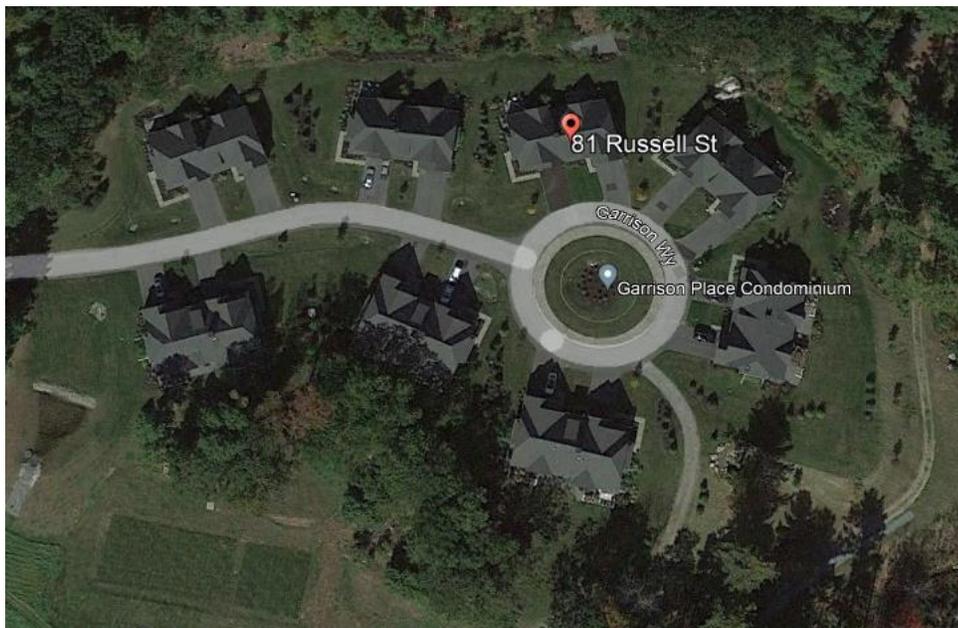


Figure 6. Aerial Photo of Garrison Place Units
 Source: Google Earth (image from October 2021)

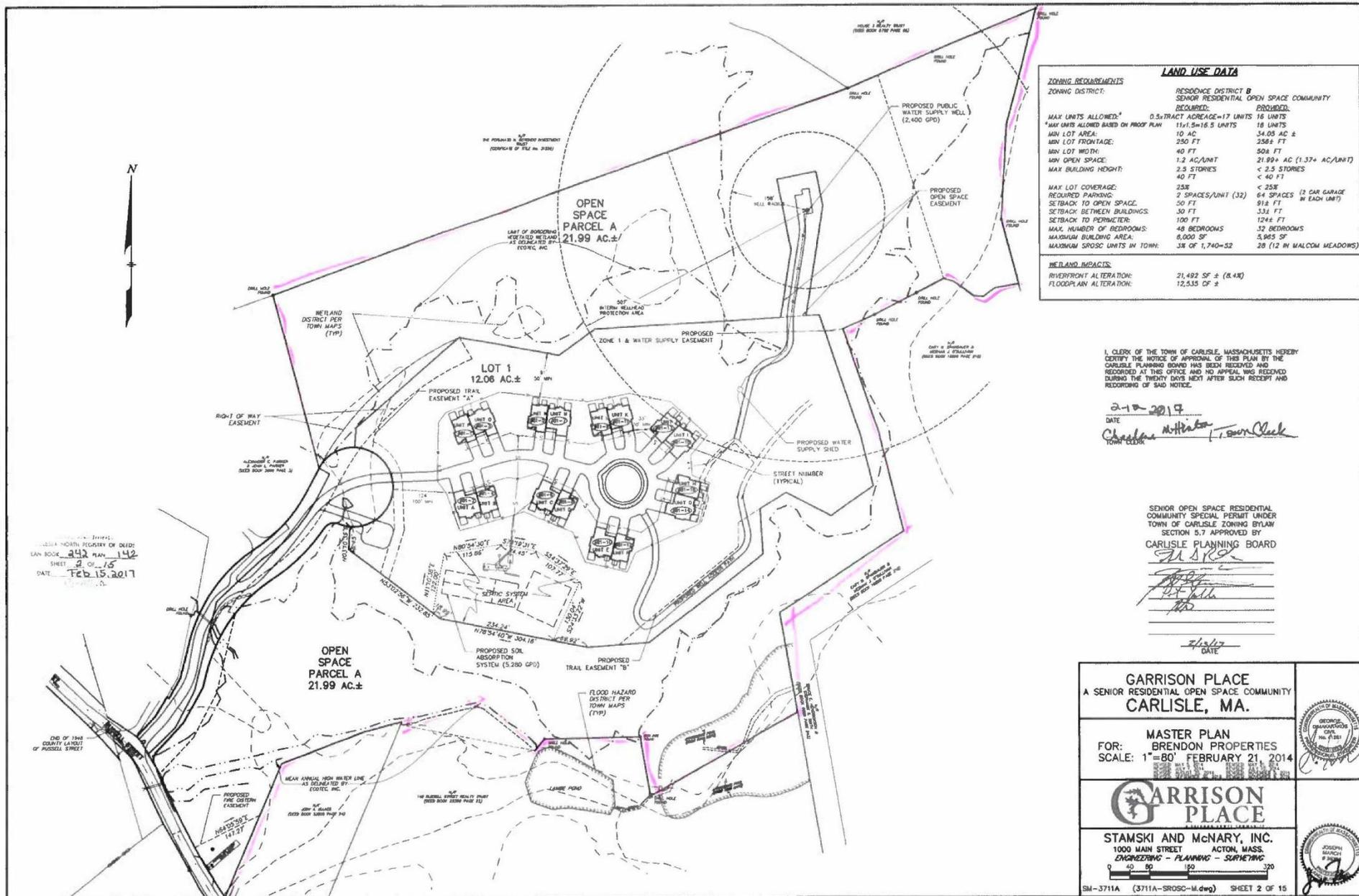


Figure 7. Master Plan of Garrison Place Prepared for Brendon Properties by Stamski and McNary (February 2014)

Production from the well may not exceed this amount during any day. Normal passive recreational uses of the Russell land (in the restricted zones) would not result in well water contamination.

The bedrock well is six inches in diameter, 700 feet deep, and cased to a depth of 40 feet below ground surface. Bedrock was encountered at a depth of 14 feet. The primary fracture zone was encountered at a depth of 515 to 520 feet, with a secondary fracture zone at a depth of 180 to 185 feet. A Goulds submersible pump was set at 600 feet. The well has a cement-bentonite seal. A HDPE well supply line will convey the well water underground to a 16' x 24' above-ground, pump station building. The electric pump in this building will have an emergency backup power generator fueled by liquid propane gas (LPG). Two 2,500 gallon above-ground storage tanks in the building provide two days of storage as required by DEP guidelines.

The well water is moderately hard with a hardness of 115 mg/L. The pH at the end of the well pump test was 7.0.

Samples collected at the end of the pumping test showed elevated levels of iron (4.7 mg/L) and manganese (0.59 mg/L) in the well water. These concentrations are an order of magnitude greater than the aesthetic-based Secondary Maximum Contaminant Levels (SMCLs). The well installer proposed ion exchange treatment to remove the iron and manganese from the water.

Total coliform bacteria were detected in the well water. The well was to be disinfected a second time prior to the start-up of the water system.

Toluene, a volatile organic compound, was detected in the well at 5.5 micrograms per liter (ug/L), far below the Maximum Contaminant Limit (MCL) of 1000 ug/L.

Wastewater Treatment and Disposal

The wastewater treatment and disposal system for Garrison Place is in the “septic system area” in the south-southeast position of their land. It is depicted by the square and rectangular areas (with dashed lines) in Figure 7. It is said to be 100 linear feet away, and 10 to 12 feet higher, than the 100-year flood plain. The capacity of the system was based on two-bedroom units. The Board of Health hired a consultant to review the proposed treatment system which will use a MicroFAST® 9.0 wastewater treatment system. Effluent from the treatment system will be disposed of onsite using a Perc-Rite® drip dispersal system.

According to the manufacturer*, Bio Microbics, the MicroFAST® treatment system uses a fixed-film, activated sludge treatment process with a sequencing fixed reactor, providing significant improvement over traditional systems. They claim that the process is ideal in environmentally sensitive areas, and that the effluent exceeds quality requirements for protection of groundwater and water reuse.

According to the manufacturer**, “Perc-Rite® is a unique fluid handling system for the dispersal of septic tank effluent wastewater into soil, incorporating filtration, time dosing, and low rate drip distribution tubing. In conditions where aerobic dispersal (such as low-pressure distribution

* <https://biomicrobics.com/products/microfast-wastewater-treatment-systems/>

** <https://www.americanonsite.com/products/perc-rite-drip-dispersal-systems/>

of septic effluent) is required or where land application with the use of conventional soil absorption fields are not acceptable, Perc-Rite® offers a method for subsurface & surface dispersal of the wastewater.” Three monitoring wells were placed between the drip dispersal system and Spencer Brook to confirm groundwater flow direction.

Fire Cistern

As required by the Fire Department, a 30,000-gallon fire cistern (**photo to right**) was installed just off Russell St. about 100 ft. east of the Garrison Way connection with the street. It is on the Russell Land, but with an easement.



Condominium Association

Garrison Place is managed by the Garrison Place Condominium Trust* which has three trustees elected by the unit owners. Contact Carlisle’s Conservation Administrator for their contact information. The trustees should be contacted for any issue relating to activities on, or potentially affecting, Garrison Place.

* <http://homesatgarrisonplace.com/wp-content/uploads/Garrison-Place-Condominium-Trust-.pdf>

4. ENVIRONMENTAL DESCRIPTION OF THE PROPERTY

Introduction

The combined Russell Land and Garrison Place properties are shown (with property lines) in **Figure 8**. The significant environmental features of the 22-acre Russell Land include both field and forest lands, wetlands (including two certified vernal pools), a few short segments of Spencer Brook (a perennial stream), and a hiking trail. A heron rookery used by Great Blue Herons, in wetlands of an abutting property, can be seen from the trail in the northeastern corner of the property. These features, and a few others, are described in the subsections below.

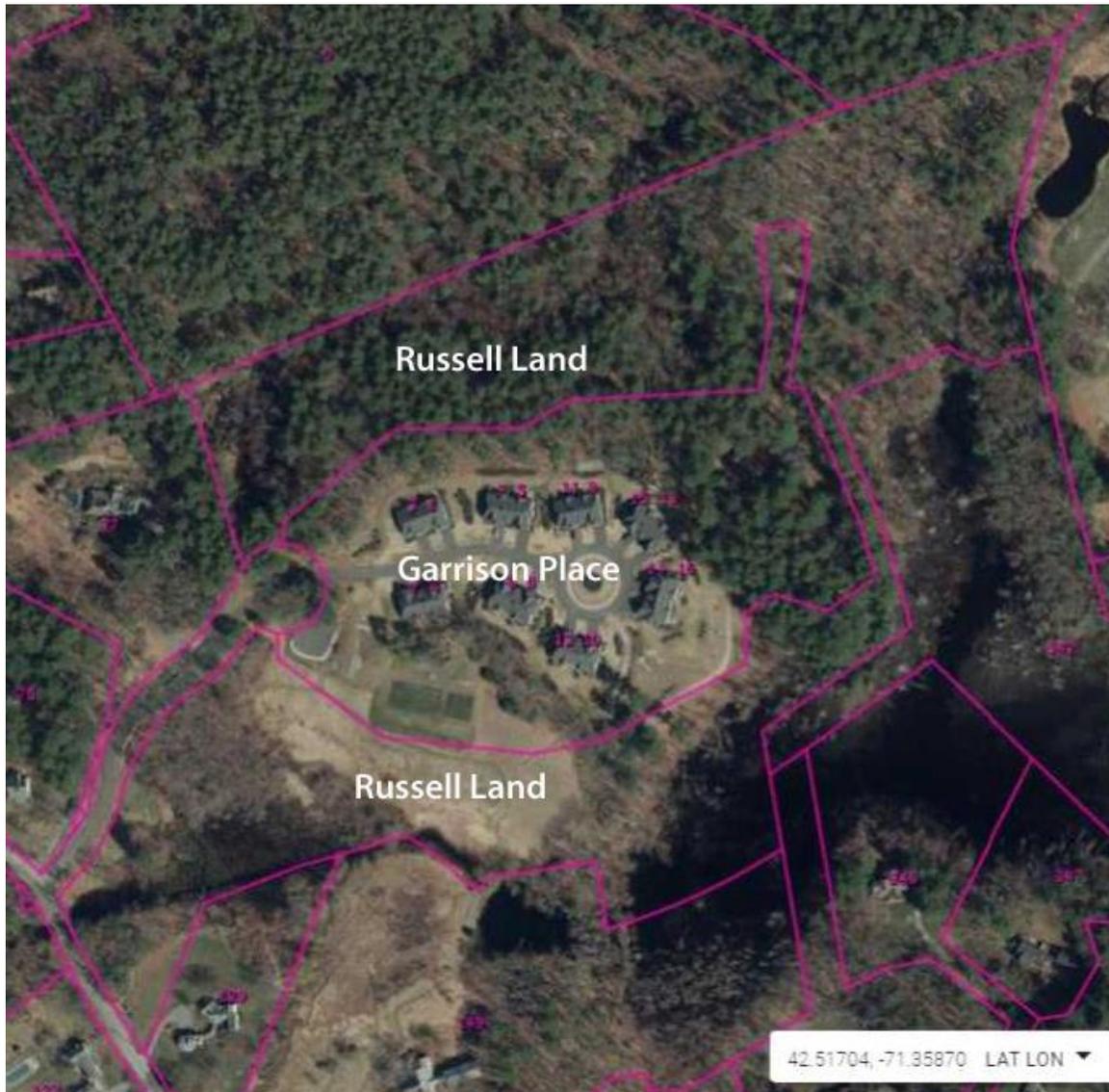


Figure 8. Aerial Photo of the Combined Russell Land and Garrison Place Properties.
Source: MassMapper (using 2021 aerial photo)

Topography

There is relatively little change in land elevation throughout the Garrison Place/Russell Land properties. The Garrison place condominiums occupy the highest ground (~ 191 – 193 feet elevation) while the southern part of the Russell Land, including Spencer Brook, has the lowest elevation (~ 160 – 162 feet) according to Google Earth.

Land Types and Wetlands

Most of the Russell Land is forested, primarily a mix of common hardwoods and white pine. The field areas, seen in Figure 8 south of Garrison Way, are partly owned by Garrison Place, including the area around the two darker green, rectangular areas where the wastewater treatment system and septic field are located. A portion of the field area on the Russell Land was excavated to provide compensatory flood storage area in connection with other construction activity in the flood hazard zone. While the deed to the land allows agriculture in the fields, according to a local farmer, the fields are not in the best of conditions and would need to be mowed, turned over, reseeded and fertilized to obtain a quality field.* Some invasive plants have also been noted in the fields. Mowing of all fields is the responsibility of Garrison Place according to the Covenant for Meadow Maintenance (see Section 2).

Slightly different depictions of the wetland areas on the Russell Land are shown in Figures 1, 5 and 7. Essentially, there are a few, mostly isolated, areas in the portion of the land north of Garrison Place, and more extensive connected areas south of Garrison Place in the Spencer Brook flood plain. MassMapper, using data from the State's Natural Heritage and Endangered Species Program (NHESP), reports two certified vernal pools (NHESP #s 4620 and 4640) and one potential vernal pool (NHESP # 4367) in the northern part of the Russell Land. The locations of the two certified vernal pools are shown in the trail map (Figure 9) in a subsection below. The certified pools were reported in 2007 based on the finding of obligate species.

Soils

According to MassMapper, three types of soil are present on the Russell Land. In the field areas, it is Windsor 255 B, a sandy loam with slopes of 3 to 8 percent. It is described as being very deep, essentially drained soils formed in sandy glacial outwash plains, deltas, and on the tops of glacial stream terraces.** Such soils provide farmland of unique importance. A second type is Swansea 51A. Swansea soils are very poorly drained organic soils. They formed in highly decomposed organic material over sandy mineral. These soils are in depressions or on flat level areas on uplands and outwash plains.*** The third type is Charleston 103B. The Charleston series consists of deep, moderately well drained, moderately permeable loamy soils that formed in marine or fluvial sediments of the lower coastal plain. Slopes range from 0 to 2 percent.****

*Personal communication from Sylvia Willard, Carlisle's Conservation Administrator, to Warren Lyman, June 22,2021.

**Plymouth County, Massachusetts Soil Survey Update: <http://nesoil.com/muds/windsor.htm>.

***National Cooperative Soil Survey:

https://soilseries.sc.egov.usda.gov/OSD_Docs/S/SWANSEA.html

****Ibid.: https://soilseries.sc.egov.usda.gov/OSD_Docs/C/CHARLESTON.html

Surface Waters

Running through and just south of the Russell Land is Spencer Brook, a perennial stream which flows in a southwesterly direction. Starting at the Russell St. culvert and going upstream, there is about a 250-ft. brook segment that is entirely on the Russell Land. A little further upstream there is another 140-ft. segment that appears to be wholly on the Russell Land. And further upstream, on a tributary of the brook, there is another 200-ft. segment wholly on the Russell Land. No data could be found on measured flows in the stream. As mentioned above, in the past the old Russell St. culvert (a single 36-in. culvert) often restricted flow under the road and caused flooding on the land now occupied by Garrison Place and the Russell Land. A **photo by Sylvia Willard** of the March 2010 flood which overtopped Russell St. is shown at right above. The current flood hazard areas for the Russell Land are shown in **Figure 9**.



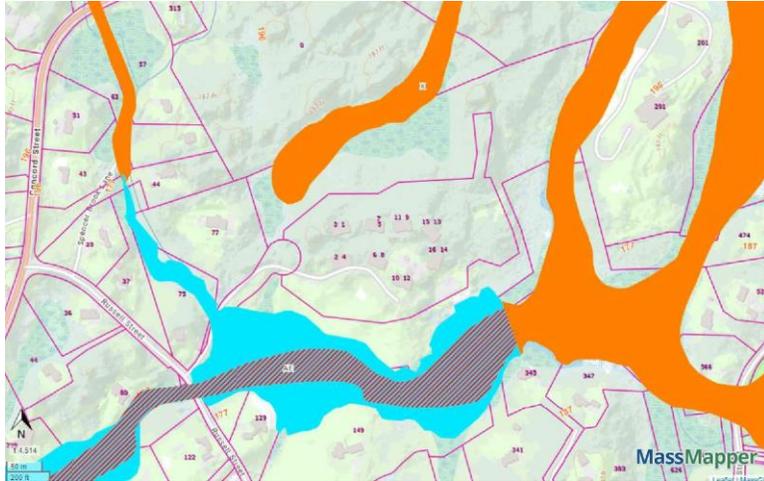
Based on historic aerial photos on Google Earth, the first 500 feet or more of the brook upstream of Russell St. appears, based on a very straight channel, to have been channelized at some time in the past. Roughly 700 ft. upstream of Russell St. is an old dam (**photo right by Warren Lyman**) which creates a small pond on private property upstream of the dam. In this photo, the Russell Land is in the foreground and private land is in the background. Evidence of beaver activity can be seen in many places in the Spencer Brook watershed.



Trails

The Carlisle Trails Committee created a loop trail that circumnavigates the Russell Land (**Figure 10**); the figure also shows the locations of the two certified vernal pools on the Russell Land. The normal trailhead for hikers is on Russell St., just south of Garrison Way, where a wood staircase descends from the road level to the field below. The other end of the loop trail is on Garrison Way near the parking lot; a trail marker on a wood post marks this trailhead. To hike from the Garrison Way trailhead back to Russell St., hikers may either walk on the private common drive (Garrison Way) or cross the Way and the field to the south to connect with the other end of the loop trail. Short sections of the trail are on Garrison Place property but are protected by an





Legend for Figure 9
AE (blue with purple stripes):
 Regulated Floodway
AE (blue): 1% Annual Chance
 Flood Hazard
X (orange): 0.2% Annual Chance
 Flood Hazard

Figure 9. Flood Hazard Areas on the Russell Land

Source: MassMapper, showing FEMA flood zones.

easement. In 2021, the Trails Committee and volunteers added a boardwalk (**photo on p. 17, by Beth Clarke, Carlisle Mosquito April 29, 2021**) for the trail to cross a wetland area.

There is no formal on-site or off-site parking area for hikers wanting to walk on the Russell Land trail. The small parking lot part way up Garrison Way is private; no public use is allowed. Street-side parking is very limited and dangerous due to the poor sightlines in the area and the difficulty of finding a pull-over area that allows all a vehicle to be off the road.

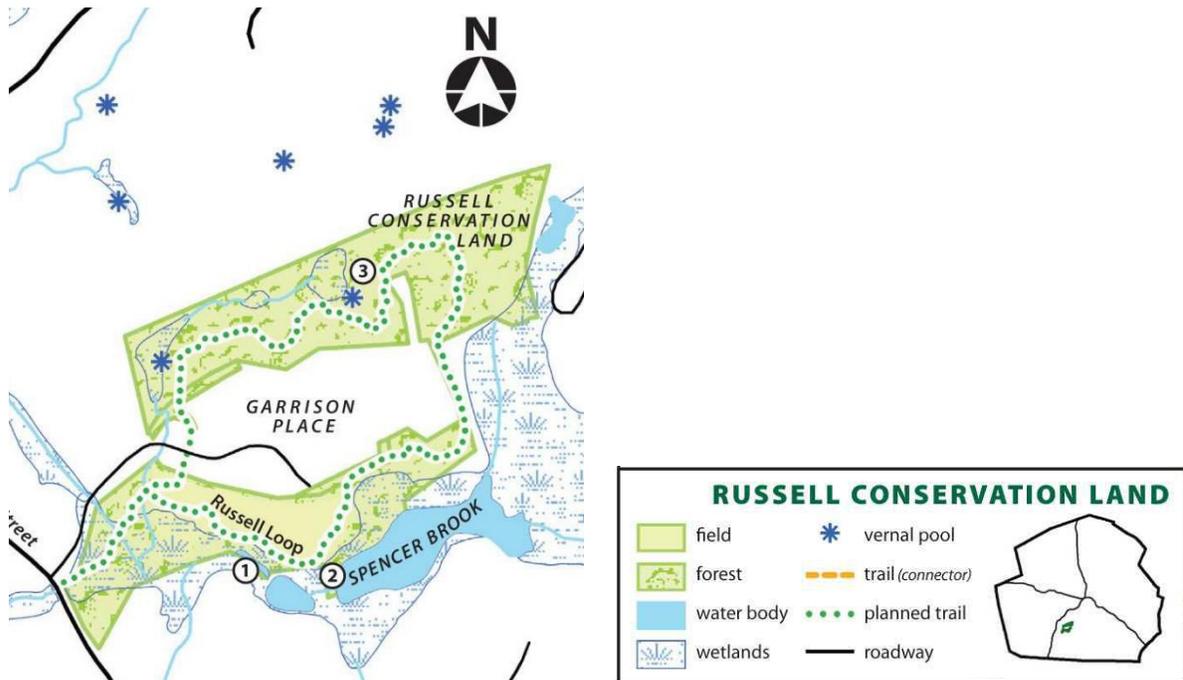


Figure 10. Trails on the Russell Land

Source: Carlisle Trails Committee, *Trails in Carlisle*, 2018 Edition

Legend

Flora and Fauna

There have been no focused studies of flora and fauna on the Russell Land. Some information from three informal collections – both by Carlisle residents – are presented in **Appendix D**. The first collection (Table D-1 in the appendix), by Judy Asarkof, is a list of species seen on or near the combined Russell Land/Garrison Place properties and recorded in iNaturalist.* The second collection (Tables D-2 and D-3 in the appendix) are lists of birds seen on the Russell Land by Alan Ankers and Tom Brownrigg.

According to the State’s BioMap,** no areas on the Russell Land are part of any Core Habitat or Critical Natural Landscape for rare, threatened, or endangered species.

Adjacent to the northeast corner of the Russell Land, on private abutting property, and in wetlands, is a heron rookery which can be seen from the Russell Land trail (**see photo below**). As of 2023, the owners of the land were in the process of placing a conservation restriction on the area containing the rookery. The front cover of this report shows a photo of two herons at this rookery. These seasonal birds arrive at the rookery around mid-March each year.



Photo of the Heron Rookery on Land Abutting the Russell Land
(Photo by Warren Lyman, 3-30-21)

*iNaturalist (<https://www.inaturalist.org>), a joint initiative of the California Academy of Sciences and the National Geographic Society, is a database for anyone to record an observation, with a photo and location information, of any plant or animal.

**For information on BioMap, see: <https://www.mass.gov/service-details/biomap-the-future-of-conservation-in-massachusetts>.

In early 2023, nine bluebird nest boxes were placed in the main field of the Russell Land.

Nearby Protected Lands

While there are no public conservation lands abutting or near the Russell Land, there are two private properties with conservation restrictions (CRs), one to the west across Russell St., and one abutting the northeast corner of the Russell Land (see **Figure 11**). CR 32 is 6 acres and was granted in 1966 with a trail easement. CR 50 is 54.5 acres and was granted in 2003, also with a trail easement. As mentioned above, a portion of the private land containing the heron rookery (“HR” in Figure 11) is in the process of being put under a conservation restriction.

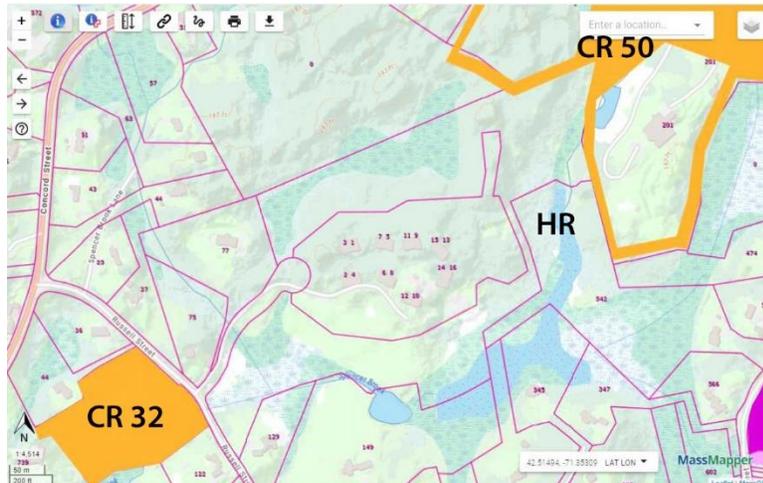


Figure 11, Private Lands with Conservation Restrictions (CRs) or Heron Rookery (HR) Near the Russell Land

Source: MassMapper (for map) and Carlisle’s Open Space and Recreation Plan (2020) for CR Identification

Photographs of the Russell Land

Selected photographs of the Russell Land, taken between 2020 and 2022 by Warren Lyman, are presented in **Appendix E**.

5. HISTORIC AND CURRENT USES OF THE PROPERTY

Historic Uses

No information is available on the historic use of the Russell Land. Subsistence farming and hunting were likely uses from around 1700 to 1900. Any farming would have been in the areas currently occupied by the fields; portions of the area currently wooded may have been pastureland in the Colonial times. In the early 20th century, based on aerial photographs taken in (or before) 1937 by Bradford Washburn, it appears that surface waters from impoundments of Spencer Brook covered more land than at present (see **Figure 12**). (The horizontal line edging shown is used to depict surface water bodies and/or wet areas. Similar markings were used for Greenough Pond and the Cranberry Bog.)



Figure 12. Depiction of Surface Features and Vegetation Types Around the Russell Land: 1937

Source: Institute of Geographical Exploration, Harvard University, 1937. Illustration prepared by Erwin Raisz and Walter Webster based on photographs by Bradford Washburn.

The earliest aerial photo from Google Earth with good resolution is from March 1995 (see **Figure 13**). The private residence and detached barn are seen in this photo. The presence of the barn (southeast of the house) would indicate recent or ongoing agricultural activity in the field shown. This photo also indicates, by the long, straight segment of Spencer Brook (bottom left of photo), the likely channelization of this part of the brook at some time in the past.

Current Uses

A detailed description of the permitted and prohibited uses of the Russell Land is provided in Appendix B. All the Conservation Commissions Rules and Regulations for its conservation lands would also apply. The key statement from the deed to the land states that:



Figure 13. Google Earth Aerial Photo of Russell Land Area – March 1995

“The premises shall be used exclusively for open space, agriculture, and passive recreational use including without limitation trails with the maintenance and marking of the trails only to pass and repass on foot, horse, skis, snowshoes, or non-motorized bicycles other than those authorized under the Town’s Other Power Driven Mobility Devices (OPDMD) regulations.”*

Trail maintenance and the erection of signage is also allowed, as is haying or grazing (goats or sheep only) on the mowing easements (“Meadow Maintenance”) described in Section 2 of this report. Agricultural activity is not allowed in the Zone 1 wellhead protection area.

Current (2023) public uses of the Russell Land are limited to hiking on the trail, trail maintenance, and observations of nature.

*2018 Quitclaim Deed in which Brendon Properties Garrison Place, LLC transferred the Russell Land to the Town of Carlisle.

6. CURRENT MAINTENANCE NEEDS

Mowing

As described in Section 2, the Covenant for Meadow Maintenance, agreed to by the Town and Garrison Place in 2018, requires Garrison Place to mow the approximately 5 acres of fields on the combined Garrison Place and Russell Land properties. The fields are to be mowed at least twice a year, weather permitting, between April and November. If Garrison Place does not conduct the mowing, the Town may conduct the mowing at the cost of the owners.

Conservation Signs

One conservation sign was placed at the Russell St. trailhead in 2022. A second may be installed near the Garrison Way trailhead. The installation is dependent on a determination of the exact location of the Garrison Place/Russell Land property line.

Trail

Trail maintenance will be carried out, as needed, by the Carlisle Trails Committee. At present (2023) there are no identified maintenance needs.

Invasive Plants

One population of Japanese knotweed, near the trail on the southern part of the property, has been mostly removed. The area needs to be monitored and determinations made regarding the need for additional removal or treatment. The Land Stewards should regularly check the property for other invasive plants.

Bluebird Nesting Boxes

Early spring and late fall cleanouts of the nesting boxes are required.

Roadside Parking Areas

There is no legal parking on the Russell Land or Garrison Way for the public. Visitors that come to hike the trail commonly park on the side of Russell St. near the trailhead. These areas need to be monitored for roadside deterioration and safety issues.

Russell Street Culvert

While the new culvert and weir on Russell St. is primarily the responsibility of the Town's Department of Public Works, the Land Stewards should regularly check the area for blockage of flow by beaver activity or buildup of woody debris. The objective is to prevent flooding of Spencer Brook upstream of the culvert.

7. ISSUES TO ADDRESS IN A MANAGEMENT PLAN

Communication and Coordination with Garrison Place Trustees

Garrison Place is managed by three trustees of the Garrison Place Condominium Trust. As appropriate, the trustees should be informed and/or consulted on any significant actions the Town plans for the Russell Land.

Routine Monitoring by the Land Stewardship Committee (LSC) and Others

The Plan should describe the routine monitoring of the Russell Land as described in Section 6. Included would be the fields (and the mowing thereof), conservation signs, invasive plants, the roadside parking areas, and the Russell St. culvert. Any other environmental issues, good or bad, should also be reported. Any disturbance of the heron rookery on the abutting property should be reported.

The existing list of plants and animals reported to be on the Russell Land (see Appendix D) is very limited. Visitors, especially local naturalists, should be encouraged to document future observations on iNaturalist. Uncommon or State-listed species should be reported to Carlisle's Conservation Administrator.

The Trails Committee will be responsible for maintenance of the Russell Land trail.

Field Mowing

The Land Stewardship Committee and the Conservation Commission should consider altering the current field mowing protocol, for fields on the Russell Land, in such a way that enhances the habitat for native flora and fauna. A single, late-season mowing is likely preferable.

Parking for Russell Land Visitors

The Plan should encourage the Conservation Commission and the Town to find nearby parking space for 1 – 3 vehicles. The current use of roadside parking is not safe and likely not sustainable.

Agricultural Use of Fields

The soil of the Russell Land fields provides farmland of unique importance (see Section 4: Soils). While the fields are of modest size, they might be of interest to some farmers. The lack of public access, however, would limit any farming activity to that which can be done with manual labor, and access by foot over the trail from Russell St. If a solution to these impediments could be found, then the possibility of finding a farmer interested in using the fields would be significantly enhanced.

Bluebird Nesting Boxes

Seven of the nine boxes installed in 2023 were placed there by unknown persons. No agreement has been obtained on who will maintain the boxes.

APPENDIX A

List of Abutters to the Russell Land

The list of abutters within 100 feet of the Russell Street Conservation Land (81 Russell St.) is provided on the following pages. The list was generated by Carlisle's Assessors Office on March 13, 2023, so changes made after that date will not be included here.

Parcel ID - Map/Block/Lot	Location	Owner/Mailing Address
8-10-B	CONCORD ST	ROTONDO (TR) FORTUNATO / FORTUNATO ROTON 737 BEDFORD STREET CONCORD MA 01742
8-12-1A	44 SPENCER BROOK LN	GECHTMAN ZEEV / GECHTMAN ZOYA BLANK 44 SPENCER BROOK LANE CARLISLE MA 01741
8-14-0	75 RUSSELL ST	LEHMANN MATTHEW MUHIDDIN / LEHMANN SVETL 75 RUSSELL STREET CARLISLE MA 01741
8-15-B	77 RUSSELL ST	PARKER JOAN L TRUSTEE / JOAN L PARKER LIVING 77 RUSSELL STREET / CARLISLE MA 01741
8-16-1	1 GARRISON WAY	BLOCK THOMAS D ONE GARRISON WAY CARLISLE MA 01741
8-16-10	10 GARRISON WAY	BOUCHER GERARD R / BOUCHER JOANNE 10 GARRISON WAY CARLISLE MA 01741
8-16-11	11 GARRISON WAY	AYRES KENNETH J TRUSTEE / AYRES ELAINE J TR 11 GARRISON WAY CARLISLE MA 01741
8-16-12	12 GARRISON WAY	MARTINI STEVEN R / MARTINI LISA C 12 GARRISON WAY CARLISLE MA 01741
8-16-13	13 GARRISON WAY	DEAN JEFFREY K TRUSTEE / 13 GARRISON WAY RE 13 GARRISON WAY CARLISLE MA 01741
8-16-14	14 GARRISON WAY	DOYLE JEFFREY T / DOYLE MARY BETH 14 GARRISON WAY CARLISLE MA 01741
8-16-15	15 GARRISON WAY	MCNULTY ROBERTA (TR) / ROBERTA A MCNULTY F 15 GARRISON WAY CARLISLE MA 01741
8-16-16	16 GARRISON WAY	STANDING MICHAEL E TRUSTEE / WHALEN MAUREE 16 GARRISON WAY CARLISLE MA 01741
8-16-2	2 GARRISON WAY	HERMAN JR PHILIP W TRUSTEE / BARNETT JANE E T 2 GARRISON WAY CARLISLE MA 01741
8-16-3	3 GARRISON WAY	OLESON JR (TR) FREDERICK B / OLESON (TR) CYNT 3 GARRISON WAY CARLISLE MA 01741
8-16-4	4 GARRISON WAY	KRUPP DEBRA / LENK BARBARA 4 GARRISON WAY CARLISLE MA 01741

Parcel ID - Map/Block/Lot	Location	Owner/Mailing Address
8-16-5	5 GARRISON WAY	BROWN SHARON J 5 GARRISON WAY CARLISLE MA 01741
8-16-6	6 GARRISON WAY	PIERSON JOANN TRUSTEE / THE SILVER HILL NOMI 6 GARRISON WAY CARLISLE MA 01741
8-16-7	7 GARRISON WAY	HEARTLEIN MICHAEL W / HEARTLEIN SUSAN E 7 GARRISON WAY CARLISLE MA 01741
8-16-8	8 GARRISON WAY	VAN ZELE (TR) ROGER L / VAN ZELE (TR) PATRICIA A 8 GARRISON WAY CARLISLE MA 01741
8-16-9	9 GARRISON WAY	WALSH PHYLLIS E TRUSTEE / THE PHYLLIS E WALS 9 GARRISON WAY CARLISLE MA 01741
8-16-A	RUSSELL ST	CARLISLE CONSERVATION COMM. / 66 WESTFORD STREET / CARLISLE MA 01741
8-16-C	1-16 GARRISON WAY	GARRISON PLACE CONDO GARRISON LANE CARLISLE MA 01741
8-17-D	129 RUSSELL ST	GEBHART DANIEL T / GEBHART BETH 129 RUSSELL STREET / CARLISLE MA 01741
8-18-1	149 RUSSELL ST	PIBBLE INVESTMENTS LLC 159 CENTER STREET PLYMPTON MA 02367
8-25A-3	341 RUSSELL ST	HENDRICKSON BRUCE E / SMITH STEPHANIE S 341 RUSSELL STREET CARLISLE MA 01741
8-27D-6	345 RUSSELL ST	DOCKTERMAN DAVID A / DOCKTERMAN GABRIELLE 345 RUSSELL STREET CARLISLE MA 01741
8-27E-8	542 SCHOOL ST	SPANBAUER CARY W / OSULLIVAN MEGHAN J 542 SCHOOL STREET CARLISLE MA 01741
8-37-3	201 CONCORD RD	JALEEL MOHAMMED / JALEEL SHERMIN 201 CONCORD ROAD CARLISLE MA 01741
8-38-Y	CLARK FARM RD	BOJANIC DEJAN / BOJANIC ELAINE 93 CLARK FARM ROAD CARLISLE MA 01741
8-4-1	122 RUSSELL ST	CORNFORTH ANDREW N / CORNFORTH RACHEL E 122 RUSSELL STREET CARLISLE MA 01741

Town of Carlisle

GIS - Abutters by ParcelID

Parcel ID - Map/Block/Lot	Location	Owner/Mailing Address
8-5-0	RUSSELL ST	MUHIDDEN MATTHEW / LEHMANN SVETLANA 75 RUSSELL STREET CARLISLE MA 01741
8-6-0	80 RUSSELL ST	JOHNSTONE DUANE C / JOHNSTONE SIGNY S 80 RUSSELL STREET CARLISLE MA 01741

APPENDIX B

Russell Land – Permitted or Prohibited Acts or Uses Listed in the Deed

The text below is a direct quote from the 2018 Quitclaim Deed in which Brendon Properties Garrison Place, LLC transferred the Russell Land to the Town of Carlisle. See Section 2 for a detailed reference to the deed.

THEREFORE, the Premises hereby deeded is hereby made subject to the following perpetual restrictions listed as Permitted Uses and Prohibited Uses, which restrictions are hereby imposed on the Town as a perpetual public trust;

(a) Permitted Uses: Notwithstanding anything in Paragraph (b) to the contrary, the following acts and uses are permitted:

(1). The Premises will be used exclusively for open space, agricultural and passive recreational use including without limitation trails with the maintenance and marking of the trails only to pass and repass on foot, horse, skis, snowshoes or non-motorized bicycles other than those authorized under the Town's Other Power Driven Mobility Devices (OPDMD) regulations. Notwithstanding any other provision contained in this deed, no agricultural activities may be conducted or are allowed in the "Proposed Zone I and Water Supply Easement".

(2). All construction, management and maintenance of the trails shall be carried out by the Town, its successor and assigns;

(3). The Town shall have the right to erect and, from time to time, replace at appropriate locations of the Premises suitable trail and restriction signage, as well as necessary and suitable boardwalks and small bridges;

(4). Haying of the Mowing Easements shown on the above-referenced Easement Plan of Land, pursuant to the terms, provisions and conditions of the Covenant for Meadow Maintenance set forth above;

(5). Grazing of the Mowing Easements shown on the above-referenced Easement Plan of Land by goats or sheep, as determined by the Carlisle Conservation Commission.

(b) Prohibited Uses; Except to the extent permitted in Paragraph (a) above, the Town will neither perform nor permit the following acts or uses on the Premises:

(1). Constructing or placing any building, landing strip, mobile home, swimming pool, tennis court, asphalt or concrete pavement, sign, billboard or other advertising display, antenna, solar array, utility pole, tower, conduit, line or other temporary or permanent structure or facility on the Premises;

(2). Excavating, dredging or removing from the Premises of soil, loam, peat, gravel, sand, rock or other mineral resource or natural deposit except to the extent the Town performs such activity as part of its maintenance of the Premises or as required pursuant the construction of the Senior Residential Open Space Community Special Permit issued by the Carlisle Planning Board and the Orders of Conditions as issued by the Carlisle Conservation Commission and as allowed by the reserved Perpetual Rights noted above;

(3). Installation of underground storage tanks, or the dumping on the Premises of refuse, trash, vehicle bodies or parts, rubbish, debris, junk, waste or other substance or material;

(4). Activities detrimental to drainage, flood control, water conservation, water quality, erosion control or soil conservation;

(5). The cutting or removal of any trees or any other vegetation except for the purpose of constructing and/or maintaining of the trails as referenced in Paragraph (a) above, the haying and/or grazing of the Mowing Easements as referenced in Paragraphs (a)(4) and (a)(5), above or for the purpose of removing dead, diseased or invasive vegetation or pursuant to a forestry management plan prepared by a duly qualified forester or arborist or in response to a fire, hurricane or other natural disaster or emergency, or for agricultural purposes;

(6) No agricultural activities may be conducted or are allowed in the "Proposed Zone I Water Supply Easement".

(7). Any other use of the Premises or activity thereon that is inconsistent with the purpose of this Deed.

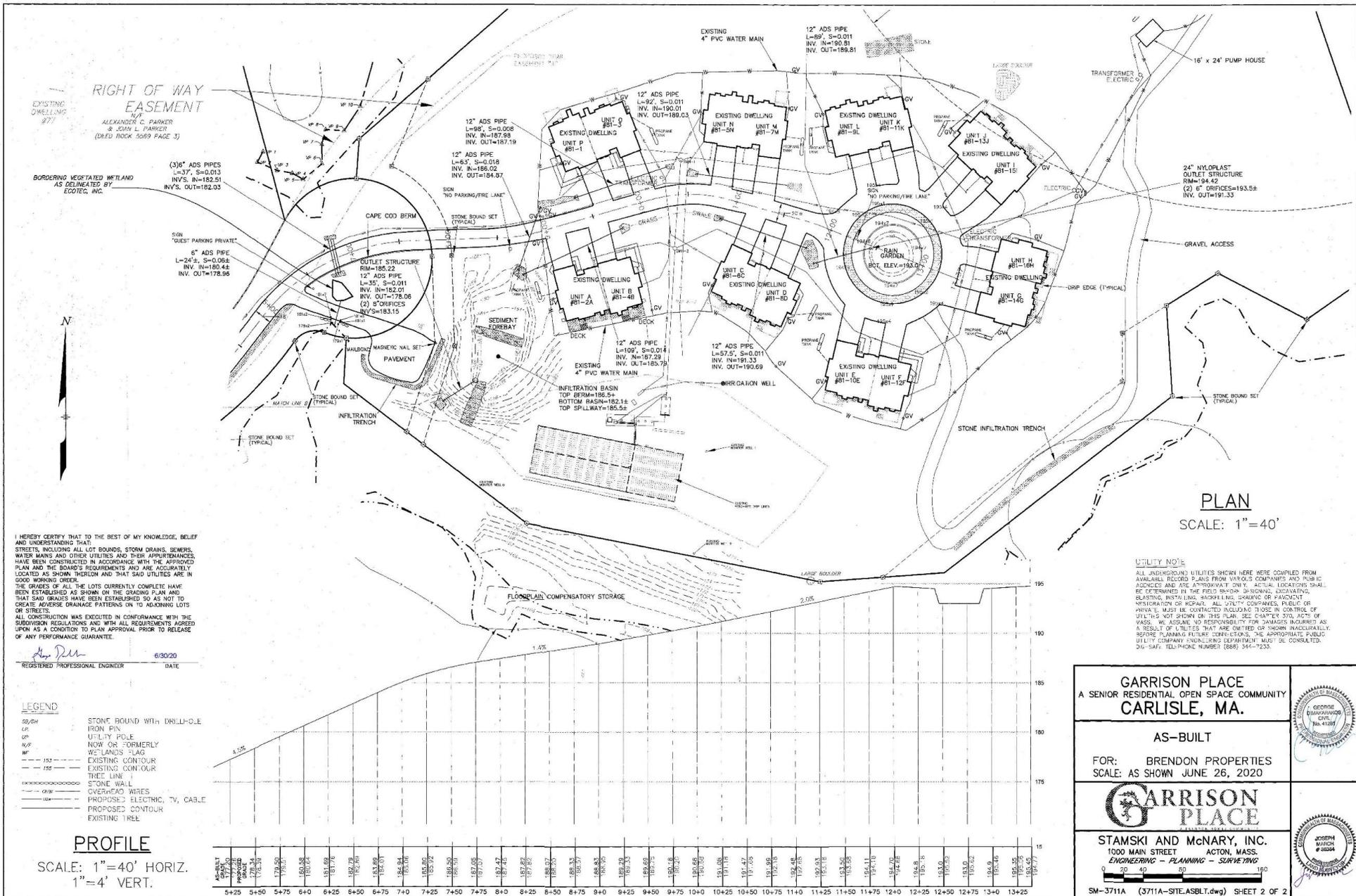
APPENDIX C

As-Built Plan for Garrison Place Buildings and Infrastructure

Prepared by

Stamski and McNary

June 2020



PLAN
SCALE: 1"=40'

UTILITY NOTE
ALL UNDERGROUND UTILITIES SHOWN HERE WERE COMPILED FROM AVAILABLE RECORD PLANS FROM VARIOUS COMPANIES AND PUBLIC AGENCIES AND ARE APPROXIMATE ONLY. ACTUAL LOCATIONS SHALL BE DETERMINED IN THE FIELD BEFORE DIGGING, EXCAVATING, PLACING, INSTALLING, REPAIRING, OR MAINTAINING OR BEFORE REPAIR OR MAINTENANCE OF PUBLIC UTILITIES. THOSE IN CONTROL OF UTILITIES NOT SHOWN ON THIS PLAN (SEE CHAPTER 270, ACTS OF MASS. WE ASSUME NO RESPONSIBILITY FOR DAMAGES INCURRED AS A RESULT OF UTILITIES THAT ARE OMITTED OR SHOWN INACCURATELY. BEFORE PLANNING FUTURE CONNECTIONS, THE APPROPRIATE PUBLIC UTILITY COMPANY'S ENGINEERING DEPARTMENT MUST BE CONSULTED. 216-841-7233 TELEPHONE NUMBER (888) 344-7233.

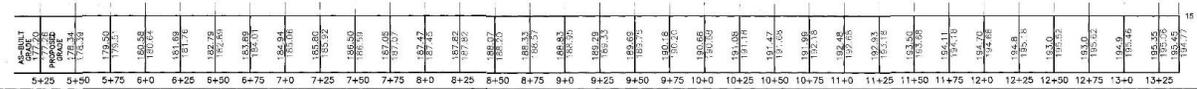
I HEREBY CERTIFY THAT TO THE BEST OF MY KNOWLEDGE, BELIEF AND UNDERSTANDING THAT STREETS, INCLUDING ALL LOT BOUNDS, STORM DRAINS, SEWERS, WATER MAINS AND OTHER UTILITIES AND THEIR APPURTENANCES, HAVE BEEN CONSTRUCTED IN ACCORDANCE WITH THE APPROVED PLAN AND THE BOARD'S REQUIREMENTS AND ARE ACCURATELY LOCATED AS SHOWN THEREON AND THAT SAID UTILITIES ARE IN GOOD WORKING ORDER.
THE GRADIES OF ALL THE LOTS CURRENTLY COMPLETE HAVE BEEN ESTABLISHED AS SHOWN ON THE GRADING PLAN AND THAT SAID GRADIES HAVE BEEN ESTABLISHED SO AS NOT TO CREATE ADVERSE DRAINAGE PATTERNS ON TO ADJOINING LOTS OR STREETS.
ALL CONSTRUCTION WAS EXECUTED IN CONFORMANCE WITH THE SUBDIVISION REGULATIONS AND WITH ALL REQUIREMENTS AGREED UPON AS A CONDITION TO PLAN APPROVAL, PRIOR TO RELEASE OF ANY PERFORMANCE GUARANTEE.

Joseph P. March
REGISTERED PROFESSIONAL ENGINEER
DATE: 6/30/20

- LEGEND**
- SS/ST/ IRON PIN
 - UP UTILITY POLE
 - W/F NOW OR FORMERLY WETLANDS FLAG
 - 152 --- EXISTING CONTOUR
 - 155 --- EXISTING CONTOUR
 - --- TREE LINE
 - --- STONE WALL
 - --- OVERHEAD WIRES
 - --- PROPOSED ELECTRIC, TV, CABLE
 - --- PROPOSED CONTOUR
 - --- EXISTING TREE

PROFILE

SCALE: 1"=40' HORIZ.
1"=4' VERT.



GARRISON PLACE A SENIOR RESIDENTIAL OPEN SPACE COMMUNITY CARLISLE, MA.		 AS-BUILT
FOR: BRENDON PROPERTIES SCALE: AS SHOWN JUNE 26, 2020		
 GARRISON PLACE <small>RESIDENTIAL DEVELOPMENT</small>		 AS-BUILT
STAMSKI and McNARY, INC. 1000 MAIN STREET ACTON, MASS. ENGINEERING - PLANNING - SURVEYING		
 SM-3711A (3711A-SITE.ASBLT.dwg) SHEET 2 OF 2		

APPENDIX D

List of Species Seen on or near the Russell Land

Contents

Table D-1. List of Species Seen in or near the Russell Land and Recorded on iNaturalist

Table D-2. Russell St Conservation Land - Bird List from Alan Ankers

Table D-3. Russell Land: Bird Species Seen by Tom Brownrigg

The tables are presented on the following three pages.

Table D-1. List of Species Seen in or near the Russell Land and Recorded on iNaturalist

Data retrieved March 27, 2023. Compilation prepared by Judy Asarkof.

Observation Date	User Name	Quality/Gade	Scientific Name	Comon Name	Taxon Family Name	Native	Intro-duced
8/1/2018	liliumtbn	research	Apis mellifera	Western Honey Bee	Apidae		x
10/18/2020	nancyhartle	research	Berteroa incana	hoary alyssum	Brassicaceae		x
9/8/2020	acorn4th	needs_id	Fungi	Fungi Including Lichens			
6/1/2006	llsrvd	needs_id	Sonchus	sow thistles	Asteraceae		x
1/22/2021	rubyheron	research	Melanerpes carolinus	Red-bellied Woodpecker	Picidae	x	
6/24/2021	mfedore	research	Buteo jamaicensis	Red-tailed Hawk	Accipitridae	x	
8/12/2021	rubyheron	research	Chauliodes pectinicornis	Summer Fishfly	Corydalidae	x	
10/2/2021	manishkshukla	research	Grifola frondosa	hen of the woods	Grifolaceae	x	
2/19/2022	stevetobin	research	Fomitopsis betulina	birch polypore	Fomitopsidaceae	x	
6/26/2021	david_dockterman	research	Odocoileus virginianus	White-tailed Deer	Cervidae	x	
5/8/2022	ajames9	research	Ajuga reptans	carpet bugle	Lamiaceae		x
5/15/2022	lichenlover	research	Cornus canadensis	Canadian bunchberry	Cornaceae	x	
5/15/2022	lichenlover	research	Coptis trifolia	threeleaf goldthread	Ranunculaceae	x	
5/15/2022	lichenlover	needs_id	Quercus	oaks	Fagaceae	x	
5/15/2022	lichenlover	research	Leucanthemum vulgare	oxeye daisy	Asteraceae		x
7/23/2022	rubyheron	needs_id	Mesoleuca ruficillata	White-ribboned Carpet Moth	Geometridae	x	
7/29/2022	acorn4th	needs_id	Ramaria stricta	Upright Coral Fungus	Gomphaceae	x	
Additional Observations (not recorded in iNaturalist)							
2022	Alan Ankers	communication	Ardea herodias	Great Blue Heron	Ardeidae	x	
3/27/2023	Kay Hurley	communication	Anas platyrhynchos	Mallards	Anatidae	x	
3/27/2023	Kay Hurley	communication	Castor canadensis	Beaver	Castoridae	x	

Table D-2. Russell St Conservation Land - Bird List
Observations by Alan Ankers

Wood Duck
Killdeer
American Woodcock
Great Blue Heron
Turkey Vulture
Sharp-shinned Hawk
Red-tailed Hawk
Hairy Woodpecker
Eastern Phoebe
Eastern Kingbird
Blue-headed Vireo
Tree Swallow
Barn Swallow
Ruby-crowned Kinglet
Golden-crowned Kinglet
Brown Creeper
Hermit Thrush
Fox Sparrow
Savannah Sparrow
Red-winged Blackbird
Common Grackle
Palm Warbler
Yellow-rumped Warbler

Table D-3. RUSSELL LAND: BIRD SPECIES SEEN BY TOM BROWNRIGG
All Dates ~ in Russell Cons Land ~ 39 seen

DUCKS, GEESE, AND WATERFOWL	Song Sparrow
Canada Goose	White-throated Sparrow
Wood Duck	Dark-eyed Junco
Mallard	CARDINALS AND ALLIES
CORMORANTS AND SHAGS	Northern Cardinal
Double-crested Cormorant	Rose-breasted Grosbeak
HERONS, EGRETS, AND BITTERNs	TROUPIALS AND ALLIES
Great Blue Heron	Red-winged Blackbird
HAWKS, EAGLES, AND KITES	Common Grackle
Sharp-shinned Hawk	Baltimore Oriole
Red-shouldered Hawk	FINCHES, EUPHONIAS, AND ALLIES
Red-tailed Hawk	House Finch
PLOVERS AND LAPWINGS	American Goldfinch
Killdeer	----- STATISTICS -----
PIGEONS AND DOVES	Species seen - 39
Mourning Dove	Families w/seen species - 20
WOODPECKERS	
Red-bellied Woodpecker	
Downy Woodpecker	
Northern Flicker	
Pileated Woodpecker	
TYRANT FLYCATCHERS	
Eastern Phoebe	
Eastern Kingbird	
CROWS, JAYS, AND MAGPIES	
Blue Jay	
American Crow	
Common Raven	
SWALLOWS	
Tree Swallow	
TITS, CHICKADEES, AND TITMICE	
Black-capped Chickadee	
Tufted Titmouse	
NUTHATCHES	
White-breasted Nuthatch	
WRENS	
Carolina Wren	
THRUSHES AND ALLIES	
Eastern Bluebird	
American Robin	
MOCKINGBIRDS AND THRASHERS	
Gray Catbird	
STARLINGS	
European Starling	
BUNTINGS AND NEW WORLD SPARROWS	
Savannah Sparrow	

APPENDIX E
Selected Photographs of the Russell Land: 2020 – 2022



1. Staircase at Russell Street Trailhead



2. Trailhead and Trail Marker on Garrison Way



3. Russell St. trailhead area, Spencer Brook and Weir



4. Initial Field Starting at Russell St. Trailhead



5. Reverse View of Initial Field near Russell St.



6. Trails Committee Boardwalk at End of First Field



7. Trail Segment with Trails Committee Boards



8. Large Field on Russell Land



9. Same Large Field with Spencer Brook at Right-Rear



10. Edge of Large Field; Spencer Brook in Background



11. Spencer Brook Impoundment. Private Land in Top Half of Photo



12. Large Rock Outcrop on Russell Land Trail



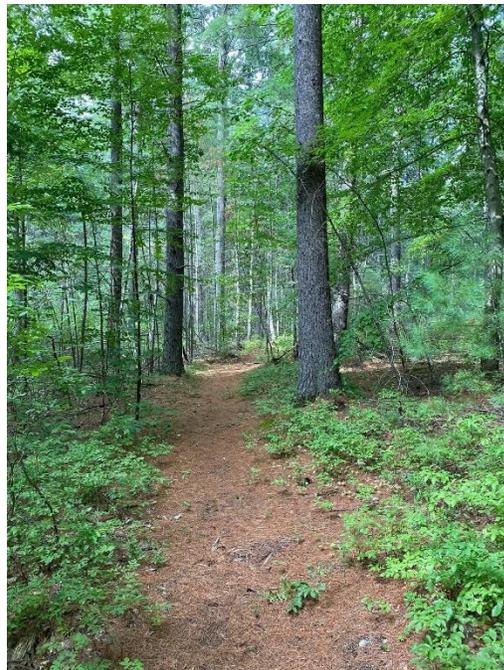
13.



14.



15.



16.

13-16. Four Views of the Russell Land Trail