January 27, 2023

Tori Kim
MEPA Director
Executive Office of Energy and
Environmental Affairs
100 Cambridge Street, Suite 900
Boston, MA 02114

Dear Director Kim,

We are writing in reference to the Northeast Metropolitan Regional Vocational High School construction project (the Project) at 100 Hemlock Road in Wakefield, MA. The Project is within MEPA full-scope jurisdiction as it involves Financial Assistance from the Massachusetts School Building Authority (MSBA). Every aspect of the Project is financed by taxpayer money. As shown below in our Fail-Safe Petition a full Environmental Impact Report (EIR) is essential to avoid or minimize Damage to the Environment that will otherwise be extensive and involve multiple environmental resources. Information recently submitted by the Project indicates at least two MEPA review thresholds are exceeded under 310 CMR 11.03.

The Participating Agencies for this Project include MADEP and the Wakefield Conservation Commission, currently reviewing the Notice of Intent (NOI) and Stormwater Report (Nitsch Engineering. September 21, 2022; Revised January 12, 2023).

Key documents, including the revised NOI, revised Stormwater Report, and revised plan sets were received by the Wakefield Conservation Commission, and made public, January 12, 2023. Review of these documents provided a clearer picture of the extent of damage to the environment and exceedance of review thresholds, as discussed below. We request that if any additional information is provided to you in response to this letter and failsafe petition that is not in the public record, we receive that information with an opportunity to review and comment before you make your final determination.

As interested persons committed to environmental protection, we have closely followed the Project developments through public document submissions, presentations at public meetings, and public hearings held by the Wakefield Conservation Commission.

The purpose of our letter is two-fold: (1) to submit a fail-safe petition under 301 CMR 11.04 submitted by ten Persons, the undersigned; and (2) provide documentation from Project submissions to the public record which indicate exceedance of MEPA review thresholds. We urge you to use your discretion to grant this Fail-Safe Petition to require an ENF and draft and final EIR because all of the following Fail-Safe criteria of 11.04(1) are met:
(a) the Project is subject to MEPA jurisdiction;
(b) the Project has the potential to cause Damage to the Environment and the potential Damage

to the Environment either:

1. could not reasonably have been foreseen prior to or when 301 CMR 11.00 was promulgated; or
2. would be caused by a circumstance or combination of circumstances that individually would not ordinarily cause Damage to the Environment; and

(c) requiring the filing of an ENF and other compliance with MEPA and 301 CMR 11.00:

1. is essential to avoid or minimize Damage to the Environment; and
2. will not result in an undue hardship for the Proponent.

Undisturbed portions of the project location are considered highly archaeologically sensitive by numerous experts including staff at the Department of Conservation and Recreation. The archaeological sensitivity of the site was previously documented during a partial survey by former DCR archaeologist Thomas Mahlstedt. It is inexplicable and a gross disservice to the heritage of the citizens of the Commonwealth, especially Native American persons, that an intensive (locational) archaeological survey was not required or conducted by the proponent well in advance of project construction. We appeal to MEPA officials to rectify this injustice.

This letter states with specificity the Project-related facts that the Petitioners believe support the Secretary's required findings under 11.04(1). The following two thresholds are exceeded:

- 11.0(3)(1)(b)1. Direct alteration of 25 or more acres of land unless the Project is consistent with an approved conservation farm plan or forest cutting plan or other similar generally accepted agricultural or forestry practices.
- 11.03(1)(b)3. Use of Article 97 land for project-related activities.

With MEPA review, a third review threshold, 11.0(3)(2)(b)2., would also be exceeded which pertains to greater than two acres of disturbance of designated priority habitat, as defined in 321 CMR 10.02.

As stated in 301 CMR 11.00, the purpose of MEPA is to:

> "provide meaningful opportunities for public review of the potential environmental impacts of Projects for which Agency Action is required, and to assist each Agency in using (in addition to applying any other applicable statutory and regulatory standards and requirements) all feasible means to avoid Damage to the Environment or, to the extent Damage to the Environment cannot be avoided, to minimize and mitigate Damage to the Environment to the maximum extent practicable."

This letter demonstrates for the public record the Damage to the Environment from this Project and that MEPA thresholds are exceeded and at a minimum an ENF is required. We urge you to require full MEPA review and an Environmental Impact Report, or other review based on both exceedance of review thresholds and Damage to the Environment. The Proponent should be required to comply with MEPA and demonstrate it has used all feasible means to prevent, mitigate and avoid Damage to the Environment.

<u>Background</u>

On March 14, 2022 ("March 14 letter"), an advisory ruling was requested on behalf of the Friends of Wakefield's Northeast Metro Tech Forest ("Friends"), in relation to the above-referenced project with additional information submitted on March 31 and May 6, 2022. Input from the Proponent, the Northeast Metropolitan Regional Vocational High School District ("District"), was submitted on April 28 and May 13, 17, and 24, 2022.

The following determination was issued by Assistant Secretary Tori Kim on May 26, 2022:

> *"Based on the foregoing, I find that MEPA review is not required for the Project as currently proposed because, while it requires Agency Action, it does not meet or exceed any MEPA review thresholds. I note that, if any thresholds (other than 301 CMR 11.0(3)(2)(b)2.) were to be met or exceeded due to project changes made at a future time, MEPA review would be required and the provision at 321 CMR 10.13(2) would no longer apply; in that instance, the Proponent would be required to undertake review under 321 CMR 10.18 to determine if a "take" would occur under current NHESP mapping. As you have noted, NHESP also retains authority to determine, "based on special circumstances," that any Project otherwise exempt should be subject to review to "prevent a substantial and permanent modification, degradation or destruction of Priority Habitat." 321 CMR 11.13(2)(d)."*

The Project involves two distinct areas, the current school site (~30 acres) and the proposed school site (~29 acres). The two areas differ in terms of topography, natural resource value, and final configuration.

In the May 2022 Determination, you stated regarding the issue of land alteration:

> *"I note that the Project does not involve significant earthwork or changes in grading."*

This is incorrect. Both areas of the Project will undergo extensive intrusive land alteration including excavation, earth removal, grading, filling and stockpiling. In addition, the proposed school site will undergo "mass tree clearing and rock blasting" [Drummey Rosane Anderson (DRA). January 2021. Preferred Solution Narrative https://northeastbuildingproject.com/wp-content/uploads/sites/199/2021/01/3.3.4-Preferred-Solution-Narrative.pdf)]. As allowed in the advisory ruling, here we provide new documentation on the nature and extent of land alteration at the site that was not available or not provided to you when the May 26, 2022 determination was issued. This documentation shows direct alteration of 25 or more acres of land per 11.0(3)(1)(b)1.

The Project now involves adjacent Article 97 land, review threshold 11.03(1)(b)3, that will be altered for the construction of an "Energy Park" to house batteries and associated infrastructure for the solar system on the new school. Additional details are provided below.

With the exceedance of these two thresholds, MEPA review is required and, as a result, the provision at 321 CMR 10.13(2) providing exemption to NHESP regulations would no longer

apply. Therefore, a third MEPA review threshold, 11.0(3)(2)(b)2., would also be exceeded which pertains to greater than two acres of disturbance of designated priority habitat, as defined in 321 CMR 10.02.

I. Fail-Safe Petition: Damage to the Environment within the meaning of 301 CMR 11.02

The Project causes actual and probable damage to the natural resources of the Commonwealth as defined by 301 CMR 11.02.

> "Damage to the Environment. Any destruction or impairment (not including insignificant damage or impairment), actual or probable, to any of the natural resources of the Commonwealth including, but not limited to, air pollution, GHG emissions, water pollution, improper sewage disposal, pesticide pollution, excessive noise, improper operation of dumping grounds, reduction of groundwater levels, impairment of water quality, increases in flooding or storm water flows, impairment and eutrophication of rivers, streams, flood plains, lakes, ponds or other surface or subsurface water resources, destruction of seashores, dunes, marine resources, underwater archaeological resources, wetlands, open spaces, natural areas, parks, or historic districts or sites."

The Project involves two distinct areas, the current school site on the northern portion of the site (~30 acres) and the proposed school site on the southern portion of the site (~29 acres) (Attachment 1). The two areas differ in terms of topography and natural resource value. The Damage to the Environment will be primarily on the 29 acres associated with the proposed school location. Project architects describe the new school location as "an undeveloped hillside area", "wooded with a significant amount of ledge outcroppings" that will require "creation of a flat building pad through a mass tree-clearing and blasting operation in an early site enabling phase."
http://northeastbuildingproject.com/wp-content/uploads/sites/199/2021/01/3.3.4-Preferred-Solution-Narrative.pdf. Construction of a half mile driveway, parking lots and location of the school in the middle of the forested site degrades and impairs the natural resources of the Commonwealth across the entire 29-acre site.

The full impact of road building, blasting, chemical contamination, filling of wetland buffers, clear cutting, soil grubbing, settling ponds, rock crushing, clearing areas for stockpiling rock, installing pipes for water discharge and heavy truck hauling will destroy the entirety of this forest. A few trees remaining on the edges is not a functioning forest. All the symbiosis within the forest itself and extending to Breakheart Reservation will be lost and without need. There is a much better site available to build the school.

While claiming they have used an environmentally sensitive site design (Nitsch Stormwater Report. 1/12/23), this is contrary to the Wetlands Regulations, 310 CMR 10.04, and the Water Quality Certification Regulations, 314 CMR 9.02, which define environmentally sensitive site design to mean design that incorporates low impact development techniques to prevent the generation of stormwater and non-point source pollution by reducing impervious surfaces, disconnecting flow paths, treating stormwater at its source, maximizing open space, minimizing disturbance, protecting natural features and processes, and/or enhancing wildlife habitat.

The destruction of natural and cultural resources associated with this mass tree-clearing and blasting operation is detailed below.

A. Destructive effects of construction

The project involves clearcutting and deforestation of over 16 acres followed by topsoil removal and extensive blasting of approximately 10 acres of extremely hard water-filled volcanic bedrock that will alter hydrology in an area near multiple wetlands, including a certified vernal pool, and require ongoing management of significant volumes of water during and after construction. The deep blasting to bench out a level foundation will remove up to 35 vertical ft of water-filled bedrock over approximately 10 acres severely impairing underground springs, streams and the hydrology that supports the adjacent certified vernal pool and other wetlands.

The blasting operation will be destructive to the environment and generate rock debris that will be transported for processing to a rock crushing location behind the current school site (Attachment 2). Blasting operations on this scale generate high levels of noise, vibration, and dust. Land that is currently pervious surface/grass behind the existing school will be used for a stockpiling and rock crushing operation for rock that is trucked down from the new school site (Gilbane Presentation to Wakefield Conservation Commission 12/6/22).

The blasting operation will create a 650 ft long cliff wall up to 35 ft high exposing additional impervious surface and adding to the groundwater and stormwater impacts to the nearby wetlands. Geotechnical experts (Scarptec. July 25, 2022. Rock Engineering Design and Construction Recommendations) reported that along this cliff, one of several blasted areas,

> *"long-term weathering from water and ice action may result in localized erosion, raveling and degradation of the slope and overlying backslope soils. Exposure of the rock mass to physical and chemical weathering and slope destressing necessitates periodic scaling of the completed rock slopes and monitoring of the rock reinforcement installed during construction. Due to expected surface water runoff and episodic fracture-controlled hydraulic conductivity, localized ice buildup on the new slopes is likely. Ice build-up can induce ice jacking forces on the rock, which can in turn increase the chances of rockfall."*

Introduction of fill, loam, stone dust from rock crushing operations, and construction vehicles will introduce and spread invasive species to the remaining fragmented habitat, especially on the newly created edges and in the soil and plants introduced to the site. Newly introduced fill and loam will be at increased risk of erosion and runoff due to the steep grades on the hilltop.

B. Destruction of Native American cultural sites, 301 CMR 11.03(10)

According to the National Register of Historic Places, there are 50 ancient Native American sites within 1 mile of the proposed building site including 4 destroyed sites within the adjacent Breakheart Reservation. The proposed hilltop building site includes felsite outcrops, clay deposits and site characteristics consistent with early Indigenous Heritage sites (National Historic Register https://catalog.archives.gov/id/63790266). The archaeological sensitivity of

the site, including archaeological resources, were previously documented during a partial survey by former DCR archaeologist Thomas Mahlstedt. Undisturbed portions of the project location are considered highly archaeologically sensitive by numerous experts including staff at DCR. An intensive (locational) archaeological survey needs to be conducted before irreparable harm occurs.

On December 9, 2022, Faries Gray, Sagamore of the Massachusett Tribe at Ponkapoag and expert on Indigenous Heritage sites, visited the location of the proposed new school site. On that day, he observed archaeological resources supporting the necessity of conducting a full intensive (locational) archaeological survey of this potentially important Indigenous Heritage site.

Despite being an area of known archeological sensitivity, the Massachusetts Historical Commission failed to make a determination of adverse effect within 30 days of receipt of an adequately documented Project Notification Form. This is not equivalent to a determination that *cultural resource surveys or other evaluations determined that historic properties do not exist,* as claimed by the Project in this excerpt from Appendix E of the Stormwater Report:

"During the study and permitting process with the Massachusetts State Building Authority and the Massachusetts Environmental Policy Act Office it was determined that there are no historic properties on the site."

In addition, in the Historic Properties Screening Process in the Draft Stormwater Pollution Prevention Plan (Nitsch 9/21/2022) the Project answers YES to the following question but provides no documentation for the answer, as required:

Have prior cultural resource surveys or other evaluations determined that historic properties do not exist, or that prior disturbances at the site have precluded the existence of historic properties? If yes, provide documentation of the basis for your determination.

In the SWPPP, Attachment L - Historic Preservation Documentation is included as a placeholder but it is BLANK.

There has been no Determination of No Adverse Effect by the Massachusetts Historical Commission (MHC) or disclosure of the manner in which the Project is consistent with any "Memorandum of Understanding" with MHC. There can be no determination or finding by the Secretary on this issue until there is a full on-location archaeological survey conducted with full public involvement and transparency. This is needed to prevent the destruction of significant archaeological and historic resources. The cumulative past and actual and potential future damage to these historic sites and areas must be addressed in the ENF and with a full MEPA review. There must be transparent and full consultation with the Native American community. To exclude the Native American community would violate MEPA's Environmental Justice Policy and violate MEPA.

C. Pollution

The Project reports construction and ongoing maintenance activities will involve several pollutant-generating activities known to cause damage to the environment (Nitsch. Stormwater

Pollution Prevention Plan. section 2.7 of Long-term Pollution Prevention Plan and Stormwater Operation and Maintenance Plan. p. 228. In Stormwater Report. 1/12/23). These pollutants include herbicides for weed control, nitrogen and phosphorus containing fertilizers, asphalt for and from streets and parking lots, gasoline, diesel fuel and kerosene during construction and in run-off from roads and parking areas after construction. This table does not mention the chemicals that will be used for blasting in the mass rock clearing operation needed to level the site for construction. Five areas were identified for blasting (Attachment 2). The Project has not reported the type or amount of blasting chemicals that will be used on site and whether these will include perchlorate-containing explosives. Fragmentation of bedrock with explosives for construction projects is a potential source of nitrate contamination of groundwater and hundreds to tens of thousands of kg of NO_3^- are typically used at a construction site. Nitrate is a component of ammonium nitrate (NH_4NO_3), which is approximately 90% of commonly used commercial explosives by weight (Degnan, et al. 2015. https://pubs.acs.org/doi/10.1021/acs.est.5b03671).

Blasting will cause fracturing of the underlying hydrology that may impact areas outside the areas subject to blasting and send potentially contaminated groundwater to neighboring wetlands and abutting private residences. Geotechnical reports show ground water at surface level and in multiple locations close to the surface. One of the borings in the building footprint (B 102) had to be capped after 24-hrs for a possible “artesian condition”.

Road-salt management at the proposed NEMT project has not addressed the potential degradation and viability of wetland and vernal pool biota from applications of deicing chemicals on roads, parking lots and sidewalks. The primary pollutant of concern is chloride, which is regulated at both the federal and state level for freshwater resources such as wetlands and vernal pools, and which should be part of any project evaluation through the Wetland Protection Act.

According to the Stormwater Pollution Prevention Plan (Nitsch Stormwater Report 1/12/23. Appendix E. Long-term Pollution Prevention Plan and Stormwater Operation and Maintenance Plan), pretreatment of roads for deicing will be done with Pre-Mix (rock salt and calcium chloride). Premix, sodium chloride, magnesium chloride and calcium chloride are all injurious to freshwater aquatic organisms when chloride concentrations exceed the Clean Water Act (CWA) standards. All contain chloride, which can be toxic to wetland and vernal pool fauna. They are not environmentally friendly. EPA defined chloride toxicity to aquatic life using chronic and acute criteria.

During winter storm road-salt applications on the access road, levels of chloride that exceed the acute Ambient Water Quality Criteria of 860 mg/l are likely to flow into adjacent wetlands from the level-spreader outfalls from Subsurface Systems and subsequently degrade biota viability. While the proposed stormwater sump systems may reduce total suspended solids in effluent, they do not reduce chloride concentrations.

At the state level, Massachusetts Surface Water Quality Standards have adopted these criteria.

Light pollution is also a concern with streetlights and building lights on 24-hours/day. The lighting plan to install streetlights along the half-mile access road from Farm St to Hemlock and

along pedestrian walkways will adversely impact wildlife. The large expanse of glass in a multistory hilltop building lit at night for evening classes in migratory and resident bird habitat next to a migration corridor along the powerline cut will pose an ongoing threat to resident and migrating birds and nocturnal wildlife.

D. Destruction of core forest and rare species habitat and native soils

Over 16 acres of core forest habitat for rare wildlife will be destroyed by clearcutting, blasting and road construction. The project site of 16 acres of hilltop and wetlands is both Forest and Rare Species Core Habitat and part of a larger Critical Natural Landscape documented in BioMap3 (mass.gov/biomap). Because the project site is part of the western-most section of the larger Critical Natural Landscape and historically the least impacted by human presence, it is exceptionally rich in biodiversity, supporting rare and threatened species and multiple species of Greatest Conservation Need. Larger habitat sizes and their continuity are essential to maintaining healthy populations of rare species. Fragmentation of this forest will impact adjacent areas and drive local species extirpation (Attachment 3). The proposed project will not only destroy the acidic rock outcrop forest ecosystem that includes Priority Habitat 1550 for Hentz's Red-bellied Tiger Beetle, but the increased human presence, cars, noise, particulates, air, light, and chemical pollution, including deicing salts, will adversely impact the adjacent vernal pools, bordering vegetated wetlands, forest edge habitat and multiple species of greatest conservation need, including a recently documented population of state-listed Eastern Whip-poor-will (https://ebird.org/checklist/S115056994).

The predominantly oak forest with regenerating and mature oak, white pine, and hickory supports the highest possible number of caterpillar/moth species that together with multiple wetlands provide food, migratory bird stopover habitat, and support resident bird and bat populations. Multiple bird species of Greatest Conservation Need nest and forage in the forest and adjacent shrubland edge habitat and power line cut including Eastern Whip-poor-will, American Woodcock, Wood Thrush, Scarlet Tanager, Prairie Warbler, Eastern Towhee and Field Sparrow.

Ongoing rock crushing and blasting operations during nesting season will not only destroy the resident forest breeding bird habitat but will also adversely impact the adjacent shrubland and forest edge habitat in Breakheart Reservation. Both large and small bat species were observed while recording Eastern Whip-poor-will and bats are commonly observed flying out from the forest over the nearby football field. Since no investigations have been done into the multiple bat species supported by the forest, there may be endangered species including the federally endangered Northern Long-eared Bats as well as other bats of greatest conservation need. The project site habitat meets the requirements for endangered Northern Long-eared bats.

Deforestation of 16 acres of designated forest core habitat, when a suitable alternative site exists, represents callous and unnecessary damage to the environment. As part of site reconnaissance for the Energy Park on adjacent Article 97 land (discussed in the land alteration section below), a tree count was conducted indicating 170 trees (over 8 inch diameter) per acre, a number representative of the 16 acres to be deforested. We estimate a total of >2000 trees will therefore be removed from the new school site to build the school and associated pavement/hard scape.

As described in the recently released EOEEA Massachusetts Healthy Soils Action Plan 2023 https://www.mass.gov/doc/healthy-soils-action-plan-2023/download :

> "Healthy soils are central to retaining, filtering, infiltrating, and storing water. By these functions, soils prevent flooding, erosion, and spreading of contaminants, and they provide local climate cooling. When the characteristic structure, biology and chemistry of soils is intact, they work like a sponge to slow stormwater, recharge groundwater, and clean polluted surface flows. As climate change brings more and heavier storms to our region, these vital soil functions become even more essential."

The forest and wetland ecosystems in the area are supported by healthy native soils, rich in soil organic carbon and mycorrhizal fungal interactions that support remarkable diversity of native plants. The Floristic Quality Index of 43 - where over 35 is exceptional - indicates that this forest has taken a long time to develop, is remarkably free of invasive species, and should be protected based on plant species alone (Floristic Quality Assessment provided by Walter Kittredge, Botanist, Oakhaven Sanctuary, North Reading, MA).

The ecosystem in the area is supported by a canopy of trees, with a predominance of oaks, creating a climate-resilient habitat critically important for storing carbon and cleaning the air. The oaks are supported by mycorrhizal fungal interactions with 150-200-yr old stump-sprouted oak root systems contributing to carbon capture, and deep oak litter helps to prevent encroachment by invasive species. The forest canopy provides local cooling and both the canopy and oak litter contribute to stormwater management and regeneration of the multiple forested wetlands.

E. Destruction and Impairment of Wetlands and associated Buffer Zones

Project plans include 2.6 acres of disturbance within the 100-foot Buffer Zone of the wetlands series identified on the project site (Nitsch. Buffer Zone Existing and Proposed Conditions. Prepared for Conservation Commission Hearing. December 6, 2022. https://www.wakefield.ma.us/sites/g/files/vyhlif3986/f/uploads/northeast-metro-tech-buffer-zone.pdf). The work will alter the water quantity and quality functions of the area, contribute to flood control and storm damage, impair wildlife habitat, and is contrary to the damage prevention interest of the Wetlands Protection Act.

Disturbance of the Buffer Zone to this degree "can be expected to result in alteration of the wetland characteristics that provide important functions and values associated with the Bordering Vegetated Wetland and the interests of the WPA (Notice of Intent Peer Review. BSC Group. November 4, 2022). https://www.wakefield.ma.us/sites/g/files/vyhlif3986/f/uploads/bsc-group-peer-review-northeast-tech.pdf). Extensive rock blasting in multiple locations planned for the site may result in the destruction of wetland habitat even if not directly constructed upon, due to blasting uphill from wetlands, potential water contamination, and the alteration of groundwater circulation.

The forested wetlands include a certified vernal pool with breeding populations of spotted salamander and wood frogs within 400 m of another certified vernal pool comprising a vernal pool cluster. The vernal pool cluster is connected by a network of wetlands and ephemeral

streams that form a half mile amphibian migration pathway from the certified vernal pools in neighboring Breakheart Reservation near Hemlock Rd to vernal pools and bordering vegetated wetlands near Farm St.

Impacts to the wetlands from dramatic post-development changes in stormwater volumes are discussed in Section *G. Increases in flooding and storm water flows.*

F. Impairment of Water Quality

Buffer Zones protect water quality by slowing the rate of overland flow and increasing infiltration. Vegetated buffers act as filters that adsorb and trap nutrients, toxic pollutants, bacteria, sediment, organic material, and debris before it enters a resource area The project as proposed retains almost no naturally vegetated buffers on the site (Notice of Intent Peer Review. BSC Group. November 4, 2022).

Chemicals used in extensive and prolonged blasting such as ammonium nitrate, perchlorate, and fuel oil will potentially contaminate groundwater in the forest, pollute surrounding waterways including the Saugus River and Mill River, both located within ⅓ mile of the blasting, and contaminate wetlands making them unusable for amphibians and aquatic insects.

The potential impacts of blasting chemicals and deicing chemicals on water quality is discussed in Section C. Pollution.

G. Increases in flooding and storm water flows

The proposed project will create at least 10 acres of new impervious surface on the site of the new school. The addition of this amount of impervious surface will drastically alter the flood and storm water conditions in the area. There will be significant changes to the pre-existing drainage characteristics and flow patterns across the current school and new school portions of the site, as discussed in the section on land alteration above.

The Project reports significant changes in post-development runoff volumes in several areas which would drastically alter wetland habitats during 1-year, 2-year, and 10-year events (Table 6 of 1/12/23 Stormwater Report). The Project did not report 25-year and 100-year runoff volumes as required by Town of Wakefield https://ecode360.com/15403856#15403856. They state they will apply for a waiver from Stormwater requirements on this basis.

As a result of development, the post-development 1-year runoff volumes in the vicinity of two wetlands, DP-3 and DP-9 (offsite wetland), will increase by 6-fold and 2-fold, while runoff volumes will decrease in DP-10 and DP-12 (offsite wetland) by 3-fold and 4-fold, respectively. The changes are as significant for the 2-year and 10-year events. The total area within the 100-ft buffers of the highly impacted wetlands is 1.36 acres (Nitsch. 1/12/23 Notice of Intent. Buffer Zone Area Takeoffs Table pp. 72-73). The total area of the watersheds, or subcatchment areas feeding these highly impacted wetlands is 19 acres, and while some of that is offsite it will certainly be impacted by the change in onsite conditions [3.8 acres (DP-3), 13 acres (DP-9), 1.5 acres (DP-10), and 1.1 acres (DP-12) (Inflow areas from HydroCad Model. Nitsch Stormwater Report 1/12/23)].

Increasingly severe storms and channeling of water off of the hilltop will impact the large

bordering vegetated Red Maple and Yellow Birch wetland near Farm St and other nearby wetlands. It is not possible to reproduce the stormwater-holding capacity of deep oak litter over native soils and bedrock in a mature hilltop forest after grubbing out the soil and blasting the bedrock.

H. Reduction of groundwater levels

The Project will not meet Standard 3 of the MASSDEP Stormwater Management Standards pertaining to groundwater recharge stating that "Due to the presence of high groundwater and bedrock throughout the site, recharge is considered unfeasible, and is met to the best extent practical. "(Nitsch Stormwater Report 1/12/23). The increase in impervious surface and loss of almost all of the naturally vegetated buffers on the site will severely damage infiltration rates into the soil, associated groundwater recharge and result in a reduction in groundwater levels. Vegetated buffers slow the velocity of surface water flow, allowing sediments to drop out of the flowing water and increasing recharge to groundwater (Davies, G., BSC Group Scientists, & MACC Buffer Zone Review Team. (2019). MACC Wetlands Buffer Zone Guidebook (Vol.288). MACC).

The Project states they have employed environmentally-sensitive design to minimize these impacts. Environmentally-sensitive design is intended to minimize stormwater impacts, including reduction of groundwater levels. The Wetlands Regulations, 310 CMR 10.04, and the Water Quality Certification Regulations, 314 CMR 9.02, define environmentally sensitive site design to mean:

> "design that incorporates low impact development techniques to prevent the generation of stormwater and non-point source pollution by reducing impervious surfaces, disconnecting flow paths, treating stormwater at its source, maximizing open space, minimizing disturbance, protecting natural features and processes, and/or enhancing wildlife habitat".

Our thorough review of site development plans suggests the use of environmentally-sensitive design did not meet this definition.

We urge you to use your discretion to grant this Fail-Safe Petition to require an ENF and draft and final EIR because all of the following criteria of 11.04(1) are met:

(a) the Project is subject to MEPA jurisdiction;

(b) the Project has the potential to cause Damage to the Environment and the potential Damage to the Environment either:

1. could not reasonably have been foreseen prior to or when 301 CMR 11.00 was promulgated; or
2. would be caused by a circumstance or combination of circumstances that individually would not ordinarily cause Damage to the Environment; and

(c) requiring the filing of an ENF and other compliance with MEPA and 301 CMR 11.00:

1. is essential to avoid or minimize Damage to the Environment; and
2. will not result in an undue hardship for the Proponent.

The Project is currently planned for site C.3. but the alternate site, C.2, considered by the school district when evaluating construction options, is more cost-effective and has far fewer environmental impacts (Attachment 4). Requiring an Environmental Notification Form and full Environmental Impact Report would not be an undue hardship for the Project, nor would changing the proposed location of the school to site C.2. as the alternate site will "also achieve the District's educational program goals and would allow the existing school to remain in operation throughout construction of the new school with minimal disruption" (MSBA Recommendation to Proceed to Schematic Design, February 2021). The cost of the C.2 option is substantially lower than C.3 and switching to the C.2. site would more than compensate for any design and engineering costs that have been expended to date.

II. Project changes that now meet or exceed MEPA review thresholds

1. Direct land alteration of 30 acres exceeds the threshold of 11.03(1)

There is no definition of land alteration, direct or otherwise, in the MEPA regulations. In the case of undefined terms such as land alteration, 301 CMR 11.02 states:

> "any term not defined in accordance with 301 CMR 11.02(2) shall have the meaning given to the term by any statutes, regulations, executive orders or policy directives governing the subject matter of the term. Examples include a term pertaining to:

(a) wetlands, which is defined by the Massachusetts Wetlands Protection Act, M.G.L. c. 131, § 40, and its implementing regulations, 310 CMR 10.00: *Wetlands Protection*, and 33 USC 1341 and 314 CMR 9.00: *401 Water Quality Certification for Discharge of Dredged or Fill Material, Dredging, and Dredged Material Disposal in Waters of the United States within the Commonwealth* regarding Water Quality Certification, as well as other statutes, regulations, executive orders, or policy directives that govern wetlands issues; and

(b) roadways or traffic, which is defined by the Massachusetts Department of Transportation Highway Division at 700 CMR 13.00: *Approval of Access to Massachusetts Department of Transportation Highways and Other Property*."

In the absence of a regulatory definition, and in recognition of the importance of clear, unambiguous guidance on this term for making consequential determinations as to the applicability of MEPA, we sought guidance from MEPA staff on the availability of any statutes, regulations, executive orders or policy directives governing the subject matter of the terms, i.e.,a working definition of land alteration and direct land alteration. We were informed by Assistant Director Page **Czepiga (**January 19, 2023 email correspondence) "we do not currently maintain a list of "statutes, regulations, executive orders or policy directives" that specifically pertain to the term "direct land alteration" in 301 CMR 11.03(1)." In this correspondence, Ms. Czepiga provided a copy of your May 2022 determination letter which states:

> "*The foregoing indicates that the majority of impervious area will be replaced by impervious surfaces with similar uses and character in the same location (meaning that the land surface may not be "altered" in those locations). Thus, even if the land in the entire area of the old school (13.7 acres) is assumed to be altered except the areas replaced with similar impervious surfaces (3.25 acres), the total land alteration for the Project would equal 24.02 acres (13.57 acres for construction of new school + 13.7 acres in area of old school – 3.25 acres of similar replacement). I note that the Project does not involve significant earthwork or changes in grading. Based on these factors, I find that the land alteration threshold does not apply."*

Respectfully, we disagree with the characterization of "altered" as simply a change in the ultimate condition of the land surface from impervious to pervious or vice versa. In the absence of a working definition of direct land alteration from MEPA we contend that land alteration involves actions typically part of construction that alter the physical condition of the land including, but not limited to, clearing, grubbing, excavation, filling, grading, surfacing, paving, compaction, stockpiling, and stabilizing. In addition to the direct alteration to the land resulting from demolition, mass tree clearing, rock blasting, creation of new impervious surfaces (including the new school, driveway, and parking areas), there will be additional land alteration, including erosion, associated with the following changes: (1) alteration of site steepness from creation of 650-ft long cliff requiring 15 foot wide catch basin for debris; (2) soil compaction by heavy equipment; (3) alteration of pre-existing drainage characteristics and flow patterns across both the current school and new school portions of the site; and (4) alteration of the groundwater regime which in turn further impacts drainage, slope stability, survival of existing vegetation and establishment of new plants. The total land alteration of 30 acres is described in the following narrative and summarized in Table 1.

A. Current School Site Land Alteration = 11.69 acres

The current school site includes buildings (4.69 acres), pavement/hard scape (7.76 acres) and landscape areas (11.05 acres), and some amount of woods on the current school site that have not been separately reported.

Land where the current buildings are located will undergo alteration associated with demolition, earth moving, compaction, and cuts in the existing topography. The buildings will be demolished and converted into athletic fields. Construction of the athletic fields will require cuts of up to 9

feet for the proposed tennis courts and up to 6 feet for the combined football/soccer field and fill up to 7 feet (Geotechnical Report, Appendix G of Stormwater Report 1/12/23). Based on these reported values we estimate approximately 13,762 cubic yards of earth moving just for this portion of the project.

Land that is currently pavement/hard scape will be altered and reconfigured with creation of new parking areas around the new athletic fields, repaving, resurfacing, and regrading. We conservatively estimate this alteration to be 4 acres.

Land that is currently landscaped includes athletic fields, one of which has been considered as the future site of a new hockey rink/athletic facility. Several official presentations by the project team and their affiliates in 2018, 2020, 2021, 2022 include a proposed hockey rink/athletic facility located on an existing football field, also evaluated as an alternative site for the new school (Attachment 6). These presentations are in the public record. Most notably, at the meeting in December 2020, when the school building committee voted on their preferred option for this project, located on site C.3., a figure was presented showing a hockey rink on the alternate site C.2.

There is evidence that the ranking of the alternative site was negatively biased in order to reserve C.2 for this hockey rink even though C.2 meets the criteria for the new vocational school. The Project has stated: "The district gains additional athletic fields with the C.3 option and maintains the potential of reserving the current football field/ track for future development as a hockey rink" (Final Evaluation of Alternatives Narrative http://northeastbuildingproject.com/wp-content/uploads/sites/199/2021/01/3.3.3-Final-Evaluation-of-Alternatives-Narrative.pdf). The repeated presentation of figures by the project team showing the hockey rink on the existing football field indicates additional land alteration may occur at this site, the majority of which would be impervious surface. **The area associated with this football field is estimated at 2 acres.** We ask that Project proponents officially clarify in their response to this letter the intended use of this current football field with respect to future alteration plans with implications for 301 CMR 11.10(5). Please note the majority of land alteration would include new impervious surface that would need to be considered against the review threshold of 5 acres of new impervious surface. The Project has reported there will be a change in impervious surface (net new) of 3.87 acres (Stormwater Report 1/12/23, p. 7), an increase from the net new 2.8 acres reported in the 4/28/22 Response to Request for Advisory Opinion from "Friends of Wakefield's Northeast Metro Tech Forest": Northeast Metropolitan Regional Vocational Technical High School Project.

Land that is currently a baseball field will be altered with construction of an "open stone-lined infiltration pond" or "settling basin". The pond will be used for the drainage of stormwater that will be released from the rocks during blasting and described in the Site Sequence Plan and in page C305 of the Plan Set on the Wakefield Conservation Commission website. This pond will constitute land alteration of at least 1 acre.

B. New school site land alteration = 17.2 acres

The Project reports a change of 16.3 acres of woods associated with construction of the new

school (pg. 7 of 1/12/23 Stormwater report). We assume the vast majority of this deforestation is on the new school site, which consists of designated forest core habitat. This area will be cleared and replaced with new buildings (3.3 acres), pavement and hardscape (6.82 acres), gravel/rip/rap (1.35 acres) and grass (3.2 acres). The Project has not reported whether additional woods on the site of the existing school will be cleared.

Deforestation of 16 acres along with the creation of nearly 10 new acres of impervious surface in a previously wooded area with an elevation 60 ft above the surrounding area will impact the hydrology, vegetation, and biological communities in watersheds, downgradient wetlands, and buffer zones. The following conditions, all associated with the new school site, are widely recognized to result in increased erosion and other adverse alterations to the land:

- Removal of plant cover
- Regrading the terrain and altering steepness
- Road construction
- Decrease in the area of soil that can absorb water
- Soil compaction by heavy equipment which reduces water intake
- Altering the groundwater regime resulting in adverse effects to drainage, slope stability, survival of existing vegetation and establishment of new plants

Source: Massachusetts Erosion and Sedimentation Control Guidelines, 2003
https://www.mass.gov/doc/complete-erosion-and-sedimentation-control-guidelines-a-guide-for-planners-designers-and/download

In addition to the direct alteration to the land surfaces resulting from demolition, mass tree clearing, rock blasting, soil grubbing, creation of new impervious surfaces including the new school, driveway, and parking areas, there will be significant changes to the pre-existing drainage characteristics and flow patterns across the current school and new school portions of the site, both of which are considered altered per Wetlands (310 CMR 10.00) where:

> Alter means to change the condition of any Area Subject to Protection under M.G.L. c. 131, § 40. Examples of alterations include, but are not limited to, the following:
> (a) the changing of pre-existing drainage characteristics, flushing characteristics, salinity distribution, sedimentation patterns, flow patterns and flood retention areas;
> (b) the lowering of the water level or water table;
> (c) the destruction of vegetation;
> (d) the changing of water temperature, biochemical oxygen demand (BOD), and other physical, biological or chemical characteristics of the receiving water.

The Project reports significant changes in runoff volumes in several areas which would drastically alter wetland habitats during 1-year, 2-year, and 10-year events (Table 6 of 1/12/23 Stormwater Report). The Project did not report 25-year and 100-year runoff volumes as required by Town of Wakefield https://ecode360.com/15403856#15403856.

A significant portion of the acreage of land in the vicinity of the current school site and new school site that will be vulnerable to land alterations because of site development, including erosion, changes to the groundwater regime and impacts to the survival of existing vegetation

and biological communities in and outside wetlands and buffer zones. The limit of work includes approximately 0.21 acres within the 25-ft buffer of three wetlands and 2.4 acres within the 100-ft buffer of seven wetlands.

As a result of development, the post-development runoff volumes for 1-year storm events in the vicinity of two wetlands, DP-3 and DP-9 (offsite wetland), will increase by 6-fold and 2-fold, respectively, while runoff volumes will decrease in DP-10 and DP-12 (offsite wetland) by 3-fold and 3-fold, respectively. The changes are as significant for the 2-year and 10-year events. The total area within the 100-ft buffers within the limit of work that are highly impacted wetlands is 1.36 acres (Buffer Zone Area Takeoffs Table. Submitted to Wakefield Conservation Commission 01/12/23 https://www.wakefield.ma.us/sites/g/files/vyhlif3986/f/uploads/northeast-metro-tech-buffer-zone.pdf).

Of the 1.36 acres, approximately 0.9 acres will remain pervious and 0.43 acres will be converted to impervious surface. Land alteration will occur in both. The pervious surface will be altered at the surface and subsurface by the significant changes in runoff volumes including alteration of soil characteristics and the hydrologic regime. The amount converted to impervious surface is already counted in our calculation of land alteration but we propose the remaining 0.9 acres within 100-ft buffers of the highly impacted wetlands should be added to land alteration per the definition of alter in Wetlands (310 CMR 10.00), cited in 301 CMR 11.02(2)(a).

C. Additional Land Alteration Outside of Project Site = 1.3 acres

Energy Park - Working in close collaboration with Project proponents, the Wakefield Municipal Gas and Light Department (WMGLD) has proposed construction of an "Energy Park" on Article 97 land adjacent to the Project site that would house batteries and associated infrastructure for the solar panels on the new school (Attachment 5). Use of this Article 97 land for project-related activities would constitute another MEPA review trigger listed at 11.03(1)(b)3. This Energy Park project would alter 0.8 acres of woods adjacent to the new school portion of the site (see Attachment 1) and must be considered in terms of MEPA restrictions to **segmentation** (301 CMR 11.01(2)(c). While the installation of solar panels on the school is commendable, the project owner has refused to allow the batteries and emergency generator for the system to be sited anywhere else on the current or new school site requiring WMGLD to instead seek another acre of forested land, the Article 97 land, for the batteries and infrastructure that will service the school's solar panels.

Rotary - The Town of Wakefield has also proposed that a new rotary be constructed at the base of the new driveway to the southwest of the building site, with egress on Farm Street. The additional amount of land converted to impervious surface as a result of the new rotary is estimated to be at least 0.5 acres (Alternate Driveway Routing - Farm Street. Wetland Alteration Exhibit. For Conservation Commission Hearing 11/01/2022). This 0.5 acres is added to the total estimate of land alteration associated with the Project as presented in Table 1.

Table 1 - Total Land Alteration

Land Use	Acres	Alteration activities	Altered Acreage
A. Current School Site			
Buildings	4.69	Demolition, earth moving, cuts up to 9 feet and fill up to 7 feet for conversion to athletic fields, installation of subsurface drainage system, soil compaction	4.69
Pavement/Hard Scape	7.76	Repaving, regrading, subsurface drainage system, and creation of new parking areas	4
Landscaped Areas including existing playing fields	11.05	Current football field converted to future athletic facility (hockey rink)	2
Baseball field	1	Conversion to open stone-lined infiltration pond (settling basin) and subsurface drainage	1
B. New School Site			
Woods	30.47	Mass Tree Clearing and rock blasting for conversion to school building and pavement/hardscape	16.3
Water/Wetlands	2.88	Alteration of remaining pervious areas from dramatic changes to stormwater runoff volumes in DP-3, DP-9, and DP-10.	0.9
C. Additional Project-related land alteration			
Woods on adjacent Article 97 land	1.0	Tree clearing, paving and installation of batteries and emergency generated for school's solar panels (Energy Park)	0.8
Woods, landscaped, and paved area at bottom of proposed driveway	1.0	Construction of rotary/ roundabout	0.5
Total Land Alteration			30 acres

III. **Conclusions**

We believe this letter demonstrates the following:

- Your requiring the filing of an ENF and EIR is essential to avoid or minimize Damage to the Environment that will otherwise be extensive and involve multiple environmental resources.
- The MEPA threshold for land alteration at 11.0(3)(1)(b)1. is exceeded and therefore an ENF is mandatory. The Project will result in ≧ 30 acres of land alteration.
- Use of Article 97 land for project-related activities constitutes exceedance of a second MEPA review trigger listed at 11.03(1)(b)3. With MEPA review, a third review threshold, 11.0(3)(2)(b)2., would also be exceeded which pertains to greater than two acres of disturbance of designated priority habitat, as defined in 321 CMR 10.02.
- Native American cultural sites will suffer actual or potential damage or destruction because of this project if no action is taken. An intensive (locational) archaeological survey must be conducted in this area well in advance of any further project construction.

Given the thresholds are exceeded, we request a full Environmental Impact Report, based on the MEPA review thresholds and overwhelming damage to the environment that we have discussed. Anything less would place an undue hardship on the current and future citizens of the Commonwealth who will bear the loss of this ecosystem, forest core habitat and historic and archaeological resources at a time when protection of these natural resources must be prioritized.

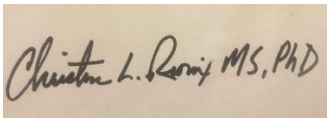
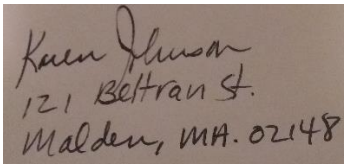
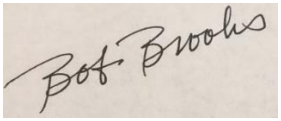
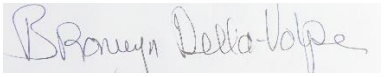
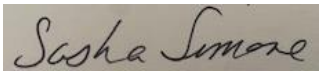
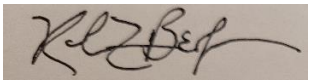
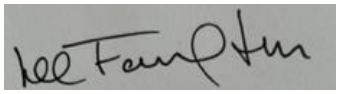
In closing, we respectfully request that you require an ENF and full MEPA review of this Project, in consideration of the extensive documentation we have provided. Consistent with the authority granted you in 301 CMR 11.00, we ask that you use all feasible means to avoid Damage to the Environment of this historic, irreplaceable, and beloved natural resource of the Commonwealth. **Based on these factors, and to ensure that irreversible Damage to the Environment does not occur at the Project site, we call upon you to notify the Proponent that no work can commence on the Project site pending your Determination.**

Sincerely,

Christine L. Rioux, MS, PhD (corresponding signatory)
Christinerioux2017@gmail.com

cc. Jonathan. K. Patton, DCR, Archaeologist, Office of Cultural Resources
Wakefield Conservation Commission

10 Petitioners

 Christine L. Rioux 22 Woodland Rd Wakefield MA 01880	 Linda Ireland 73 Nowell Rd Melrose MA 02176
 Karen Johnson 121 Beltran Street Malden MA 02148	 Paul Rybicki 152 Parker Road Wakefield MA 01880
 Bob Brooks 7 June Circle Wakefield MA 01880	 Bronwyn Della-Volpe 8 Cyrus Street Wakefield MA 01880
 Sasha Simone 43 East Highland Ave Melrose MA 02176	 Robin Bergman 320 Park Avenue Arlington MA 02476
 Brian Thomson 65 Prospect Street Wakefield MA 01880	 Lee Farrington 441 Washington Street #201 Chelsea MA 02150

List of Attachments

Attachment 1 – Aerial Locus Map

Attachment 2 - Site Prep Sequence with areas of blasting

Attachment 3 - Natural Heritage and Endangered Species Program Map

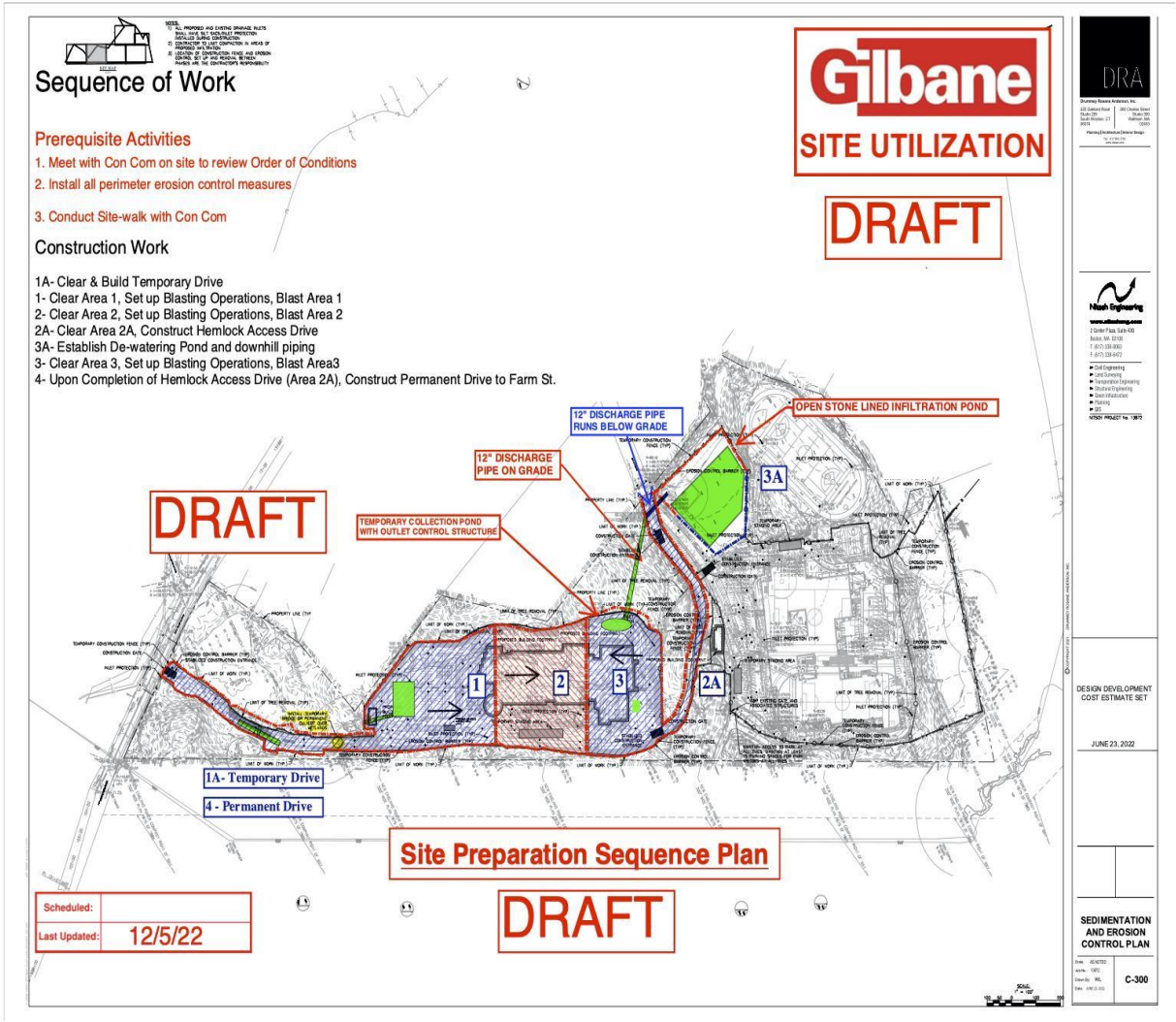
Attachment 4 - School site alternatives (12/2020-NEMT Building Committee Presentation)

Attachment 5 - Energy Park on Article 97 land (WMGLD)

Attachment 6 – Presentations showing Hockey Rink on Project Site

Attachment 1 – Aerial Locus Map - Current school left of Hemlock Rd and proposed

Attachment 2 - Site Prep Sequence with areas of blasting



Attachment 3 - Natural Heritage and Endangered Species Program Map (Nitsch Engineering)

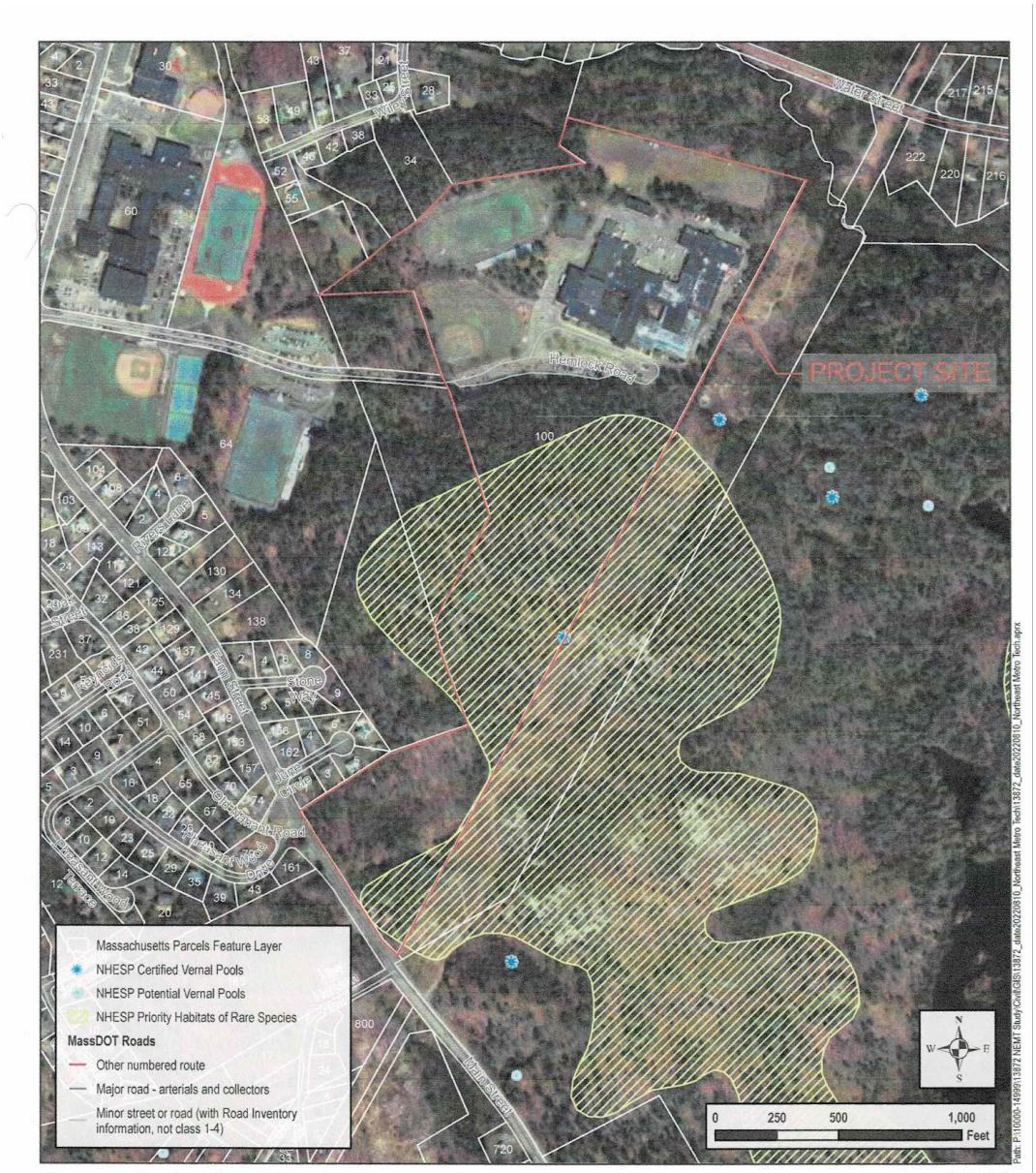


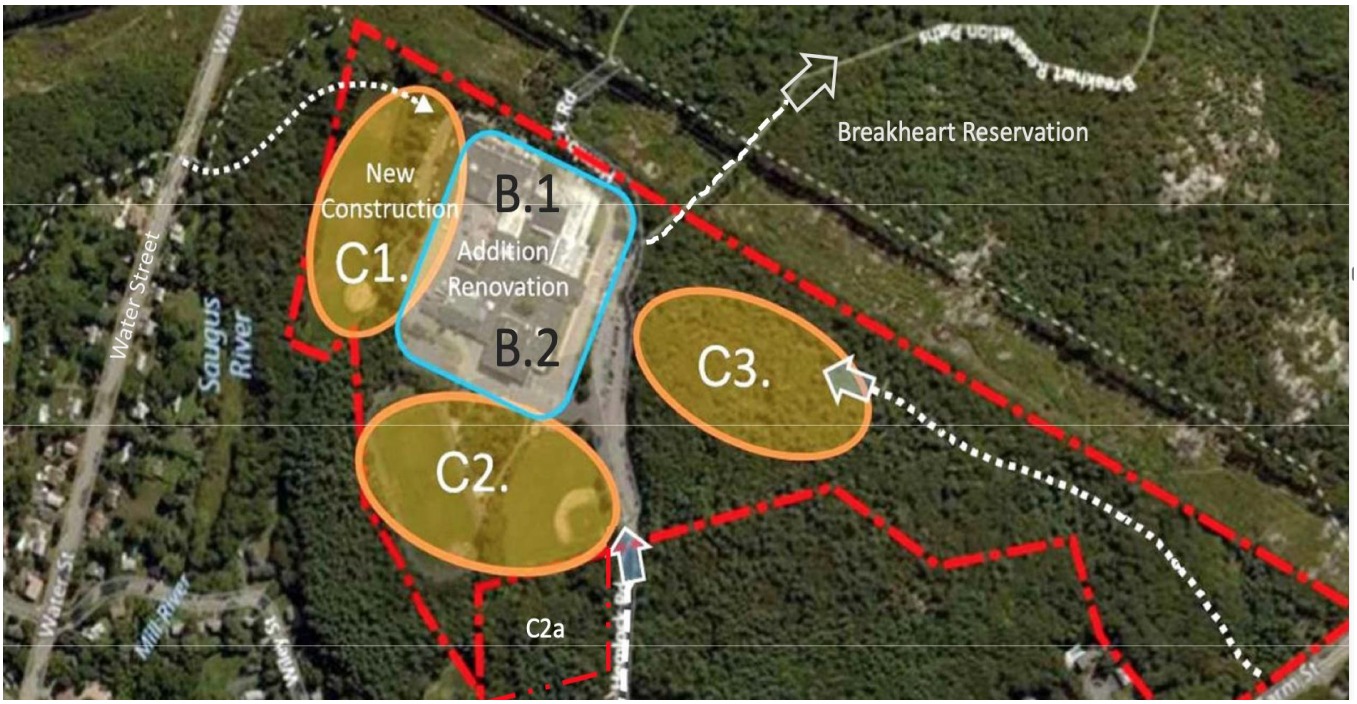
Figure 4b. Natural Heritage and Endangered Species Program Map 8/10/2022

Northeast Metropolitan Regional Vocational High School
100 Hemlock Rd, Wakefield, MA 01880

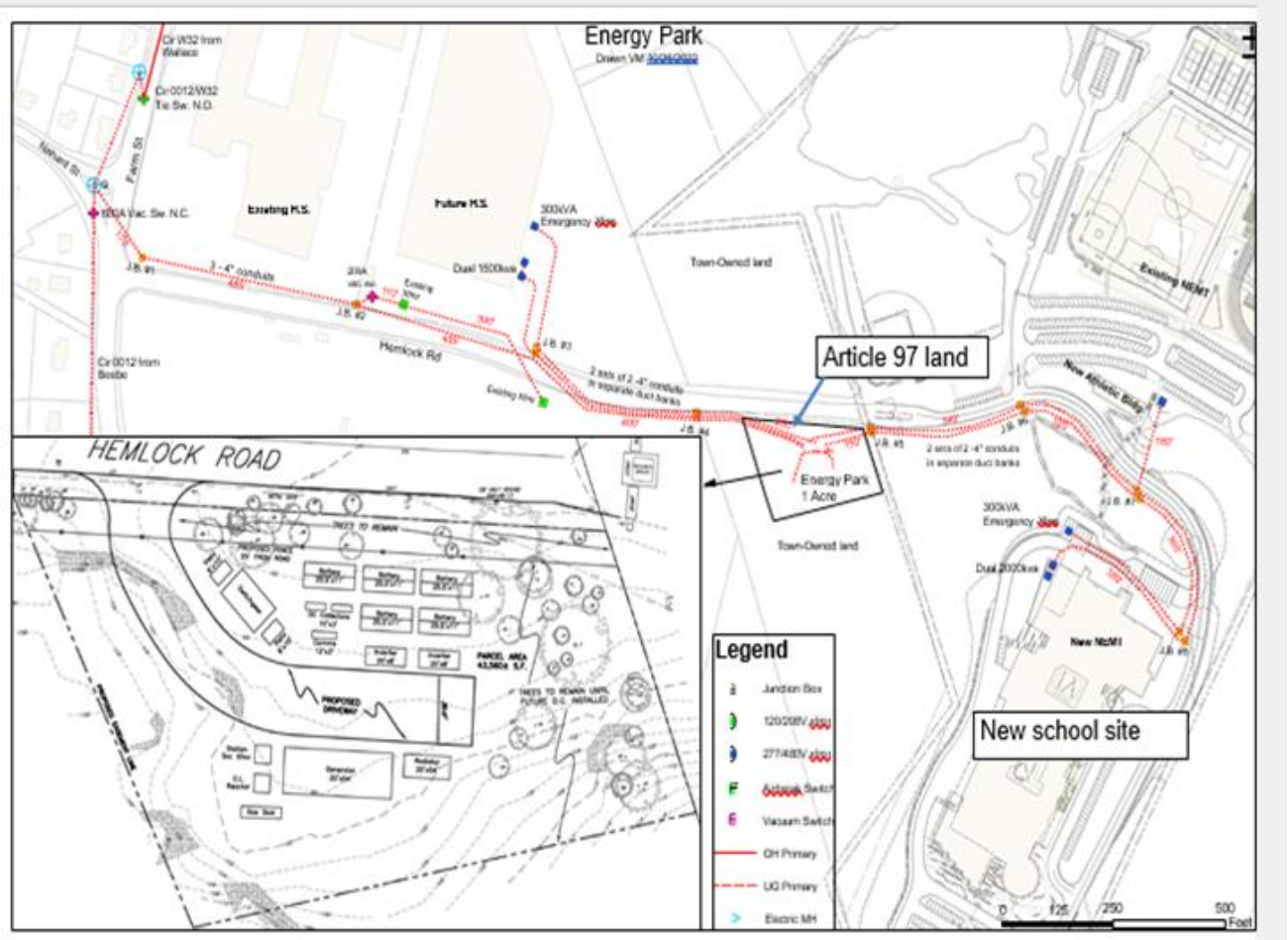
Data Source: MassGIS
Nitsch Project #13872

Nitsch Engineering

Attachment 4 - School site alternatives (12/2020-NEMT Building Committee Presentation)

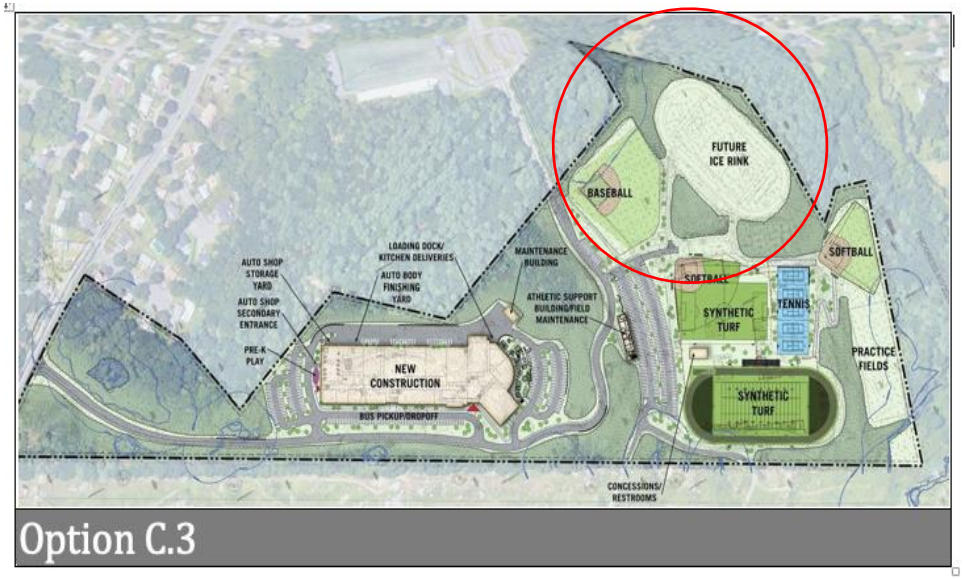


Attachment 5 - Energy Park on Article 97 land (WMGLD)

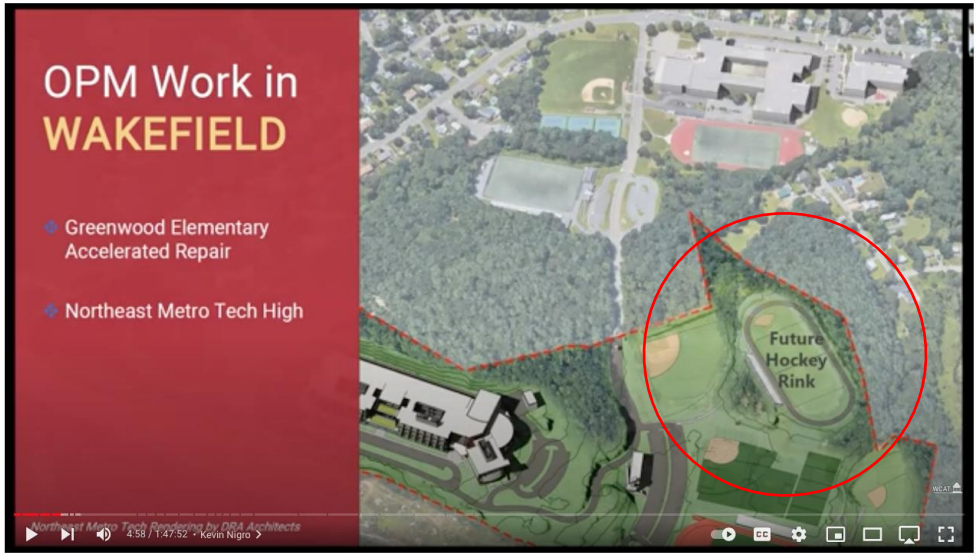


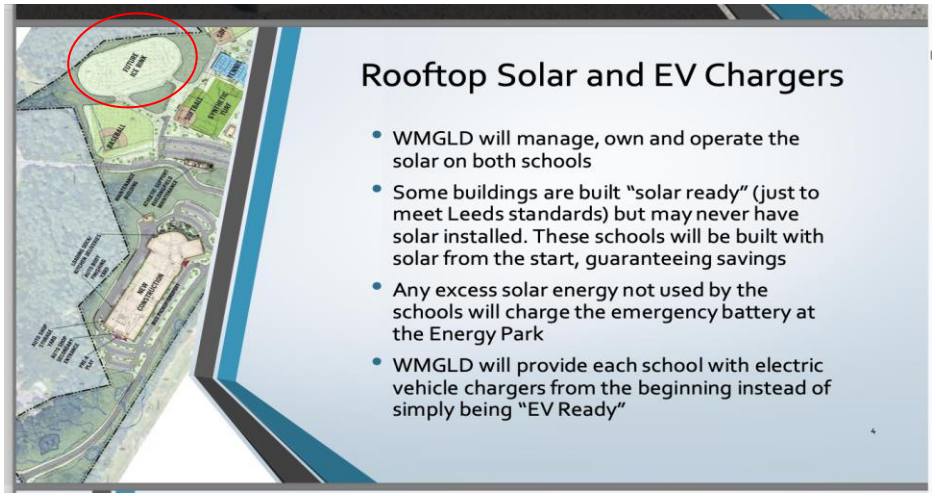
Attachment 6 – Presentations showing Hockey Rink on Project Site

Preparing for the vote, 11/12/2020 and 12/10/2020, day of School Building Committee vote. Presentation by Drummey Rosane Anderson, Inc. (DRA) To School Building Committee



OPM Work in Wakefield, 03/30/2021
Presentation by PMA Consultants LLC To Wakefield Permanent Building Committee





WMGLD Energy Park 09/28/22
Presentation by Wakefield Gas & Light Dept
To Wakefield Town Council