



2014-2015 School Nominee Presentation Form

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.
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 2014-2015

Charter Title I Magnet Private Independent

Name of Principal: **Mrs. Mae F. Robinson**

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

Official School Name: **Timber Creek Regional High School**

(As it should appear on an award)

Official School Name Mailing Address: **501 Jarvis Road Erial, NJ 08081**

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

County: **Camden** State School Code Number *: **030**

Telephone: **856-232-9103** Fax: **856-232-5267**

Web site/URL: **http://www.bhprsd.org/timber** E-mail: **mrobinson@bhprsd.org**

**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: **January 23, 2015**

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



District Name: **Black Horse Pike Regional School District**

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

Date: **January 23, 2015**

(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.

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

Date: January 29, 2015

(Nominating Authority's Signature)

SUMMARY AND DOCUMENTATION OF NOMINEE'S ACHIEVEMENTS

Provide a coherent "snapshot" 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 and nine Elements. Then, include documentation and concrete examples for work in every Pillar and Element.

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: February 28, 2015

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.



New Jersey 2014-2015 Green Ribbon Schools Application

School Contact Information

School Name: **Timber Creek Regional High School** District: **Black Horse Pike Regional**
 Street Address: **501 Jarvis Rd.**
 City: **Erial** State: **NJ** Zip: **08081**
 Website: <http://www.bhprsd.org/timber> Facebook page:
 Principal Name: **Mae Robinson**
 Principal Email Address: mrobinson@bhprsd.org Phone Number: **856-232-5637**
 Lead Applicant Name (if different): **Dr. Brian Repici**
 Lead Applicant Email: brepici@bhprsd.org Phone Number: **856-227-4106**

Level <input type="checkbox"/> Early Learning Center <input type="checkbox"/> Elementary (PK - 5 or 6) <input type="checkbox"/> K - 8 <input type="checkbox"/> Middle (6 - 8 or 9) <input checked="" type="checkbox"/> High (9 or 10 - 12)	School Type <input checked="" type="checkbox"/> Public <input type="checkbox"/> Private/Independent <input type="checkbox"/> Charter	How would you describe your school? <input type="checkbox"/> Urban <input checked="" type="checkbox"/> Suburban <input type="checkbox"/> Rural	District Name Black Horse Pike Regional <input type="checkbox"/> Largest 50 Districts in the nation?
Does your school serve 40% or more students from disadvantaged households? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			Total Enrolled: 1329 at Timber Creek High School Graduation rate: 91.2% Attendance rate: 95%

Timber Creek Regional High School is invested in environmentally responsible actions and behaviors that lead to greater environmental and ecological stewardship and a reduced carbon footprint. The Black Horse Pike Regional School District as a whole and Timber Creek as a school has an operating Green Team consisting of students, administrators, teachers and community leaders that work towards identifying energy inefficiencies, waste reduction possibilities and generally preventing the use of excess water, electricity and other materials. The Green Team commits to changing behaviors, practices and products that lead to greater energy efficiencies and results in responsible and sustainable environmental stewardship.

Timber Creek has a pronounced *Reduce, Re-Use and Recycle* expectation and has emphasized a Composting and Single-Stream Recycling program throughout the school, which is working to reduce the amount of materials ending up into landfills. As a result of the shift in behaviors, the products installed to replace outdated equipment and through eco-conscious practices, all of which we will identify below and throughout this application, Timber Creek High School has mitigated climate change by reducing greenhouse gas emissions.

Timber Creek Regional High School has an Organic Garden, which was procured and supplied with plants nurtured from seeds in greenhouses located at the two sister high schools in the school district. The Organic Garden was created from the vision of the Green Team in the Spring of 2013. The Organic Garden was designed and constructed by students and staff. The Garden is a raised bed design constructed from the un-treated and re-purposed solar-panel, wood, shipping boxes. The Garden is supported by a solar powered, small electric pump that distributes water from a rain collection container adjacent to the school building. A patio and entrance way was built to accentuate the beauty of the space and to welcome all into the gardening experience. Some of the garden produce supports the cafeteria products,

local food banks, and community senior centers. Fifty yards away, on the other side of the school Science wing, separating it from the Organic Garden, is a Rutgers Cooperative Rain Garden installed in 2008. The Rain Garden along with the Organic Garden is maintained by the Environmental Club, the Green Team and are integrated into the Science Curricula. It is also maintained all summer by our Special Education Multiply Disabled students in the End of School Year program.

Over the course of the last three school years, we have already realized a reduction in utility costs due to the installation of high efficiency lighting (over 19,000 light bulbs have been changed district-wide), changing our refrigeration practices, establishing wiser heating and air conditioning practices, shutting off lights and computers when not in use, and structuring more responsible irrigation practices. In addition, we have discontinued the use of chemicals used to strip flooring, improved indoor air quality by installing MERV8 filters in our HVAC systems, and improved our recycling and composting behaviors so that what gets discarded in lunch rooms and classrooms results in a reduction of our environmental and ecological footprint. Moreover, our composting is collected by Organic Diversion, a company that supports and coaches the students and staff on how to collect materials and then provides the school with reports on collection quantities and strategies to improve composting and recycling efforts. The compost is also used in our Science curricula, where students examine it for microbes and decomposition rates.

Timber Creek has structured staff professional development centered on how the entire staff can contribute to a more environmentally friendly school community. Furthermore, the Green Team students lead efforts beyond the school walls to take action in local and global environmental crises. For instance, the students will take part in the Thirst Project, which collects money to establish a fresh water well in historically malnourished areas of Africa. We also have a Wellness Coordinator that establishes weekly goals for individual staff members relative to improving their overall health. Moreover, that Wellness Coordinator works to improve health choices, establish workout regimes, organizes biometric screenings and conducts health risk assessments for various organization personnel.

Timber Creek has a robust Science, Technology, Engineering, Art, and Mathematics (S.T.E.A.M.) program that has formalized itself into a Robotics club and team that competes. In addition to offering Advanced Placement courses, students are challenged within those curricula to create 21st century solutions that require knowledge from all S.T.E.A.M. areas. For example, students are challenged to create solutions to an Engineering problem and enter into a school and district-wide competition. This has been recognized by the *NJEA Classroom Close-up* as a best practice unit. Students journal their inventions, measure precisely using mathematics and physics equations and track their progress and success rates before competing with peers.

We are taking great pride in our ability to effect change as stewards of the environment as Timber Creek Regional High School.

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

1. Is your school participating in a local, state, or national program, which asks you to benchmark progress in some fashion in any or all of the Pillars? Yes X 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, NJPALS, Green Schools Leadership Institute, NJ Learns, NJ Sustainable Schools Project, NJ Recycling).

Benchmark Program	Level/Number of Years	School
Energy Savings Improvement/Investment Program with Gloucester Township Municipality	Two years thus far; ESIP agreement was for 15 years.	All three high schools: Timber Creek Regional High School (1.2 megawatt solar array), Highland Regional High School (new boilers, efficient

		lighting); Triton Regional High School (new boilers, roof-top solar arrays, new efficient lighting)
Organic Diversion Composting and Recycling Program	Two years thus far.	All three high schools: Timber Creek Regional High School; Highland Regional High School; Triton Regional High School.
NJ Sustainable Schools Project (first year for the program)	First year of the program	All three high schools: Timber Creek Regional High School; Highland Regional High School; Triton Regional High School.
Rutgers Cooperative for Timber Creek High School rain garden	Four years	Timber Creek Regional High School Rain Garden

2. Has your school, staff or student body received any awards for facilities, health or environment?
Yes X No ___ Award(s) and year(s) Recognition by Farm to School Network and Camden County Sustainability Office(Chris Waldron) in 2014
3. Has your school identified or created a place for teachers to go to share lessons on Sustainability?
Yes X No ___ If yes, where? We have a GREEN Team consisting of students, administrators, support staff, Board members, municipality officials and teachers. We develop environmental sustainability goals to work towards a “greener” school environment through motivating staff and students to change their behaviors relevant to recycling and energy conservation. In addition, there is a folder in the shared school directory that teachers can go to find lessons on the environment and sustainability.
4. Has your School Board adopted a Green Strategic Plan? Yes X No ___ The school board adopted a policy for the past two school years that elevates the focus on energy conservation and sustainability by making GREEN efforts a Board of Education Goal and Superintendent Goal.
5. Has your school created a Green Team? Yes X No ___ If yes, list team members and their roles.

Brian Repici, Superintendent	Mike Shuster, Highland Facilities Foreman
Mark Schmitz, Board Member	John Gallagher, Timber Creek Facilities Foreman
Jean Grubb, Business Administrator	Katherine Rivera, Science Supervisor
Joe Newsham, District Facilities Director	Janet Glover, Business Office Support Staff
Tom Concannon, Triton Facilities Director	Chuck Renner, Teacher
Annetta Pasquerello, Teacher	Rachel Senft, Teacher
Christina Durante, Teacher	Andrew Mirmanesh (Student Leader)
Alex Rice (Student Member)	Anthony Vespa (Student Member)
Andrew Worrell (Student Member)	Antonios Georgiou (Student Member)
Ashley Soby (Student Member)	Audrey Zycinsky (Student Member)
Brianna Davis (Student Member)	Bridget Henderson (Student Member)
Cabria Johnson (Student Member)	Emily Tu(Student Member)
Robert DiMaulo, Jr., Administrator	Tom Storer, Administrator
Tom Ambrose, Administrator	Jennifer Carson (Student Member)
Justin Kerno (Student Leader)	Karen Louie (Student Member)
Mary Renner (Student Member)	Nadia Juncaj (Student Member)
Rachel Meier (Student Member)	Reem Moustafa (Student Member)
Spenser Williams (Student Member)	Suleitha Nunez (Student Member)
Zaire Sanders (Student Member)	Jennifer Brown, Health and Physical Education Supervisor
Mary Alice Baratta, Supervisor of Planning, Research, Evaluation, Assessment, Special Projects and Business	

6. Has your school seen a cost savings from green initiatives? Yes X No ___ If yes, describe the **cost savings** or use the table below to fill in your **cost savings** data. The yearly data is representative for a school year calendar. (July 1- June 30)

	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 FY'10-'11
FY '10-'11							
FY '11-'12	3,542,479	244,147	\$460,382.83	\$79,304.30	\$539,687.13	Baseline	Baseline
FY '12-'13	3,521,912	188,385	\$415,720.81	\$94,752.11	\$510,472.92	\$29,214.21	5.56%
FY '13-'14	2,556,145	195,902	\$405,471.64	\$89,103.26	\$494,574.90	\$15,898.02	8.72%

PILLAR I: REDUCED ENVIRONMENTAL IMPACT

Element 1A: Reduced or eliminated greenhouse gas (GHG) emissions

Energy (Please convert energy data to Portfolio Manager format if possible)

7. Can your school demonstrate a reduction in **Greenhouse Gas emissions**? Please fill in table below first.

(X) Yes () No Percent reduction: 69.6% Over (m/yy - m/yy): 7/11 – 6/14

Initial GHG emissions rate (MT eCO2/person): 5.19

Final GHG emissions rate (MT eCO2/person): 2.51

Offsets: N/A How did you calculate the reduction? We used the formula in the table below. However, we subtracted the greenhouse gas emissions saved from our 1.3 Mw solar array.

What do you use to benchmark your energy use? We are using our utility bills from 2011/2012 as our baseline data.

Table is based on School data taken from district utility bills (Portfolio Manager, district utility bills, etc.), as reported by Marge Cerasi (Vendor or School/District Personnel).

	Electric Energy Consumption (kwh)	Natural Gas Consumption (therms)	Fuel Oil Consumption (gallons)	Carbon Dioxide from Electric 1.52 lbs/kwh	Carbon Dioxide from Natural 11.7 lbs/therms	Carbon Dioxide from Fuel Oil 26.033 lbs/gal	Total number of Staff & Stude	MT eCO2 /person
FY '10-'11								
FY '11-'12	3,542,479	244,147	0	5,384,568.08	2,856,519.90	0	1587	5.19
FY '12-'13	3,521,912	188,385	0	5,353,306.24	2,204,104.50	0	1577	4.79
FY '13-'14	2,556,145 – 1,494,456 = 1,061,689	195,902	0	1,613,767.28	2,292,053.40	0	1551	2.51

8. Has your school conducted an energy audit of its facilities? Yes X No ___

Percent reduction: 4.2% based on our ESIP audit

Measurement unit used (kBTU/Square foot or kBTU/student): kBTU/Student

Time period measured: from May 2010 to May 2011

9. Has your school received EPA ENERGY STAR certification or does it meet the requirements for ENERGY STAR certification? (score of 75 or above) **Our school score is a 56. This score is based off the last twelve months of utility bills. As a result, this data is not reflective of our baseline year 2011/2012.**

Yes___ No **X** Year(s) and score(s) received: _____

10. What percentage of your school's energy is obtained from:

On-site renewable energy generation: **58.5 %** Type **Solar**

Purchased renewable energy: _____ Type _____

Participation in USDA Fuel for Schools, DOE Wind for Schools or other federal or state school energy program:

11. Has your school reduced its total non-transportation energy use from an initial baseline? Yes **X** No ___

Current energy usage (kBTU/student/year): Enter data in table below.

Current energy usage (kBTU/sq. ft./year): Enter data in table below.

How did you document this reduction? **Utility usage tracking**

	Electric Energy Consumption (kwh) 1kwh=3.412 kBtu	Natural Gas Consumption (therms) 1therm=100kBtu	Fuel Oil Consumption (gallons) 1 gal. = 139 kBtu	Number Occupants (Students & Staff)	kBTU/Occupants (Students & Staff)	kBTU/sqft.	% Reduction from FY'10-'11
FY'10-'11							
FY'11-'12	12,086,938.35	24,414,700	0	1587	23,000	132.3	Baseline
FY'12-'13	12,016,763.74	18,838,500	0	1577	19,565	111.8	11.8
FY'13-'14	8,721,566.73	19,590,200	0	1551	18,253	102.6	12.6

12. In what year was your school originally constructed? **2000** What is the total building area (sq.ft) of your school? **276,000**

13. Has your school constructed or renovated building(s) in the past ten years? () Yes **(X)** No

For new building(s): Which green building standard was used? _____

(LEED for Schools, CHPS Operations Report Card, Green Globes or other)

Percentage building area that meets green building standards: _____

Certification and level: _____ Total constructed area: _____

For renovated building(s): Percentage of the building area that meets green building standards:

_____ Certification and level: _____ Total renovated area: _____

Which green building standard was used? _____

(LEED Existing Buildings: Operation & Maintenance, CHPS Operations Report Card, Green Globes or other)

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** No ___ If yes, please complete the table below, then provide the following information:

	Water Consumption (gallons)	Total Square Feet	Water Consumption (gals/sqft)	% Reduction from FY 2009
FY'10-'11				
FY'11-'12	7,453,600	3,223,000	2.31	Baseline
FY'12-'13	9,112,000	3,223,000	2.82	Increase
FY'13-'14	7,292,300	3,223,000	2.26	2.2%

Average Baseline water use (gallons per occupant): **4696.7**

Current water use (gallons per occupant): **4701.6** - **The increase occurred due to a reduction in enrollment. If enrollment had remained the same as the baseline year, then water per occupant would have been 4595.0.**

Percentage reduction in domestic use: _____%

Percentage reduction in irrigation: _____%

Percentage reduction: 2.9%

Time period: from 7/2011 to 6/2014

Do you include after-hour activities in your water consumption calculations? (adult sport leagues, adult education, scouting, other community events etc.?) After-hour activity occupants were not included in our per occupant calculations due to the variance in use of facilities.

How did you document this reduction (i.e. Energy Star Portfolio Manager?) We used utility bills and a school district report.

15. Describe any strategies you use to discourage single-use beverage containers on school property. Describe how you assure the recycling of those containers at athletic locations, or other outdoor events. Certain drinking fountains have been outfitted with water bottle refilling stations. Athletic fields and the stadium complex all have recycling and waste containers placed next to each other for convenience at each strategic location.
16. What percentage of your landscaping is considered water-efficient and/or regionally appropriate? 10% - Rain Garden and Storm Water Retention Basins Types of plants used and location: The rain garden includes the following plants: Arrowwood Viburnum, Blue Lobelia, Blue Mistflower, Brown-eyed Susan, Cutleaf Coneflower, Foxglove Beardtongue, New England Aster, Panic Grass, Panicum Virgatum, Shenandoah Grass , Spotted Horsemint and Witch-hazel.
17. What plants are native to your geographic location and how have you incorporated them? Some native plants to our area include: Ilex Verticillata, Winterberry Holly, Itea, Virginia Willow, Ilex Glabra, Inkberry Holly, Panicum Virgatum, Shenandoah Grass and Viburnum Dentatum. These plants are located throughout the grounds, which include the on-site rain garden, and are maintained by our students and maintenance department.
18. Describe alternate Non-potable water sources used for irrigation (e.g. roof run-off, parking lot runoff). (50-words max) We use a 300 gallon off grid rain collection system from roof runoff to water our organic garden. It uses a 12 volt battery, charged by solar power to provide pressurized water via an inline 4 GPM pump. Students can use this water to care for raised bed garden boxes.
19. Describe any efforts to reduce stormwater runoff and/or reduce impervious pavement (e.g. rain gardens, bioswales, ponds). (50-words max) The Timber Creek High School rain garden was installed to intercept, treat, and infiltrate stormwater runoff from the sidewalk and surrounding courtyard area. In addition, there are two bioswales that help manage the flow of runoff from the parking lot and sports complex. The water is then dispersed into our public storm sewer system.
20. Our school's drinking water comes from: (X)Municipal water source ()Well on school property () Other:
21. Describe how the water source is protected from potential contaminants. (50-words max) Water is supplied and regulated by a public utility. (Aqua)
22. Describe the program you have in place to control lead in drinking water. (50-words max) See above
23. Does your school have its own well? Yes___ No X If yes, did your school comply with all monitoring requirements and did the drinking water meet all applicable standards? Yes___ No X
24. Describe how your school's site grading and irrigation system and schedule is appropriate for your climate, soil conditions, plant materials, with an emphasis on water conservation: (50-word max) The goal of our turf management and fertilization schedule is to establish a health root system. Deep roots have been shown to improve the drought resistance of turf grass and allow us to be more restrictive with our watering schedule.
25. What percentage of school grounds are devoted to ecologically beneficial uses? (50 word max) Approximately ten percent of our grounds are devoted to ecologically beneficial uses. These areas include: ground solar array, organic garden, rain garden, bioswales, and a natural windbreak which prevents soil erosion.

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

26. What percentage of solid waste is diverted from landfilling or incinerating 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): 8 cubic yards x 3 containers x 12 pickups = 288 cubic yards (On average containers are 70% full). As a result, our estimated garbage is **201 cubic yards** per month.

B - Monthly recycling volume in cubic yards (recycling dumpster sizes(s) x number of collections per month x percentage full when emptied or collected): 8 cubic yards x 2 containers x 8 pickups = 128 cubic yards (Containers are 100% full at pickup).

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): 1 cubic yard x 6 containers x 3 pickups = 18 cubic yards (Containers are 100% full at pickup).

Recycling Rate = ((B + C) ÷ (A + B + C) x 100): ((128+18)/(201+128+18) x 100) = 42%

Monthly waste generated per person = (A/number of students and staff): 201/ 1489 = 0.14 cubic yards

27. What percentage of your school's total office/classroom paper content is post-consumer material, fiber from forests certified as responsibly managed and/or chlorine-free? **100% of our paper is "ecf" elementally chlorine free**

28. Do you include after-hour activities in your garbage reduction calculations? (adult sport leagues, adult education, scouting, other community events etc.?) **After-hour activity occupants were not included in our calculation. However, their garbage production is included in our monthly garbage and recycling.**

29. Verify that your school is compliant with the New Jersey Department of Environmental Protection's (DEP) Air Quality Permit requirements. 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.

Our school has the required [New Jersey DEP Air Quality Permits](#). Yes No

30. Describe how you have reduced your paper consumption, and how you measured that reduction (e.g. working and reviewing online, white boards). (50-word max) **The school has instituted the following electronic practices: digital newsletter, payroll, student portfolios, parent communication (report cards, announcements, emergencies), staff evaluations, discipline referrals, lesson planning, textbooks/assessments, schooldude. Copy counts are limited and double-sided printing is emphasized.**

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

Flammable liquids	Corrosive liquids	Toxics	Mercury	Other:
Methanol (500mL) and Flynnap (ethyl alcohol (5 oz)		Lead nitrate (1pt) and Potassium Dichromate (1pt)		

How is this calculated? **Environmental Consulting Inc. comes in prior to removal to calculate the amounts of waste.**

How is hazardous waste disposal tracked? **Teachers place waste chemicals in a designated container. Strategic Environmental Consulting Inc. along with Environmental Waste Minimization Inc. regularly removes the waste and properly disposes of it according to NJ environmental standards.**

32. Describe other measures taken to reduce solid waste and eliminate hazardous waste (on-site composting etc.). (100-word max) **Teachers neutralize acidic/basic solutions into nonhazardous waste. Special chemical waste traps are located under lab sinks. Waste copper solutions are chemically manipulated to produce solid copper which is then recycled. Laboratories have been converted from large scale to micro scale. We utilize an acid neutralizing tank. By implementing a composting program, students and teachers have the opportunity to teach about the importance of reducing the environmental and ecological footprint. Composting is collected by Organic Diversion, a company that supports and coaches individuals on how to collect materials and strategies to improve composting efforts. Grass clippings and leaves are mulched.**

33. Which green cleaning custodial standard is used? **Eco conscious 100% Green Cleaning**

What percentage of all products is certified? **98%**

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

Describe the measures your school has taken to use only green cleaning product. Our School primarily uses green cleaning products. Envirox117 and the Ionator are both EPA registered products that have proven very effective and have replaced 98% of our traditional cleaning products. Diamond polished floors have eliminated the need for chemical stripper and wax. This lowers the total VOC's introduced to the building. As a result, the air quality improves and minimizes asthma triggers.

34. 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. The nurse's office generates a 5 quart sharps container per year of regulated medical waste. Med-Flex is contracted to pick up and dispose of the container each year.
35. 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 ___
36. Are there any Underground Storage Tanks located at your School? ___ Yes X No If yes, do you have the proper permits for using an underground tank? ___ Yes ___ No

Element 1D: Use of Alternative Transportation

37. What percentage of your students walk, bike, bus, or carpool (2 + student in the car) to/from school? (Note if your school does not use school buses) Walkers /Bike – 7.5%, Drive/Carpool – 15%, Bus – 77.5% Due to safety concerns such as lack of sidewalks, a majority of the students are bused.

How is this data calculated? (50-word max) Based on student information systems (Genesis)

38. Has your school implemented?

- Designated carpool parking spaces
- A well publicized no idling policy that applies to all vehicles (including school buses)
- A policy that encourages walking and/or bicycling to school
- Vehicle loading/unloading areas are at least 25 feet from building air intakes, doors, and windows
- A Safe Routes to School program or a School Travel Plan
- Walk and Bike to School Days
- A Walking School Bus program
- Walking and bicycling safety curriculum
- Electric vehicle charging stations have been installed to encourage the use of these vehicles
- Secure bicycle storage (such as bicycle lockers, racks, or rooms) is provided to encourage bicycling to school

Describe activities in your safe routes program if applicable: (50-word max)

39. If your school has only bus transportation, describe how your school transportation use is efficient and has reduced its environmental impact (e.g. more efficient bus routes, diesel retrofits for buses, use of biodiesel fuel, electric vehicles). (50-word max) Busing is contracted through Gloucester Twp. Department of Transportation

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 district utilizes the NJ Clean Energy program. This partnership allows us to secure thousands of dollars in Energy Savings rebates through approved projects and provides funding for our Green account. We also partner with EnerNOC (Energy Network Operations Center), which provides us with energy intelligence software to monitor our real time electric power usage. We participate in a "demand response program" to reduce electrical power during heat waves. This helps to prevent black-outs for our local residents. Through a shared service agreement with sending school districts, we help them reduce their carbon footprint.

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? If so, please state the date(s) and over results of the survey.(CHPS Occupant Survey) No
2. Do you have an Operations & Maintenance Policy for your building? Yes

3. Describe your school's Integrated Pest Management efforts, including IPM/green certifications earned, routine inspection, pest identification, monitoring, record-keeping, etc.: We adopted an IPM program according to the NJ IPM in Schools Act. The program is updated annually and viewable on the District's website. There is currently a district coordinator and a school coordinator who maintains records and routinely inspects and monitors potential issues. All recordkeeping is done according to the existing program. Pest reports are handled promptly. Inspections are performed monthly by a contracted licensed pest control company. Low impact methods such as disinfectant green cleaning, caulking of cracks and crevices, weather stripping and staff education are used to minimize infestation in the problem area.
4. What is the volume of your annual pesticide use (gal/student/year)? None Describe efforts to reduce use: Proactive inspections are made for potential conditions that may require action by the maintenance department.
5. Which of the following practices does your school employ to minimize exposure to hazardous contaminants? Provide specific examples of actions taken for each checked practice.
 - Our school conducts both indoor (structural) and outdoor (turf and ornamental) IPM to reduce student exposure to chemical pesticides. We do not use pesticides. Good turf management practices such as aerating, thatching, pruning and conscientious water scheduling have eliminated the need for pesticides.
 - Our school prohibits smoking on campus and in public school buses. Prohibitive signs are posted throughout our facility as well as on our School Website and in our Student Handbooks.
 - Our school has identified and properly removed sources of elemental mercury and prohibits its purchase and use in the school. No mercury exists with the exception of CFL light bulbs which are recycled. The District is actively converting to LED lamps and fixtures. Science classrooms have eliminated the use of mercury and have properly disposed of it with Environmental Waste Minimization, Inc.
 - Our school uses fuel burning appliances and has taken steps to protect occupants from carbon monoxide (CO) The kitchen appliances are protected by an electro-mechanical interlock to prevent the appliances from being used without the initiation of hood exhaust fans.
 - Our school does not have any fuel burning combustion appliances (e.g. boilers, emergency generators, hot water heaters, etc.)
 - NJ Recommends School Radon Testing**:- Our 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 . ___ Yes No
 - Our school was built with radon resistant construction features and 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.
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. (100-word max) All staff are trained annually in Hazard Communications PEOSH - NJ using the Global Compliance Network Training Module (GCN). A Chemical Hygiene Plan and Chemical Storage Guideline are provided for all staff. All stock areas are maintained on a quarterly basis. A District chemical hygiene officer ensures that all MSDS and Fact sheets are uploaded to the school shared directory and that a hard copy is accessible. Cleaning is done after staff and students have left the building. Emergencies areas are secured and maximum ventilation is employed. Construction that produces odors is also done while the school is unoccupied.
7. Describe actions your school takes to prevent exposure to asthma triggers in and around the school. (100-word max) Timber Creek HS currently uses Merv 8 filters in all HVAC equipment. This is a high density filter that traps pollens and mold spores. We also use green chemicals for cleaning and disinfecting purposes. In addition we diamond cut our Terrazzo floors to eliminate the use of strippers and waxes which are known asthma triggers.
8. Describe actions your school takes to control moisture from leaks, condensation, and excess humidity and promptly cleanup mold or removes moldy materials when it is found. (100-word max) To minimize moisture issues, routine

inspections of roof drains and downspouts are performed. When a problem arises the area is identified, contained, and action is taken by maintenance/custodial staff to remove contaminated materials and safely dispose of them. Action is taken to prevent future recurring issues.

9. Our school has installed local exhaust systems for major airborne contaminant sources. Yes No
Describe **We have recently purchased and installed a new dust collection system for the technology lab. All science labs contain chemical ventilation hoods.**
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. (100-word max) **We employ a qualified EPA universal certified HVAC technician that maintains all HVAC equipment to manufacture's recommendations. An HVAC log book is kept that documents all maintenance and filter changes. The District has instituted an online preventative maintenance scheduling and tracking system. In addition to an HVAC log book, we have begun to incorporate Schooldude PM Direct as a way to track preventative maintenance electronically. Restaurant Technology Inc. annually inspects and cleans our kitchen exhaust fans.**
11. Describe actions your school takes to ensure that all classrooms and other spaces are adequately ventilated with outside air, consistent with state or local codes, or national ventilation standards. (100-word max) **We utilize a full building automation system (BAS) where all unit ventilation and fresh air damper positions can be monitored. Minimum positions are set to never fall below NJ state standards. Larger areas use CO₂ sensors to insure fresh air requirements are maintained.**
12. Describe other steps your school takes to protect indoor environmental quality such as: (200-word max)
- Implementing EPA IAQ Tools for Schools and/or **We have adopted the IAQ program that complies with the Public Employees Safety & Health (PEOSH) Indoor Air Quality (IAQ) Act. We currently employ three designated certified IAQ persons. A complaint form is currently available on the District website. If a complaint arises, the maintenance staff promptly inspects the area for general cleanliness, moisture content, HVAC problems, fresh air makeup, window leaks and performs CO₂ testing. When the source is determined the staff immediately acts upon it. All records are maintained by the District designated IAQ designee.**
 - Conducting other periodic, comprehensive inspections of the school facility to identify environmental health and safety issues and take corrective action. **We use a Facilities Safety & Health Checklist issued by NJ QSAC (Quality Single Accountability Continuum). This checklist is used monthly to prevent potential issues and action is taken immediately by the maintenance/custodial staff.**
 - Participating in the Pediatric/Adult Coalition of NJ's Asthmas Friendly Awareness Program
13. Which of the following green procurement practices does your school engage in?
- Building & Construction
 - Carpets
 - Cleaning
 - Electronics
 - Fleets
 - Food Services – **The cafeteria has eliminated the use of Styrofoam trays. Reusable recycled plastic trays have been implemented. In addition, all dish chemicals have been converted to "green chemicals."**
 - Landscaping
 - Meetings & Conferences
 - Office Supplies
 - Paper
14. What system do you use to determine if the above products and services are considered sustainable?
- DOE Purchasing for Energy Efficient Products
 - CHPS High Performance Database
 - Electronic Product Environmental Assessment Tool (EPEAT)
 - Other **EPA registered green products or products containing at least 80% post-consumer recycled material**

15. Does your district have an Operations & Maintenance Policy for your buildings? Yes, District Policy #7410

Element 2B: Nutrition and Fitness

Food and Nutrition, Fitness and Outdoor time

16. 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. _____
 - X Our school has an on-site food garden that teaches nutrition and environmental education, describe. The on-site food garden is maintained by the Green Team members during the school year and the Extended School Year Program during the summer months. The engineering program built garden boxes and constructed chairs out of recycled pallets.
 - X Our school garden supplies food for our students in the cafeteria, a cooking or garden class or to the community. The food from the garden is used in Creative Foods, Culinary Arts, and Nutrition courses. The cafeteria staff also incorporate products in from the garden into school lunches.
 - X Our students spent at least 120 minutes per week over the past year in school supervised physical education. Students participate in a minimum of four, 45-minute physical education classes a week.
 - X At least 50% of our students' annual physical education takes place outdoors. Physical Education classes are held outdoors, weather permitting.
 - X Our school participates in the NJ Safe Routes to School Resource Center. Level and year: We have a local police officer that directs traffic each morning and afternoon. He safely crosses students at the intersection, encouraging students to walk to school. The county recently replaced existing sidewalks located on the main road in front of the school for students to safely walk to and from school. The maintenance staff is responsible for keeping the sidewalks clean and clear.
 - Our school participates in International Walk to School Day in October and/or National Bike to School Day in May. Year(s): _____.
 - X Our school has a School Wellness Policy that addresses both nutrition AND physical activity. We have a Wellness Coordinator who communicates all programs and initiatives, coordinates and plans onsite wellness events, speakers and health screenings. Comprehensive biometric screening and health risk assessments are provided. A weight loss program has been initiated. Participants are able to access an on-line weight loss educational program called Naturally Slim. The Coordinator will lead a workshop on creating and planning individual workouts and include a nutritional component.
 - X Our school has a School Wellness Committee that meets at least once a year. The Wellness Committee meets on a monthly basis.
 - X Health measures are integrated into assessments. All students participate in Fitnessgram assessments throughout the year. Teachers share the results with students and plan activities that work on areas identified as in need of improvement. Areas of focus include cardiovascular endurance, body composition and flexibility.
 - X At least 50% of our students have participated in the EPA's Sunwise or equivalent program. Sun and outdoor safety information are posted on the nurse's bulletin board and web page. Physical Education teachers inform students about the importance of sun safety. They explain the importance of wearing sun screen, staying hydrated, and wearing sun glasses and hats. This information is also covered in the First Aid and Safety Course in health classes.
 - X A certain percentage of the food purchased by our school food service is locally sourced from regional farms. Percentage: About 2% Type: Our own Organic Gardens
17. Does your school compost lunch waste on-site? If so, what percent? Each composting tote carries 200 pounds. So far this year, we collected 2400 pounds of compostable waste. How much is used in your outdoor classroom? The school does compost lunch waste, but the waste is composted off-site by Organic Diversions. They provide us with

compost then for our Organic Garden. Maintenance composts grass and leaves for use as top dressing for Spring over seeding.

18. What environmental technology is used at your school? (e.g. weather station, composting, rain garden)

Our rain garden was installed to intercept, treat, and infiltrate stormwater runoff from the sidewalk and surrounding courtyard area. It was installed to serve as a demonstration and an outdoor classroom for the staff, students, and visitors. The students learned about stormwater management, rain garden site selection, and the native plants in their rain garden. We participate in an Organic Waste (Food and Paper) Recycling Program. The program objectives are to reduce disposal costs, increase recycling diversion, and to have a positive impact on the community and environment.

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

Students participate in running, jogging or walking to increase and maintain cardiovascular endurance. Students participate in both outdoor team and individual sports which include tennis, softball, flag football, ultimate Frisbee, and team building activities. Athletic teams and Marching Band utilize fields located on school grounds for practices and events. The Science Department conducts classes outdoors in order to maintain the rain garden, test soil and research the native plants in the area. Engineering students create and test rockets. Art and Photography classes utilize the scenery for landscape and nature subjects. Green Team established the organic garden and provides regular maintenance.

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

20. 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:

- Hand washing: Hand washing signs are posted in all staff and student restrooms throughout the building. Signs stress the importance of hand washing and provide instructions on the proper way to wash hands.
- Cover your cough signage: Cover your cough posters are displayed in prominent locations throughout the building.
- Hypo/hyperglycemia signage: Posters are displayed in four locations in the building to assist in identifying signs and symptoms of hypo/hyperglycemia.
- Emergency exit procedures are located in every room in the building.
- AED signs are directional signs specifying the location of the AEDs.
- Code Annie: All staff is trained annually in "Code Annie" cardiac emergency procedures. Signs are located in every classroom detailing the procedure.
- Anti-bullying awareness posters are displayed in classrooms and hallways throughout the building. Question 23 elaborates on the programming information that coincides with this information.
- Several actions are taken to assist students of low socioeconomic status throughout the year. Clothing, food, gift drives are ongoing and provide necessities for students and their families. The staff also participates in "dress for a cause" and 10% of the proceeds directly benefits students of the school and the remainder is given to identified causes.

21. 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:

- Our Nurse's office partners with Thomas Jefferson University. Student Nurses come in and identify a Health or Wellness educational need and address that need within the school community. Some examples include classroom presentations, informational bulletin boards and pamphlets.
- American Red Cross - The school is used as an emergency public shelter. The school's custodial staff regularly cleans and sanitizes the areas in use.
- AmeriHealth: The school has established a School Wellness Champion (coordinator). AmeriHealth is providing a health risk assessment and the coordinator will help promote and facilitate the staff's use of the assessment.

- Sports physicals are conducted by the school physician biannually.
22. Does your school have a school nurse and/or a school-based health center? Yes No
23. Describe your school's efforts to support student mental health and school climate (e.g. anti-bullying programs, peer counseling, etc.):
- Challenge Day - Be The Change Program - The mission is to provide youth and their communities with experiential programs that demonstrate the possibility of love and connection through the celebration of diversity, truth and full expression.
 - TC R.A.P.S (Reward A Positive Student) – A monthly recognition for exemplifying positive student behavior.
 - Student Assistance Coordinator facilitates individual and group counseling (groups: stress/anxiety, grief, Children of Substance Abusers)
 - STOP program (Center for Family Guidance)- Early intervention substance abuse program, 6 week session offered four times a year.
 - HIB coordinator - Follows laws to prevent, investigate, and respond to bullying. (District policies on website)
 - Peer to Peer Mentor Program Educare – This group consists of 32 peer mentors, 60 mentees, 6 adult supervisors who mentor current freshman.
 - Transition Project – This is a 9th grade outreach program to assist with the transition into high school. Students discuss organizational skills, study skills, coping with stress, communication, peer relationships and Internet safety.
 - Monthly Spotlight – Students and staff are honored for showing care and consideration to promote a positive school climate.
 - Teen Pep – Peer leadership group who outreach to 9th and 10th grade students to discuss current topics on student sexuality. The program promotes good decision making skills.
 - L.A.D.I.E.S. group - A leadership program designed to help young ladies develop or enhance self-esteem, positive self-image, self-respect, purpose in life, their uniqueness, greatness and inner strength.
 - MENS group - The main purpose of this initiative is to highlight and support positive male role models in our school community who display leadership, character, integrity and respect.
 - Counselors and Child Study Team members communicate with outside agencies to provide mental health support. They assist families in connecting with the appropriate mental health agency.
 - Mental health and substance abuse resources available throughout the school and website.

Summary Question for Pillar 2

24. Describe any other efforts to improve coordinate health and safety, nutrition and fitness, highlighting innovative or unique practices and partnerships. (100-word max) The Health and Physical Education Department welcomes guest speakers throughout the year. The M.A.R.C. campaign addressed the Move Over Law for emergency vehicles and driver safety. The Gift of Life organization speaks on behalf of organ donation. Gloucester Township Police monthly bulletin boards are posted in the nurse's office that represents initiatives such as heart health, harvesting a health body, tobacco and alcohol prevention. Our District has partnered with Global Compliance Network (GCN) to provide annual mandatory professional development in Sexual Harassment, AED, Affirmative Action, Asthma, Anaphylaxis, Bullying, Blood Borne Pathogens, Fire Extinguishers, and Slips, Trips, and Falls.

PILLAR 3: EFFECTIVE ENVIRONMENTAL AND SUSTAINABILITY EDUCATION

Element 3A: Interdisciplinary learning about the key relationships between dynamic environmental, energy and human systems.

1. Which practices does your school employ to help ensure effective environmental and sustainability education? Provide specific examples of actions taken for each checked practice, highlighting innovative or unique practices and partnerships.
 - X Our school has an environmental or sustainability literacy requirement. (200-word max)

All students are required to participate in evidence-based discussions and investigations in order to make informed decisions about their environment. Students discuss and explain the ways in which humans disrupt ecosystems, list major sources of environmental pollution and devise methods to alleviate their effects, compare and contrast renewable and nonrenewable resources, and develop solutions to combat environmental problems. In our Freshman Read180 course, students are required to read articles and answer questions on environmental or sustainability topics through Achieve 3000 technology software. Example articles include, "Save the Yellow Bison" and "Happy 100 Years Muir Woods." In US History II, students must complete at least one current event assignment each marking period related to environmental issues.

- X Environmental and sustainability concepts are integrated throughout the curriculum. (200-word max)

Chemistry: Topics include solar cells, nuclear energy and environmental chemistry, greenhouse gases and how they contribute to global warming, alternative energy sources, the hydrogen fuel cell and biofuel.

Nutrition and Culinary and Hospitality: Both courses discuss nutritional concepts, food contamination, organic vs non organic foods, healthy food choices and composting. Both classes use the food grown in our organic garden.

Environmental Science: The climate unit is concerned with greenhouse gases and climate change according to a framework of natural climate change, evidence for past climate change, and current observations with implications for the future. The energy unit is about fossil fuels and an evaluation of alternative energy sources. Sustainability is addressed throughout.

Biology: Addresses the relationships between resource use and sustainable development and how humans impact the diversity and stability of ecosystems.

Art: Students use trash, newspapers, recycled materials, drips of paint and found items to create sculptures and paintings.

Digital Photography: Create an electronic portfolio to recognize the value of conservation and to utilize technology.

Engineering: Created cardboard chairs, cranes out of recycled materials that could hold as much weight as possible and robot chassis from repurposed pallet wood.

- X Environmental and sustainability concepts are integrated into assessments. (200-word max)

In science courses, students are assessed on environmental and sustainability concepts on AP exams, district benchmarks, laboratory experiments and reports, journal writing, science notebooks, alternate assessments, current events, Gizmos, Socratic Seminars, and research projects. Many lab experiences are conducted utilizing our Organic Gardens and Rain Garden. Students in Art and Design create works of art by re-purposing old art as well as using recycled materials. Digital Photography students use the school's natural environment to create landscapes and creative composition. Rubrics are utilized to measure student performance in all subject areas.

- X Students evidence high levels of proficiency in these assessments. (100-word max)

The students at Timber Creek evidenced high levels of proficiency on the assessments listed above. Sixty-nine percent of AP environmental students received a 3 or higher on the AP exam. In addition, 91% of our students taking environmental science, AP environmental science, biology and AP biology received a passing grade as their final grade. The high passing rates demonstrate our students understanding of the environmental and sustainability concepts.

- X Professional development in environmental and sustainability education are provided to all teachers. (200-words)

Teachers attended the NJ Beekeeper's Annual Conference last September and learned about the importance of the pollinators in our area and factors affecting their survival and local production of honey. They attended the NJ Wild Outdoor Expo given by the NJ DEP and learned about sustainable water use and activities to incorporate into the classroom. In June, they attended a Wetlands Institute Flow Education Workshop sponsored by NOAA, National Geographic, and Rowan. In this workshop, they were taught how to incorporate water quality testing into the classroom. In addition, all staff received Global Compliance Network Training specific to the areas of Fire Extinguishers and Hazard Communications PEOSH. Teachers have participated in surveys to raise awareness and measure the knowledge base of the staff. Also, individual teachers have participated in AP Environmental workshops, Green Team District meetings, and National Geographic professional development on Watersheds.

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

2. For schools serving grades 9-12, provide:

Percentage of last year's eligible graduates who completed the AP Environmental Science course during their high school career: **6%** Percentage scoring a 3 or higher: **69%**

3. How does your school use sustainability and the environment as a context for learning science, technology, engineering and mathematics thinking skills and content knowledge? (200-word max) In Chemistry, Environmental Science and Physics classes, students utilize e-book websites, Gizmos, and student-based problems while incorporating math and technology into the content. In Biology, students are required to complete a project following STEAM instructions. Topics include energy audits, organic gardens, rain gardens, and composting. In Fine Arts, students are provided STEAM instruction. An example includes a project on Art Forgery which was an interdisciplinary assignment with the Chemistry class. The Technology students devise water rockets made from recycled materials.
4. How does your school use sustainability and the environment as a context for learning green technologies and career pathways? (200-word max) The staff receives training through faculty meetings, in-services, and by Green Team Club presentations. The Green Team was established to help students learn new ways to help our environment, like recycling, composting, why we use solar energy, and the benefits of growing an organic garden and rain garden on school grounds. The students also receive information through courses which include career path choices and the daily Morning Jolt news program. Students will receive training regarding The Thirst Project, a global awareness program aimed at raising funds to provide clean water to villages in Africa. The school hosts a career day annually for junior students. The most recent program included environmental and sustainability topics on Agriculture, Food, Natural Resources, Health Services related to biotechnology, Hospitality, and STEAM. At the onset of the Green Team club, student members participated in a Township celebration unveiling solar panels at a feeder school. Students in our school learn about our Solar Panels on the property and how they conserve energy in our school building. Guest speakers have come in to classes to discuss career paths. Students also utilize technology through a program called Naviance during freshman year to complete interest surveys and identify career paths.

Element 3C: Development and application of civic knowledge and skills

5. Describe students' civic/community engagement projects integrating environment, environmental justice ([as defined by EPA](#)) and sustainability topics. (200-word max) Timber Creek students have benefited from the use of our organic gardens, rain garden and local waterways. Various classes from Laboratory Biology classes to Advanced Placement Environmental classes along with the more basic classes of Biology and Environmental Science have used these resources to learn about water, soil, and air quality and the effects of runoff. They have also learned about the anthropogenic changes that have taken place in the local area due to development and population growth. The students have learned how to grow and harvest vegetables that were used in the school cafeteria and cooking programs. They designed and built the boxes that held the plants and along with our maintenance department filled the boxes and fertilized them. They also planted the seeds and harvested the vegetables along with daily caring for the plants. We have a special needs program that has benefited from learning about the soil, harvesting the vegetables and preparing dishes that included our own produce. The students have helped the local community by volunteering to clean the local Lake Mathilda and Lake Renee. Many of these students continue to volunteer in the community.
6. Describe how outdoor learning is used to teach an array of subjects in contexts, engage the broader community, and develop civic skills. (200-word max) One of the dynamic events that the students of Timber Creek High School have experienced is the Envirothon Competition. This is an annual two day competition that the students prepare for throughout the school year. Guided by a teacher leader, our students pursue in-depth knowledge about New Jersey's natural resources and gain skills needed to navigate the complex environmental issues of today and tomorrow. The areas of study include soils, aquatics, forestry and wildlife. The students must also prepare a presentation on a current topic that involves some sort of environmental issue. Our students have been competing for the past ten years. Another event is the annual tour of the Rutgers-New Brunswick campus. The students learn

about the agricultural department and many other environmental programs that the University offers. The students appreciate the first hand exposure to practices we discuss in the classroom. Other events include trips to our local waterways to conduct classes and environmental quality tests in order to monitor the lakes. Our students also enjoy the time spent in our organic gardens and rain garden. They have been an integral part of the construction and maintenance of both.

7. Describe students' meaningful outdoor learning experiences at every grade level. (200 word max) Students experience hands-on engagement with nature at every grade level and within a variety of disciplines. The students' use of outdoor learning through programs like the GLOBE project allows them to collect real-time data that supports climate change research. Biology students grow various plants to conduct a stomata assay to determine if there are any differences in the number of stomata between varieties of plants during photosynthesis. Students go outside for an abiotic/biotic hike and for a tree identification project. During the planning phase of the organic gardens, engineering, CAD and science students worked together to design the raised beds. Then woodworking students assisted in taking apart the solar panel pallets that were repurposed to build the beds. Soil testing and planting was conducted by the environmental classes. The biology and environmental classes tend the garden during the school year and the ESY students take care of it during the summer. The rain garden is utilized to learn about storm water runoff and native plant species and to monitor local environmental health. Digital photography students use our natural landscape to create portfolios. Creative writing and poetry students sit out in our courtyard to write about nature.
8. Describe your partnerships to help your school and other schools achieve in the 3 Pillars. Include both the scope and impact of these partnerships. (Maximum 200-words) The Science Club has been in contact with members of the Sierra Club, who come and speak to the club about current issues such as fracking, and what grassroots activism can contribute to positive solutions. Each year, we participate in the Clean Air Council's 5K for Clean Air and donate a substantial amount of money. We developed a partnership with Organic Diversions. They provided our staff and students training and knowledge to implement an efficient and cost effective organics recycling program. This composting effort has made a positive impact on all three pillars. Training was conducted on environmental and sustainability education emphasizing composting, recycling, reusing, and reducing materials. The reduction of waste has shown a reduction in garbage disposal costs. Making compost keeps food scraps and yard waste out of landfills where they take up space and release methane emissions. In class, students investigate compost to evaluate its purpose and to explain how it fits into the flow of energy and matter in ecosystems. Finally, through our actions, students and staff continually strive to inspire and impact peers, family members, friends, and the community at large to practice "cleaner and greener" habits to ensure a healthier world for tomorrow.

Summary Questions for Pillar 3

9. Describe any other ways that your school integrates core environment, sustainability, STEM, equity and environmental justice issues ([as defined by EPA](#)), green technology and civics into curricula to provide effective environmental and sustainability education, highlighting on innovative or unique practices and partnerships. (Maximum 200-words) The Green Team classroom takeover was developed by our students. Their mission is to "take over" classrooms for one period out of the day to spread the Green Team's message and to educate students on how they can start "Going Green" both at home and at school. The Engineering classes have designed and constructed wishing-well planters from recycled pallets. The students designed their very own wishing well building plans using a 3-D modeling software called Autodesk Inventor. Once the plans were set, the students developed a working set of engineering manufacturing process procedure sheets. Then students disassembled wood pallets so they could use the lumber. The students then followed their very own blueprints to develop a one of a kind wishing well. Our Technology Education Department holds a yearly Tech Challenge where every student becomes a member of a team to solve the challenge using STEAM. We are currently preparing for our 11th Tech Challenge, "Let it Fly".
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. (Maximum 100-words) It is our belief that the Green Team's efforts are focused on building a school wide, cultural shift in the ways students and staff members recognize their own behaviors and how

those behaviors impact the environment and local ecology. As a result of those efforts, Timber Creek Regional High School has become a district and community wide leader in reducing energy usage and costs while increasing recycling and composting collection amounts, all the while integrating curricula to educate students about the importance of caring for our environment. Simply stated, the behavioral changes have saved financial and environmental costs.