PART II - HIGHLIGHTS REPORT READY SUMMARY NARRATIVE

Falmouth Public Schools, Falmouth, Massachusetts

Falmouth Public Schools (FPS) enrolls 2892 students in PreK - grade 12 across seven schools. As part of the coastal Cape Cod region, FPS recognizes the necessity to educate our students to be stewards of our community's future. Beginning in Kindergarten with Oceans Day, students develop their awareness of the impacts of erosion, pollutants, and climate change on our coastal and ocean ecosystems. The hallmark of FPS' sustained efforts is a comprehensive reimagining of teaching and learning with a focus on conservation, sustainability, and environmental stewardship in partnership with scientists and researchers in Woods Hole and the greater professional community. While they have dedicated, sheltered outdoor learning spaces on each school campus, teachers and students are turning various locations along our 56 miles of coastline and 300+ acres of protected conservation into their living classrooms. Examples of our outdoor learning experiences include student participation in a more than two decades-long longitudinal study to observe and record data about two local ponds, allowing them to observe first hand, using real world data, local climate changes. Students travel by boat to visit two of the islands in the Elizabeth Chain to learn their histories, the ongoing impacts on the island inhabitants, and study how these places have changed over time. Students experience how local indigenous peoples of the Wampanoag Tribe share a kindred relationship with the local ocean, land, and their many inhabitants. We have developed one of our partnerships into a truly one-of-a-kind innovative learning opportunity – the Food Justice Initiative (FJI) – whose ongoing mission is to develop college and career-ready skills in farm stewardship, social justice, environmental science, health, and business. FJI learning empowers students to engage with their community and make a sincere and lasting difference to increase equitable access to local, healthy foods. Our vision of teaching and learning also encourages self knowledge and care. Our focus on Social Emotional Learning (SEL) and comprehensive health complements our focus on stewardship and climate action. Essential to realizing our goal for developing eco-conscious and active citizens, FPS has also made investments and forward progress in both improving energy systems as well as composting and plastics reduction. To highlight the impact we are making, in just three months at just one school, FPS saved over 2000 pounds or 1 ton of food waste from being sent to the landfill. FPS' annual impact for all seven schools is projected to increase recycling of food scraps, saving 91,554 pounds or 46 tons of food scraps from the landfill. This savings will prevent the release of the equivalent of 31.46 metric tons of CO_2 emissions (MTCO2E). We are steadfast in our commitment to educate all students and staff to be healthy, safe, supported, engaged, and challenged. These central themes anchored in our curriculum will be our community's legacy.

PART III - DOCUMENTATION

Green Ribbon Schools Pillar 1: Reducing Environmental Impact

Improvements to K-12 school facilities save schools money, strengthen the nation's energy security, and conserve natural resources.

Pillar 1, Element A: Improved energy conservation/energy-efficient building(s)

Falmouth Public Schools continuously works toward more sustainable building systems. In past years, upon findings of an energy audit conducted by the Energy Services Company Trane, weather stripping was installed on all exterior doors to prevent heat loss.

As a full remodel of Falmouth High School was completed, solar panels were installed to supplement the building's power system. In the years since, Falmouth High School has completely transitioned from CFL bulbs to LEDs. The other 6 schools in the district are partially transitioned to LEDs, with the changeover continuing whenever bulbs and fixtures need to be replaced. At Falmouth High School, all rooms have automatic lights with motion detection. The lights automatically turn off when the rooms are not in use and help conserve energy. A further retrofit reconstruction at Falmouth High School was conducted in the Summer of 2016. Since that time, the building has started saving an estimated 309,806 KWH with an annual value of $55,765.

In the same year as the high school's reconstruction, Falmouth also began a renovation of the Lawrence School (grades 7 and 8) to install energy efficient windows throughout the building. These new windows were designed to help the heating system control climate more efficiently and have made a huge difference in the reduction of how much energy is needed to heat the building.

In our response to Pillar 1, Element C, we offer additional information and data about our efforts to reduce greenhouse gasses.

Pillar 1, Element B: Improved water quality, efficiency, and conservation

With an official ribbon cutting event in 2018, Falmouth High School opened its first synthetic turf field and stadium. After several iterations of a field development committee and a multi-year study of health impacts, this first field not only led to opportunities for our young athletes but it also led to a reduction in irrigation and landscaping needs. We continue to engage with Town departments to achieve a holistic solution to a need for more fields as we also meet sustainability goals.

In 2020, a by-law was adopted by the vote of Falmouth Town Meeting to eliminate the sale of "non-carbonated, unflavored drinking water in single-use plastic bottles of less than one gallon." However, Falmouth Public Schools was already ahead of the Town in cutting back on single use plastics. In 2014, thanks to a student led program, the first water bottle filling station was installed at Falmouth High School. This student project also offered reusable bottles for sale with the school's logo. The filling state included an filtering system that was a significant upgrade over the one within the fountain it replaced.

Later in the 2018-2019 school year, Falmouth began installing water fountains/filling stations in all seven of our schools as well as removing vending machines that sold beverages in single use plastic containers. In an effort to ensure that all students had access to reusable water bottles, a first grade class at East Falmouth Elementary School ran a reusable water bottle drive to collect enough bottles for every student and staff member at the school. Inspired by the actions of our elementary students and thanks to the generosity of Fraser Construction, in the 2019-2020 school year, every student and staff member in the district was given a free reusable water bottle. During this time, our Food Services

Department also removed single-use plastics bottles from cafeterias and began serving water in paper cartons. Additional reference is made below in our response to Pillar 1, Element C.

Falmouth continues to pursue sustainable actions. This year, composting is beginning in Falmouth schools along with the elimination of single-use plastic utensils in favor of reusable stainless steel. Disposable trays, typically made of Styrofoam have also been eliminated and replaced with washable trays. When trays need to be disposable, compostable options have been secured.

During building renovation in 2006-2010, Falmouth High School installed low flush toilets and automatic sink shut offs to conserve water in all of its restrooms. The same continues to be added when updates are needed in restrooms across the district. Faucets in restrooms at the administrative offices also have automatic sink shut offs.

Our efforts towards water conservation and protection are anchored in our curriculum. Falmouth Public Schools has shared a historical partnership with the Waquoit Bay National Estuarine Research Reserve (WBNERR) to conduct a water monitoring program that has endured for over 25 years. Students observe and record data about the two ponds that are located behind the Lawrence School. This information includes air and water temperature, dissolved oxygen, turbidity, and pH. We are currently engaged in a longitudinal review of the data with our grade 8 students, allowing them to observe first hand, using real world data, the changes in the local climate due to climate change.

In the interest of minimizing chemical waste, Falmouth undertook a chemical storage cleanout in partnership with the Environmental Protection Agency (EPA.) Since that time, chemistry classes have downscaled their activities so they could be completed in well plates (microchemistry.) This reduces the amount of chemical waste generated as well as the danger to students.

And, across our seven schools, we have replaced their boilers over the past seven years. The average energy savings is 30% over the previous systems.

Pillar 1, Element C: Reduced waste production and improved recycling and composting programs

Students on the Superintendent's Student Advisory began requesting composting in the 2019 - 2020 school year. As we have continued to emerge from the pandemic, we've renewed this effort in earnest. We launched a steering committee in March 2023. Then, at the beginning of the 2023-2024 school year, Falmouth Public Schools initiated a composting program in partnership with the Falmouth Solid Waste Committee and Black Earth Compost. The first school to engage in this work is also our largest elementary school, Mullen Hall. This school has been successfully composting since the first day of school, September 5, 2023. Our Grade 5 and 6 Middle School, Morse Pond School, will begin composting on January 3, 2024 followed by our largest school, Falmouth High School, which will launch its program on Earth Day (April 22).

We have seen much promise in our first school's efforts, and we are excited to begin scaling their success! In the three months that Mullen Hall has been composting (as of 12/12/23), we have saved over 2000 pounds or 1 ton of food waste from being sent to the landfill. We estimate that over the course of 1 year, as a district, Falmouth Public Schools will recycle approximately 91,554 pounds or 46 tons of food scraps. This will prevent the release of the equivalent of 31.46 metric tons of CO2 emissions (MTCO2E).

To bring the remaining schools online in our composting campaign, we need to secure stainless cutlery and install dishwasher systems. Pending equipment installation, our other three elementary schools and Lawrence School (grades 7 and 8) should all be composting by the end of 2024.

As well as initiating a composting program in our schools, Falmouth Public Schools is advancing its efforts to fully eliminate single use plastics. Plastic straws have been removed from all of our school cafeterias. As our schools begin composting, we replace their plastic utensils with durable stainless steel cutlery. While these are great steps to reduce Falmouth Public Schools' plastic waste, our goal in the next couple of years is to replace all plastic containers with compostable or reusable/washable equivalents. To this end, we will have dishwashers installed in all of our schools by the end of the 2023-2024 school year.

This effort crosses over with students' efforts to create a better tomorrow through sustainable practices. The Ecology Club has been a fixture at Falmouth High School for over 30 years. The Ecology Club's members have supported the recycling of paper, plastic, glass, and metal throughout the classrooms and hallways of the school. Members help manage recycling within the building and maintain the beverage recycling containers in the hallways and cafeterias.

As an annual fundraiser, our Music Department hosts an e-Waste recycling campaign. People across our community can drop off items to be recycled along with a donation. The Music Boosters then complete the coordination with an e-Waste company.

Pillar 1, Element D: Use of alternative transportation to, during, and from school

Our School Committee's Policy EEAJ is titled "Motor Vehicle Idling on School Grounds." This policy defines our expectation that there is no idling on school grounds. It also sets forth the expectation for signage alerting drivers of our expectations. This policy is enforced, and violators can be fined for an amount between $100 - $500.

Our school district has been the benefactor of efforts led by the Falmouth Bicycle and Pedestrian Committee. To encourage physical, outdoor activity, all Falmouth Schools, including the Administration Building, had bike racks installed. Additionally, due to grant support, Lawrence School has a bike repair station with tools that can be used to complete basic repairs on bikes. This repair station is openly accessible to students and visitors. It's in a lit location in the front of the building but safely distanced from the main entrance.

The majority of Falmouth's elementary and middle schools host yearly or bi-yearly walk or bike to school or community biking events to encourage students to get outside and incorporate physical activity into their day. Five of Falmouth's seven schools participate in the Safe Routes to School program where representatives from the state conduct safety evaluations of the school and map safe routes for students to walk or bike to school. During this program, arrival and dismissal procedures were observed and evaluated for student safety.

In 2021-2022, Falmouth evaluated its bus routes and condensed them to reduce the number of buses necessary from 27 to 22. This reduction in our fleet helped to reduce CO2 equivalent emissions by approximately 94 metric tons (Argonne National Laboratory).

In 2023, all four elementary schools hosted a Bike Rodeo. Volunteers from the Falmouth Bicycle and Pedestrian Committee and the Falmouth Police set up a coned course for students to practice riding safely through. At this event, a new bicycle was raffled off and helmets given away to students and families. Corner Cycle, a community business partner, did tune ups on the bikes of students who attended. Volunteers reinforced the rules for safe biking and emphasized the importance of wearing appropriate protective gear. A Bike Rodeo for Spring 2024 is currently being planned.

This year, the Falmouth Public Schools installed an electric car charging station at the administration building. This unit will be used to charge the district's first electric van. The van can carry 13 students and will be used for in-town transportation and shorter trips. Falmouth Public Schools is interested in

transitioning to electric vehicles as the infrastructure to support their operation improves. We are closely following the Falmouth Regional Transit Authority as they begin their 15 year rollout of a completely electric fleet. Falmouth plans to follow their example as soon as is fiscally feasible.

Green Ribbon Schools Pillar 2: Improved Health and Wellness

Healthy school environments help students and educators remain healthy and strong.

Pillar 2, Element A: An integrated school environmental health program

Our comprehensive efforts also seek to improve the environmental health of our schools. We maintain an active pest management plan with Waltham Pest Services.

Falmouth Public Schools maintains a digital chemical inventory that is shared with staff as well as the Falmouth Fire and Rescue Department. The inventory provides access to MSD sheets for all chemicals housed within our schools. Falmouth Public Schools conducts Flinn Scientific Chemical safety training every 5 years with their science faculty. New Science teachers are required to complete this training as part of the onboarding process.

In 2008, Falmouth Public Schools conducted a chemical cleanout of Falmouth High School and the Lawrence School, supported by the Environmental Protection Agency (EPA). During this chemical cleanout, these schools disposed of all outdated and hazardous materials, wrote a comprehensive Chemical Hygiene Plan, and completely eliminated all mercury products (including those found in thermometers, thermostats, and Blood Pressure cuffs) from all classrooms across the district.

In 2020, Falmouth Public Schools replaced all district air filters, upgrading them to hospital/medical quality. Although the pandemic conditions have changed, the district has continued to utilize this upgraded filtration system. Additionally, a Univent system was utilized in several schools to incorporate ventilation with outside air. During the 2020-2021 school year, the district purchased and installed portable room air filters in every classroom and office space. These filters continue to remain available to all staff who choose to use them in their classrooms and are also present in the administrative offices.

The water in Falmouth Public Schools is regularly tested in all of our schools and administrative offices to ensure its safety and potability.

Falmouth currently utilizes green cleaning products in all of our schools and offices. These cleaning products are free of hazardous and problematic chemicals and safer to use around students and staff. This change was implemented initially between 8 and 9 years ago by our custodial staff. Although the brands and types of cleaners have changed, the safety of the cleaning supplies we use in our school communities has remained constant.

Falmouth High School was chosen as a Massachusetts High Performance School verified by Massachusetts Collaborative for High Performance Schools (MA-CHPS) according to the Northeast Energy Efficiency Partnerships. Similarly, Falmouth High School was chosen as a Massachusetts Technology Collaborative (MTC) Green Schools Initiative Pilot School.

Upcoming considerations for the improvement of school environments include the School Committee's approval of a ten-year Capital Plan that stages the process of increasing the use of solar paneling throughout the district as well as installing climate controlled air conditioning to ensure student safety and wellbeing during the hot months at the beginning and end of the school year.

Each school in Falmouth has a designated Safety Liaison who helps to maintain the safety of students and staff inside the buildings. Safety personnel conduct perimeter checks of each of the schools to

ensure that doors are secure throughout the day, help maintain the integrity of the visitor area, and build relationships with students in the building to foster a sense of community and wellbeing.

Pillar 2, Element B: Health, Wellness, and Nutrition

We work diligently to educate all students and staff to be healthy, safe, supported, engaged, and challenged. These efforts are sponsored in part by our District Wellness Committee, which is a cross-functional team of educators, health professionals, community members, and families.

The Wellness Committee maintains representative membership of district stakeholders to fulfill their charge with the development, communication, implementation, and monitoring of a district Wellness Plan aligned with the following guiding principles:

- Students shall have access to healthy foods and water during the school day including access to the USDA's Child Nutrition Program.
- Students shall receive standards-based health, nutrition, and physical education that provides students with learning experiences to develop the skills to live a healthy, well-rounded lifestyle.
- Students shall have access to strategies and supports to develop knowledge and skills for social-emotional health. Students and staff shall have opportunities to be physically active.
- Students shall have access to health services to support them in chronic conditions management, first aid, and promote wellness through school based-nursing staff.
- The District shall create and maintain healthy and safe physical environments that promote learning.

The District is committed to establishing strong partnerships with students, employees, families, and the community to ensure engagement and involvement between school and other settings to maximize the impact of wellness programming.

The Wellness Committee meets regularly to benchmark our progress against our planned actions. Recent District and Wellness Committee efforts to support high standards of nutrition, fitness, social-emotional health, and outdoor time include:

Nutrition

Guest Chef Visits.

Through the work of the Nutrition Subcommittee of our Wellness Committee, the idea for our "Guest Chef" series proved delectable. Chefs from area restaurants come to our schools and teach students how to prepare easy to make healthy snacks and meals. They also help students understand how to find healthy foods in our community. Four of our seven schools hosted a guest chef in year one.

Food Free Celebrations.

Creating an environment that enables students to make good nutritional choices is important to the district. To that end, classroom based celebrations (e.g., birthday parties, holidays) are food free. Food free celebrations promote good nutrition, and healthy food choices in the schools also reinforce our curriculum. Additionally, rewards happen at many levels across a school. Teachers, administrators and parent groups offer rewards to recognize and celebrate student accomplishments. The most effective rewards fit naturally into the context and mission of the school community and should promote healthy living as a desired value of the community. A full list of suggested non-food celebration activities and rewards are provided to staff members at each school. Examples for activities could

include playing a favorite game, extra recess, creating a birthday memory book, eating lunch outside with the class, homework passes, tickets to school events, and recognition during morning announcements.

Fundraising events held during the school day are encouraged to support student health by using non-food items or activities to promote physical activity. Clubs and organizations have been creative in coming up with ways to raise funds that do not involve food.

Food Justice Initiative

The Food Justice Program is a new series of classes at Falmouth High School that began in 2022. We currently offer an introductory semester class in practical agriculture and the racial injustices and climate issues that continue to shape our national food system. Students work in a school garden and greenhouse to learn how to grow a variety of crops whilst caring for the soil health and the local environment. They harvest this food for both personal consumption and to donate to the Falmouth Service Center, School Cafeteria, and Falmouth High School's Culinary program. Alongside this hands-on component, students learn about a variety of national and local food-related issues including the environmental impact of farming, diet-related health concerns, Wampanoag history and culture, Cape Verdean farming heritage, and issues around fair-food access. Combining the head and hands work allows students to understand the need for a fairer, sustainable food system and then take practical action to that end.

The ongoing mission of the program is to develop college and career-ready skills in farm stewardship, social justice, environmental science, health, and business. It is also to empower students to engage with their community and make a real difference in increasing access to local, healthy food. Eventually this progamwill allow students to grow food at scale using professional growing techniques as they take on increased ownership of the planning and delivery of the food to student-selected worthy causes.

Salad Bars in School Cafeterias

Nearly a decade ago, salad bars were introduced in about half of our schools. Five years ago, two more schools added them. We have one school left to make the addition. To help increase access to healthy foods, students enrolled in our high school Food Justice Initiative are able to share some of their harvest with the high school cafeteria. And, from time to time, the produce from their small-scale school farm is distributed to cafeterias in other schools.

Cape Kid Meals

The Cape Kid Meals program offers a bag of food per week to students in grades K-4. On Cape Cod, 1 in 6 children are facing food insecurity. During the school week they typically depend on the federal free and reduced breakfast and lunch programs. However, many of these children go home over the weekend to empty refrigerators and cupboards. The impact is profound for these children who often suffer from anxiety because of the fear of not knowing if they will eat over the weekend. Cape Kid Meals works to help alleviate that fear by providing healthy and shelf stable foods for students to eat at home.

Fitness

Physical Education

Our Physical Education and Health Department offers a variety of opportunities for students to become physically, mentally, emotionally, and socially healthy. This holistic approach provides

students an opportunity to enhance their own well being through skill based health education and a comprehensive offering of physical activity.

There has been a complete update of the Falmouth High School Wellness Center, including new flooring, new machines, and a reconfiguration that opens the space up for more universal access. Following this effort, significant upgrades to equipment were also made at the Morse Pond School (grades 5 & 6) and the Lawrence School (grades 7 & 8). From a combination of grant and district funds, over $150,000 has been invested in this effort across the Wellness Centers in these three schools.

Project Adventure

A unique feature of our physical education program is the full Project Adventure course nestled in the wooded area adjacent to our outdoor stadium. Through engagement with Project Adventure, a leading organization in experiential education since 1971. We have recently revised our scope and sequence to include Project Adventure as our sophomore physical education requirement, so students at this pivotal age can engage in adventure-based learning that promotes their individual growth as well as the development of healthy schools and communities.

Social-Emotional Health

Increased full time equivalents (FTE) of School Adjustment Counselors

Falmouth Public Schools has increased the number of school adjustment counselors at all of its schools to help offer services to the increasing number of students who require interventions with social-emotional health concerns. Since the 2021-2022 school year, 8 new positions at 4 of our largest schools have been implemented. All district counseling staff additionally received Racial Trauma training in 2022 and 2023.

Intentional Teaching and Learning in Health

The Physical Education and Health Department of Falmouth Public Schools is proud to offer instruction and experiences for students of all ages in which they can develop healthy bodies and minds. By focusing on a commitment to wellness, students learn how to enhance their own well being through healthy decision-making and physical activity.

In the 2021-2022 School year, Falmouth integrated a series of Cultural Proficiency Professional Development courses for all faculty, endorsed with graduate credit by Bridgewater State University. This program was further incorporated into the existing Mentoring and Induction Training for all incoming staff.

Social - Emotional Learning (SEL), DESSA Screening

One SEL tool we use is the Devereux Student Strengths Assessment (DESSA) screener. The purpose of DESSA is to identify which social and emotional skills each child has already learned and what skills they may need to develop. It focuses on positive student behaviors (e.g., getting along with others) rather than what are considered more negative behaviors (e.g., annoying others). The impact has already been seen in how educators plan instruction, identify students' strengths and areas for growth, inform progress monitoring, and evaluate outcomes..

Outdoor Time

Walking Field Trips, Walking PD

In the Summer of 2023, Falmouth Public Schools' Office of Teaching and Learning established the Walking Wednesdays program for faculty, staff, students, and families. The program offered morning

walks at each of our school's conservation walking trails and incorporated a lesson that could be conducted at each of the locations. These activities incorporated interdisciplinary lessons in creating a sound map (Geography), parts of speech on the nature trail (ELA), using informal units to measure nature (Math), and discovering nature trail food webs (Science). Teachers who attended were given copies of the lessons for use in their own classrooms.

Formation and Growth of the Outdoor Learning Committee

In 2020, the Falmouth Rotary Club worked together to establish the Outdoor Learning Committee (OLC). Since its inception, the OLC has installed two all weather tents at each of our seven schools to host outdoor classes, established walking trails with accessible QR code stations to scan and learn about local wildlife and habitats at each of our elementary schools. The OLC is working to create them at the remaining three middle and high schools.

Each month, the OLC recognizes and shares an outdoor lesson created by a Falmouth Public Schools teacher and supports projects that improve outdoor education throughout the district including the purchase of outdoor learning carts. The extensive media coverage of Falmouth's Outdoor Learning Committee can be found on our webpage. The Outdoor Learning Committee continues to support the nature education of Falmouth students and more information can be found on their webpage.

Engagement with the 300 Committee

The 300 Committee Land Trust (T3C) is a private, non-profit land trust, whose mission is to permanently preserve and protect open space in Falmouth through acquisition, education, and stewardship. The Falmouth Public Schools works in partnership with the 300 Committee and the Coonamessett River Trust to provide opportunities for our students to interact with the natural world and inspire a sense of belonging and stewardship for our natural spaces. Projects include a Grade 4 trip to the Coonamessett River Conservation area to learn about herring tagging and migration, followed by a Grade 5 trip where students evaluate the health of the river post restoration.

Green Ribbon Schools Pillar 3: Effective Environmental and Sustainability Education

Incorporating environmental and sustainability concepts into your education program can create a community of green-minded citizens.

Pillar 3, Element A: Interdisciplinary learning/coursework

In 2010, the CP Environmental Science (CPES) class was instituted to replace Earth Science. The CPES course is the study of how life on Earth is sustained, the causes and effects of environmental problems, and how these problems can be solved. This interdisciplinary science draws upon the fields of biology, earth science, chemistry, physics, and social science. Students investigate ecology and ecosystems, evolution and biodiversity, extinction, agricultural and mineral resources, climate change, water and air pollution, and population growth. Students also investigate renewable/alternative energy technologies such as photovoltaics, fuel cells, and wind turbines. Classroom activities include case studies of environmental issues, hands-on and virtual labs, and individual and small group projects.

In 2015, AP Environmental Science was added to the Falmouth High School Program of Studies. This course, equivalent to an introductory college laboratory course in Environmental Science, is interdisciplinary in nature and embraces a wide variety of topics with a strong focus on labs and fieldwork. The course addresses the themes of Ecosystems, Biodiversity, Populations, Earth Systems and Resources, Land and Water Use, Energy Resources and Consumption, Water and Air Pollution,

and Global Change. Laboratory and field activities, including authentic environmental research, and supplemental readings of environmental literature are required.

In 2022, the AP Human Geography course was added to the Falmouth High School Program of Studies. The AP Human Geography content is presented thematically and is organized around the discipline's main subfields: economic geography, cultural geography, political geography, and urban geography. Case studies are drawn from all world regions, with an emphasis on understanding the world in which we live today. The goal for the course is for students to become more geo-literate, more engaged in contemporary global issues, and more informed about multicultural viewpoints and environmental stewardship.

In 2022, Falmouth High School implemented the Race, Climate and Food Course. This course is integral to the broader Food Justice Initiative (Pillar 2, Element B). This course is an introductory class in practical agriculture as well as the racial and climatic contexts that shape our current food systems. Students learn about current and historic racial injustices in land ownership and food access. They also discover the important climate prerequisites for a range of crops and how climate change will impact our ability to grow food fairly. The cultural and environmental histories of Cape Cod form a central part of both the race and climate narratives. Students work on a small-scale farm to grow local, culturally appropriate food and practice good land stewardship.

Due to the popularity and relevant nature of the course, The Race, Climate and Food Course has developed into the Food Justice Initiative (FJI). This foundation is currently pursuing 501(c)(3) status with the support of the district. As the foundation begins its work, they utilize student input in the expansion of growing food at scale, managing plant beds and determining the skills necessary for efficiency and maximizing results.

Falmouth teachers have been involved in climate change research projects in the Brazilian Amazon through the Woodwell Climate Research Center, in the Arctic through the Marine Biological Laboratory, and in ocean fisheries and aquaculture research through the NOAA Teacher at Sea Program and the Woods Hole Oceanographic Institution. All who have participated have brought these experiences into their classrooms.

The Ecology Club promotes environmental education and conservation locally and globally, fundraising yearly with proceeds donated to environmental organizations and NGOs. Students in the Ecology club teach classes about endangered species at elementary schools, create and host displays at the annual STEAM Fair; participate in yearly local beach cleanups as part of Coastsweep and road cleanups; coordinate recycling at Falmouth High School; create natural environment murals, coordinate guest speakers, host film nights, contests, citizen science projects, and help maintain the Falmouth High School pollinator garden.

In April of 2017, Falmouth Public Schools with the support of Mass Audubon and wetland consultant, Thomas R. Biebighauser of Wetland Restoration and Training LLC, constructed a vernal pool at Falmouth High School as part of a Cape-wide teacher workshop on wetlands. This was the first vernal pool built at a public school in Massachusetts. The same week, 7th graders built a vernal pool in front of Lawrence School. These vernal pools are used by teachers at the schools to introduce students to the importance of wetlands, biodiversity, habitats and conservation of natural areas. Students visit these real world laboratories often to monitor water quality and the progression of species that move into the pools over time.

As part of the Vernal Pool Project, Pollinator gardens were installed at Falmouth High School and the Lawrence School in conjunction with the Mashpee National Wildlife Refuge. Over 100 students at each school were involved in planting the gardens. These gardens allow students to observe the

biodiversity of insect populations and native plants and learn about pollination, plant and animal life cycles, and adaptations, thus linking their curricular studies to real world locations. The vernal pools and pollinator gardens encourage respect and stewardship for the natural world. Over thirteen community organizations were involved in funding or contributing to this project.

Pillar 3, Element B: Use of the environment and sustainability to develop STEM content, knowledge, and thinking skills

Throughout our evidence across this application, we make detailed reference to our commitments to outdoor learning, learning- focused community partnerships, and cultural relevance. We reserved space in response to this item to outline our articulated learning across grades to provide more clarity around HOW we achieve our goal to foster our students' stewardship of a better Falmouth.

Here is a vertical overview of our students' opportunities for experiential learning that serve as anchors in our curriculum:

Kindergarten - Oceans Day is held in partnership with the National Oceanic and Atmospheric Administration (NOAA) North Atlantic Fisheries Division. Students discover the inner workings of Salt, the life-sized Right Whale – she is inflatable and the kids can go inside and observe her organs – as well as the importance of protecting this beautiful endangered species. They investigate the different species of fish that are found in the waters around New England and the traits that each fish has that enable it to survive. NOAA saves and freezes fish from their Spring Trawl count to share with students. To encourage early literacy at the event, students travel along a guided book walk to experience the story, Rocket Says Clean Up! By Nathan Bryon. This book explains the dangers of ocean debris to animals like sea turtles on the island of Jamaica and encourages kids to help prevent littering and to "clean up" trash from the environment.

Grade 1 - "Day at Shivericks Pond" is held in partnership with Resilient Youth, the 300 Committee, and several other community partners. This event takes students on a nature walk to teach ways to promote mindfulness. Students read the book, Pond Circle by Betsy Franco, while studying the food chain of a freshwater pond. With nets, buckets and digital microscopes, students collect samples of pond water and mud and search for macroinvertebrates that inhabit our local pond ecosystem.

Grade 2 - Students visit the Cape Cod Cape Verdean Museum and Cultural Center (CCCVMCC). On their trip, they learn about Cabo Verde's connection to the local community, conservation of sea turtles (Cabo Verde and Cape Cod are popular nesting location for sea turtles or "tartaruga") and the background of the popular children's game Mancala, that is played by many people in Cabo Verde where it is known as Ouril and played with seeds.

Grade 2 students also visit the Waquoit Bay National Estuary Research Reserve (WBNERR). Students travel to Waquoit Bay to learn about the causes of erosion and to see its effect first hand on the beaches and cliffs of the Bay. Students experiment to find the most effective ways to keep homes and beaches safe from storm surge in a hands-on modeling activity that reinforces the importance of wetlands as sponges. By observing a three dimensional model of Waquoit Bay, students identify different land and water forms and then create their own craft pictures of these features using glue and colored sand.

Grade 3 - The big third grade event is the Earth Day Summit. With an emphasis on sustainability and both individual and collective impacts on the environment, students engage with partners from across our community to learn how they can reduce their own carbon footprint and promote awareness in our community and beyond. This event crosses all curricular lines with artistic representations of data

and discovery, story walks to read about climate change, and mathematical calculations about the carbon footprint created by sourcing and securing the various foods we eat.

Ahead of the Earth Day Summit, students learn that "Oysters are Awesome!" This unit provides students with an opportunity to witness the natural phenomena of water filtration by this simple organism and how oyster culturing can support improvements in water quality.

Grade 3 students also visit the Woods Hole Village and meet with scientists and researchers at Woods Hole Oceanographic Institute (WHOI), Marine Biological Laboratory (MBL), and National Oceanic and Atmospheric Administration (NOAA) North Atlantic Fisheries Division. They learn about current research projects and ask questions to shape their understanding of what it means to be a scientist in our community.

Grade 4 students take their learning on the road for the Green Bus Tour. Students board a school bus for a tour of green businesses or green projects in Falmouth. Visits have included the Coonamessett River Greenway Restoration Project – which includes Herring tagging and discussion about how (and if!) environmental damage can be reversed and the Falmouth Ice Arena – which uses solar energy to stay cool. Students this year also visited our local beaches and worked with scientists from the SEA Education Association on a beach cleanup program called "Trash shouldn't splash."

Grade 5 - Coonamessett River Greenway. Students return to the Coonamessett River site to make a claim about the health of the environment and then investigate to support (or refute) their claim with biological, chemical, and physical data. Activities include chemical water testing; observations of the plants, animals, and the environment around the river; and searching for and categorizing types of freshwater macroinvertebrates.

Grade 6 - Visit to Penikese Island. This is our students' first introduction to the unique treasure that is the Elizabeth Islands. Students witness the unique ecology of Penikese Island as they discover the importance of wildlife sanctuaries and the impact of marine debris on marine ecosystems. During a beach combing activity, students observe and draw conclusions about animal adaptations and how they enable them to survive in the intertidal zone. And, despite our town's 56 miles of coastline, this is the first time many of our students take a boat ride.

Grade 6 - Students re-engage with Waquoit Bay National Estuary Research Reserve (WBNERR) to learn about how density affects the water cycle. They use this information to investigate water contamination and formulate how pollution flows through our environment.

Grade 7 - "A Day in the Village." Students return to the Woods Hole Village to learn about how we can sustainably fish and conserve local fish stocks. Students follow the catch from net to plate and learn about all that happens in between. Partners who make this day possible are Woods Hole Oceanographic Institute (WHOI) and National Oceanic and Atmospheric Administration (NOAA) North Atlantic Fisheries Division. Students participate in haddock dissections, explore fish species at the Woods Hole Science Aquarium, learn about how scientists use fish otoliths to determine data about fish populations and their health, and try out new technologies in fishing gear that is helping to prevent whale entanglement.

Grade 8 - Visit to Cuttyhunk Island. Students sail to the end of the Elizabeth Island Chain to participate in the STEAM Academy. Our students interact with the island environment to study power generation and conservation, marine ecosystems, and the geology of the island. They also build upon their knowledge of animal adaptations.

Grade 8 - For more than 30 years, students from Lawrence School have been observing and gathering data from Shiverick's and Weeks Ponds, which border the school property. The ongoing effort is

guided by staff from the Waquoit Bay National Estuarine Research Reserve (WBNERR). This has created a long-term ecological study of these bodies of water to contribute to a historical database. Students record weather data and conduct water sampling (pH, temp, turbidity, and dissolved oxygen). With the help of volunteers from Americorp and WBNERR, students and staff have begun analyzing the available data from the program for evidence of climate change here in Falmouth.

Grade 9 - Students visit the Manomet Bird Observatory to observe and capture data about the aviary wildlife that migrate through the area. Students compare data collected over multiple years for evidence of change, complete biodiversity observations and calculations, and provide their conclusions and ideas to be part of an ongoing study.

Students in grades 10, 11, and 12 have the opportunity to attend the Marine Biological Laboratory's High School Discovery Program, where students participate in real world research in a professional scientific facility. Students have attended this program yearly since 2021. Last year's program involved collecting and analyzing/sequencing environmental DNA from local bodies of water to identify the species present. This year's program will have students analyzing the microbiomes of their oral cavities while learning new technologies useful for categorizing and identifying the types of bacterial biofilms present.

The Falmouth Public Schools has developed a comprehensive, interdisciplinary STEM program for students in grades 7-12. These opportunities are in addition to science, math, and arts courses students also take. At the Lawrence School, all students take a trimester-long Engineering course in grades 7 and 8. At the high school, all freshmen take a semester-long STEM9 course that complements their biology curriculum and reinforces their math skills. After 9th grade, students may elect to take STEMinar: Robotics and Astronomy, a semester-long course to further their STEM skills. In this way, all students have at least three years of exposure to STEM courses, and additional courses are available for those with a particularly strong interest. In addition, STEM opportunities for students are available through the district's partnerships with Woods Hole research institutions.

Falmouth High School has created two dedicated STEM Laboratories, which include a wet-lab with aquaponics systems and a dry lab for engineering, computing, robotics, and 3D printing projects. The STEM Labs provide locations for students and teachers to work on applied, authentic learning that is project-oriented as well as interdisciplinary. Students utilize the engineering design process (EDP) as the foundation for learning within the STEM courses, developing critical thinking, problem solving, and communication skills as well as the ability to transfer knowledge from one discipline to another.

Of particular importance in the STEM 9 course is the use of aquaponics systems to grow produce and fish simultaneously. As of 2023, the program has raised goldfish and guppies in the fish portion of the system as well as produce in the plant section. This setup uses the waste products of the fish to fertilize the plants. Produce grown has included herbs such as basil, dill, chives, and parsley; vegetables including peppers and cucumbers; and tomatoes and strawberries. There are students in the program who have never grown plants or had pets, so exposure to these tasks is both novel and beneficial. At the end of the program, students are encouraged to bring their plants home and transplant them.

Cape Cod Cape Verdean Museum and Cultural Center

True champions of inclusivity and cultural outreach, the curators of the Cape Cod Cape Verdean Museum and Cultural Center (CCCVMCC) engage with Falmouth Public Schools to educate, honor, and celebrate. Understanding the Cape Verdean heritage in our local community is essential to our sustainability. CCCVMCC annually welcomes grade 2 students to the museum to explore the cultural history of Cape Verdeans on Cape Cod. Students visit rooms dedicated to various topics including the

ocean, farming, food and the impact that Cape Verdeans have made to the local community. Among their anchors to our sustainability curriculum is learning about the coastal climate of Cape Verde and how it compares/contrasts from our local coast. Students learn about Tartarugas (sea turtles) and erosion, and the Blue Economy.

Pillar 3, Element C: Development of civic engagement knowledge and skills

Our learning-focused community partnerships are integral to our sustainability mission. Through our engagement with the Woods Hole and Greater Professional community of Falmouth, we focus on a shared, overarching goal: "To create world-class science learning experiences through which our students gain the critical knowledge and skills that empower them to be competitive in college and career as well as become active in the global community as socially conscious citizens who understand the actions and reactions of the world around them." A recent mention of our partnership and the link to teaching about climate change appear in the Cape Cod Times.

Central to our mission is the development of student agency, so students have the knowledge, skills, and confidence to use their voice. We have a host of opportunities through which students can express their ideas and bring about change. Among them is the Superintendent's Student Advisory. What began as a single advisory bringing together students from grades 3 - 12 has turned into a coordinated student advocacy team with an elementary advisory for students in grades 3 - 6, a junior high advisory for students in grades 7 & 8, and a high school advisory for students in grades 9 - 12. The members are representative of the school and community demographics, and the growth of this program increases their ability to understand how decisions are made, how they can influence them, and how they can be ambassadors of what they and their peers hope to see in their schools. (For information about the Advisory's influence on composting, please see Pillar 1, Element C.)

Another way that students engage in creating change is through participation in our student government. The model mirrors our model of town government. Students are elected by their peers and bring forward warrants and move through the appropriate processes. To ensure that the government is open and accessible to all students, it is hosted during the school day, and students who are not elected as representatives have space in the open session to listen in and observe the process.

Another way to ensure that all students have access to the decision making and change processes is participation in their civics projects, which are an integral part of our social studies curriculum. Students interact with town and state officials to learn about their work and find a way to be part of a solution to a larger problem with community impact. As they advance in their learning, students apply the principles of social justice and stewardship to evaluate the action they will take and anticipate the impact their actions will have. Here is a sampling of past projects:

- increased trash bins at our local beaches
- increased trash bins around our school
- increased feasibility of solar power in our school
- increased awareness of recycling at our school

If we do not know who we are as a community, we do not know how our plans for sustainability will be interpreted and if they will be supported. Therefore, all efforts to support the development of our students' civic dispositions are encircled by our commitment to diversity, equity, inclusion, and belonging. At present, we are engaged in a full-scale equity audit in partnership with the Mid-Atlantic Equity Consortium. With a growing population of high needs students (53%) and exponential growth

of multilingual learners, we are working diligently to help our community develop an appreciation of all who live within it. We are breaking down barriers as we unpack the dominant narrative of life in Falmouth. As our work continues, we are learning to make our thinking about DEIB part of the fabric of our work, not an added consideration. We also host a dedicated day of reflection and renewal on our commitment. We refer to this day of professional learning as "A Day of Belonging." We host a keynote speaker, faculty-led workshops on best practices, a community partner expo, and cross-district dialogue among all educators.

As a district, we want to welcome families and community members to come alongside us on our journey. As part of this year's effort, we are hosting the Falmouth Public Schools Belonging Series. The three "learning together" sessions are designed to build a more inclusive learning community. In each interactive session, participants will explore what it means to "belong," as well as strategies to foster a greater sense of belonging among everyone in the Falmouth Public Schools. Adults affiliated with FPS are invited to participate in any or all of the sessions. Portuguese translation is available at all sessions.

Sustainability efforts also cross over with our understanding of the indigenous community. We share a formal partnership with the Mashpee Wampanoag Tribe. Through our collaboration, we have developed a Land Acknowledgement, restored our three sister gardens, and worked to understand their history and relationship with the land and our shared natural resources. We host annual presentations and celebrate their culture and honor its influence. Members of the Tribe also consult with the non-profit advisory the Food Justice Initiate. We want our efforts for sustainability to be culturally responsive as well. Achieving true equity will bring about true sustainability.

If applicable, please indicate any previous environmental or sustainability awards that your organization has received in the past 5 years.

- 2018: Presidential Innovation Award for Environmental Educators from the U.S. Environmental Protection Agency - Christine Brothers
- 2018: Award for Excellence in Environmental Education from the MA Office of Energy and Environmental Affairs-Christine Brothers
- 2019: Ecology/Environmental Science Teaching Award from the National Association of Biology Teachers - Christine Brothers
- 2021: Conservation Teacher of the Year Award from the Massachusetts Audubon Society and the Massachusetts Environmental Education Society - Christine Brothers
- 2022: CARE for the Cape and Islands awarded Annual Youth Stewardship Award to FHS Ecology Club
- 2023: Massachusetts Marine Educator Award from Massachusetts Marine Educators Association - Cheryl Milliken
- 2023: Marjot Foundation Award Falmouth High School student Gayatri Chaturvedi received a grant from the Marjot Foundation to conduct research with Marine Biological Laboratory (MBL) scientists. Gayatri's project, "Investigating the Impact of Ocean Acidification on Seaweed Growth and Physiology," studies the effects of exposing three local species of seaweed to different levels of acidification that may develop in our oceans as levels of carbon dioxide rise in the atmosphere.