



TOWN OF WELLESLEY

Pickleball Court Study Phase II | Morse's Pond Parking Lot
2024

Phase I Study locations

Phase I Study Location – Morses Pond

Existing Site Photos

Phase II

Overall Existing Conditions & Site Analysis

Proposed Pickleball Courts

Vegetation Management

Stormwater Improvements

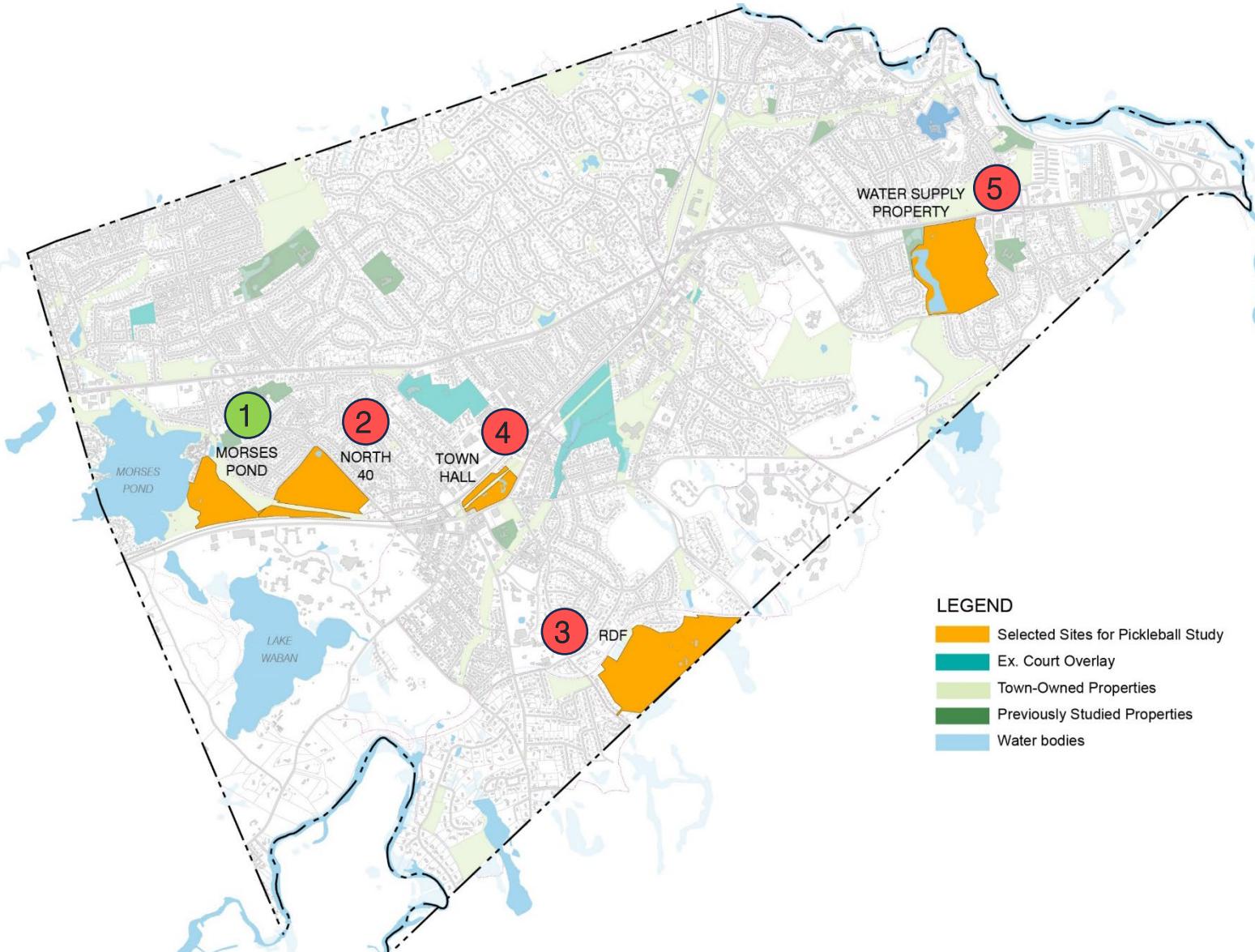
Environmental & Site Considerations

Cost Considerations

Conclusions



PHASE I STUDY LOCATIONS



<p>1 Morses Pond</p> <p>2 Property is being reserved for future recreation plans</p> <p>3 RDF</p> <p>4 Too disruptive to adjacent commercial businesses</p> <p>5 Water Supply Property</p>	<p>POSSIBLE</p> <p>REJECTED</p> <p>REJECTED</p> <p>REJECTED</p> <p>REJECTED</p>
<p>Well head protection zone 1 conflict</p>	



TOWN OF WELLESLEY PICKLEBALL COURT STUDY

Weston & Sampson SM

PHASE I STUDY LOCATION



MORSE'S POND

4

LOCATION 1 | FEASIBLE

location 1 has been identified as the best location for proposed pickleball courts for the following reasons,

- distance from passive recreational amenities
- general flat nature of the existing topography
- minimal tree clearing
- access to parking and adjacent sidewalks

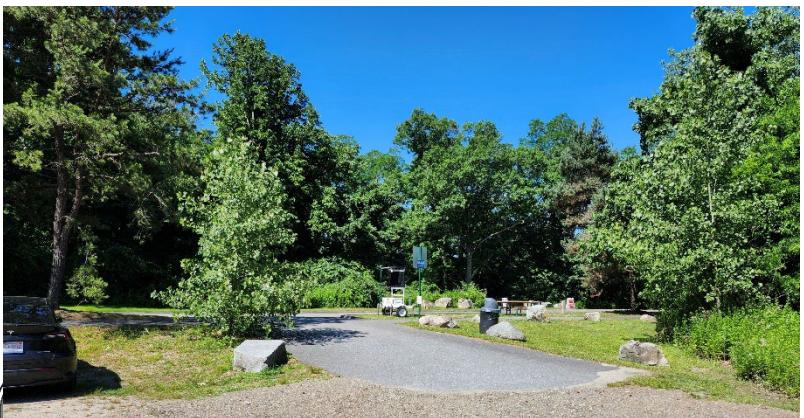
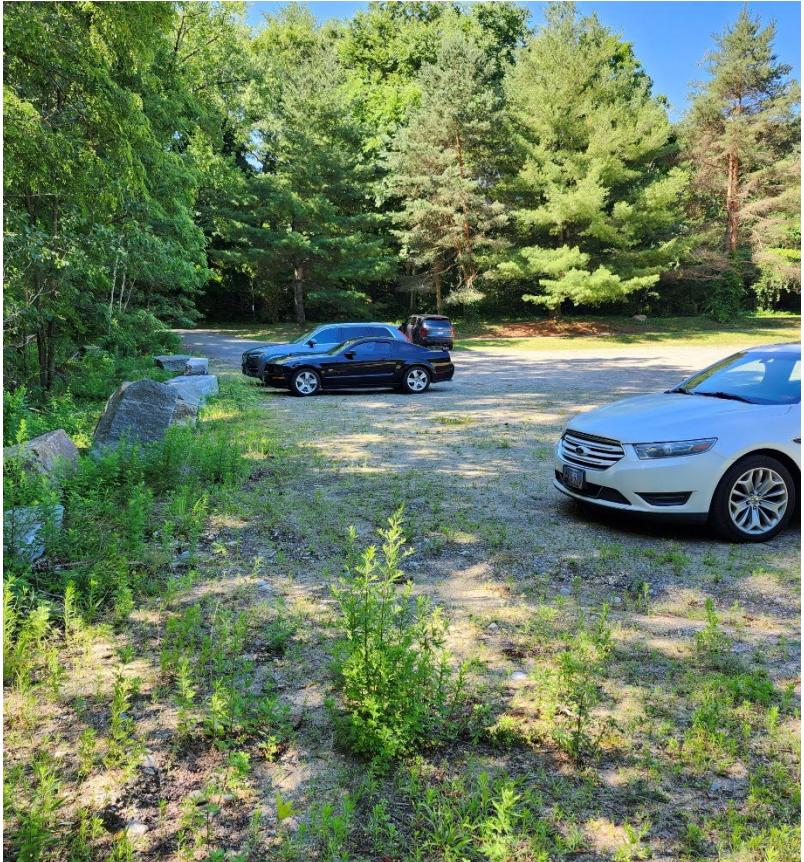
LOCATION 2 & 3 | NOT FEASIBLE

location 2 and 3 have been removed as a possible location for pickleball courts because of the environmental impacts including tree removal, grading, low existing recreational activity in the area and lack of parking.



TOWN OF WELLESLEY PICKLEBALL COURT STUDY

Weston & Sampson

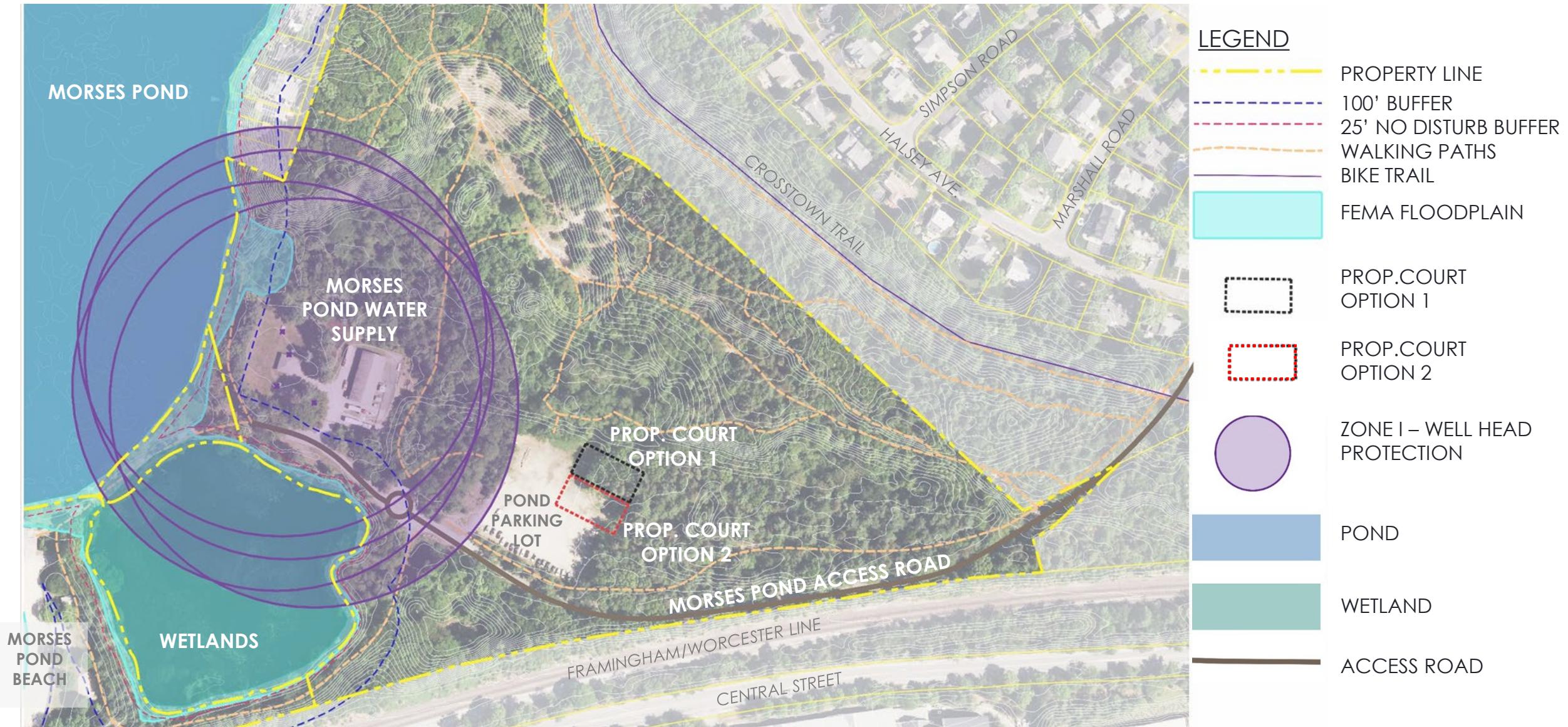


EXISTING SITE PHOTOS



PHASE II

OVERALL EXISTING CONDITIONS & SITE ANALYSIS



TOWN OF WELLESLEY PICKLEBALL COURT STUDY

Weston & Sampson SM

PHASE II

PROPOSED PICKLEBALL COURTS | OPTION 1

7



TOWN OF WELLESLEY PICKLEBALL COURT STUDY

Weston & Sampson SM

PHASE II

PROPOSED PICKLEBALL COURTS | OPTION 2

8



TOWN OF WELLESLEY PICKLEBALL COURT STUDY

Weston & Sampson SM

PHASE II

VEGETATION MANAGEMENT | OPTION 1

9

TREE MANAGEMENT

Vegetation Removals:

approximately 10,570 square feet (0.26 acres) of existing vegetated area will be demoed to accommodate the space for the pickleball courts. Plant species that will be removed include the following,

- Species to be provided by Cricket

-
-
-

Of the plants to be removed, **X** amount are invasive species.

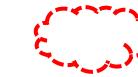
Landscape Improvements:

Although vegetation will be removed as part of the court project, the addition of a 1,630 sf bioretention area and improvements to the surrounding landscaping including the planting of 11 trees, minimum, and establishment of a low mow seed mix in an area approximately 8,200 sf will supplement the habitat value lost from the existing vegetation removal areas.



LEGEND

TREE REMOVAL AREA



PROPOSED TREES (11 not including the parking lot islands)



BIORETENTION AREA (1,630 sf)



EXISTING TREES TO REMAIN



TOWN OF WELLESLEY PICKLEBALL COURT STUDY

Weston & Sampson SM

PHASE II

TREE MANAGEMENT

Vegetation Removals:

approximately 3,300 square feet (0.07 acres) of existing vegetated area and 5,770 square feet of gravel lot will be demoed to accommodate the space for the pickleball courts. Plant species that will be removed include the following,

- **Species to be provided by Cricket**
-
-
-

Of the plants to be removed, **X** amount are invasive species.

Landscape Improvements:

Although vegetation will be removed as part of the court project, the addition of a 1,630 sf bioretention area and improvements to the surrounding landscaping including the planting of 11 trees, minimum, and establishment of a low mow seed mix in an area approximately 8,200 sf will supplement the habitat value lost from the existing vegetation removal areas.

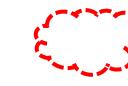


VEGETATION MANAGEMENT | OPTION 2

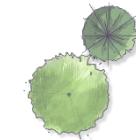
10

LEGEND

MINIMAL
VEGETATION
REMOVAL



PROPOSED TREES
(11 not including
the parking lot
islands)



BIORETENTION
AREA (1,630 sf)



EXISTING TREES TO
REMAIN



TOWN OF WELLESLEY PICKLEBALL COURT STUDY

Weston & Sampson

PHASE II

STORMWATER IMPROVEMENTS

11

STORMWATER CALCS

The stormwater retention area (indicated as "Bioretention Area") is designed with a basin volume equal to 1-inch of rainfall over the impervious areas of the project limits. The basin volume is defined as the volume below the lowest outlet structure rim elevation. The minimum required volume is calculated as follows:

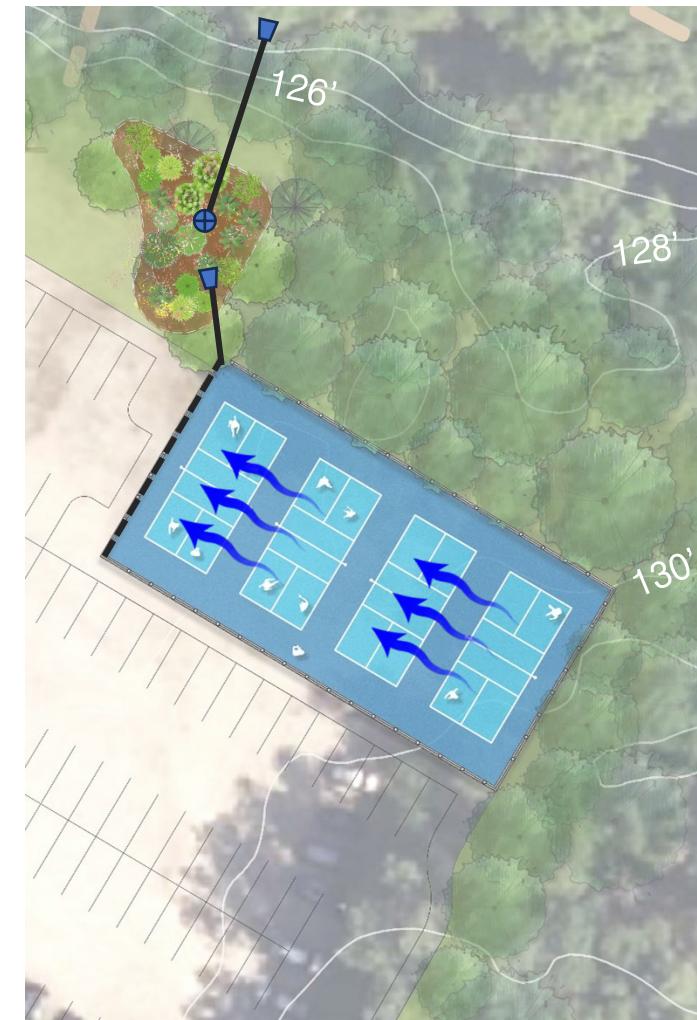
New courts=8,500 SQ. FT.
1-inch X 8,500 SQ. FT. = 709 CU. FT. minimum required volume

The proposed volume provided in the rain garden below the lowest outlet structure is 1,830 CU.FT. (at elevation 129.50)
Which is over **2.5 times greater than the minimum required volume.**

OPTION 1



OPTION 2



LEGEND

	TRENCH DRAIN
	SOLID DRAIN PIPE
	FLARED END STRUCTURE
	RAISE AREA DRAIN W/ BEEHIVE GRATE (RIM EL.=129.50)
	STORMWATER SURFACE FLOW
	BIORETENTION AREA (BOTTOM ELEVATION OF 127.50)



TOWN OF WELLESLEY PICKLEBALL COURT STUDY

Weston & Sampson SM

PHASE II

ENVIRONMENTAL & SITE CONSIDERATIONS

12

STORMWATER APPROACH

Highlight:



Stormwater infiltration

The stormwater from pickleball court and the pond parking lot will be absorbed and filtered naturally in the bioretention area, which ensures that stormwater is captured and naturally filtered before discharges.



Supporting biodiversity

The use of native plants in the bioretention area can attract birds, amphibians and insects from the surrounding biodiversity rich areas. This could support local biodiversity and provides aesthetic value.



LEGEND



RAIN GARDEN
(BOTTOM
ELEVATION OF
127.50)



BIODIVERSITY
HOTSPOT



STORMWATER
SURFACE FLOW



LOW POINT



TOWN OF WELLESLEY PICKLEBALL COURT STUDY

Weston & Sampson

PHASE II

ENVIRONMENTAL & SITE CONSIDERATIONS

SOUND STUDY

The pickleball noise propagation is determined by four factors:

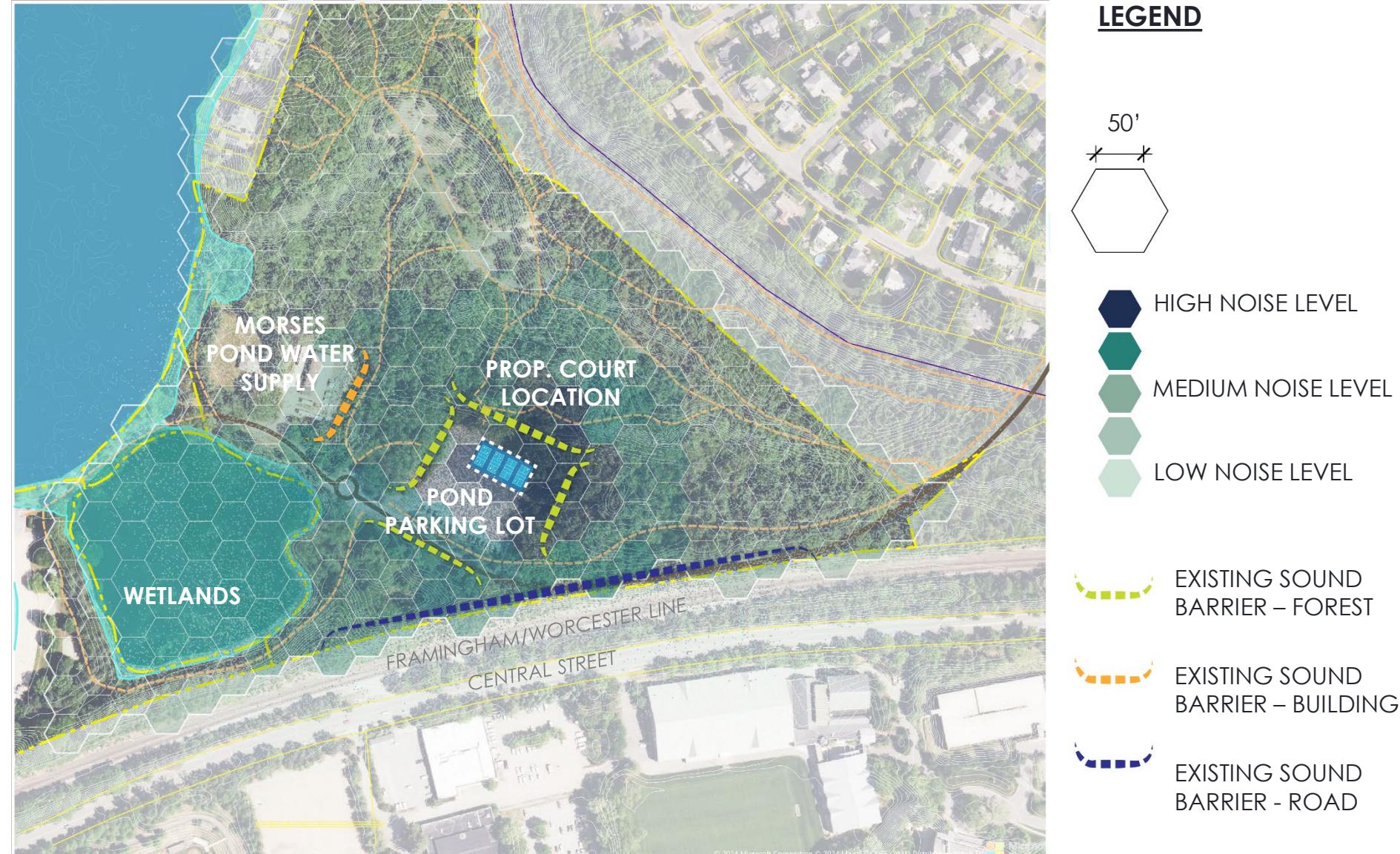
Distance, Relative Topography, Number of Courts, and Lights/Night Playing.

Per the acoustics study done in Phase I,
4 courts would require a 15' height
sound barrier

Existing Sound Barriers

Morses Pond parking lot is surrounded by trees and shrubs which act as **natural sound barriers** by absorbing and deflecting sound. The Morses Pond Water Supply Building also serves as a **substantial physical barrier** that blocks noise pollution. Additionally, the ex. MBTA tracks and Central Street activity mitigate the sound travel to the south of the site.

These natural and structural elements can buffer sounds from permeating into the communities, enhancing overall noise mitigation efforts.



TOWN OF WELLESLEY PICKLEBALL COURT STUDY



PHASE II

ENVIRONMENTAL & SITE CONSIDERATIONS

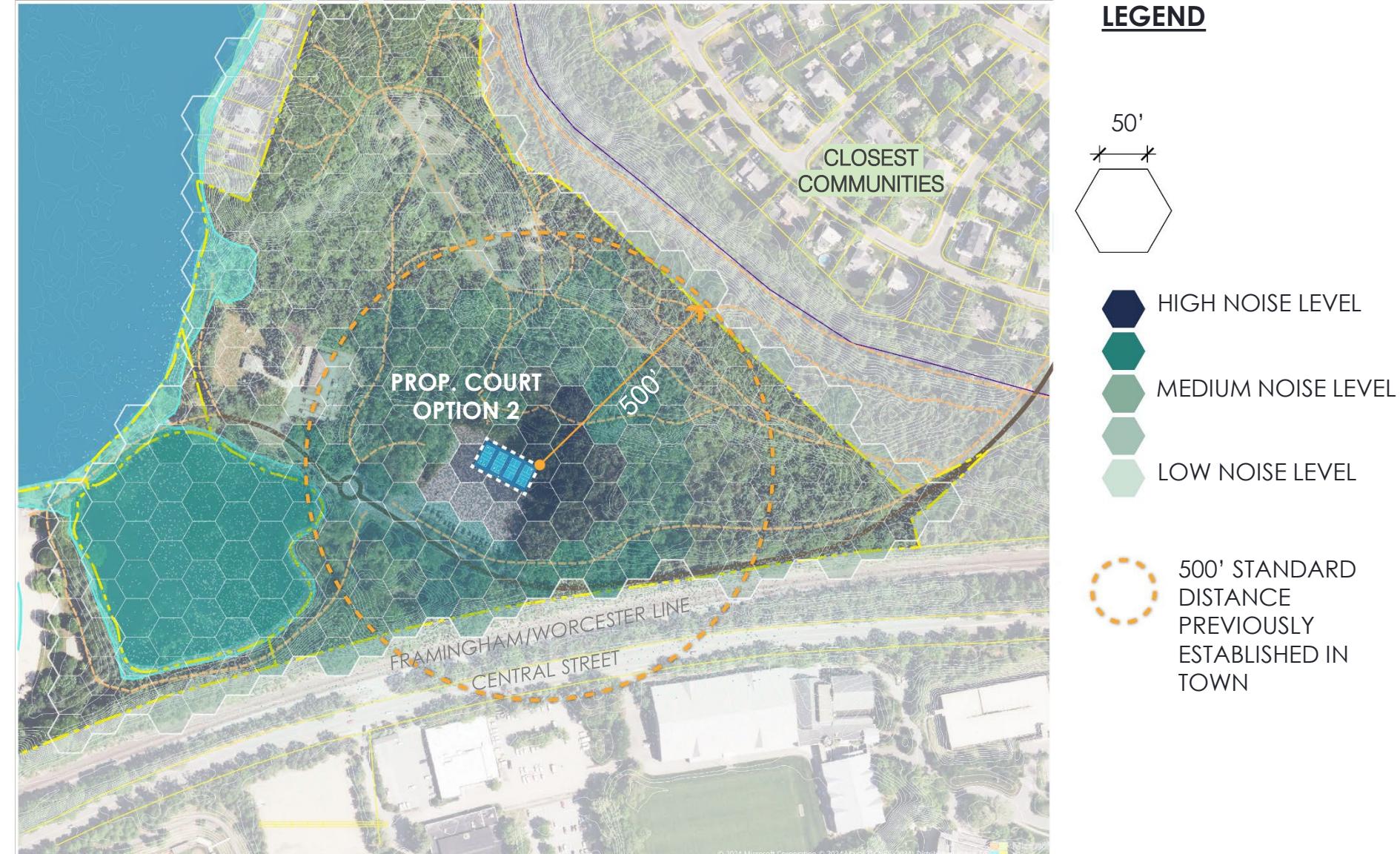
14

SOUND STUDY

Previous discussions had within the Town of Wellesley's community established a 500' minimum distance between the nearest residential property and a new pickleball court.

The orange circle in the graphic to the right shows what that 500' distance would be in the proposed option 2 location.

As shown in the graphic, the 500' radius around the proposed location consists mostly of forested area and roadway, with no residential property falling within it's boundaries.



TOWN OF WELLESLEY PICKLEBALL COURT STUDY

Weston & Sampson

PHASE II

ENVIRONMENTAL & SITE CONSIDERATIONS

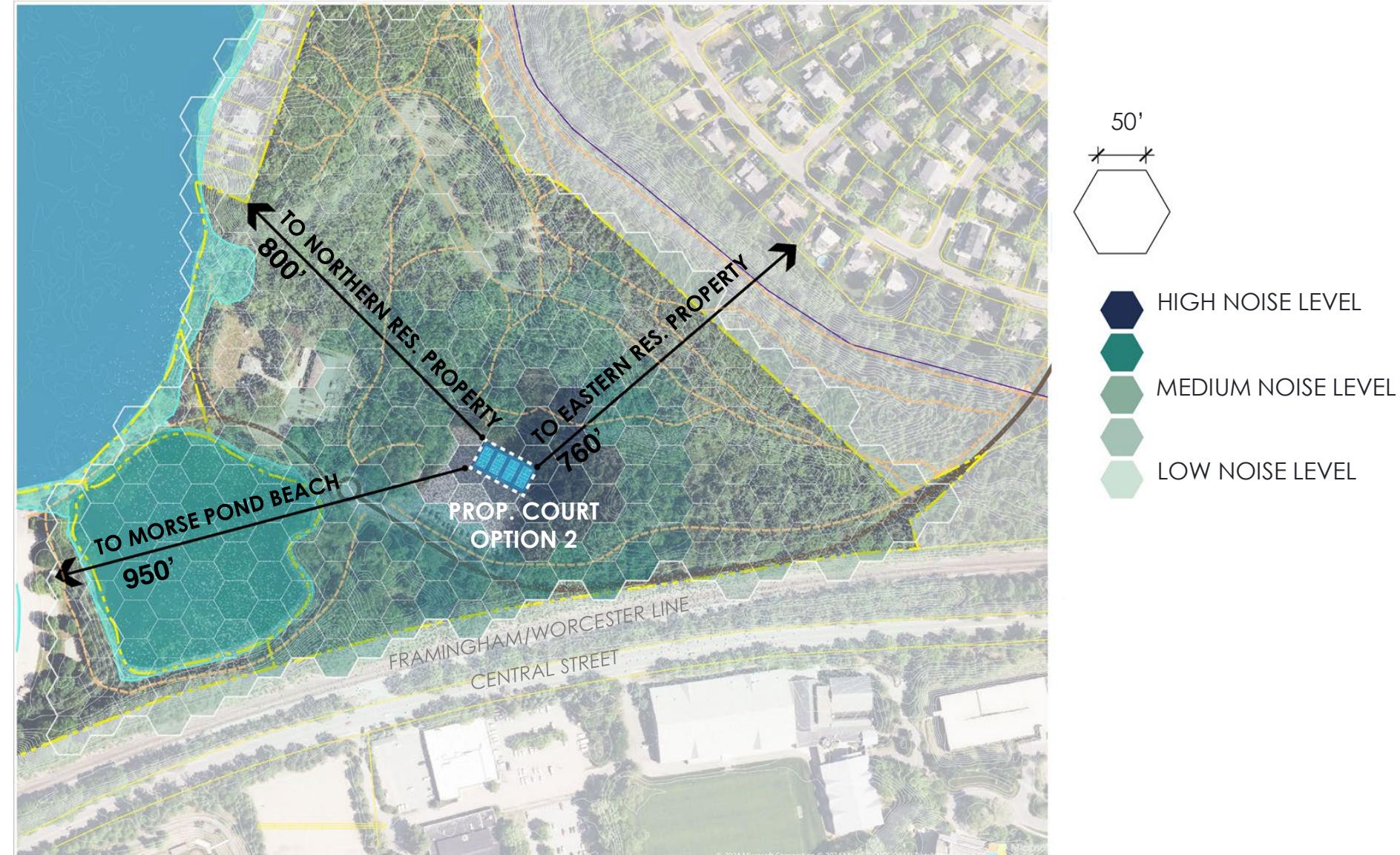
15

SOUND STUDY

Option 2 is situated approx. 950' away from the main public beach and between 760' and 800' away from the closest residential properties.

Sound Barrier:

Given the adequate distances, and natural and physical barriers, A **15-foot height barrier** is recommended to adequately mitigate any potential noise from reaching surrounding properties and amenities.



TOWN OF WELLESLEY PICKLEBALL COURT STUDY



Weston & Sampson

PHASE II

COST CONSIDERATIONS

ITEM	BITUMINOUS COURTS COST	POST TENSION CONCRETE COURTS COST
Site Preparation/Demolition - <i>includes tree clearing & grubbing, grinding stumps and disposals, E&S controls, construction fencing , construction entrance</i>	\$37,000	\$37,000
Earthwork - <i>includes excavation, hauling, fine grading & compaction (Bit - 18" depth, PT Concrete = 1 3" depth)</i>	\$19,000	\$15,000
Stormwater Drainage - <i>includes stormwater requirements for the 100-year storm</i>	\$125,000	\$125,000
Site Improvements - <i>includes loam and seed of disturbed area</i>	\$9,000	\$9,000
4 Courts - <i>includes (Bit or PT Concrete)tennis court cross section, nets, posts, tiedowns, line striping, and color sealcoat.</i>	\$98,000	\$159,000
Fencing - <i>includes 15' high perimeter fencing, single and double gates, 15' ht - sound barrier</i>	\$110,000	\$110,000
Subtotal:	\$398,000	\$455,000
Mobilization, Overhead & Profit 15%	\$60,000	\$68,000
Contingency 25%	\$100,000	\$114,000
Construction Subtotal:	\$558,000	\$637,000

Opinion of Probable Cost Disclaimer:

1. Estimated totals includes contractor mobilization, overhead & profit (15%), contingency (25%)
2. This opinion of cost does not include design or permitting.
3. For planning purposes only. Pricing is in no way a guarantee.
4. Assumes no hazardous material and no rock removal.
5. Prices may vary significantly due to recent volatility of inflation and escalation of construction prices



TOWN OF WELLESLEY PICKLEBALL COURT STUDY

Post Tension Concrete:

Post-tension concrete (PTC) courts are built using a specialized technique that reinforces the concrete slab with high-strength steel cables or tendons.

Pros:

1. **Durability:** PTC courts have increased resistance to settling, heaving, cracking, and extreme weather conditions. They can last 25+ years with proper maintenance.
2. **Reduced Maintenance:** Due to their durability and crack resistance, PTC courts require less maintenance over their lifetime. They also have superior drainage, allowing play immediately after rain.
3. **Improved Performance:** PTC courts have less deflection, vibration, and cracking compared to traditional concrete, providing a consistent, high-quality playing surface.
4. **Quality Assurance:** Post-tensioning plants and installers must be certified by the Post-Tensioning Institute, ensuring a high level of quality for the court.

Cons:

1. **Upfront Costs:** PTC courts are more expensive upfront due to the materials and skill level required for installation.
2. **Repairs:** Although rare, repairs or modifications to PTC can be challenging and risky due to the design of the tendons.

CONCLUSIONS

Based on the feedback we received through public survey and town-wide inventory, it is recommended that 4 dedicated pickleball courts be located at Morses Pond to alleviate the growing demand and needs of the community. The addition of these 4 court will provide,

- up to approximately 4800 daylight hours (sunrise to dusk) of available play annually per court (does not account for weather)*
- reduce the use of pickleball play on shared tennis/pickleball courts in town
- provide the users a dedicated multicourt facility away from neighboring residential properties

Morses Pond location 1 has been identified as the only location because of the distance to neighboring residential properties, access to existing parking, and minimal impacts to existing conditions.

Key Factors

- Location 1 remains outside of any key environmental regulation zones and utilizes existing flat topography with minimal earthwork required.
- The proposed location of the pickleball courts should not displace existing available parking. Further exploration of defining the existing lot would benefit the overall parking capacity.
 - The courts have a capacity of +/-16 players at any given time, resulting in the loss of equal spaces from the existing lot during peak hours of play, leaving up to 93 potential spaces remaining for beach goers.
- According to the acoustics study done in Phase I, 15' height barriers would be recommended for the location (for 4 courts).
- A large bioretention area is recommended to offset the impacts on stormwater. The benefits from the bioretention area provide stormwater retention and filtration, as well as supports native biodiversity.

Additional Considerations

Space is available to split the four courts into (2) 2 court areas to include a waiting area with seating and a shade canopy between. This would provide a space for players on deck as well as provide additional sound mitigation by deflecting sound vertically.

* National Oceanic and Atmospheric Administration (NOAA) Solar Calculation Chart



NOISE BARRIER CONSIDERATIONS

Barrier Requirements:

- Must consist of a material designed specifically for noise mitigation with a minimum weight of 1 lb. per square foot.
- The barrier material must extend completely to the court surface and be installed without any gaps.
- The height of any retaining walls along the edges of the courts should count toward the height of the barriers.
- The barrier must be installed on a minimum of three of the four sides of the courts, with the open side facing away from the nearest property line.

Recommended Barriers:

- Pickleblok / AcoustiFence Noise Reducing Fences
As manufactured by Acoustiblok, Inc. or similar.
- Retaining walls / Existing Buildings



Additional Noise mitigation:

- Quiet Paddles or Green Paddles

(These were not accounted for under site selection parameters.)

(Owl Paddles, first paddle qualifying for USA Pickleballs new Quiet Category)



TOWN OF WELLESLEY PICKLEBALL COURT STUDY



What is a green pickleball paddle?

A "green pickleball paddle" refers to a pickleball paddle that is meant to produce less noise than traditional pickleball paddles.

The term "green" here is used to indicate that the paddles are more *environmentally friendly* because they produce less noise pollution.

MassPickleballGuide.com

