



# MANCHESTER ESSEX CONSERVATION TRUST

Preserving natural beauty, wildlife, and  
resources at the gateway to Cape Ann

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**VIA U.S. MAIL AND ELECTRONIC DELIVERY**

June 15, 2021

Hon. Eli G. Boling, Chair  
Board of Selectmen  
Manchester-by-the-Sea  
10 Central Street  
Manchester-by-the-Sea, MA 01944-1399

Subject: Comments on Proposed 40B Shingle Place Hill Development  
SLV School Street, LLC  
Manchester-by-the Sea, MA  
MH ID No. 1116

To Chair Boling and the Board of Selectmen:

The Manchester Essex Conservation Trust (MECT) appreciates the opportunity to submit these comments to the Manchester-by-the-Sea Board of Selectmen (BOS), in reference to your forthcoming letter to MassHousing on the proposed 40B Shingle Place Hill Development (“Shingle Place Hill”) by SLV School Street, LLC (SLV).

MECT finds that SLV’s proposed project will cause irreparable harm to the surrounding environment, seriously threaten the Town’s current and future water supply, and create life safety issues for both the Town as a whole and for the project’s prospective tenants. In addition, this project fails to integrate with the “typology”, as defined by MassHousing, that is, the massing and density patterns in the immediately abutting and wider surrounding areas of upper School Street. For these reasons, we urge you to recommend that MassHousing deny the request by SLV for a Project Eligibility Letter (PEL) for 0 School Street.

MECT is a nonprofit organization dedicated to conserving ecologically important land and wildlife habitats in Manchester and Essex, Massachusetts. We’ve been acquiring and protecting ecologically important woodlands and wetlands for nearly 60 years, with a strategic focus on the “Wilderness Conservation Area” (WCA), about 2,000 contiguous acres in the towns of Manchester and Essex, with roughly 25 miles of trails open to public use. The primary point of access to the WCA is on upper School Street, Manchester, directly to the north and closely proximate to Shingle Place Hill. It is important to note that the Town of Manchester by

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Trustees: President Michael Dyer, Vice President/Secretary Matthias Plum, Treasurer Bethe Palmer, Asst. Treasurer Jonathan Calder, Lynn Atkinson, Thomas Barrieau, Michael P. Carvalho, Frances R. Caudill, Jeffrey Cochand, Albert M. Creighton III, Gregory A. Crockett, George E. Davis, Garlan Morse, Jr., Julie Scofield; George P. Smith. Staff: Executive Director Patrice Murphy, Development & Finance Director Alida Bryant, GIS & Conservation Data Manager Peter O’Donnell.

the Sea and The Trustees of Reservations also own significant conservation land directly abutting the project site, including both Cedar Swamp and Sawmill Brook, which make up the site's western and northern boundaries. Altogether these conservation lands are the result of a broad community effort dating back to 1879 and the dedication of the Cathedral Pines, which is also among the Town-owned land abutting the project site.

## **I. Project Description**

SLV proposes a 136-unit apartment complex, a very largely scaled, high-density project that presents enormous challenges on an extremely difficult, hilly, rocky site. It will require the clear-cutting of at least 10 acres of pristine forest and introduce 3.85 acres of impervious surfaces. In addition, SLV will conduct "hilltop removal" of approximately 270,000 cubic yards, extensive filling and ground stabilization to support a steep, winding access road, and the removal of hundreds of trees; in short, the near-total destruction of a wooded hilltop overlooking hundreds of acres of protected wetlands and preserved woodlands. In addition, it will require a private wastewater treatment plant (WTP) facility for effluent flows approaching 30,000 gallons per day, serviced by a main sewer from the apartments running over a wetland on-site. The impacts of primary concern are water-related, but there are many other significant ecological and human health and safety issues. Taken in all, they will cause significant irreparable harm, and they render the site completely unsuitable to SLV's purpose. These matters are addressed in detail in the sections following.

However, we are compelled to also point out that SLV's project is contrary to MassHousing's "Adjacent Building Typology" guidelines as we see them. In this case, we construe the absence of adjacent buildings, the presence of vital natural resources, and the site's challenging topography to indicate that the project design is not at all appropriate for the Shingle Place Hill site. The topography is an extremely difficult, rocky hilltop site, which must be drastically altered in order to accommodate the building's "massing".

The "existing development pattern" proximate to Shingle Place Hill is that there is no nearby significant development, only protected woodlands and wetlands. Therefore, the "integration" of this massive apartment building into its surroundings is impossible. SLV chose to ignore this factor, instead contending that "there are no abutters". In fact, the project would have profound and irreversible negative impacts on abutting lands and on the greater mass of conservation land beyond, and on the citizens of Manchester by the Sea and many surrounding towns and cities who enjoy the benefits conferred by this conservation land: fresh air, clean water, recreational opportunities, and enjoyment of its natural values.

In particular, SLV's proposal is for a grossly oversized white and grey monolithic structure towering over the organic, and graceful lines of native trees, flowering plants, flowing brooks, and picturesque rocky outcrops. Parenthetically, this complex is totally out of character with Manchester by the Sea as a whole, being much larger than any other buildings in Town except the public schools. The proposal, as presented, is not for terraced or stepped architecture, designed to blend into the hilltop. It does not include green roofs or softened lines. Its outsized three-story apartment building would top out at 160 feet elevation, which is 111 feet higher than the nearby Wilderness Conservation Area parking lot. The access road would start on School Street and wind its way through all points of the compass around the flanks of the Hill, largely at grades of 5-7.5%. Both the road and the building will require extensive reinforced concrete retention walls, with chain-link safety fences on top. The southern and western portions of this

road would be plainly visible to visitors using the trails into the WCA, and the planned retention ponds would be within Sawmill Brook's riparian buffer zone.

SLV's apartment building would be visible from School Street, which is now a nearly uninterrupted "green corridor" between the Route 128 School Street interchange and the Town of Essex, as well as from the interior public trails on the conservation land. It would have an overbearing presence on the 1,000-foot long boardwalk crossing Cedar Swamp and would be plainly visible from Millstone Hill and Prospect Ledge trails, where thousands of people seek passive recreation and peaceful natural views. The project would dominate the landscape where setbacks and conservation land have resulted in hardly a building structure visible from the road for two miles to the north, and greenery prevailing along the roadway to the south. It is hard to imagine a more typologically inappropriate project.

## **II. Environmental Impacts**

SLV's project raises several serious environmental protection and public health concerns, generally regarding water resources and habitat destruction. For the reasons discussed herein, these concerns are valid, compelling, and documented.

### **A. Water Resources**

Sawmill Brook and Cedar Swamp adjoin SLV's proposed Shingle Place Hill development immediately to the north and west. Sawmill Brook flows through the Swamp on both sides, exits it to the east under School Street, and then flows south, joining Cat Brook and proceeding south toward the Town's municipal water wells and thence to Manchester Harbor. The construction and operational activities of Shingle Place Hill present a material threat of irreparable impacts to Sawmill Brook and Cedar Swamp for several reasons. The proximity of this densely developed site combined with the very steep grades raises the grave concern that both stormwater flow and groundwater discharge could be directed into both Sawmill Brook and Cedar Swamp.

MECT commissioned hydrologist Scott Horsley to study the effects of this project upon water resources. As his report (enclosed) indicates, he is highly qualified in his field and uniquely positioned to analyze hydrology and this complex. Horsley's conclusion: "Sawmill Brook provides a source of water that serves both public drinking water supplies and a cold-water fishery. The quality of both of these ecosystem services is dependent upon the quality of Sawmill Brook. The proposed location of this project is inconsistent with the protection of these resources and poses a significant threat to them." The particulars follow.

- Sawmill Brook is identified as a high-priority resource under the Massachusetts MVP program (Municipal Vulnerability Preparedness) and has received national and state funding for improvements and restoration. Sawmill Brook is also a state-designated cold water fishery (CWF # 9355050) and has demonstrated that it supports anadromous species like sea-run brook trout and rainbow smelt, which are very sensitive to temperature variation. Based upon information and belief, the Massachusetts Wetlands Protection Act does not sufficiently protect the brook from thermal pollution due to storm runoff, increased impervious surfaces, and reduction of tree and shrub cover, if this immense 40B is built. We note that there are other runoff-related concerns such as road salts and hydrocarbons and that SLV has not submitted a detailed stormwater management plan at this time. Any impacts to this fragile resource would undeniably threaten these species, which are known as indicators of the health of the water resource

system. Finally, Sawmill Brook is hydrologically connected to the aquifer that supports the town's water supply at the Lincoln Street well.

- SLV proposes a private wastewater treatment plant (WTP) facility as part of its development. They have not yet submitted its design, or soil logs and other data showing the suitability of this steep, rocky site for absorption of up to 30,000 gallons per day of effluent. The treated wastewater will certainly flow into Sawmill Brook and Cedar Swamp. MECT is concerned that the infiltration of wastewater from the WTP will result in the introduction of Per- and Polyfluoroalkyl Substances called “PFAS”, among other dangerous household pollutants including pharmaceuticals and phosphates. While consumer products and food are the largest sources of exposure to these chemicals, drinking water can be an additional source of exposure causing developmental effects in fetuses during pregnancy and in breastfed infants, and adverse effects on the thyroid, liver, kidneys, hormone levels, and immune system.<sup>1</sup> In fact, PFAS are of such significant concern that in October 2020 MassDEP published an exceedingly restrictive drinking water standard (MMCL) of just 20 nanograms per liter (ng/l) or parts per trillion (ppt).<sup>2</sup> SLV has failed to provide any details regarding the efficacy of its proposed WTP, especially those related to the removal of PFAS and other constituents from WTP discharge. This is a matter of direct and grave concern to the Town, raising the prospect of future non-compliance with drinking water standards. By way of example and not limitation, on May 20, 2021, the Town of Wayland shut down one of its municipal water supply wells due to exceedances of the recently promulgated PFAS regulations, and are now forced to incur significant remediation costs.
- The proposed development of Shingle Place Hill will require the removal of approximately 270,000 cubic yards of rock through aggressive blasting. MECT has previously raised concerns about the introduction of blasting-related chemicals known as Perchlorate, which are highly soluble and can migrate great distances through groundwater. Perchlorate contamination from blasting activities has been identified in multiple towns throughout the Commonwealth of Massachusetts and is exceedingly difficult to remediate.<sup>3</sup> While this issue was previously brought to SLV’s attention, there is no indication in its recent submittals to conclude that Perchlorate-based blasting compounds will be prohibited from the Shingle Place Hill development. In addition, it is known that blasting operations, especially at this scale, can cause several other adverse environmental effects: ground vibrations, airblast, flyrock, generation of fine particles, fumes and dust. We cannot characterize these direct effects, especially of noise and ground vibrations, on nearby homes, the animals in the nearby resource areas, and on the subsurface strata and hydrology, but have serious concerns about blasting operations conducted at this scale.

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<sup>1</sup> Mass DEP Fact Sheet

<https://www.mass.gov/doc/massdep-fact-sheet-pfas-in-drinking-water-questions-and-answers-for-consumers/download>

<sup>2</sup><https://www.mass.gov/doc/massdep-fact-sheet-pfas-in-drinking-water-questions-and-answers-for-consumers/download>

<sup>3</sup> <https://www.mass.gov/guides/perchlorate-frequently-asked-questions>

To reiterate, Sawmill Brook and Cedar Swamp are a critically valuable hydrologic system that integrates surface water and groundwater, a suite of mutually dependent resources including public drinking water supplies and a cold-water fishery. This system will face several significant threats from SLV's proposed development, immediately during the highly impactful construction phase and for decades of operation following.

## **B. Destruction of Habitat**

SLV's proposed development would abut, and in a larger sense be proximate to, protected lands that have several important resource designations. Thus, the immediate destruction of woodlands on Shingle Place Hill and the long-term threats posed by its presence takes on much-increased significance. There is likely to be deleterious permanent impact due to blasting and other construction activities over a multi-year period, and from runoff, wastewater, and other effects over decades of operation.

First, this area is Critical Natural Landscape and Core Habitat (designated areas CNL 1362 and CH 2536), that is, large contiguous blocks of undeveloped habitat designated by the state for conservation interest under the MA Division of Fisheries and Wildlife BioMap2 (2016). The riparian areas surrounding Sawmill Brook are designated as CNL 1202 and CH 2480 by the state, based on the species that they support and the unique habitat. Cooperation between several conservation organizations and municipalities, dating back to 1879, has protected almost 2,000 nearly-contiguous acres in the vicinity. This project threatens to fragment the habitat at an important ecological "edge". Of additional significance, Cedar Swamp is designated as a rare Massachusetts habitat, "Atlantic Cedar Swamp", which is targeted in the State Wildlife Action Plan (SWAP) for its support of numerous unique species.

The project area is also designated as Prime Forest of Statewide Importance by the Department of Natural Resources Conservation at the University of Massachusetts. Such areas may contain soils untilled since 1830 or prior, and may contain greater biodiversity than areas that have been tilled; thus, the state has emphasized conservation.

Several large and highly productive vernal pools have been identified in the project area and immediate vicinity. Destruction of the upland habitat, which is allowed by the Wetlands Protection Act, but not the more stringent local wetland by-laws, is a death sentence to the rich amphibious life dependent on these pools. Even the wetlands specialist that conducted the vernal pool studies for the applicant remarked that one of the vernal pools on the Project site was exceptionally productive.

Local conservation groups are coordinating with the state's Natural Heritage and Endangered Species Program to document several species on the Massachusetts Endangered Species Act (MESA) list in the immediate vicinity. Two bird species, the Northern Parula Warbler (threatened) and American Bittern (endangered), and the Hentz's Red-bellied Tiger Beetle (threatened) have been identified locally. The Blue Spotted Salamander (special concern) and Blanding's Turtle (threatened) populations are presently being investigated locally. The small whorled pogonia (endangered worldwide) has been located in the Wilderness Conservation Area adjoining the project area and is being tracked by the state Natural Heritage Endangered Species Program. A State-watch plant, featherfoil, has been found this year in the Cedar Swamp area.

MECT understands that SLV will be seeking waivers from the Town's local wetland bylaws. We oppose this exemption. The Town put these added protections in place especially

for the protection of our natural heritage and for the health and well-being of its citizens. MECT supports a thorough assessment and investigation by qualified environmental scientists to review the application and its impact on wetlands, vernal pools, groundwater, and surface water quality and make recommendations to the Town's ZBA in consultation with the Conservation Commission. To reiterate, the threats to water resources are 1) increased stormwater runoff due to the project's extensive impervious surfaces, resulting in thermal pollution, non-point pollution from herbicides, pesticides, fertilizer, hydrocarbons, pharmaceuticals, PFAS, and road salt, and 2) discharge of high volumes of treated effluent from on-site wastewater system with constituent nitrogen and phosphate loads, as well as a plethora of household wastes including pharmaceuticals, solvents, paints, etc., from as many as 300 residents of the project.

We also have serious concerns about impacts on plant and animal life in the conservation corridor, which includes Cedar Swamp and Cathedral Pines, from light, noise, and air pollution, from both on-site traffic and the facility itself, the visual impact from the building for the thousands of people who visit annually, and the severe impact of blasting and other construction activities over a period of several years. The light that would shine from this building into Cedar Swamp is particularly troubling. Such light pollution is known to have adverse effects on biodiversity through changed night habits, such as reproduction and migration, of insects, amphibians, fish, birds, bats and other animals, and distortion of the day-night cycle of plants<sup>4</sup>. This citation is one of hundreds in the technical literature.

### **III. Life Safety and Transportation Issues**

During the LIP process, Town Residents raised concerns regarding the configuration of the proposed single driveway into Shingle Place Hill. SLV's principal, Geoffery Engler, publicly acknowledged that Shingle Place Hill would be "less safe" having a single means of ingress/egress, rather than two means of access. (Manchester Board of Selectmen, 40B workshop, Thursday, January 14, 2021). Mr. Engler further stated that SLV was unable to include a separate (i.e., safer) second ingress/egress due to the presence of wetlands on-site. He thus presented an extremely difficult design and enforcement tradeoff between protecting water resources and providing the safest road access for the residents of the apartment project. Note that gas and water mains run under the access road. If service on either of these utilities is required, it will further compromise the safety of the roadway. This illustrates in bold strokes the unsuitability of this extremely challenging site for this large-scale development.

### **IV. Conclusion**

Mr. Engler has stated publicly several times that the Shingle Place Hill project "has no abutters" and that, therefore, there is, in the sense of an affected neighborhood, no impact. MECT strongly disagrees with this notion. The abutting landowners include the Town of Manchester and private non-profit land trusts, all holding land protected for conservation purposes in perpetuity, as well as private landowners who have held their woodland lots over many generations. In a larger sense, the abutters are the assemblage of plants and animals that make up the nearby wetlands and woodlands, as well as all the citizens of Manchester and the surrounding communities who value the intrinsic and aesthetic qualities of the Wilderness Conservation Area. The Trustees of Reservations makes the point succinctly in their letter to the

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<sup>4</sup> Hölker, F. ; Wolter, C. ; Perkin, E. K. ; Tockner, K., "Light pollution as a biodiversity threat", Leibniz-Institute of Freshwater Ecology and Inland Fisheries, Trends in Ecology & Evolution 2010 Vol.25 No.12.

Selectmen: “The site is particularly unsuitable for a development of this scale: the surrounding land owned by the Manchester-Essex Conservation Trust and by The Trustees is held in trust for all of us. It is everyone’s backyard. As such, it should be viewed as especially valuable, rather than targeted for a development which will likely have significant impacts on the conservation values of the area.”

Consistent with our defining principles, we remain committed to enhancing the quality of life in our communities by ensuring that lands that are vital to public health like Sawmill Brook, Cedar Swamp, and Town Water Supply are properly protected from the impacts of development, and to maintaining a diverse habitat that supports local flora and fauna.

Again, we urge you to recommend that MassHousing deny the request by SLV for a Project Eligibility Letter (PEL) for 0 School Street. On behalf of our Members, Trustees, and Staff, I want to thank the BOS for their consideration in this matter and for all of your hard work on behalf of the citizens of Manchester by the Sea.

Respectfully submitted,

**MANCHESTER ESSEX CONSERVATION TRUST**



Michael Dyer, President

Enclosure: Letter to Board of Selectmen from Scott Horsley, Water Resources Consultant

Cc: MECT Trustees  
Sue Brown, Town Planner, Manchester by the Sea  
Greg Federspiel, Town Manager, Manchester by the Sea

Scott Horsley  
Water Resources Consultant  
65 Little River Road • Cotuit, MA 02635 • 508-364-7818

9 June 2021

Mr. Eli G. Boling, Chair  
Manchester-by-the-Sea Select Board  
10 Central Street  
Manchester-by-the-Sea, MA 01944

Re: Proposed 40B project at Shingle Place Hill

Dear Mr. Boling:

I am writing to provide comments regarding the Notice of Application for the Chapter 40B housing project “Sanctuary at Manchester-by-the-Sea” submitted by SLV School Street, LLC, located at 0 School Street in Manchester-by-the Sea.

**Qualifications:** I have over 30 years of professional experience in the fields of sustainable land use planning and water resources management. I have served as a consultant to federal, state, and local government agencies, non-governmental organizations (NGOs), and private industry throughout the United States, Central America, the Caribbean, the Pacific Islands, Bulgaria, and China. I have assisted in the development and presentation of a nationwide series of U.S. Environmental Protection Agency (USEPA) workshops on drinking water protection, wetlands management, and watershed management. I served as a consultant to the Commonwealth of Massachusetts in the development of the Smart Growth Toolkit. I have also served on numerous advisory boards to the USEPA, the National Academy of Public Administration, Massachusetts Department of Environmental Protection (DEP), Massachusetts Executive Office of Energy and Environmental Affairs (EEA), and the National Groundwater Association. I have received national (USEPA) and local awards for my work in the water resources management fields. I currently serve as Adjunct Faculty at Harvard University Extension School and Tufts University, where I teach courses in water resources policy, wetlands management, green infrastructure (GI), and low impact development (LID). These courses focus on the critical role of local governments who have the primary responsibility and authority of regulating land uses in critical water resource protection areas.

**Comments:** The proposed 40B project at 0 School Street is located in the headwaters of the Sawmill Brook and upstream of the town’s public water supply. Sawmill Brook is a designated cold-water fishery. It is vulnerable to changes in water quality including temperature and flow. The proposed development will significantly alter the microclimate of the brook’s watershed by removing large tracts of trees and replacing those with significant areas of impervious surfaces. This will result in higher water temperatures and altered flow rates – both of which will impair the cold-water fish habitat.

Sawmill Brook is also a tributary to and serves as a source of water for two public drinking water supplies – Cedar Swamp and the Lincoln Street Well. Cedar Swamp is a wetland that borders Sawmill Brook and is underlain by an aquifer that has served as a public water supply for the City of Gloucester in the past and remains a potential reserve supply. The swamp provides recharge to the underlying aquifer and is hydrologically connected to Sawmill Brook.

Further downstream the Lincoln Street well provides public water supply to the residents of Manchester-by-the-Sea and draws a portion of its water from Sawmill Brook as induced infiltration. A hydrogeologic investigation by Horsley Witten Hegemann, Inc. (1990) provides documentation of the contributing areas to the well that includes infiltration from and a direct hydrologic connection to Sawmill Brook. This investigation was provided to MADEP as part of the Zone 2 and Zone 3 delineations for the public drinking water supply well.

Historically, surface water and groundwater supplies have been managed and regulated separately. However, as we now know they are inexorably linked and are more efficiently managed and regulated together. Groundwater provides baseflow to streams, lakes and wetlands. Similarly surface waters can provide sources of water to groundwater supplies (as in the case of the Lincoln Street well). This is particularly true of groundwater public drinking water supplies that draw some water from adjacent streams (such as Cedar Swamp and Lincoln Street well).

The MA Wetlands Protection Regulations recognize this linkage between surface water (wetlands) and groundwater. The Regulations identify *“protection of public and private water supply”* and *“drinking water supplies and groundwater”* as two of the key interests that support the law (310 CMR 10.01 (2)).

Sawmill Brook provides an excellent example of this type of integrated surface water – groundwater hydrologic regime. It clearly illustrates the interdependence between these resources and the need to manage and regulate them holistically together. It also provides a clear example of a resource area that provides both critical ecological habitat (as a cold-water fishery) and a public resource as a drinking water supply source.

In conclusion, Sawmill Brook provides a source of water that serves both public drinking water supplies and a cold-water fishery. The quality of both of these ecosystem services is dependent upon the quality of Sawmill Brook. The proposed location of this project is inconsistent with protection of these resources and poses a significant threat to them.

Thank you for your cooperation and attention to this matter. Please contact me with any questions that you might have.

Sincerely and respectfully,

A handwritten signature in black ink, appearing to be 'SH', written in a cursive style.

Scott Horsley  
Water Resources Consultant