

ELIGIBILITY CERTIFICATIONS

School and District's Certifications

The signatures of the school principal and district superintendent (or equivalents) on the next page certify that each of the statements below concerning the school's eligibility and compliance with the following requirements is true and correct to the best of their knowledge. *In no case is a private school required to make any certification with regard to the public school district in which it is located.*

1. The school has some configuration that includes grades Pre-K-12.
2. The school has been evaluated and selected from among schools within the Nominating Authority's jurisdiction, based on high achievement in the three ED-GRS Pillars: 1) reduced environmental impact and costs; 2) improved health and wellness; and 3) effective environmental education.
3. Neither the nominated public school nor its public school district is refusing the U.S. Department of Education Office of Civil Rights (OCR) access to information necessary to investigate a civil rights complaint or to conduct a district wide compliance review. The Department of Defense Education Activity (DoDEA) is not subject to the jurisdiction of OCR. The nominated DoDEA schools, however, are subject to and in compliance with statutory and regulatory requirements to comply with Federal civil rights laws.
4. OCR has not issued a violation letter of findings to the public school district concluding that the nominated public school or the public school district as a whole has violated one or more of the civil rights statutes. A violation letter of findings will not be considered outstanding if OCR has accepted a corrective action plan to remedy the violation.
5. The U.S. Department of Justice does not have a pending suit alleging that the public school or the public school district as a whole has violated one or more of the civil rights statutes or the Constitution's equal protection clause.
6. There are no findings of violations of the Individuals with Disabilities Education Act in a U.S. Department of Education monitoring report that apply to the public school or public school district in question; or if there are such findings, the state or public school district has corrected, or agreed to correct, the findings.
7. The school meets all applicable federal, state, local and tribal health, environmental and safety requirements in law, regulations and policy and is willing to undergo EPA on-site verification.

U.S. Department of Education Green Ribbon Schools 2015-2018

X Public Charter Title I Magnet Private Independent Rural

Name of Principal: **Mr. Michael Kneller**

(Specify: Ms., Miss, Mrs., Dr., Mr., etc.) (As it should appear in the official records)

Official School Name: **North Brunswick Township High School**

(As it should appear on an award)

Official School Name Mailing Address: **98 Raider Road, North Brunswick, NJ 08902**

(If address is P.O. Box, also include street address.)

County: Middlesex State School Code Number *: (23 county code) (3620 district code)

Telephone: 732-289-3700 Fax: 732-289-3733

Web site/URL: nbtschools.org E-mail: mkneller@nbtschools.org (principal's email)

*Private Schools: *If the information requested is not applicable, write N/A in the space*

I have reviewed the information in this application and certify that to the best of my knowledge all information is accurate.



(Principal's Signature)

Date: 2.9.18

Name of Superintendent: **Dr. Brian Zychowski**

(Specify: Ms., Miss, Mrs., Dr., Mr., etc.) (As it should appear in official records)



District Name: **North Brunswick Township School District**

I have reviewed the information in this application and certify that to the best of my knowledge all information is accurate.

Date: 2/14/18

(Superintendent's Signature)

Nominating Authority's Certifications

The signature by the Nominating Authority on this page certifies that each of the statements below concerning the school's eligibility and compliance with the following requirements is true and correct to the best of the Authority's knowledge.

1. The school has some configuration that includes grades Pre-K-12.
2. The school is one of those overseen by the Nominating Authority which is highest achieving in the three ED-GRS Pillars: 1) reduced environmental impact and costs; 2) improved health and wellness; and 3) effective environmental and sustainability education.
3. The school meets all applicable federal civil rights and federal, state, local and tribal health, environmental and safety requirements in law, regulations and policy and is willing to undergo EPA on-site verification.

Name of Nominating Agency: **New Jersey Department of Education**

Name of Nominating Authority: **Mr. Bernard E. Piaia, Jr.**

(Specify: Ms., Miss, Mrs., Dr., Mr., Other)

I have reviewed the information in this application and certify to the best of my knowledge that the school meets the provisions above.

Date: 2/15/2018

(Nominating Authority's Signature)

SUMMARY AND DOCUMENTATION OF NOMINEE'S ACHIEVEMENTS

Provide a coherent summary that describes how your school is representative of your jurisdiction's highest achieving green school efforts. Summarize your strengths and accomplishments in all three Pillars. Then, include concrete examples for work in every Pillar and Element. Only schools that document progress in every Pillar and Element can be considered for this award.

SUBMISSION

The nomination package, including the signed certifications and documentation of evaluation in the three Pillars should be converted to a PDF file and emailed to green.ribbon.schools@ed.gov according to the instructions in the Nominee Submission Procedure.

OMB Control Number: 1860-0509

Expiration Date: March 31, 2018

Public Burden Statement

According to the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless such collection displays a valid OMB control number. The valid OMB control number for this information collection is 1860-0509. Public reporting burden for this collection of information is estimated to average 37 hours per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. The obligation to respond to this collection is required to obtain or retain benefit P.L. 107-110, Sec. 501, Innovative Programs and Parental Choice Provisions. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to the U.S. Department of Education, 400 Maryland Ave., SW, Washington, DC 20202-4536 or email ICDocketMgr@ed.gov and reference the OMB Control Number 1860-0509. Note: Please do not return the completed ED-Green Ribbon Schools application to this address.

School Contact Information

School Name: [North Brunswick Township High School](#) District: [North Brunswick](#)

Street Address: [98 Raider Road](#)

City: [North Brunswick](#) State: [New Jersey](#) Zip:[08902](#)

Website: [nbtschools.org](#)

Principal Name: [Michael Kneller](#)

Principal Email Address: mkneller@nbtschools.org Phone Number: [732-289-3700 x73001](#)

Lead Applicant Name (if different): [Amy Rafano](#)

Lead Applicant Email: arafano@nbtschools.org Phone Number: [732-289-3700 x73056](#)

Level <input checked="" type="checkbox"/> High (9 or 10 - 12)	School Type <input checked="" type="checkbox"/> Public	How would you describe your school? <input checked="" type="checkbox"/> Suburban	District Name North Brunswick
Does your school serve 40% or more students from disadvantaged households? <input checked="" type="checkbox"/> Yes () No			Total Enrolled: 1,830 high school
% receiving FRPL__ 41% % limited English proficient__ 2% Other measures_____		Graduation rate: _81.4% Attendance rate: _93.29%	

North Brunswick Township High School (NBTHS) is a suburban school serving 1830 students, more than 41% of whom are receiving free and reduced price lunch. We have developed a culture of green awareness by incorporating measures in all aspects of sustainability.

Over the past 25 years, we have been striving toward reducing our carbon footprint through several energy audits. We have made great strides in recent years with the addition of an Energy Manager who implemented energy conservation practices lowering our energy costs. We lower heat settings during the school day as our school fills with warm bodies, reduce lighting during evening and weekend hours, use window blinds to lessen heat loss in the winter and increase solar heat gain in the summer. Our district replaced T12 lighting to energy efficient T8 lighting, and we are switching to T5 and LED lighting. All new construction and renovations since 2000 have included the installation of occupancy sensors. Further, our computers are programmed for an automatic shutdown at 6:00pm, and again at 1:00 am to ensure maximum energy efficiency. We have also replaced and retrofitted HVAC system controllers and installed a heater for our pool area that recovers heat during the dehumidification process, to provide temperature and humidity control. In addition, domestic hot water for restrooms is provided by a high efficiency condensing style hot water heater, and low flow restroom fixtures were installed to reduced water consumption.

In our effort to reduce waste, we have installed four water bottle refilling stations throughout the building, thereby reducing single use water bottles. Funds came from a grant provided by Sustainable Jersey for Schools and a partnership with our community basketball, baseball and softball organizations. Student groups monitor and collect single-use bottles from recycling containers in our lunchroom and throughout campus. We have also reduced our printing needs by more than 10,000 sheets of paper through the integration of digital resources including Google Apps for Education, Chromebooks, online publication of our school newspaper, and initiating BYOD (Bring Your Own Device). We also replaced the operating system to CloudReady, which uses web applications and cloud storage instead of traditional software and local storage to convert and revive 300 legacy computers that would have otherwise been determined to be end of life.

We have also partnered with our town's Parks & Recreation Department for maintenance of our on-site butterfly garden. Through a partnership with Rutgers' Master Gardeners, students from our Autistic Program constructed three raised gardens, which are used for learning life skills and learning to care for our land in a way that positively impacts the environment.

In our "maker space", students participate in a furniture challenge and create designs using recycled materials. In our Project Lead the Way Principles of Engineering class, student projects explore renewable and non-renewable energy

sources including solar and hydrogen fuel cells, as well as recyclable plastics for a robot challenge created with a 3-D printer. Students in environmental classes choose a topic with pending legislation involving environmental science and contact the sponsor/legislator to ask questions, assess authentic research and develop ways in which they can contribute positively to remediation of the problem as it pertains to their own neighborhood. Culminating activities include an explanation on how each party is involved including the community, scientists, government, environmental groups and local businesses.

Last year, students focused on the controversial proposed Penn East Pipeline which would run through Princeton and Hopewell Townships. These neighboring communities share a congressional district with North Brunswick Township (Congressional District 12). Comparing this issue to the Keystone Pipeline, students contacted congressional and legislative representatives to voice support or concern for pending environmental projects. Our staff supports not only the academic understanding of content, but the real-life application of communicating global awareness and citizenship.

Finally, students investigated the waste management practices and protocols established by the local waste management companies and identified ways to mitigate the production of waste in the household environment. Students identified the recycling efforts of each community, household and individuals through surveys and questionnaires, and identified areas of improvement. Students findings strengthened the recycling efforts of the community through their recommended solutions to reduce the use of plastic products. In chemistry, students studied the impact on the environment- toxicity to soil, water- by the discarded plastics, batteries and electronic equipment. Students also studied an outdoor observation area and identified all the biotic/abiotic factors they see with ecological relationships. The lesson incorporated how proper waste management positively influenced the health of natural environments. Students designed a plan that included parents and younger siblings focusing on activities and practices to keep our environment clean.

SCHOOL PROFILE: GREEN SCHOOL PROGRAM AND AWARDS (Cross-Cutting Question)

1. Has your school participated in a local, state, or national program, which asks you to benchmark progress in some fashion in any or all of the Pillars? Yes___ No___ If yes, please explain what program(s) and what level you are currently at, and state the years you have been involved in these programs. (e.g. [EPA Energy Star Portfolio Manager](#), [Eco-Schools USA](#), [PLT Green Schools](#), [Sustainable Jersey for Schools](#) , and [NJ Learns](#)).

Currently participating with EPA Energy Star Portfolio Manager; rating is 52. In addition, we participate with Sustainable Jersey for schools mini grant program to support our initiatives for recycling; purchasing lids for recycling bins and water bottle refilling stations to reduce plastic in our landfills. Also, we use ECAP Professional to track our electric, natural gas and water consumption and costs.

2. Has your school, staff or student body received any awards for facilities, health or environment?

Yes X No___ Award(s) and year(s) Asthma Friendly Schools 2007 _

3. Has your school identified or created a place for teachers to go to share lessons on Sustainability?

Yes X No___ If yes, where? [Environmental Club meetings](#), [Green Team Meetings](#), and [Professional Learning Communities](#) provide opportunities for staff to share lessons. In addition, the school's access to our IDE portal provides units of studies focusing on sustainability.

4. Has your School Board adopted a Green Strategic Plan or sustainability policy? Yes X No___

Our Sustainability Policy was approved June 24, 2015; the policy promotes and supports that the township will focus attention and efforts on matters of sustainability. The policy promotes and supports that the district will ensure a safe and healthy environment for students by encouraging our school community to implement sustainable, energy-smart, eco-friendly and cost-effective solutions.

5. Has your school created a Green Team? Yes X No___ If yes, list team members and their roles.

[Dr. Brian Zychowski](#), Superintendent-policy and policy support

[Michael Kneller](#), Principal-initiatives

[Amy Rafano](#), Assistant Principal-coordinator of NBTHS Sustainability Initiatives

[Ray Kuehner](#), Director of Transportation-Energy Manager-initiatives, audits, grants

[Bill O'Connor](#), Director of Building and Grounds-initiatives, audits

Adam Sawchak, Director of Food Services, Chartwells-education, recycling opportunities in cafeterias, sustainability opportunities

Mary Blackborow, Certified School Nurse-Wellness/Student Health

Matt Brigandi, Building and Grounds-Plant Manager NBTHS-initiatives; purchasing

Andrea Lamagra, Science Supervisor-STEM, curriculum

Janet Ciarrocca, Director of Curriculum, Instruction, & Technology-curriculum

Alex Benanti, Assistant Business Administrator-financial initiatives

Louis Emanuel, Athletic Director, Supervisor of Physical Education & Health - initiatives

Gerardo Cochran, teacher & advisor of Environmental Club-instruction, implementation recycling initiatives, educational practices

Mary Dart, teacher & advisor of Environmental Club-instruction, implementation of initiatives, educational practices

Martin Schneider, Coordinator of Technology, recycling of electronics

Each member of the Green Team participates in promoting environmental and sustainability initiatives.

6. Has your school seen a cost savings from green initiatives? Yes No

	Electric Energy Consumption (kwh)	Natural Gas or Fuel Oil Consumption (therms)	Electric Utility Costs (\$)	Natural Gas Utility Costs (\$)	Total Utility Costs (\$)	Annual Savings (\$)	% Reduction from Baseline Year
13-14	5,612,783	162,704	\$970,167	\$141,022	\$1,111,190	Baseline	Baseline
14-15	5,653,994	134,815	\$852,734	\$111,334	\$964,069	\$147,121	13.3 %
15-16	5,595,714	134,814	\$834,382	\$111,335	\$945,717	\$18,352	1.89%
16-17	5,458,931	123,189	\$683,784	\$106,879	\$790,663	\$155,054	13.9%

PILLAR I: REDUCED ENVIRONMENTAL IMPACT

Element 1A: Reduced/eliminated greenhouse gas (GHG) emissions. Use Portfolio Manager format

7. Can your school document a reduction in **Greenhouse Gas emissions**? Yes or No

	Electric Energy Consumption (kwh)	Natural Gas Consumption (therms)	Carbon Dioxide from Electric 1.52 lbs/kwh	Carbon Dioxide from Natural 11.7 lbs/therms	Total # of Staff & Students	MT eCO2 /person	% Decrease from prior year
13-14	5,612,783	162,704	8531430	1903636	1997	6.02	
14-15	5,653,994	134,815	8594070	1577335	1997	5.09	15.0%
15-16	5,595,714	134,815	8505485	1577335	1997	5.04	1.0%
16-17	5,458,931	123,189	8297575	1441311	2009	4.85	3.75%

8. Has your school conducted an energy audit of its facilities? (e.g. [LGEA](#), [Eco-Schools Energy Audit](#)) Yes No
 Percent reduction: 3.75% from 7/2015 to 6/2017

9. Has your school received [EPA ENERGY STAR certification](#) or does it meet the requirements for ENERGY STAR certification? (score of 75 or above) Yes No Year(s) and score(s) received:

10. Percentage of school's energy is obtained from on-site renewable energy generation: 0 Type _____ Purchased renewable energy: _____ Type _____
 Participation in USDA Fuel for Schools, DOE Wind for Schools or other federal or state school energy programs: (Ex. ACES) Yes _____ No X If yes, what programs? _____

11. Has your school reduced its total non-transportation energy use from an initial baseline? Yes ___ No X We understand this statement to refer to the possibility of lessening our transportation of students. We have a high number of courtesy busing due to the fact North Brunswick Township has two major highways running through it. For safety issues, we include students who would need to cross these major highways in our bus routes.

	Electric Energy Consumption (kwh) 1kwh=3.412 kBtu	Natural Gas Consumption (therms) 1therm=100kBtu	Number of Occupants	kBTU/ Occupant	kBTU /sq.ft.	% Reduction From Baseline
13-14	5,612,783	162,704	1997	17737	35.54	Baseline
14-15	5,653,994	134,815	2022	16208	33.81	4.2%
15-16	5,595,714	134,814	2025	16085	33.61	4.3%
16-17	5,458,931	123,189	2025	15281	31.93	4.9%

12. What year was school originally constructed? 1973 Total building area (sq.ft) 394,716

13. Has your school constructed or renovated building(s) in the past ten years? (X) Yes () No
 For new building(s): Which green building standard was used? LEED for Schools.
 Which green building standard was used? LEED Existing Buildings: Operation & Maintenance.

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

Water and Grounds

14. Can you demonstrate a reduction in your school's total water consumption (measured in gal/square foot) from an initial baseline? Yes X We have added synthetic turf football, baseball, soccer fields and use 1.6 flush o meters on toilets that have reduced our water use.

	Water Consumption (gallons)	Total Occupants	Gallons Per Occupant	% Reduction from FY 13-14
FY13-14	37.55 k	1997	0.0188	5.95%
FY14-15	35.00k	2022	0.0173	7.85%
FY15-16	32.30k	2025	0.0159	18.34%
FY16-17	37.00k	2025	0.0182	3.19 %

Do you include after-hour activities in your water consumption calculations? (adult sport leagues, adult education, scouting, other community events etc.?) Yes X No _____

How did you document this reduction (i.e. Energy Star Portfolio Manager, utility bills) Energy CAP Professional

15. Describe any strategies you use to discourage single-use beverage containers on school property. Describe how you assure the recycling of those containers if/when purchased and used at athletic locations, or other outdoor events. (Ex. Hydration Stations, bottle refilling fountains)

- installed four water bottle refilling stations in the athletic and academic sections
- multiple recycling receptacles used throughout campus
- student groups monitor lunch areas collecting and recycling single-use beverage containers
- each classroom has a designated recycling container

- athletic trainer provides athletes with a water hydration program offering recyclable water use bottles, not single use bottles

16. What percentage of your landscaping is considered water-efficient and/or regionally appropriate? 100%
 What types of plants are used and where are they located? Have you preserved any areas with native vegetation with minimal disturbance?

The majority of the developed portion of the property is covered with 8 acres of grass. Even though we have an irrigation system, it is only used to water two softball fields, approximately 1.5 acres. We irrigate only when needed and, when doing so, the system is scheduled to operate just before dawn. Approximately 10% of the entire site is in a natural state.

17. How have you incorporated native plants into your landscaping? (50-words max)

We only use plants native to New Jersey including serviceberry and dogwood trees. In Springtime our butterfly garden blooms and raised beds are planted with native flowers and vegetables. A Rutgers Master Gardener works with our students to ensure that we are working with plants suited to the soil composition of our grounds.

18. Describe alternate Non-potable water sources used for irrigation (e.g. roof or parking lot run-off). Plans are being discussed in our school budget and are mentioned in our three-year strategic plan.

19. Describe efforts to reduce storm water run-off or reduce impervious pavement (e.g. rain gardens, bio swales, storm water basins). The district utilizes detention basins to control stormwater runoff.

20. Our school's drinking water comes from: (X) Municipal water source () Well on school property

21. Describe how the water supply for your school is protected from potential contamination. Backflow preventers are installed where the water service enters the building; these preventers are checked annually as per code.

22. Describe the program you have in place to control lead in drinking water (e.g., pipe flushing, old plumbing solder).

NJDEP Lead in Drinking Water – Public Water System Information (<http://www.nj.gov/dep/watersupply/dwc-lead-public.html>) The Maintenance Department and our vendors only use lead free solder and Pro Press fitting when installing or repairing plumbing fixtures to domestic water lines and outlets.

23. Describe how your school's site grading, irrigation system and schedule is appropriate for your climate, soil conditions, and plant materials, with an emphasis on water conservation and/or improved stormwater management. (50-word max)
Our irrigation system is only used to water two softball fields, approximately 1.5 acres. We irrigate only when needed and the system is scheduled to operate just before dawn. Approximately 10% of the entire site is in a natural state. We utilize detention basins to control stormwater runoff. We have planted native trees to NJ and help absorb rainfall, so conventional irrigation and drainage are not needed in all areas.

24. What percentage of school grounds are green space? (ex. Green roof, rain gardens, native plants, solar panels, fish farms, outdoor raised beds, living walls, wetlands/marsh, forest, grassland, etc.) ~10% and list items (50 word max)

- butterfly garden utilized as a learning resource at various times throughout the school year
- autistic program constructed and planted three raised garden beds to grow various vegetables to use in their Life Skills Course, preparing the various items for their consumption
- April 2011, received 175 free saplings from NJ Trees organization. NBTHS shared their allotment with the township; both township and school created tree farms to nurture the growth of the trees so they could be placed in local parks and along the landscape of the high school

Element 1C: Reduce waste production – Waste/Hazardous Waste

25. What percentage of solid waste (including food service waste) is diverted from landfills or incinerators due to reduction, recycling and/or composting? Complete all the calculations below to receive points.

A - Monthly garbage service in cubic yards (garbage dumpster size(s) x number of collections per month x percentage full when emptied or collected): 173cy

B - Monthly recycling volume in cubic yards (recycling dumpster sizes(s) x number of collections per month x percentage full when emptied or collected): 121cy

C - Monthly compostable materials volume(s) in cubic yards (food scrap/food soiled paper dumpster size(s) x number of collections per month x percentage full when emptied or collected): 0cy

Recycling Rate = ((B + C) ÷ (A + B + C) x 100): 41%

Monthly waste generated per person = (A/number of students and staff): .085cy

26. What percentage of your school's total office/classroom paper content **contains at least 30%** post-consumer material, or fiber from forests certified as responsibly managed and/or chlorine-free? Unknown

27. Do you include after-hour activities in your garbage reduction calculations? (adult sport leagues, adult education, scouting, other community events etc.?) Yes No

28. Describe how you have reduced your paper consumption, and how you measured that reduction or other uses you created for the materials (e.g. working and reviewing online, white boards). (50-word max)

The following practices are in place to reduce paper consumption:

- 100% of classrooms equipped with whiteboards, smart boards, Epson projectors
- software programs
- report cards, attendance letters, and other school related documents are posted to school's Parent Portal
- free and reduced lunch program processed totally online
- announcements for both staff and parents posted online
- school newspaper is produced digitally
- Event flyers are created and shared throughout the district and broadcasted on TV monitors, web pages and our district home page

29. List the types and amounts of hazardous waste generated at your school:

Flammable liquids Alcohol 800ml	Corrosive liquids Acids 800ml	Toxics Misc metal compounds 500g	Mercury None	Other: None
------------------------------------	----------------------------------	-------------------------------------	-----------------	----------------

How is this calculated? [Inventory control](#) How is hazardous waste disposal tracked? [Chain of custody reports.](#)

30a. Describe other measures taken to reduce or eliminate solid waste and hazardous waste (on-site composting etc.). (ex. Switching to reusable cafeteria trays, silverware, etc.) (100-word max)

This year, North Brunswick Township High School purchased an operating system named CloudReady. This operating system is built and maintained by Neverware based on Google's open source Chromium OS. CloudReady uses web apps and cloud storage instead of traditional software and local storage. By utilizing CloudReady North Brunswick Township High was able to convert and revive 300 legacy computers that would have otherwise been determined to be end of life. These existing converted legacy computers will remain viable assets North Brunswick Township High for the foreseeable future and we will look to expand this software use on legacy computers as the opportunity become available.

30b. Describe how electronics are handled at the end of their useful life. (TV, computers, laptops, tablets, printers, toner cartridges, etc) (50 word max)

How many pounds of electronics did you discard as hazardous waste? _____

What was the weight of material reused? 1000 Was any donated? Y N

(E-CYCLE NJ: <http://www.nj.gov/dep/dshw/ewaste/index.html> EPEAT: <http://www.epeat.net/>)

All electronic items are scheduled for pick up by Upcycle; objective to have it repaired, refurbished, or re-distributed. If items cannot be "fixed" Upcycle partners with R2 certified recycling companies. Upcycle picks up our failed projector bulbs, and disposes safely due to Mercury. All toner cartridges back to the manufacturer for re-use or recycling.

31. Which green cleaning custodial standard is used? GS-37

What percentage of all products is certified? 88%

What specific third party certified green cleaning product standard does your school use?

Describe the measures your school has taken to use only green cleaning product. [In the school year, 2016-2017, the school moved from chemical-based cleaners to peroxide-based cleaners. Cleaning products are metered to insure the correct dilution. In addition, microfiber cleaning cloths, dust mops and wet mops have replaced cotton material.](#)

32. If your school has a nurse's office, how does the nurse track regulated medical waste? Describe the [tools or mechanisms](#) used to track this waste. Indicate (X) if you have the following: [Medical waste is collected in a sharps container in the health office.](#)

[A medical waste transporter collects this annually and the records are stored in the health office.](#)

School has a Generator ID number, unless exempted; [The school has a generator ID number and contracts with a medical waste company to collect this on an annual basis which is then disposed of at an appropriate facility.](#)

School manages the regulated medical waste on-site properly? (Use the proper containers, properly segregate the regulated medical waste, and properly store the containers)

School uses a licensed and registered regulated medical waste transporter, unless exempted?

School ships the regulated medical waste to a facility authorized to accept the regulated medical waste?

School completes the proper paperwork to document the shipment and maintain records for 3 years?

___ School files the generator annual report, unless exempted?

33. Is a Hazardous Waste Policy for storage, management and disposal of chemicals in laboratories and other areas with hazardous waste, in place and actively enforced? Yes X No ___

34. Do you have Underground Storage Tanks located at your School? Yes, Active.

Are tanks properly [registered](#)? Yes ___ No X Are monitoring systems operating? Yes ___ No ___

Yes, Inactive. Are tanks buried? Yes ___ No X Are tanks scheduled for removal? Yes ___ No ___
None

35. Is your school compliant with the New Jersey Department of Environmental Protection's (DEP) Air Quality Permit requirement? (Equipment at schools that require air permits include boilers, emergency generators, space heaters and hot water heaters that have a maximum rated heat input of 1 million BTU/Hr or greater, to the burning chamber. Also, some schools might require an air permit for certain woodshop operations. Most of these pieces of equipment can be [permitted](#).) Yes X No ___

Element 1D: Use of Alternative Transportation

36. What percentage of your students walk/bike/skateboard, ride a school bus/use public transportation, or carpool (2+ students per car) to/from school? 7%

37. Indicate (X) if you have implemented the following.

X A well-publicized no idling policy that applies to all vehicles (including school buses, cars and delivery trucks)

X A policy that encourages walking and/or bicycling to school

X A Safe Routes to School program or a School Travel Plan.

X Secure bicycle storage (such as bicycle lockers, racks, or rooms) is provided to encourage bicycling to school

39. If your school has only bus transportation, describe how your school transportation use is efficient and has reduced its environmental impact.

[The district uses a 3-tier routing system, we currently have a 2.11 bus use efficiency rating which is in the top 30 of all 627 school districts in the state. All district vehicles have the C CVS diesel retrofit.](#)

Summary Question for Pillar 1

40. Describe any other efforts toward reducing environmental impact, focusing on innovative or unique practices and partnerships. (100-word max)

[Our Environmental Club implemented environmental tip of the week and provides activities during lunch periods; they also assist with recycling and composting.](#)

[We partner with Chartwells, who has a sustainability program in place that incorporates;](#)

- [Fresh yogurt and milk free of RBGH or RBST hormones as well as animal welfare issues](#)
- [IDP \(Imperfectly Delicious Produce\) working with growers and distributors to rescue produce and reduce high quality product going to landfills and compost or waste](#)
- [Offer only HFAC certified Cage-Free shell eggs](#)
- [Reduced Antibiotic Chicken and Turkey \(use 100% antibiotic turkey\) Chartwells contracted suppliers are required to provide products which adhere to specific criteria developed in partnership with The Environmental Defense Fund.](#)
- [Buying local produce accounts for 30% of produce used](#)
- [Compass Group developed Trim Trax, a food waste reduction program and green initiative which could noticeably cut operating costs as well as reduce our carbon footprint in landfills.](#)
- [FAD Free Tuna - Compass Group uses skipjack tuna from fisheries that don't use Fish Aggregating Devices \(FADs\)](#)

PILLAR 2: IMPROVE THE HEALTH AND WELLNESS OF STUDENTS AND STAFF

Element 2A: Integrated School Environmental Health program

Environmental Health

1. Has your school conducted any "Occupant Survey" with teachers and students?

2. Do you have an Operations & Maintenance Policy for your building? Yes X No ___

3. Does your school have an Integrated Pest Management plan? Yes X Date updated: 12/13/2016 ___

4. Indicate which practices your school employs to minimize exposure to hazardous contaminants.

School conducts both indoor (structural) and outdoor (turf and ornamental) IPM to reduce student exposure to chemical pesticides.

School reduces or does not use fertilizer on our property

School prohibits smoking and use of electronic smoking devices on campus and in public school buses

School has identified and properly removed sources of elemental mercury and prohibits its purchase and use in the school.

School uses fuel burning appliances and has taken steps to protect occupants from carbon monoxide

School does not have any fuel burning combustion appliances (boilers, generators, hot water heaters)

___ School has tested all frequently occupied rooms in contact with the ground, and first floor rooms above basement spaces that are not frequently occupied for radon gas and has fixed and retested rooms with levels that tested at or above 4 pCi/L. [NJ Recommends School Radon Testing](#) Yes ___ No [Radon testing was performed in the 1980's. Additional testing has not been completed since then. However, all construction since 1989 has incorporated either active or passive radon control systems.](#)

___ School built with radon resistant construction features tested to confirm levels below 4 pCi/L. Yes No Our school has identified any wood playground or other structures that contain chromate copper arsenate and has taken steps to eliminate exposure to this pesticide/wood sealing preservative.

6. Describe how your school controls and manages chemicals routinely used in the school, as well as construction or cleaning activity that produces odors or dust, to minimize student and staff exposure.

All chemicals routinely used in the school are ordered by Supervisors of each Department (Science, Custodial and Industrial Arts). Supervisors keep track of supplies ordered and keep hazardous chemical orders to a minimum. At the end of every school year our school conducts a hazardous chemical disposal. All construction or cleaning activities that produce odors or dust are not scheduled during operating hours. Measures are taken to keep odor causing work to a minimum and we assure ventilation systems and equipment are operating efficiently to provide proper ventilation and air quality.

7. Describe actions your school takes to prevent exposure to asthma triggers in and around the school.

To control triggers, indoor air quality is maintained by delivering minimum required amount of filtered outside air to all occupied spaces. Maintenance activities produce smoke and vapors performed after hours and HEPA vacuums are used. No idling signage posted, weekly health tips addressing environmental issues that impact health as well as other health promotion and wellness tips for staff, students and families; we receive Enviroflash announcements, when levels are high PE activities to promote safe activities without risking negative health consequences. Install and promote the "air now widget" on website so that classroom teachers can view this. Staff receives annual training on Asthma Management; custodial staff ensures vents in all spaces are not obstructed and upholstered furniture and rugs are not permitted in classrooms.

Is your school signed up to receive air quality alerts through [Enviroflash](#) which issues notifications of days when poor air quality is forecasted to occur? [Learn more](#) Yes No ___

Has your school developed a plan for implementation to modify activities to protect the health of students and teachers when poor air quality is forecasted? Yes No ___

Have you provided [brochures](#) to students, teachers and parents to educate them about air quality and steps they can take to protect their health and decrease their contribution to ozone pollution? Yes No ___

8. Describe actions your school takes to control moisture from leaks, condensation, and excess humidity and promptly cleanup any visible mold or remove moldy materials when found. (100-word max)

Roof leaks are addressed quickly. During an event, standing water is removed and, when possible, high speed blowers are used to reduce drying time. Work orders to repair roof leaks are entered and are a priority in terms of response time. Wet ceiling tiles are removed immediately and replaced as soon as the leak has been controlled. Also, any type of wet dusty materials are removed immediately.

9. Our school has installed local exhaust systems for major airborne contaminant sources. Yes ___

In our Wood Shop area there is a dust collection system for local collection of sawdust and there is a spray room for use in applying vapor-producing wood finishing products. In science labs, there are fume hoods in which all activities which produce vapors are to take place. In our pool filter room, there is a local exhaust over the tanks that contain the chlorine and acid.

10. Describe your school's practices for inspecting and maintaining the building's ventilation system and all unit ventilators to ensure they are clean and operating properly.

A program has been implemented quarterly to change, clean and replace filters and record in a binder and electronically when filters are changed as well as when service calls are performed throughout the school year. Filters are also changed during the winter. Exhaust fans are also serviced All heating and cooling equipment is inspected and cleaned during the summer annually. Work orders are submitted for all HVAC work thereby creating a record of all service activities, which are reviewed by the maintenance supervisor and Supervisor of Buildings and Grounds.

11. Describe actions your school takes to ensure that all classrooms and other spaces are adequately ventilated with filtered outside air, consistent with state or local codes, or national ventilation guidelines. (100-word max)

All ventilation systems were designed and built in conformance with all appropriate codes and were balanced when commissioned. It is our practice to avoid making changes to the ventilation settings. Occasionally there is a need to increase the amount of outside air into space to fully ventilate an area. At those times the rate is increased but later returned to normal.

12. Indicate (X) steps your school has taken to protect indoor environmental quality:

Implementing [US EPA IAQ Tools for Schools](#) and/or

Conducting other periodic, comprehensive inspections of the school facility to identify environmental health and safety issues and take corrective action. Monthly facilities inspections are conducted by the Head Custodian, and Annually we conduct a facility-wide inspection as required by the State of New Jersey.

Participating in the Pediatric/Adult Coalition of NJ's Asthmas Friendly Awareness Program

Other Participating in the NJ Pediatric/Adult Coalition in-service education and have registered for the April 2017 training. As the school nurse, I have done the training for school nurses, plan to arrange Asthma training for school staff for the Fall. We utilize Asthma treatment plans for orders and send home the forms, annually, to students diagnosed with asthma and require treatment plans for athletes that identify as having asthma or reactive airway disease. Students who carry inhalers receive training with a return demonstration of their use to make sure that the medication is being used correctly. Students are permitted and encouraged to carry inhalers and self-administer.

13. Indicate (X) if your school's green procurement practices pertain to the following: ([Buy Recycled](#) / [Buy Green](#))

c Construction

c Fleets

c Office Supplies

c Carpets

c Food Services

c Paper

c Cleaning

c Landscaping

c Other (50 word max)

c Electronics

c Meetings & Conferences

14. What system do you use to determine if the above products and services are considered sustainable? (ex. DOE Purchasing for Energy Efficient Products, CHPS High Performance Database, Electronic Product Environmental Assessment Tool) [When considering a product or service we research and seek out a consultant to help us comply with green standards.](#)

Element 2B: Nutrition and Fitness

Food and Nutrition, Fitness and Outdoor time

15. Which practices does your school employ to promote nutrition, physical activity and overall school health? Provide specific examples of actions taken for each checked practice, focusing on innovative or unique practices and partnerships. (100-word max each)

Our school participates in the USDA's Heathier US School Challenge. Level and year:

Our school participates in a Farm to School program to use local, fresh food. [Chartwells participates in the Department of Defense produce program that features local produce when in season. We select local produce first when it is in season.](#)

Our school has an on-site food garden that teaches nutrition and environmental education, describe. [The school has three raised beds that are planted with various vegetables. The crops are harvested, prepared and consumed in Life Skills classes with our Autistic students.](#)

Our school garden supplies food for our students in the cafeteria, a cooking or garden class or to the community. [The crops grown in our raised gardens are used in our Autistic Program incorporated in the Life Skills Lessons provided weekly.](#)

Our students spent at least 120 minutes per week over the past year in school supervised physical education. [Pursuit of personal fitness and understanding the benefits of leading a physically active lifestyle is at the core of](#)

the high school physical education curriculum. Designing, implementing and assessing personal fitness is a primary goal. Refining a variety of movement skills that contribute toward lifelong activity is also be a component of the program. All goals will be achieved through a curriculum that provides opportunity and individualized instruction.

At least 50% of our students' annual physical education takes place outdoors. It is the goal of the North Brunswick Township High School physical education program to provide students with developmentally appropriate learning opportunities with meaningful content and instruction. All students will develop health-related fitness, physical competence, cognitive understanding and positive attitudes about physical activity that promotes a healthy and physically active lifestyle. When weather permits, 75% of our PE courses occur outdoors in multiple facilities including the track, turf stadium field, turf soccer field, natural grass softball and baseball fields.

Our school participates in the NJ Safe Routes to School Resource Center. Level and year: _____

Our school participates in International Walk to School Day in October or National Bike to School Day in May.

Year(s): _____.

Our school has a School Wellness Policy that addresses both nutrition AND physical activity. The school wellness policy encourage food products that meet the nutrition standards of the HHFKA when used as an incentive or reward for student accomplishments, club or activity achievements, and/or success in competitions within the school. It also requires that student input and taste testing be taken into consideration and to have the HHFK posted in areas where food and beverage are served and to provide a copy for the parents. Care to walk sponsors a fundraising walk in the Fall that has widespread support in the school and ommunity

Our school has a School Wellness Committee that meets at least once a year. Our wellness committee meets twice during the school year and this year we have focused on increased outreach for free and reduced lunch program. During an August Health Fair, we provided computer access to assist families with free and reduced lunch program registration, this also was done during our September Back to School night. We also expanded breakfast options and have started marketing Breakfast to increase participation.

Health measures are integrated into assessments. Heights, weights and blood pressures are done annually on all students and parents receive written notification for abnormal findings

At least 50% of our students have participated in the EPA's Sunwise, or equivalent program. Literature about this program is shared with the Physical Education department and the information is used in the spring to encourage student participation.

Some food purchased by our school food service is locally sourced from regional farms. This is part of the DOD Produce program.

16. Is school lunch waste composted on-site? Yes No Percent 15% How is it used in your outdoor classroom? The Environmental Club facilitates a pilot program in our New Cafe collecting lunch waste for composting. Our composter has a designated area outside and the product of the composting will be used in our raised beds in the Spring.

17. What environmental technologies are used with curriculum? (weather station, energy monitoring system, GIS, web cam, etc) Not applicable at this time

18. Describe the type of outdoor education, exercise and recreation available. (100-word max)

Our PE instructors believe that physical education is essential to the education of the whole child. The program provides opportunities for students to attain the skills, knowledge and attitudes essential for a healthy lifestyle. Physical education is that part of the total process of education which utilizes games, sport, aquatics, dance, and health fitness activities to help the individual achieve the goals of education. Well-defined programs of provide a systematic progression of cognitive, affective, and psychomotor experiences as our students pass through various developmental stages. We conduct a multitude of outdoor activities to achieve these goals including but not limited to flag football, soccer, ultimate frisbee, jogging, sprint relays, mid-distance relays, tennis, and softball.

Coordinated School Health, Mental Health, School Climate, and Safety

19. Does your school use a Coordinated School Health approach or other health-related initiatives to address overall school health issues? Yes No If yes, describe the health-related initiatives or approaches used by the school: The Whole School, Whole Community, Whole Child (WSCC) model is program that is used to support health and learning. This is a program developed by the Association for Supervision of Curriculum Development.

20. Does your school partner with any postsecondary institutions, businesses, nonprofit organizations, or community groups to support student health, school garden education and/or safety? Yes No If yes, describe these partnerships:

NBTHS partners with various organizations to promote student health, school gardens, and safety. Rutgers Gardens provides educational sessions and cooperative work on site such as raised gardens. Our township's Parks & Recreation Department assists in the maintaining of the Butterfly Garden on site; in addition our students provide assistance to the community in maintaining and cleaning up our community parks. NBTHS continues to partner with Keep Middlesex Moving receiving an award in 2015. We also participate with Robert Wood Johnson University Hospital's Safety Ambassador Program which provides NBTHS students with education on a number of topics, such as accident prevention, pedestrian safety, bike safety, safety in and around cars, and fall prevention. The participating students then provide the lessons learned to our district's 1st and 2nd graders through outreach visits.

During our Freshman Orientation Program we offered a variety of services for all members of the community.

- Optical Academy provided low cost vision exams and glasses
- Rite Aid Pharmacy provided flu shots and other vaccines as requested
- The Brain Injury Alliance provided education about concussions
- Saint Peter's Hospital continues to support our efforts to educate staff and students about vaping and the dangers associated with vaping
- Blood pressure monitoring was also provided and discussed in educational forums
- The Center for Empowerment provided sessions about substance abuse and addiction services; also educational forums about healthy relationships

Our English as a Second Language teachers provide information for families about English lessons for families.

Our Guidance Counselors provide a variety of services for families; including but not limited to mental health, physical health, family counseling, individual counseling, and financial support systems. information about their services.

The school nurses also provide families with information about asthma and life threatening allergies. Those students in need are provided with backpacks and water bottles.

The Central NJ Maternal and Child Health Consortium and The TOP Program provide at risk students and their families with strategies and educational sessions to promote good decision making skills.

NBTHS supports the Saint Peter's University Hospitals Health Careers Camp during the summer, sending a number of student participants.

The NJ Brain Injury Alliance has provided education programs to our coaches and parents in the Spring. They also provided three sessions on concussions and return to learn for staff and school nurses. As part of our participation in the Concussion Surveillance Project which is facilitated by Rutgers School of Public Health, elementary students will be receiving an educational program as well as bike helmets. At NBTHS we have initiated a coordinated concussion management team to better manage the academic adjustments that students require when recovering from concussions. The administration, PE supervisor and school nurse are actively involved in planning modifications to the Physical Education program to prevent injuries.

21. Does your school have a school nurse and/or a school-based health center? Yes No

As a care manager for those with chronic and acute medical conditions, the school nurse coordinates student health care between the medical home, family, and school. The nurse brings the health expertise necessary to develop a student's Individualized Education Plan or Section 504 plan designed to reduce health related barriers to learning. The nurse provides for the direct care needs of the student, including medication administration and routine treatments and procedures.

Primary prevention by providing health education that promotes physical and mental health and informs healthcare decisions, prevents disease, and enhances school performance. Addressing such topics as healthy lifestyles, risk-reducing behaviors, developmental needs, activities of daily living, and preventive self-care. Screenings, referrals, and follow-up are secondary prevention strategies that the school nurse utilizes to detect and treat health-related issues in their early stage. The school nurse promotes immunization compliance and monitor for unusual outbreaks of disease. The school nurse also assists with identifying resources for students and families who may need dental or vision care or other referrals for insurance, housing, medical treatment or food.

The school offers coordinated after school exercise programs for staff and provides educational sessions about asthma, bloodborne pathogens, diabetes, and suicide.

The school nurse also arranges for a provider to administer flu shots at no cost. There is one certified school nurse and one nurse clerk for a student body of 1800 students and 200 staff.

22. Describe your school's efforts to support student mental health and school climate (e.g. anti-bullying programs, peer counseling, etc.):

The Center for Empowerment provides education in health classes on healthy relationships, dating and sexual violence and prevention. The school participated in "Denim Day" in April to raise awareness about sexual violence prevention and to support survivors. The library promoted books to raise awareness and the guidance department worked with SOS and Key Club to promote this and facilitated a clothesline project to support survivors. They created message to support survivors that were shared with the Center for Empowerment.

The Gay, Lesbian, Straight Education Network (GLSEN) provided education for all staff about strategies to become more inclusive. As part of this, the school is moving to alter terminology around dress codes, has decided to institute a single color graduation gown and is considering the move to use gender neutral signage for single use restrooms.

The school's Student Assistant Counselor or SAC, provides opportunities for students to meet and discuss issues that they (the students) feel are impeding their success in and out of school. Various outreach programs develop as a result of the SAC's work with students. Such events include HOPE Week and Violence Awareness Week, and students take ownership of issues to communicate the negative impact the issues have on our school. Together students work to create solutions to provide a safe and inviting environment for all at NBTHS.

Training occurred during the summer months to support our Freshman Academy teachers who approach our freshmen students with a goal of positive reinforcement for their transition into the high school. Team teaching allows for a solid core of teachers to meet together on a daily basis to discuss freshmen students and design strategies to improve their academic, social and emotional behaviors in high school. Our goal is to identify early so we can offer resources to keep students on track and in school and prepared for the real world. At our Freshman Academy Success Meetings parents, teachers and students meet together to discuss what works and does not work in the classroom and in the home. Parents and teachers are able to

collaborate, working together to assist students in achieving success in and out of the classroom.

This is our second year with the AVID program. AVID students are students in the academic middle, capable of completing a college preparatory path with support. These students often are not realizing their full potential academically. NBTHS has adopted the goal of identifying these students and helping them to realize their full potential. Beginning in the 2016-2017 school year we created a new AVID elective course for students beginning in Grade 9 and designed to provide them with the support necessary to effectively prepare them for admittance to a 4 year college or university upon graduation. The course is setup to provide students with strong skills in various areas to encourage academic and social confidence. We now have two AVID courses in each grade, 9th and 10th.

Summary Question for Pillar 2

23. Describe any other efforts to improve coordinate health and safety, nutrition and fitness, highlighting innovative or unique practices and partnerships.

Chartwells goes above standards set by national school lunch program (NSLP) - serving fresh fruits and vegetables every day; fries are not sold daily. Only snacks that meet the smart snack regulations are sold. Chartwells increased level of sustainability foods used in cafeteria. Items such as cookies, mayonnaise and salad dressings are made with plant based items and use less water to produce and are healthier and environmentally friendly. Chartwells participates in "Batch Cooking" to reduce overproduction of foods.

PE program incorporates a variety of life skills which include movement skills, knowledge, and behavior/social skills, such as locomotor, non-locomotor, and manipulative skills, team-building, social interaction skills, and cognitive concepts linked to fitness, wellness, skill development, and social skills appropriate to each grade/developmental level. It is important that we instill healthy living and activity knowledge, skills, and disposition at a young age in an attempt to impact positive lifestyle choices and patterns for the long term.

PILLAR 3: EFFECTIVE ENVIRONMENTAL AND SUSTAINABILITY EDUCATION

Element 3A: Interdisciplinary learning that prepares students to navigate the key inter-relationships between dynamic physical and social systems (E/S literacy) is documented, assessed for and mapped.

1. Indicate which practices your school employs to ensure effective environmental & sustainability education.

X School has an environmental or sustainability literacy requirement.

Every student graduating from North Brunswick Township High School completes a College Preparatory level Biology Course. This course is lab intensive and contains a strong curriculum for supporting the environment and sustainability. Throughout the environmental units, students are required to conduct research and evaluate the claims that complex interactions in ecosystems maintain relatively consistent in stable conditions, but changing conditions may alter the ecosystem. Students are also required to design and refine solutions for reducing the overwhelming amount of human impact on the environment. Students will be led through discussions on the dissemination of invasive species,

urbanization, and building infrastructure. Findings are documented and recorded through authentic assessments as well as formal lab reports and group presentations.

X Recurring environmental and sustainability concepts are integrated widely throughout an interdisciplinary curriculum. With the effective implementation of the Next Generation Science Standards all students graduating from North Brunswick Township High School will be part of a three year core science curriculum which includes a sustainability project during their enrollment in a first-year biology course. Our chemistry department acts as our springboard wrapping up their curriculum with biological macromolecules allowing biology to begin with biogeochemical pathways and the cycling of materials between living and nonliving matter. This foundation sets up the students to face real-life problems we are faced with in our environment today and the critical thinking skills necessary to organize proactive responses to solve these problems. The students take a basic engineering approach to the design process and research the previous historical implications and impacts on our environment.

X Student learning of environmental & sustainability concepts is evidenced by authentic assessments.

Toward the end of the school year students enrolled in the environmental science class are required to construct a 3D building (hospital, school, supermarket, police/fire station, etc.) and explain to their classmates how they will run that building using an alternative energy source (solar, wind, geothermal, hydroelectric). It is an excellent way for incorporating topics in the environmental science curriculum while raising awareness of the importance of sustainability.

X Students evidence high levels of proficiency in these assessments.

In reference to the above writing assessments, students are assessed multiple times throughout the school year in preparation for the NJ Biology Competency Test. This test requires an in-depth understanding of environmental science. Many of our students achieve Advanced Proficient and Proficient scores. These students have demonstrated thorough understanding and comprehension of sustainable energy and environmental practices. Looking ahead to the spring of 2018, the NJ Science Assessment will now be a more comprehensive test of all the sciences, both natural and physical. We are encouraging staff to incorporate more performance assessments and claim evidence reasoning into the classroom. These techniques are what propel students to be future ready and global learners. In addition to demonstrating proficiency on state assessments, department teachers are also authentically assessing students through the use of hands-on demonstrations and projects centered on sustainability research at global real-life challenges. The students are creative and fearless in their resolve to bring a potential answer to some of the challenges we face today.

X Professional development (PD) in environmental and sustainability education (E/S) are provided to teachers.

Global Compliance Network (GCN) is an online tutorial program mandated by our district for professional development including the environmental safety of our "Green Products" cleaning materials and chemicals in the workplace. Over the past couple of years, staff members have been receiving environmental training on the materials in the workplace as well as participating in "Go Green" competitions. We have begun carpooling groups and bike to work days to support our training in sustainability programs. We have also learned to recycle one-sided print jobs for scratch paper in our classrooms.

In addition to the above mentioned activities, the entire high school staff participates in New Jersey's Right To Understand (formerly Right to Know) program which facilitates the general knowledge of staff, students, administration, and all other personnel on topics covering the health and safety of our school. Included with the Right To Understand program is the Healthy School Facility Environments web site which houses information available to all users and covers topics on preventing and controlling health and safety hazards within the school building. The staff attends workshops regularly and submits evaluations in response to the material presented.

X Describe the PD in which faculty or administrators participated and how it contributed to the implementation of your E/S Goals. When was the PD held? Who attended?

Every year members of the science department, maintenance staff and all who come in direct contact with chemicals and their use complete professional development in Hazard Communications. This professional development reviews the roles of school members and the safe handling/removal of hazardous substances. The training also summarizes proper storage and usage etiquette. The training takes place on a yearly basis as part of Right to Know through the Global Compliance Network.

X Environmental/Sustainability Education is offered in after-hour school programs

Not only does North Brunswick Township High School offer after school education on the environment and its sustainability to our students, we go beyond expectations and train them to teach elementary students as well. We have about 135 students enrolled in the PUSH program at NBTHS. This program trains our high school students on good decision making skills. On a program rotation, our PUSH club is visits 4 elementary schools to presentsustainability programs to our 4th and 5th graders. That will afford us the opportunity to reach 1200 students and more than 40

educators in the district within just one year. By training almost 10% of our high school student population on sustainability we are leading the way for future generations of students walking the halls of NBTHS to have a greater appreciation for sustainability.

Element 3B: Use of (E/S) to prepare students for career pathways and to develop STEM/STEAM content, knowledge, and thinking skills.

2. How does your school use sustainability and the environment as a context for learning science, technology, engineering [art] and mathematics (STEM/STEAM), thinking skills and content knowledge?

With combined efforts at work between our art and engineering students, the teachers were able to incorporate many different projects throughout the course of the academic year with an interdisciplinary mindset. Such projects include students participating in a furniture challenge where they had to design furniture meant to support the average weight of a normal adult and have the look and appeal of an artistic piece of work. The materials were all recyclable and the designing phase took place during the engineering classes and then the students finalized their artistic designs for the challenge. This type of project sparked interests for other recyclable materials and their purposes for refurbishing and general usability for other means. It was a great interdisciplinary project and just one example of the many "Maker Space" joint activities that took place at NBTHS.

3. How does your school use sustainability and the environment as a context for learning green technologies and/or career pathways? Please describe student performance criteria and assessment results.

Our Project Lead the Way (PLTW) class "Principles of Engineering (POE)" exposes students to all aspects of Engineering and allocates 2 months or 20 percent of the class curriculum to energy sources, energy applications, materials, and energy distribution and management. Through various projects students explore examples of nonrenewable, renewable and inexhaustible forms of energy. Students explore and gain experiences with solar – hydrogen systems and thermal energy transfer through materials. General understandings gained by the student through the PLTW activities include: efficient and accessible use of energy, choosing proper energy sources, converting energy into useful forms, hydrogen fuel cells creation of electricity, solar cell conversion of light energy into electrical energy, use of renewable and reusable materials for heat transfer.

Students explore different careers as an engineer including environmental and civil through interviews of professionals, career field investigation including demand, salary and education and finally a reflection and a synopsis presentation. These skills are a necessary part of rising up to our Next Generation of Science Standards which employ the inherent understanding that all students must be able to demonstrate skills and proficiency through real-life situations and experimental design. By placing students into situational programs and guided directions they have an opportunity to explore the application of content and how they will be challenged in real-world. Building recyclable plastics for our competitive robots through 3D printing and recycling sustainable materials each year. The majority of students are performing with a proficiency rating on the PLTW end of course assessments and our school was just recognized as a National PLTW Certified Program of Engineering in 2016. We have also applied for the 2017-2018 high school of distinction award from PLTW.

4. How does your school address teaching the science of sustainability in your K-12 scope and sequence? What science standards do you target? What evidence of student learning are you assessing for and monitoring in this area?

Sustainability is a part of the core Next Generation Science Standards beginning in elementary school and continuing up through high school. We use vertical articulation to make sure all parts of the standards are addressed appropriately and mastered before course completion. At the high school level we focus on geoscience data and how a change in Earth's surface can create feedback leading to changes in other systems. Students construct explanations and make claims based on evidence for how the availability of natural resources, occurrence of hazards, and changes in climate have influenced human activity. Through the application of these standards, students gain a global appreciation and awareness on how to refine or evaluate a technological solution that would reduce the impact of human activities on natural systems.

Percentage of last year's eligible HS graduates who completed the Environmental Science / Earth Systems (or similar environmental course) course during their high school career: 14% Environmental Science at NBTHS is an elective course. Although our percentage of students taking Environmental Science is not high, we do provide a thorough environmental sustainability program built into the environment and ecology portion of our CP & Honors Biology courses. Every student graduating from NBTHS must take and pass a first year biology course which encapsulates the meaningful content of sustainability. Every student participates in a literacy project before the course concludes and that includes 100% of our student population.

Element 3C: Development and application of authentic civic engagement knowledge, skills and dispositions through place based learning experiences (project-based/service) and community partnerships

5. Describe students' civic/community engagement projects integrating environment, environmental justice ([as defined by EPA](#)) and sustainability topics.

Students enrolled in environmental classes take part in a project where they choose a bill with pending legislation on a topic dealing with environmental science. They contact the sponsor/legislator to ask questions about the bill and assess authentic research and develop ways in which they can contribute positively to remediation of the problem as it pertains to their own neighborhood. Culminating activities include an explanation on how each party is involved including the community, scientists, government, environmental groups and local businesses.

6. Describe how outdoor learning is used to teach an array of subjects in contexts, engage the broader community, and develop civic skills. (ex. citizen science, field trips, overnight camping, retreats)

Students will investigate the waste management practices and protocols established by the local waste management companies and identify ways to mitigate the production of waste in the household environment. Students can identify the recycling efforts of each community, household and individuals by surveying and through questionnaires and identify areas of improvement. Students can translate their findings to strengthen the recycling efforts of the community and to recommend solutions to reduce the use of plastic products. Students of chemistry can study the impact on the environment-toxicity to soil, water- by the discarded plastics, batteries and electronic equipment. Students also participate in outdoor activities in which they observe an area and identify all the biotic/abiotic factors they see with ecological relationships. The lesson extends to incorporate how proper waste management can positively influence the health of natural environments. Students design a plan that includes parents/younger siblings and focuses on activities or practices that help keep our environment clean.

7. Describe students' outdoor learning/ place based learning experiences at every grade level.

Students enrolled in environmental classes work to identify potential areas of environmental distress and collect, identify and tabulate the amounts of discarded plastic, metal, paper products and study the long term and short-term impact on the environment. The data thus obtained must be presented to the local community for planning and remediation measures. Students can celebrate the 'Earth Day' as an environmental outreach and hold seminars, exhibitions and project presentations to the school and the community to educate the community on the problems, the challenges and seek common goals and objectives. Our Autistic Program utilizes the crops grown in the raised beds/gardens that were constructed as part of a relationship with RU gardens. The students plant, cultivate, harvest and prepare the vegetables grown in the raised beds/gardens. These students are participating in real world skills and activities as they become more independent.

8. Describe how your partnerships help your school and other schools integrate the 3 Pillars into the curriculum, student learning and school culture. Include both the scope and impact of these partnerships. In what ways is your school sharing & promoting (outside of school) its efforts to uphold all 3 Pillars

North Brunswick Township High School is currently participating with EPA Energy Star Portfolio Manager. In addition, we participate with the New Jersey Sustainable Schools Project and use ECAP Professional to track all of our electric, natural gas and water consumption and costs. These programs are both a foundation for our district to lead by example and to reinforce energy saving literacy. Students are more than vested in our dedication to present environmental sustainability, they are a part of us reaching our goal.

The Environmental Club has begun working with the elementary schools and middle school to continue our commitment to recycling. Younger students are educated on the practices within the high school and adapt and add to their existing schools' programs.

Summary Questions for Pillar 3

9. Describe any other ways that your school integrates all three pillars into curricula, student learning and school culture to provide effective environmental and sustainability education. Highlight innovative or unique practices and partnerships. Our school runs a "word of the week" program reminding students of civic responsibility and good morals. Many times these words represent themes of "green" values and practices. When students are seen "doing the right thing" and incorporating green practices into their daily activities they are rewarded with R.I.S.E. (Respect Integrity Service Excellence) tickets to enter a prize raffle. Our school also has two wonderful programs led by high school students aimed at making connections with STEM and the environment. The first program is our NBTTHS and Elementary Robotics/STEM partnership. Our high school robotics team participates with the after school elementary programs and actively engages elementary students in robot production and hydrogen cell powered cars with clean energy. This program grabs our students attention and provides wonderful insight for future interests. The second program is named P.U.S.H.

(Prevention Using Student Help). The P.U.S.H. club trains a group of high school students to prepare elementary students in good decision-making skills, taking care of the environment is one of our current programs. Seeing high school students demonstrating the importance of maintaining a healthy environment leaves lasting marks on young and impressionable minds.

10. How are your descriptions in number 8 supported or enhanced by your efforts in Pillar 1 to reduce environmental impact and costs for your school.

When the entire school community and all members are involved in “green” efforts, any sustainable program is enhanced directly. With more and more of our students electing to use digital forms of textbooks, and an increase in staff going paperless, all efforts we are making in the district are showing compounding energy savings. In addition to educational staff and our students, our support staffing including our custodial and grounds teams have drastically changed the cleaning products being used all over the building providing a cleaner and healthier environment for all. With more natural cleaners and less hazardous products, our efficiency with waste removal has also significantly increased.